



Product Catalogue

2024

The Groundwork for Growing Communities .

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Section 1

Concrete Pipe

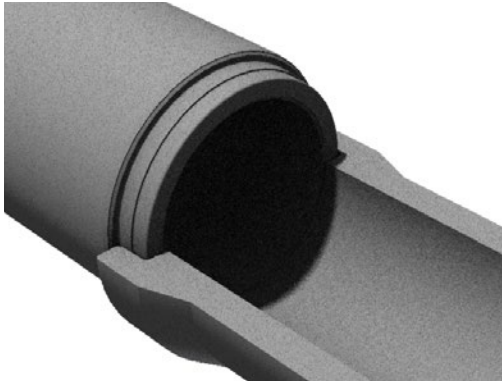
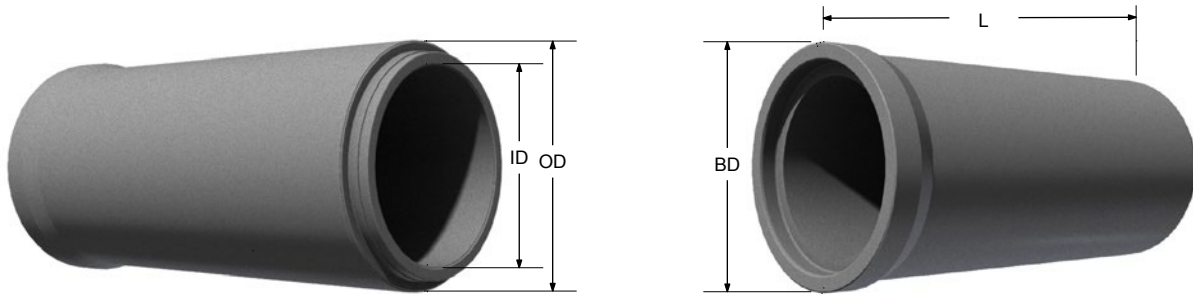


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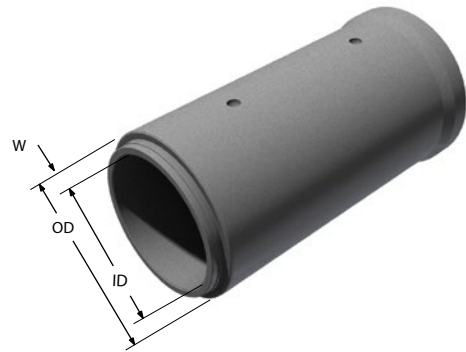
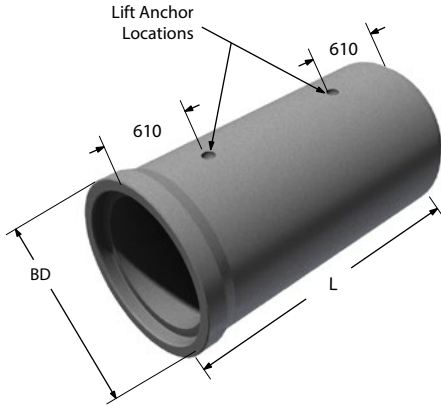
Designated Internal Diameter (Nominal)	Actual Diameter (ID)	Outside Diameter (OD)	Wall Thickness (W)	Bell Diameter (BD)	Lay Length (L)	Waterway Area	Approximate Mass	Truckload Lots
mm	mm	mm	mm	mm	m	m ²	kg/pc	pcs
300	305	445	70	508	2.44	0.07	550	65
375	381	533	76	609	2.44	0.11	746	50
450	457	622	83	705	2.44	0.16	930	38
525	533	711	89	803	2.44	0.22	1104	32
600	610	800	95	905	2.44	0.29	1349	26
675	686	889	102	1006	2.44	0.37	1627	22
750	762	978	108	1038	2.44	0.46	1844	19
825	838	1067	114	1140	2.44	0.55	2151	17
900	914	1156	121	1229	2.44	0.66	2480	15

Mass and Dimension 300-900mm pipe

Notes

1. Manufactured in accordance with CSA-A257.2.
2. All standard reinforced concrete pipe classes available: 50-D, 65-D, 100-D and 140-D.
3. Contact our engineering department for special design concrete pipe applications.
4. All pipe joints come complete with pre-lubricated rubber gaskets.





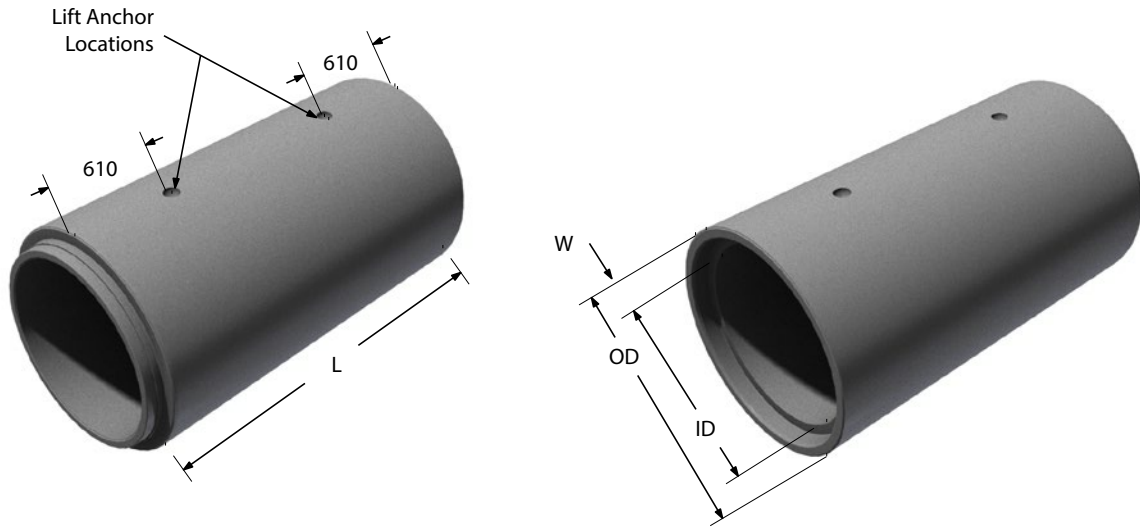
Designated Internal Diameter (Nominal)	Actual Diameter (ID)	Bell Diameter (BD)	Outside Diameter (OD)	Wall Thickness (W)	Lay Length (L)	Waterway Area	Approximate Mass	Lift Anchor Size	Truckload Lots
mm	mm	mm	mm	mm	m	m ²	kg/pc	ton	pcs
975	991	1318	1245	127	2.44	0.77	2818	4	12

Mass and Dimension 975mm pipe

Notes

1. Manufactured in accordance with CSA-A257.2.
2. All standard reinforced concrete pipe classes available: 50-D, 65-D, 100-D and 140-D.
3. Contact our engineering department for special design concrete pipe applications.
4. All pipe joints come complete with pre-lubricated rubber gaskets.





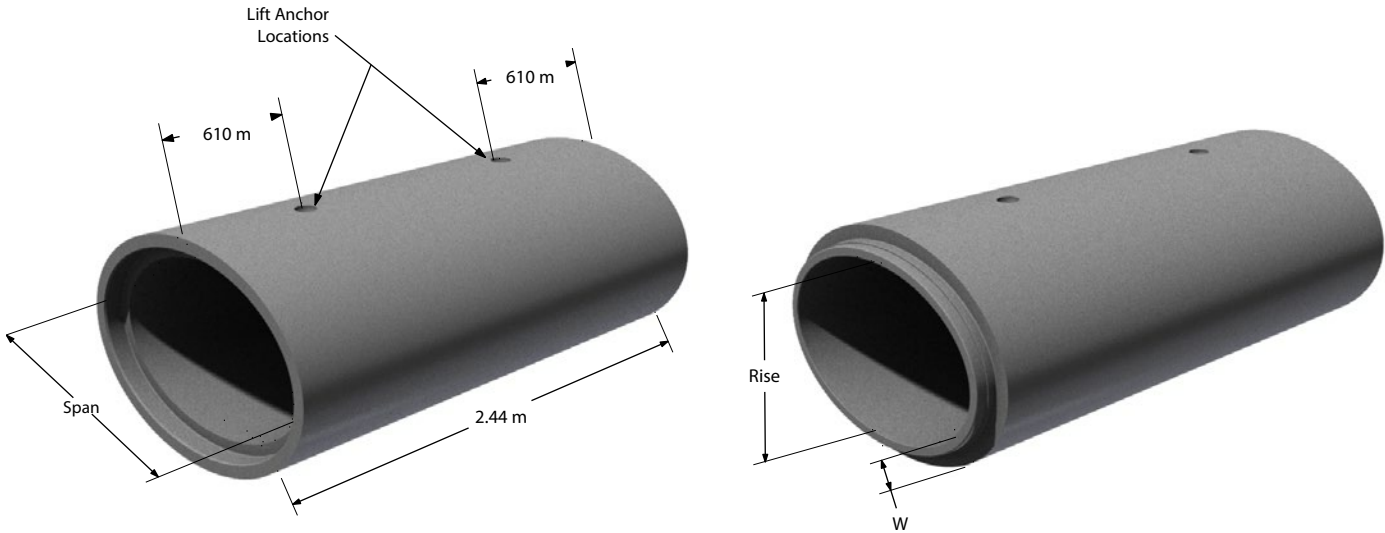
Designated Internal Diameter (Nominal)	Actual Diameter (ID)	Outside Diameter (OD)	Wall Thickness (W)	Lay Length (L)	Waterway Area	Approximate Mass	Lift Anchor Size	Truckload Lots
mm	mm	mm	mm	m	m ²	kg/pc	ton	pcs
1050	1067	1334	133	2.44	0.89	3100	4	11
1200	1220	1511	146	2.44	1.17	3856	4	9
1350	1372	1689	159	2.44	1.48	4728	4	8
1500	1524	1828	152	2.44	1.82	4964	4	6
1650	1676	2045	184	2.44	2.21	6719	4	5
1800	1829	2185	178	2.44	2.63	6949	4	4
1950	1981	2362	190	2.44	3.08	8390	8	4
2100	2134	2540	203	2.44	3.58	9562	8	4
2250	2286	2717	215	2.44	4.10	10726	8	3
2400	2438	2896	229	2.44	4.67	12214	8	2
2550	2591	3073	241	2.44	5.27	13776	8	2
2700	2743	3251	254	2.44	5.91	15139	8	2
3000	3048	3606	279	2.44	7.30	18786	20	1
3600	3658	4356	349	2.44	10.51	26340	20	1

Mass and Dimension 1050-3600 mm pipe

Notes

1. Manufactured in accordance with CSA-A257.2.
2. All standard reinforced concrete pipe classes available: 50-D, 65-D, 100-D and 140-D.
3. Contact our engineering department for special design concrete pipe applications.
4. All pipe joints come complete with pre-lubricated rubber gaskets.





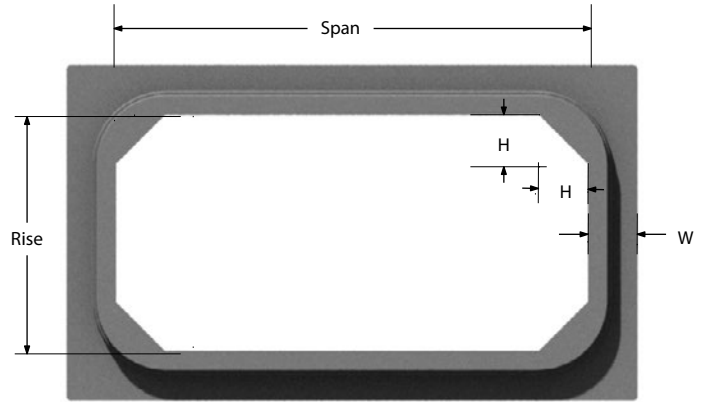
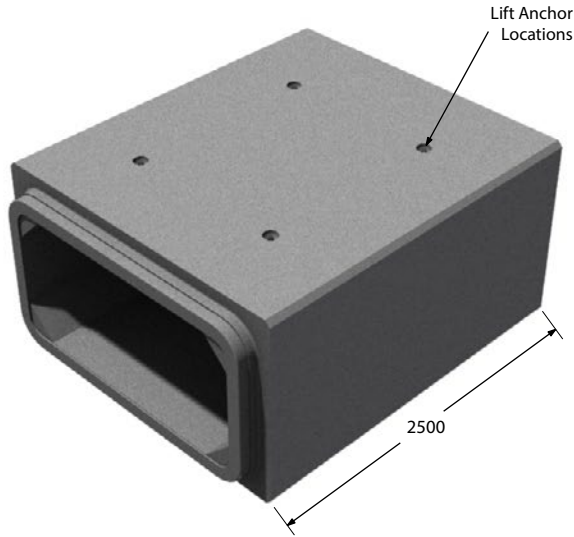
Designated Size Rise X Span	Designated Equivalent Circular Pipe Diameter	Actual Size Rise X Span	Wall Thickness (W)	Waterway Area	Approximate Mass	Truckload Lots
mm	mm	mm	mm	m ²	kg/pc	pcs
730 X 1150	900	737 X 1143	114	0.69	2283	11
855 X 1345	1050	864 X 1346	127	0.95	2928	8
975 X 1535	1200	965 X 1524	140	1.20	3665	6
1090 X 1730	1350	1092 X 1727	152	1.54	4518	6
1220 X 1920	1500	1219 X 1930	165	1.91	5421	5
1340 X 2110	1650	1346 X 2108	178	2.30	6401	4
1465 X 2305	1800	1473 X 2311	191	2.74	7464	4
1585 X 2495	1950	1600 X 2489	203	3.22	8622	3
1705 X 2690	2100	1727 X 2692	216	3.73	9845	3
1950 X 3070	2400	1956 X 3073	241	4.87	12535	2
2195 X 3455	2700	2210 X 3454	267	6.17	15597	1

Mass and Dimension Elliptical pipe

Notes

1. Manufactured in accordance with ASTM C 507.
2. Standard reinforced concrete HE pipe classes available: HE-I, HE-II, HE-III, HE-IV
3. All pipe joints come complete with buyr gasket or pre-lubricated rubber gasket





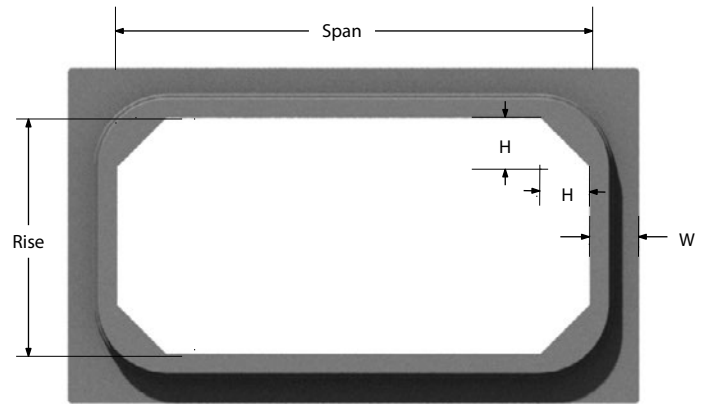
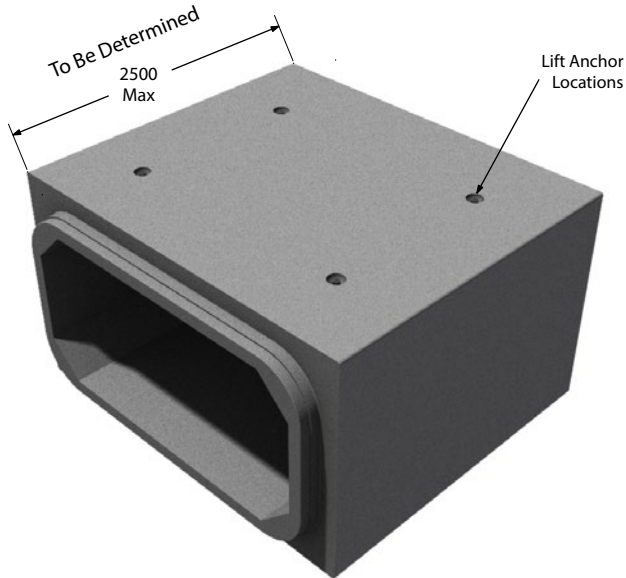
Designated Size Span X Rise	Wall Thickness (W)	Haunch (H)	Waterway Area	Approximate Mass	Lift Anchor Size	Truckload Lots
mm	mm	mm	m ²	kg/pc	ton	pieces
1800 x 900	200	200	1.54	8449	4	5
1800 x 1200	200	200	2.08	9227	4	4
2400 x 1200	200	200	2.80	10787	4	3
2400 x 1500	200	200	3.52	11559	4	3
2400 x 1800	200	200	4.24	12347	4	3
3000 x 1500	250	250	4.38	16848	8	2
3000 x 1800	250	250	5.28	17809	8	2
3000 x 2100	250	250	6.18	18770	8	2
3000 x 2400	250	250	7.30	19731	8	2

Mass and Dimension OPSS Box Sections

Notes

1. Manufactured in accordance with OPSS 1821 and CHBDC.
2. Rise dimension is variable in 300mm increments.
3. Contact our engineering department for special design concrete box culvert applications.
4. All dimensions are in millimeters unless otherwise shown.
5. Pre-lubricated gaskets for box joints are available upon request.





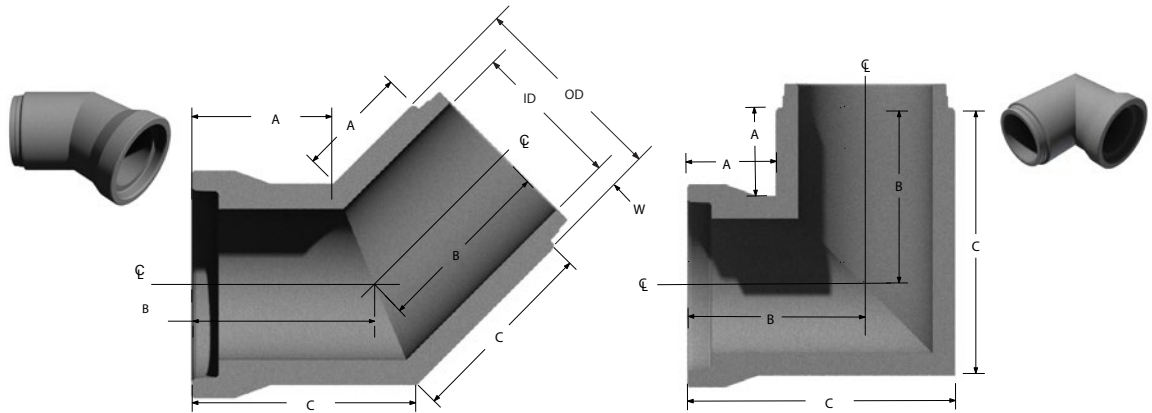
Span	Rise	Wall Thickness (W)	Haunch (H)
mm	mm	mm	mm
1200	900-1200	200	200
1500	1200-1500	200	200
1800	1500-1800	200	200
2400	900	200	200
2400	1200-2400	250/300/350	250/300/350
2700	1200-2700	250/300/350	250/300/350
3000	1200-3000	250/300/350	250/300/350
3300	1200-3300	250/300/350	250/300/350
3600	1200-3600	250/300/350	250/300/350
3900	1200-3900	300/350	300/350
4200	1200-4200	300/350	300/350
4500	1200-4200	300/350	300/350
4800	1200-4200	300/350	300/350
5100	1200-4200	300/350	300/350
5400	1200-4200	300/350	300/350
5700	1200-4200	300/350	300/350
6000	1200-4200	300/350	300/350

Mass and Dimension M CON Box Sections

Notes

1. Designed and manufactured in accordance with the Canadian Highway Bridge Design Code (CHBDC) CAN/CSA-S6.
2. Rise dimension is variable in 300mm increments.
3. Contact our engineering department for special design concrete box section applications.
4. All dimensions are in millimeters unless otherwise shown.





ID (Nominal)	Wall	OD	90° Bends			45° Bends		
			A	B	C	A	B	C
300	70.00	444.80	300	522	745	300	392	484
375	76.00	533.00	300	566	833	300	410	521
450	83.00	623.20	300	612	923	300	429	558
525	89.00	711.40	350	706	1061	350	497	645
600	95.00	799.60	350	750	1150	350	516	681
675	102.00	889.80	350	795	1240	350	534	719
750	108.00	978.00	350	839	1328	350	553	755
825	114.00	1066.20	350	883	1416	350	571	792
900	121.00	1156.40	350	928	1506	350	589	829
975	127.00	1244.60	598	1220	1842	962	1220	1478
1050	133.00	1332.80	554	1220	1886	944	1220	1496
1200	127.00	1473.20	483	1220	1957	915	1220	1525
1350	159.00	1689.60	Use 2- 45° Bends			870	1220	1570
1500	152.00	1828.00	Use 2- 45° Bends			841	1220	1599
1650	184.00	2044.40	Use 2- 45° Bends			797	1220	1643
1800	178.00	2184.80	Use 2- 45° Bends			768	1220	1672
1950	190.00	2361.20	Use 2- 45° Bends			731	1220	1709
2100	203.00	2539.60	Use 2- 45° Bends			694	1220	1746
2250	215.00	2716.00	Use 2- 45° Bends			657	1220	1783
2400	229.00	2896.40	Use 2- 45° Bends			620	1220	1820
2550	241.00	3072.80	Use 2- 45° Bends			584	1220	1856
2700	254.00	3251.20	Use 2- 45° Bends			547	1220	1893
3000	279.00	3606.00	Use 2- 45° Bends			473	1220	1967

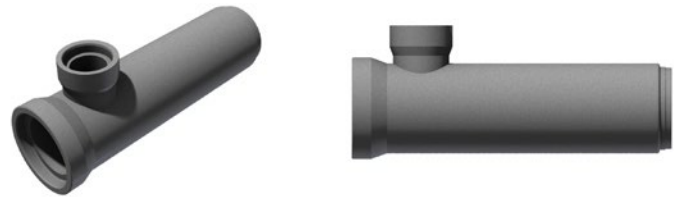
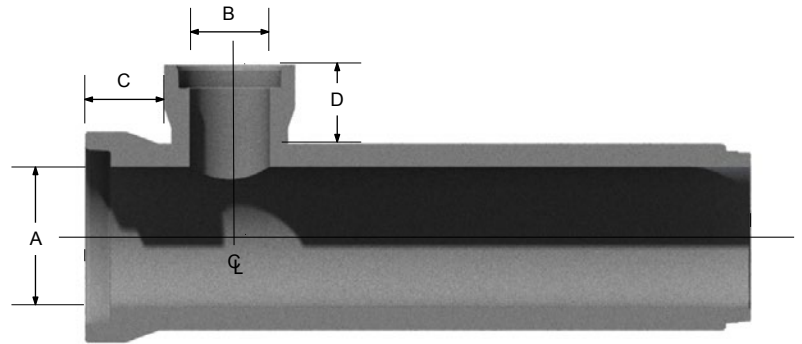
45° and 90° Bend Dimension

Notes

1. All Bends are manufactured in accordance with CSA-A257.2.
2. Special angle bends are available upon request.
3. All dimensions are in millimeters unless otherwise shown.

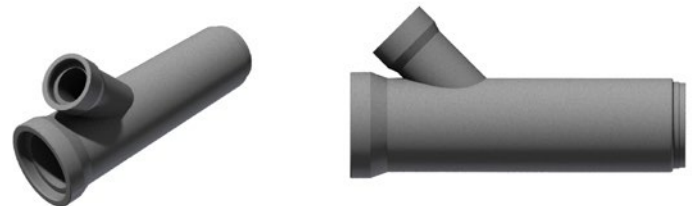
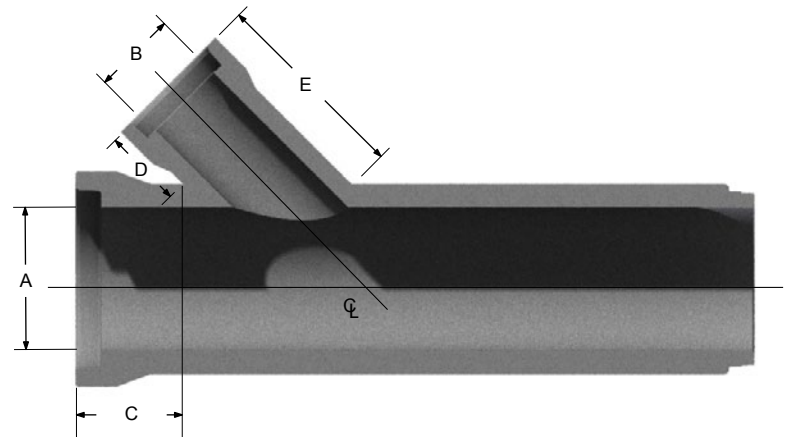


Main Pipe ID A	Branch Pipe ID B	C	D
300 To 3000	300	300	300
375 To 3000	375	300	300
450 To 3000	450	350	300
525 To 3000	525	350	350
600 To 3000	600	350	350
675 To 3000	675	350	350
750 To 3000	750	350	350
825 To 3000	825	350	350
900 To 3000	900	350	350
975 To 3000	975	350	350
1050 To 3000	1050	350	350
1200 To 3000	1200	350	350
1350 To 3000	1350	300	350
1500 To 3000	1500	305	350



Pipe Wye

Main Pipe ID A	Branch Pipe ID B	C	D	E
300 To 3000	300	400	300	745
375 To 3000	375	400	300	833
450 To 3000	450	400	300	923
525 To 3000	525	400	350	1061
600 To 3000	600	400	350	1150
675 To 3000	675	400	350	1240
750 To 3000	750	400	350	1328
825 To 3000	825	400	350	1416
900 To 3000	900	400	350	1506



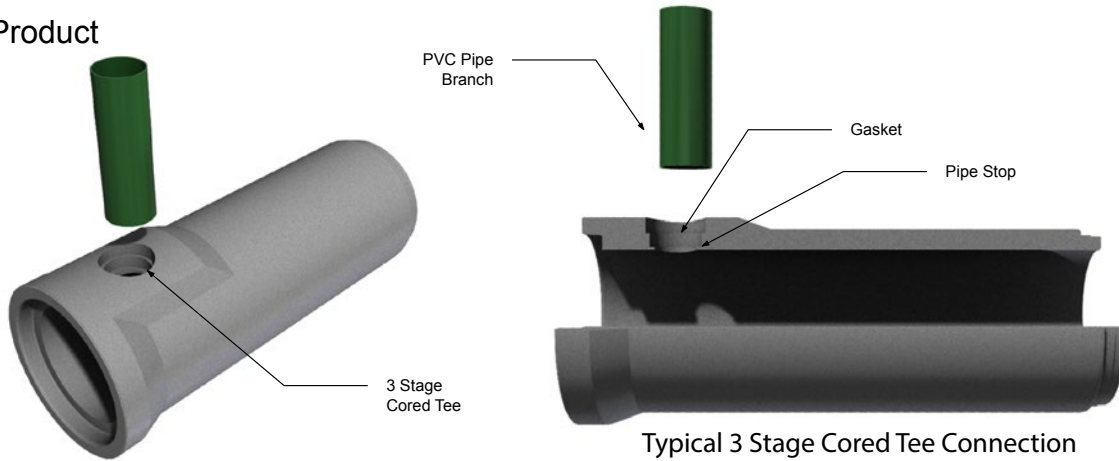
Tee and Wye Dimensions

Notes

1. All wyes and tees are manufactured in accordance with CSA-A257.2.
2. Special design tees and wyes are available upon request.
3. All tee and wye combinations listed above are based on using a full length main pipe.
50-D, 65-D, 100-D and 140-D.
4. All dimensions are in millimeters unless otherwise shown.

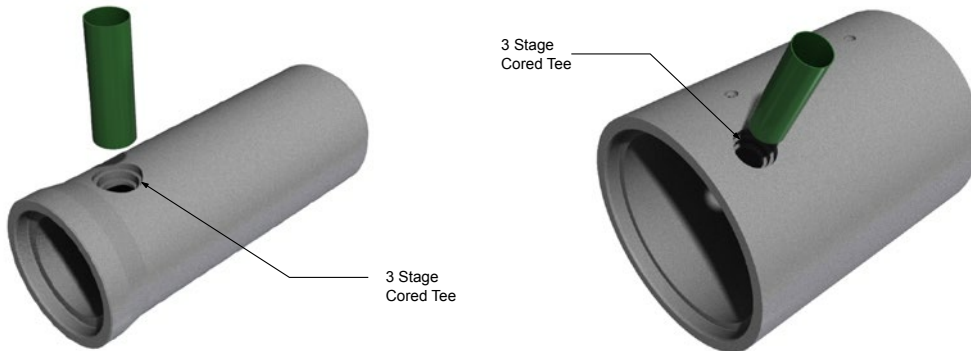


“Fillet” Pipe Product



Designated Diameter (mm)	PVC Branch Size (mm)					
	100	125	150	200	250	300
300	100	125	150	200	-	-
375	100	125	150	200	250	-
450	100	125	150	200	250	300

Standard Pipe Product



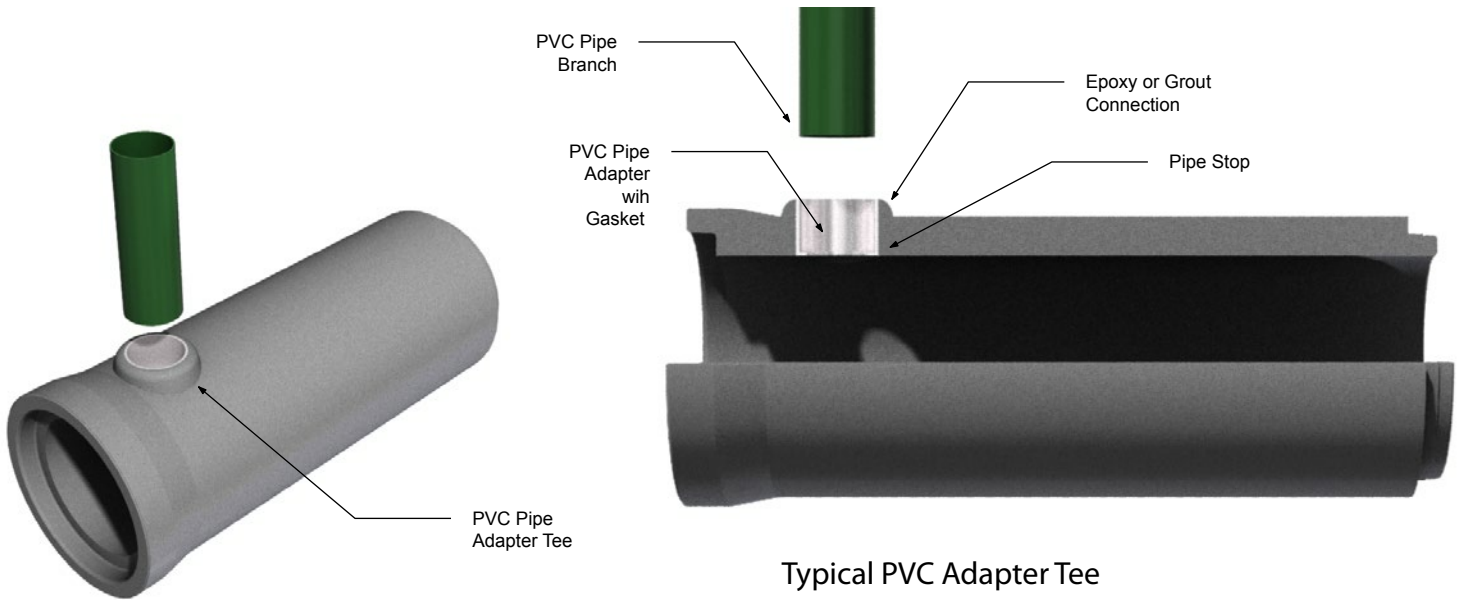
Designated Diameter (mm)	PVC Branch Size (mm)					
	100	125	150	200	250	300
300	100	-	-	-	-	-
375	100	125	-	-	-	-
450	100	125	150	200	-	-
525	100	125	150	200	-	-
600	100	125	150	200	250	-
675-3000	100	125	150	200	250	300

3 Stage Cored Tee (For PVC pipe applications)

Notes

1. Tee connection manufactured in accordance with CSA-A257.2.
2. See page 15 for connection type and sizes not detailed.
3. All dimensions are in millimeters unless otherwise shown.





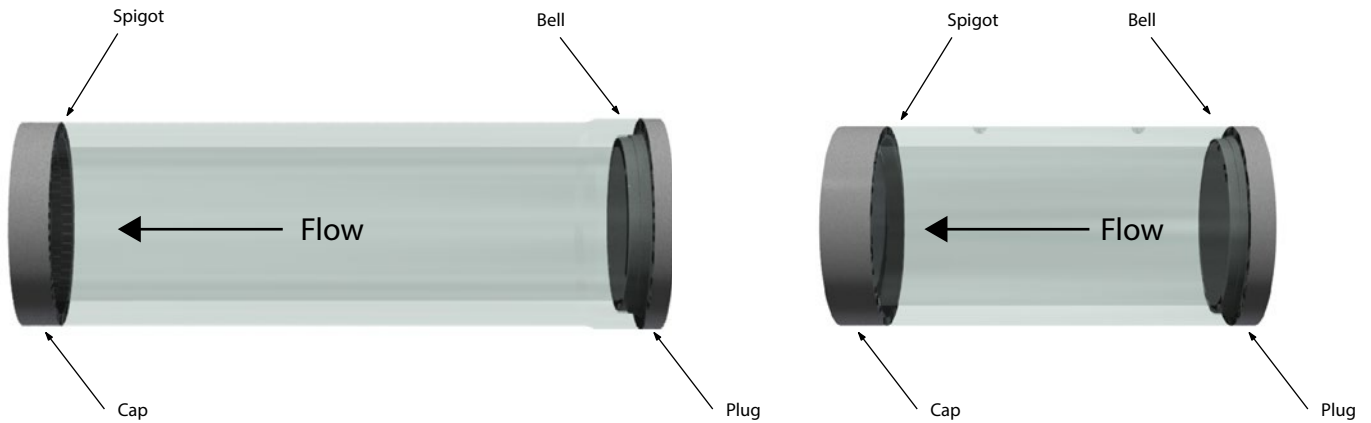
Nominal Diameter (mm)	PVC Branch Size (mm)				
300	100-125	150	200	250	300
375	100-125	150	200	250	300
450	100-125	150	200	250	300
525	100-125	150	200	250	300
600	100-125	150	200	250	300

PVC Adapter Tee 300-600mm

Notes

1. Tee connection manufactured in accordance with CSA-A257.2.
2. All dimensions are in millimeters unless otherwise shown.
3. See page 13 for PVC branch sizes not detailed.





Size	Approximate Mass	
	Plugs	Caps
mm	kg/pc	kg/pc
300	26	122
375	39	167
450	53	221
525	69	270
600	86	325
675	106	384
750	130	472
825	154	527
900	180	618

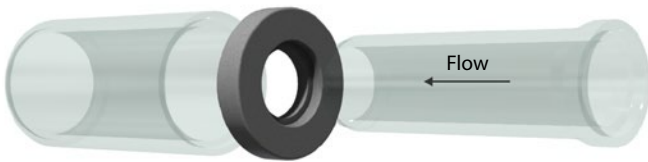
Size	Approximate Mass	
	Plugs	Caps
mm	kg/pc	kg/pc
975	865	720
1050	989	765
1200	1266	986
1350	1572	1239
1500	1908	1440
1650	2284	1676
1800	2702	1983
1950	3097	2192
2100	3585	2531
2250	4109	2894
2400	4667	3279
2550	5262	3690
2700	5893	4127
3000	7095	5892

Concrete Pipe Plugs and caps

Notes

- 300 to 1050 mm plugs come complete with one lift point. 1200 to 3000 plugs and caps come complete with 2 lift points.
- Alternative precast-in plugs are available upon request. Please contact our engineering department for more detail.

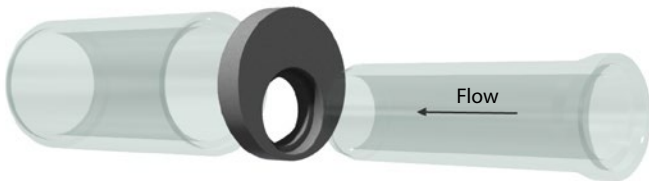




Concentric Reducer



Concentric Increaser



Eccentric Reducer



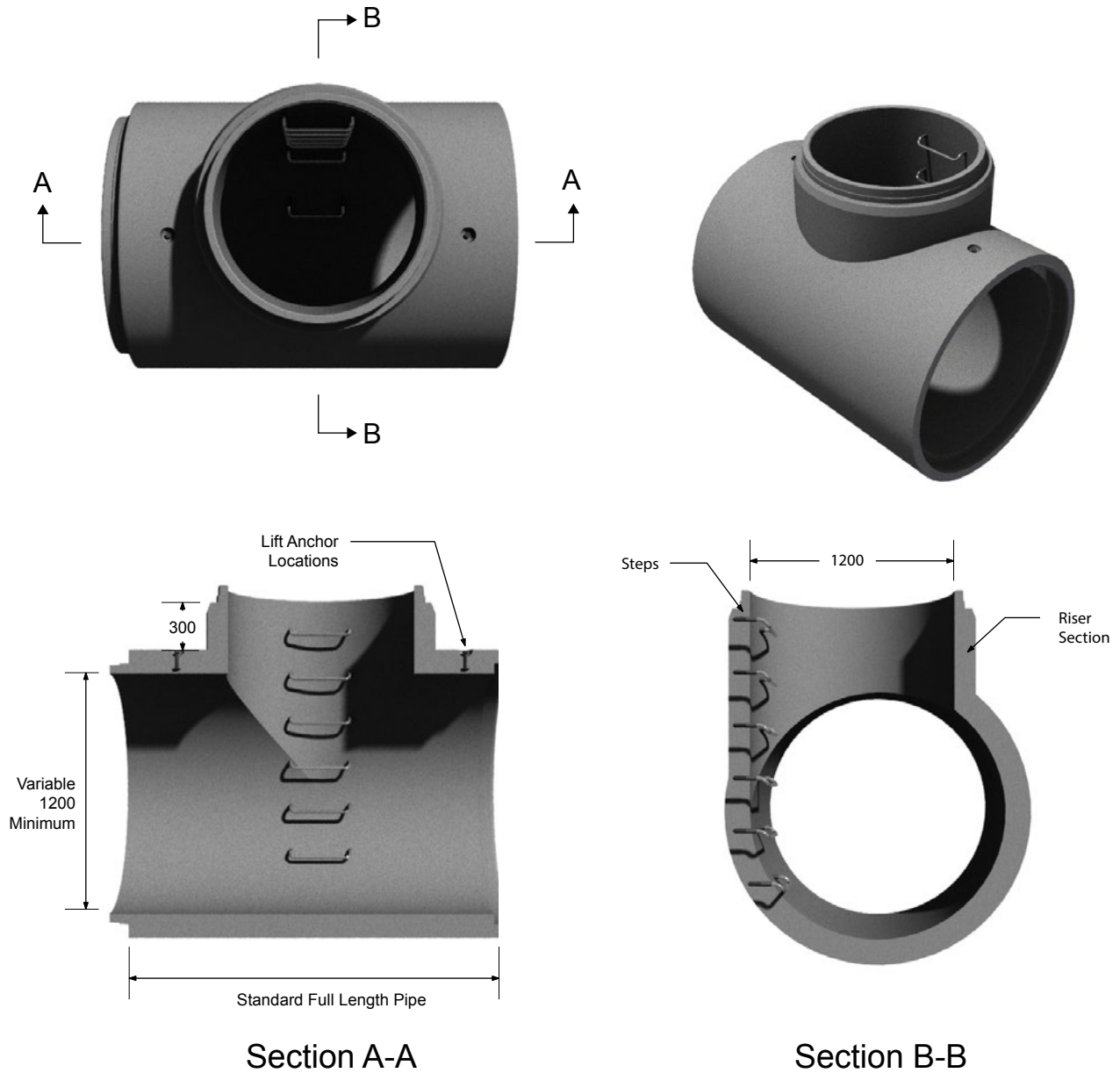
Eccentric Increaser

Concrete Pipe Reducers and Increases

Notes

1. All reducers and increasers are manufactured in accordance with CSA A 257.2.
2. Available for all standard pipe diameter applications.



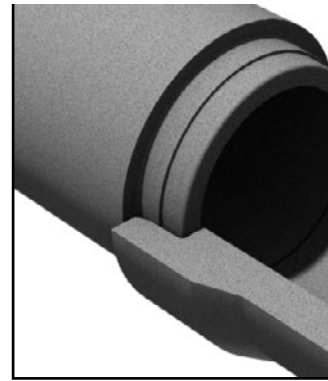
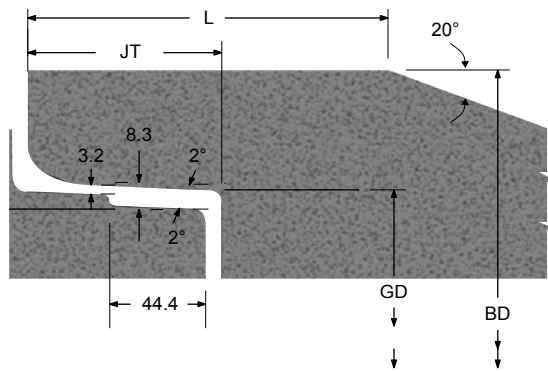


Pipe Maintenance Hole Tees

Notes

1. Manufactured in accordance with CSA-A257.2. and OPSD 707.010.
2. Maintenance hole steps as per OPSD 405.010.
3. Contact the M Con engineering department for special design maintenance tee applications.
4. All dimensions are in millimeters unless otherwise shown.





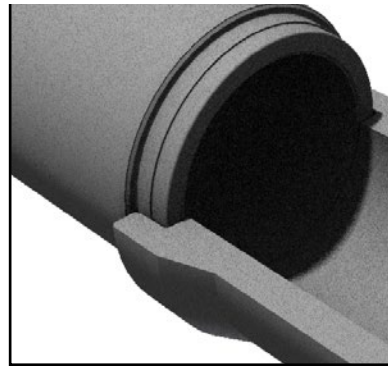
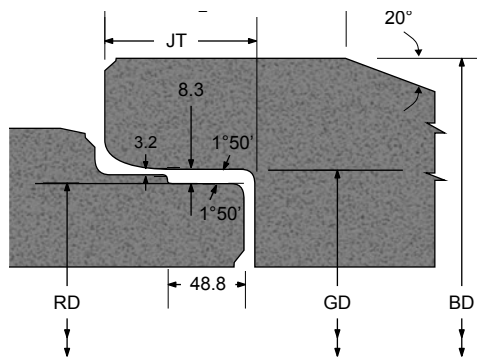
ID (Nominal)	ID (Actual)	OD	WT	BD	JT	RD	GD	L
300	305	444.6	69.8	498.5	88.9	374.1	387.5	165.1
375	381	533.4	76.2	587.4	88.9	461.7	475.2	165.1

Pipe Joint Detail 300-375mm

Notes

1. Pre-lubricated rubber gaskets to be used with this pipe joint design.
2. See page 25 for pipe jointing procedure.
3. Manufactured in accordance with CSA-A257.2.
4. All dimensions are in millimeters unless otherwise shown.





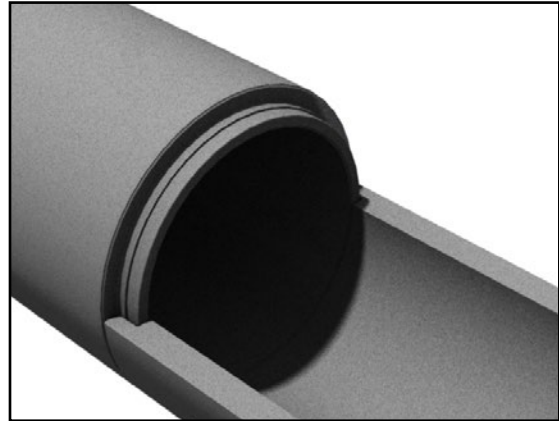
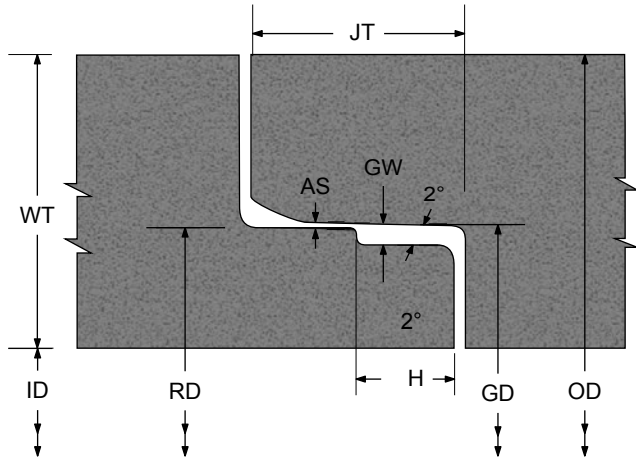
ID (Nominal)	ID (Actual)	OD	WT	BD	JT	RD	GD	L
450	457	622.50	82.50	705	95.30	554.90	568.40	152
525	533	710.8	88.9	803.3	95.2	643.8	657.2	152.4
600	610	800.4	95.2	904.9	98.4	732.9	746.3	152.4
675	686	889.2	101.6	1006.5	98.4	820.9	834.3	152.4
750	762	977.8	107.9	1038.2	98.4	872.2	885.6	152.4
825	838	1066.6	114.3	1139.8	98.4	961.1	974.5	152.4
900	914	1155.2	120.6	1228.7	98.4	1037.3	1050.7	152.4
975	991	1245.0	127	1317.6	98.4	1113.7	1127.0	152.4

Pipe Joint Detail 450-975mm

Notes

1. Pre-lubricated rubber gaskets to be used with this pipe joint design.
2. See page 25 for pipe jointing procedure.
3. All dimensions are in millimeters unless otherwise shown.





ID (Nominal)	ID (Actual)	OD	WT	JT	RD	GD	AS	GW	H
1050	1067	1333.5	133.3	107.9	1172.7	1190.9	3.7	11.3	63.5
1200	1220	1511.0	146.0	107.9	1325.1	1343.3	3.7	11.3	63.5
1350	1524	1689.4	158.7	107.9	1470.1	1488.3	3.7	11.3	63.5
1500	1524	1828.0	152.0	120.6	1635.2	1653.4	3.7	11.3	63.3
1650	1676	2044.2	184.1	127.0	1800.3	1818.5	3.7	11.3	63.5
1800	1829	2185.0	178.0	127.0	1959.8	1978.0	3.7	11.3	63.5
1950	1981	2362.0	190.5	127.0	2123.7	2145.5	4.4	13.3	69.8
2100	2134	2540.4	203.2	127.0	2288.8	2310.6	4.4	13.3	69.8
2250	2286	2717.8	215.9	127.0	2453.9	2475.7	4.4	13.3	69.8
2400	2438	2895.6	228.6	127.0	2619.0	2640.8	4.4	13.3	69.8
2550	2591	2832.3	241.3	127.0	2783.8	2805.9	4.4	13.3	69.8
2700	2743	2997.0	254.0	127.0	2949.2	2971.0	4.4	13.3	69.8
3000	3048	3606.8	279.4	152.4	3247.7	3269.5	4.4	13.3	69.8
3600	3658	4356.0	349.0	152.4	3895.4	3917.2	3.7	12.7	50.8

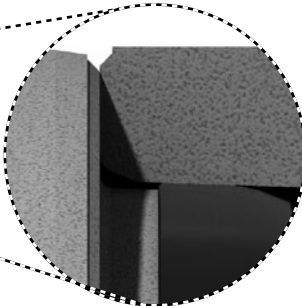
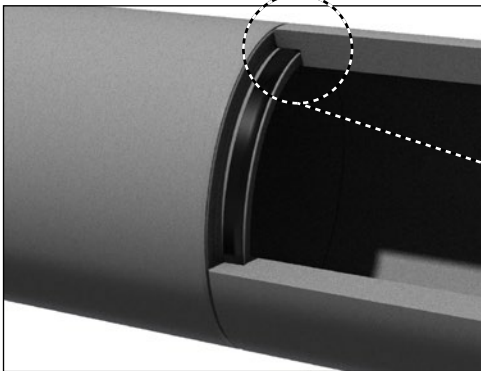
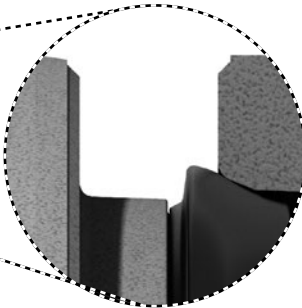
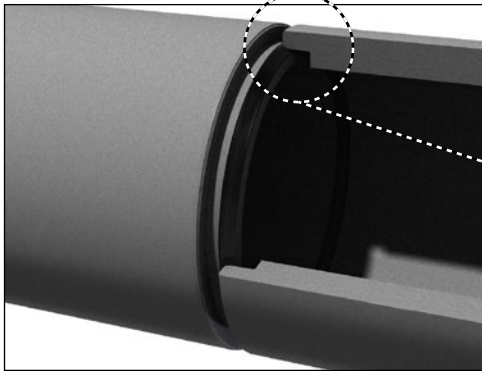
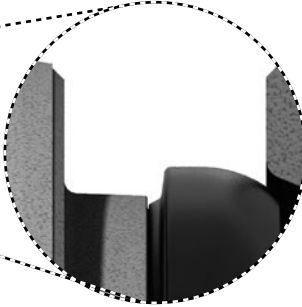
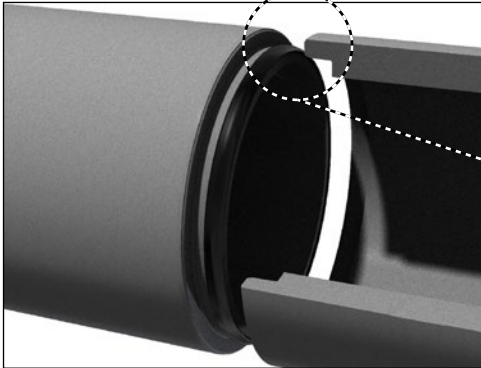
Pipe Joint Detail 1050-3600mm

Notes

1. Pre-lubricated rubber gaskets to be used with this pipe joint design.
2. See page 25 for pipe jointing procedure.
3. All dimensions are in millimeters unless otherwise shown.



Pre-Lubricated Gaskets



Step 1

Clean all dirt and foreign objects off the bell and spigot. Ensure both the bell and spigot are free of cracks, chips and defects. Carefully stretch the gasket around the spigot with the nose of gasket resting against the step of the spigot and the gasket tube laying on the spigot

Step 2

Align the spigot with the bell. Ensure the gasket is in contact with the entire circumference of both the bell taper and the spigot before fully homing the joint.

Step 3

Engage the spigot into the bell to fully install, locking the joint into place. The self lubricating gasket will roll over the step of the spigot and into the joint recess creating the complete seal.

Joint Procedure

Notes

1. The following above jointing procedure will ensure full optimization of pipe joint performance.
2. This jointing procedure applies to pipe sizes 300 - 3000mm diameter.



Section 2

Box Culverts

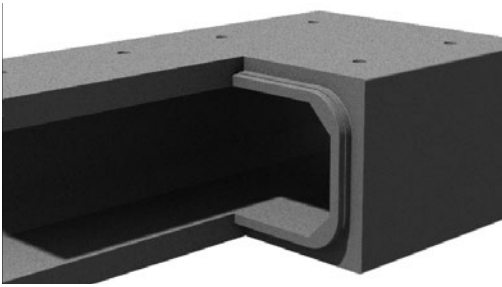
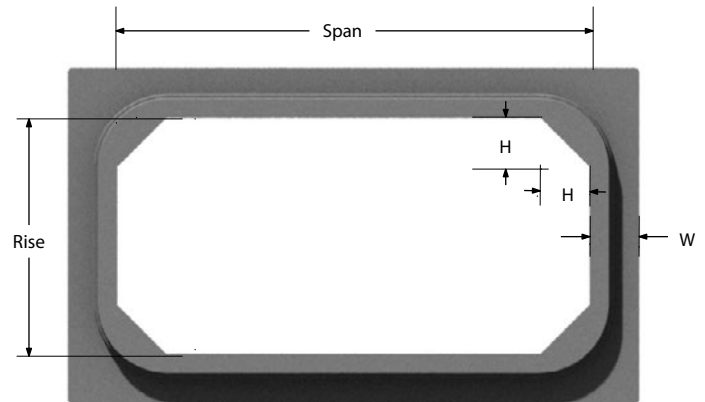
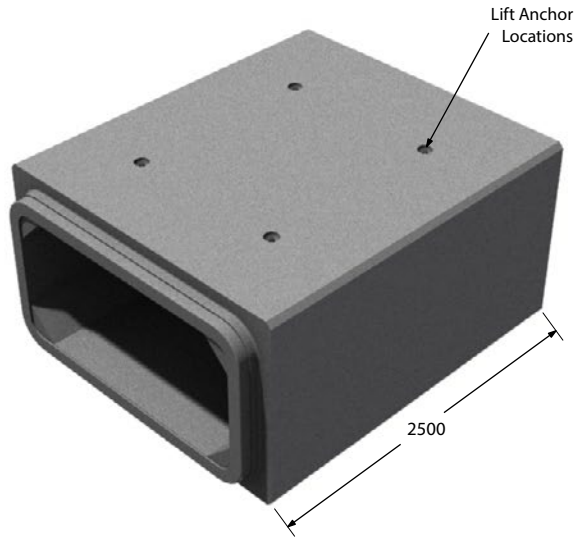


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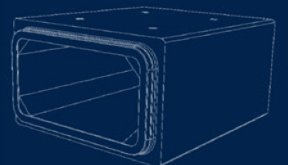


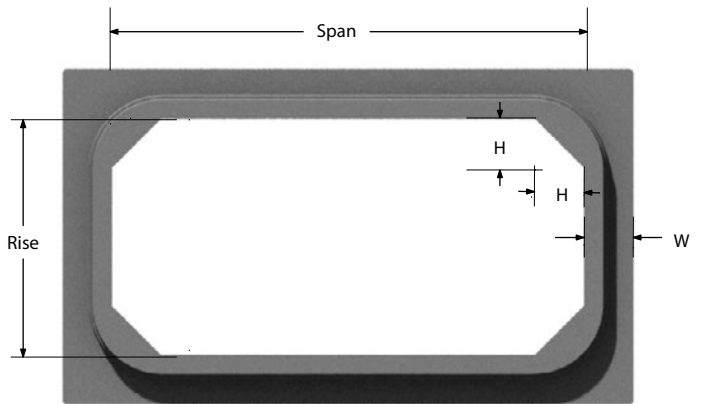
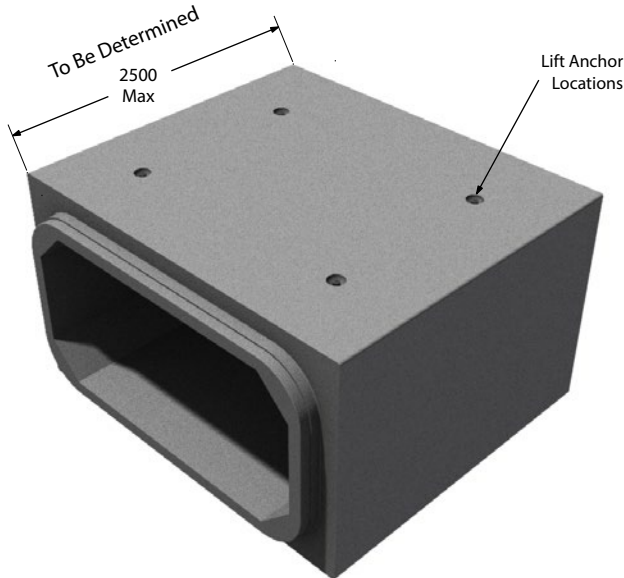
Designated Size Span X Rise	Wall Thickness (W)	Haunch (H)	Waterway Area	Approximate Mass	Lift Anchor Size	Truckload Lots
mm	mm	mm	m ²	kg/pc	ton	pieces
1800 x 900	200	200	1.54	8449	4	5
1800 x 1200	200	200	2.08	9227	4	4
2400 x 1200	200	200	2.80	10787	4	3
2400 x 1500	200	200	3.52	11559	4	3
2400 x 1800	200	200	4.24	12347	4	3
3000 x 1500	250	250	4.38	16848	8	2
3000 x 1800	250	250	5.28	17809	8	2
3000 x 2100	250	250	6.18	18770	8	2
3000 x 2400	250	250	7.30	19731	8	2

Mass and Dimensions OPSS Box Sections

Notes

1. Manufactured in accordance with OPSS 1821 and CHBDC.
2. Contact our engineering department for special design concrete box culvert applications.
3. All dimensions are in millimeters unless otherwise shown.
4. Pre-lubricated gaskets for box joints are available upon request.



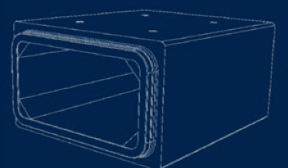


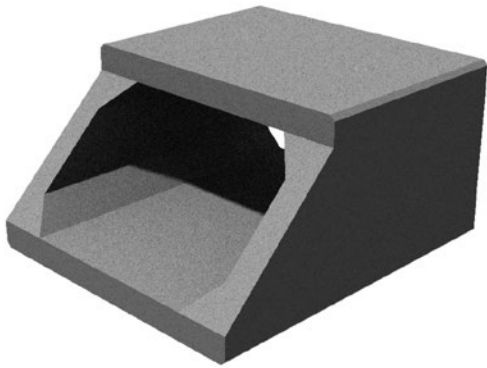
Span	Rise	Wall Thickness (W)	Haunch (H)
mm	mm	mm	mm
1200	900-1200	200	200
1500	1200-1500	200	200
1800	1500-1800	200	200
2400	900	200	200
2400	1200-2400	250/300/350	250/300/350
2700	1200-2700	250/300/350	250/300/350
3000	1200-3000	250/300/350	250/300/350
3300	1200-3300	250/300/350	250/300/350
3600	1200-3600	250/300/350	250/300/350
3900	1200-3900	300/350	300/350
4200	1200-4200	300/350	300/350
4500	1200-4200	300/350	300/350
4800	1200-4200	300/350	300/350
5100	1200-4200	300/350	300/350
5400	1200-4200	300/350	300/350
5700	1200-4200	300/350	300/350
6000	1200-4200	300/350	300/350

Mass and Dimension M CON Box Sections

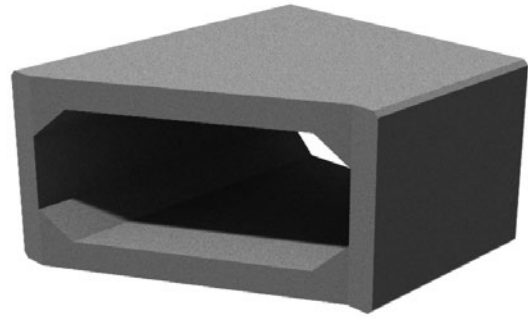
Notes

1. Designed and manufactured in accordance with the Canadian Highway Bridge Design Code (CHBDC) CAN/CSA-S6.
2. Rise dimension is variable in 300mm increments.
3. Contact our engineering department for special design concrete box section applications.

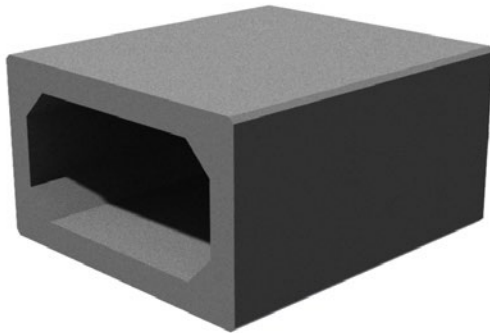




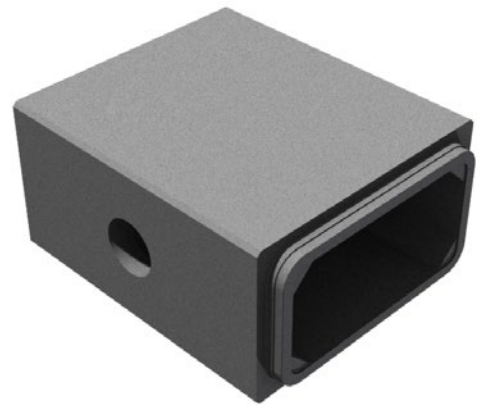
Sloped End



Bevelled End

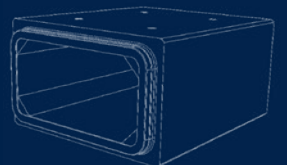


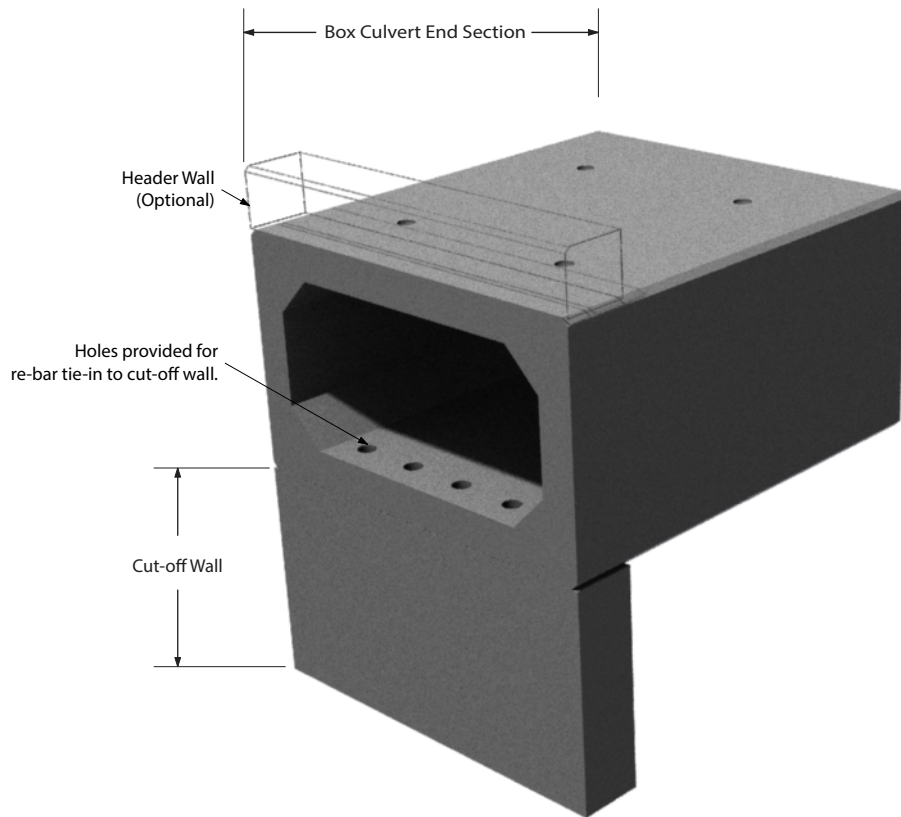
Flush End



Opening for pipe connection

Special Box
Sections and
Fittings



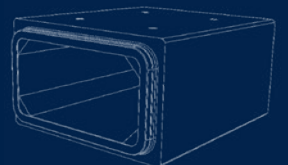


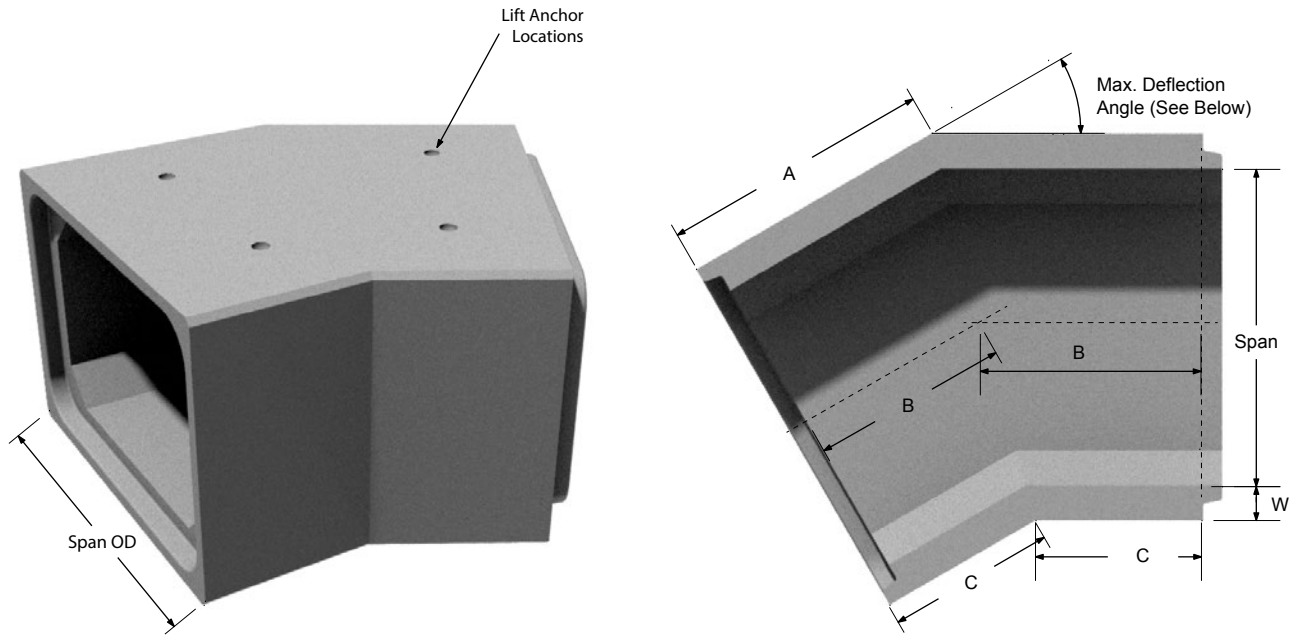
See Note 4

Special Box Sections (Optional Cut-off Wall)

Notes

1. Contact our engineering department for special design concrete box culvert applications.
2. All dimensions are in millimeters unless otherwise shown.
3. Pre-lubricated gaskets for box joints are available upon request.
4. Precast cut-off wall available for all box section end treatment types



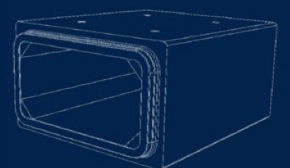


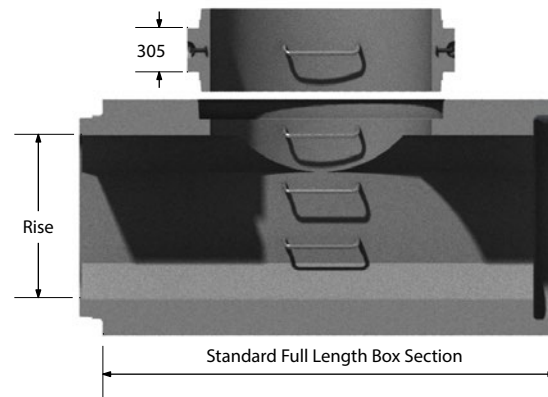
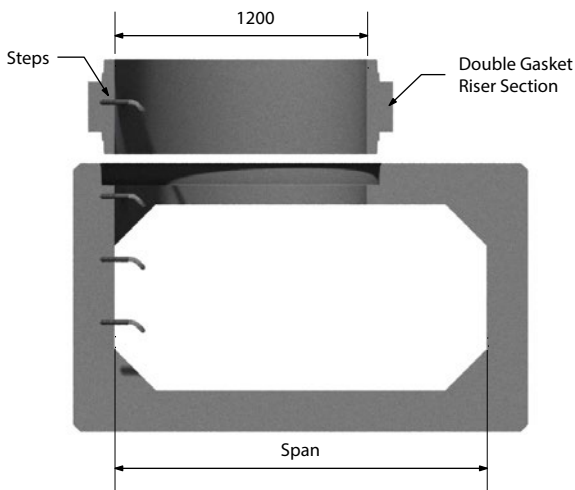
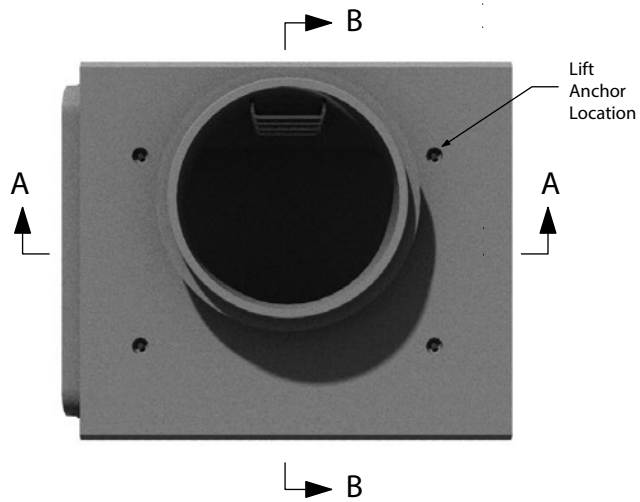
Span	Max. Deflection Angle	Wall Thickness (W)	Span (OD)	A (max.)	B (constant)	C (min.)	Lift Anchor size
mm	degrees	mm	mm	mm	mm	mm	tons
1800	75	200	2200	2094	1250	406	4
2400	60	200	2800	2058	1250	442	4
3000	45	250	3500	1975	1250	525	8

Box Section OPSS Bends

Notes

1. Manufactured in accordance with OPSS 1821 and CHBDC.
2. Above dimensions are based on standard center line length of 2.50 m.
3. Contact our engineering department for additional box bend information and angles not detailed.

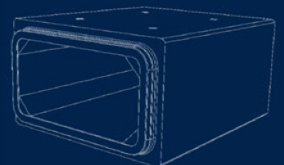




Box Section Maintenance Hole Tees

Notes

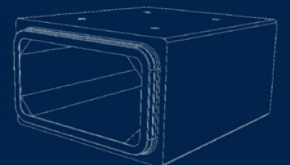
1. Manufactured in accordance with OPSS 1821 and CHBDC.
2. Maintenance holes steps as per OPSS 405.010.
3. Contact our engineering department for additional box bend information and angles not detailed.
4. Above dimensions are in millimeter unless otherwise shown.

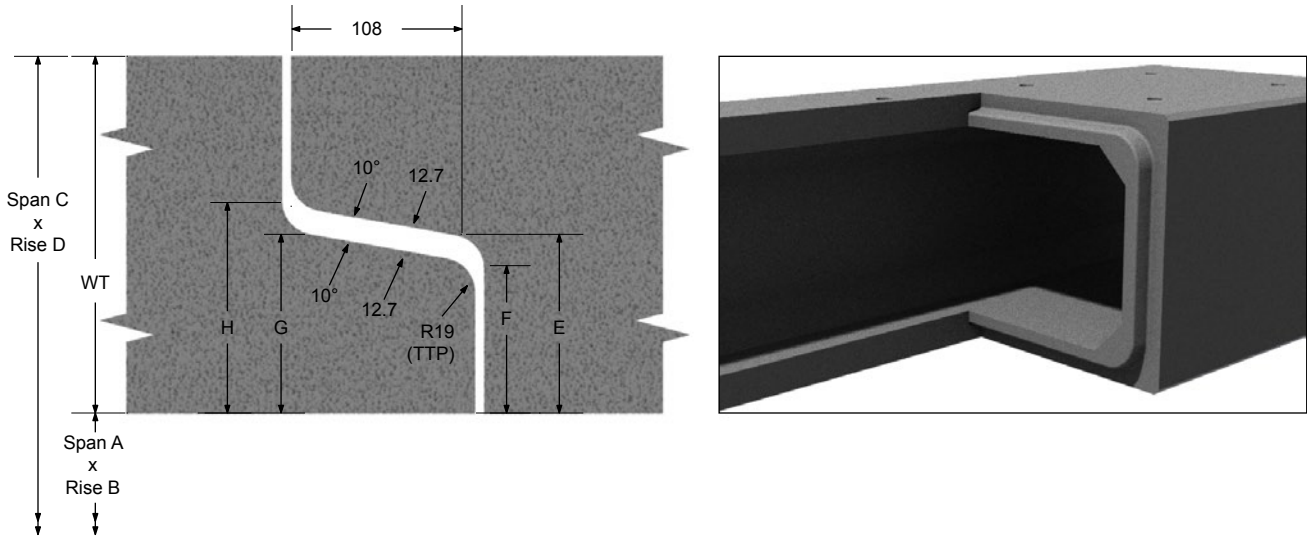




Designated Size Span X Rise	Approximate Mass	
	Plugs	Caps
mm	kg/pc	kg/pc
1800 x 900	1950	1984
1800 x 1200	2439	2567
2400 x 1200	3112	3050
2400 x 1500	3725	3593
2400 x 1800	4352	4409
3000 x 1500	4781	4847
3000 x 1800	5542	5530
3000 x 2100	6302	6214
3000 x 2400	7063	6897

Box Section
Plugs and Caps



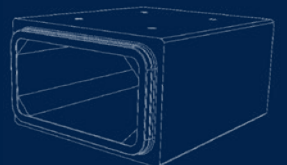


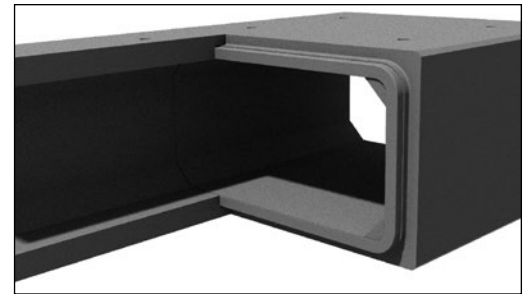
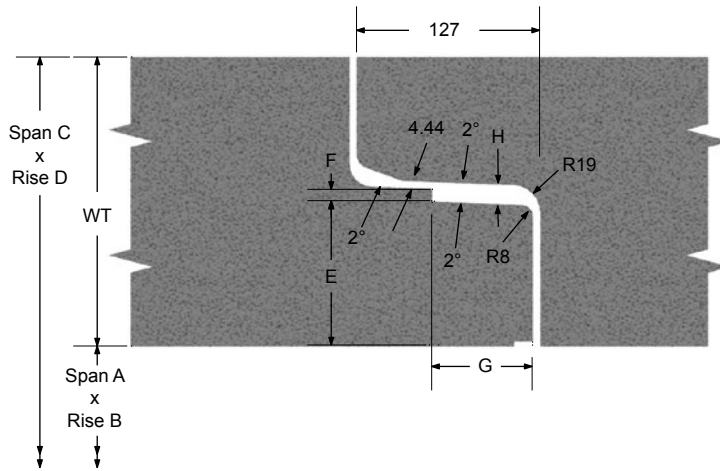
Inside		Outside		E	F	G	H	WT
Span A	Rise B	Span C	Rise D					
1800	1200	2200	1600	96.9	84.0	103.1	116.0	200
2400	1800	2800	2200	96.9	84.0	103.1	116.0	200

Box Section OPSS Joint Details

Notes

1. Box sizes and dimensions conform to those included in OPSS 1821.
2. Rubber gasket joint treatment available upon request.
3. All dimensions are in millimeters unless otherwise shown.



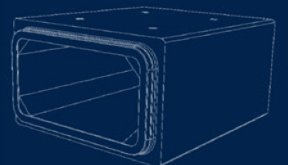


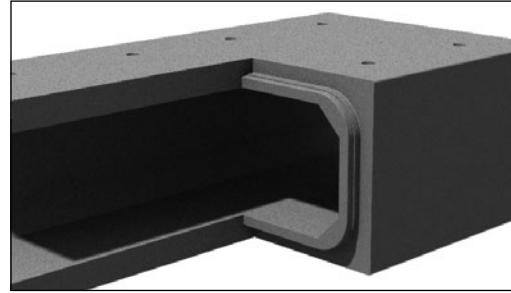
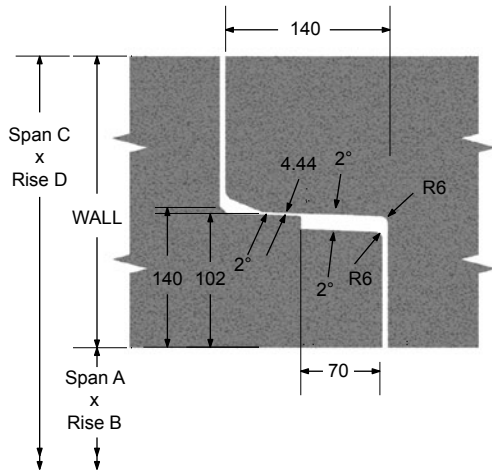
Inside		Outside		E	F	G	H	WT
Span A	Rise B	Span C	Rise D					
1800	900	2200	1300	100.0	8.89	69.85	13.34	200
2400	1200	2800	1600	100.0	8.89	69.85	13.34	200
2400	1500	2800	1900	100.0	8.89	69.85	13.34	200
3000	1500	3500	2000	125.0	8.89	69.85	13.34	250
3000	1800	3500	2300	125.0	8.89	69.85	13.34	250
3000	2100	3500	2600	125.0	8.89	69.85	13.34	250
3000	2400	3500	2900	125.0	8.89	69.85	13.34	250

Box Section OPSS Joint Details

Notes

1. Box sizes and dimensions conform to those included in OPSS 1821.
2. Rubber gasket joint treatment available upon request.
3. See page 40 for box joint procedures.
4. All dimensions are in millimeters unless otherwise shown.



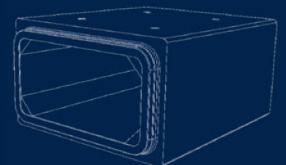


Span	Rise	Wall	Haunch
2400	1200 - 2400	250 / 300 / 350	250 / 300 / 350
2700	1200 - 2700	250 / 300 / 350	250 / 300 / 350
3000	1200 - 3000	250 / 300 / 350	250 / 300 / 350
3300	1200 - 3300	250 / 300 / 350	250 / 300 / 350
3600	1200 - 3600	250 / 300 / 350	250 / 300 / 350
3900	1200 - 3400	300 / 350	300 / 350
4200	1200 - 4200	300 / 350	300 / 350
4500	1200 - 4200	300 / 350	300 / 350
4800	1200 - 4200	300 / 350	300 / 350
5100	1200 - 4200	300 / 350	300 / 350
5400	1200 - 4200	300 / 350	300 / 350
5700	1200 - 4200	300 / 350	300 / 350
6000	1200 - 4200	300 / 350	300 / 350
	* Rise Variable in 300 mm Increments		

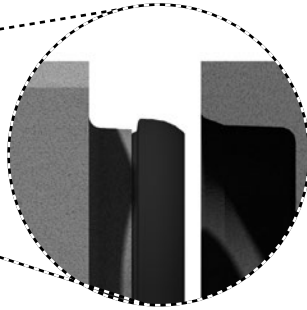
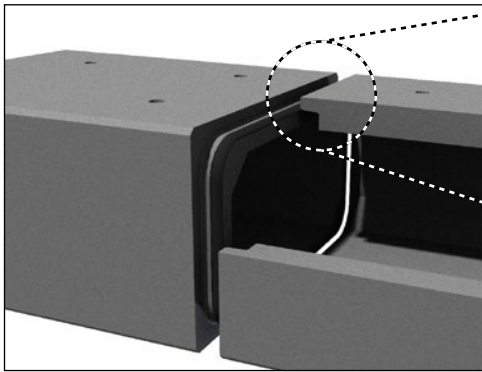
Box Section Joint Detail

Notes

1. Manufactured in accordance with OPSS 1821 and CHBDC.
2. Rise dimension is variable in 300mm increments.
3. Contact our engineering department for special design concrete box culvert applications.
4. All dimensions are in millimeters unless otherwise shown.

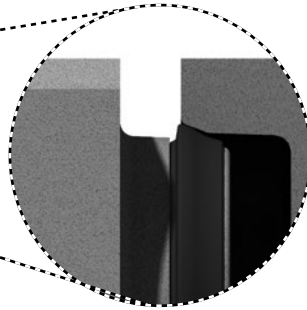
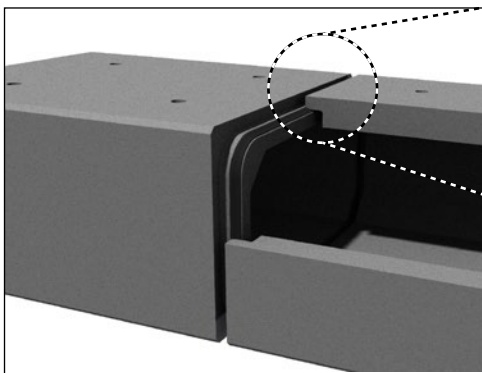


Pre-Lubricated Gaskets



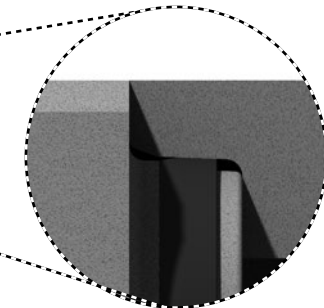
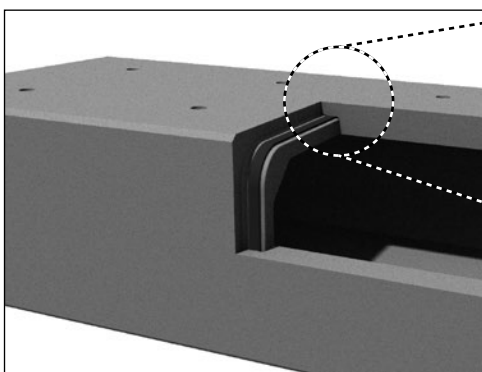
Step 1

Pre-lubricated gaskets are installed on the spigot of the box prior to delivery. Clean all dirt and foreign objects off the bell and spigot. Ensure both the bell and spigot are free of cracks, chips and defects.



Step 2

Align the spigot with the bell. Ensure the gasket is in contact with the entire circumference of both the bell taper and the spigot before fully homing the joint.



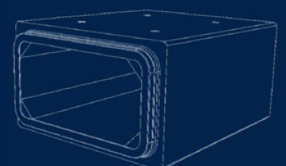
Step 3

Engage the spigot into the bell to fully install, locking the joint into place. The self lubricating gasket will roll over the step of the spigot and into the joint recess creating the complete seal.

Joint Procedure

Notes

1. The following above jointing procedure will ensure full optimization of pipe joint performance.
2. This jointing procedure applies to Box Sections available with pre-lubricated gaskets.



Section 3

Maintenance Holes

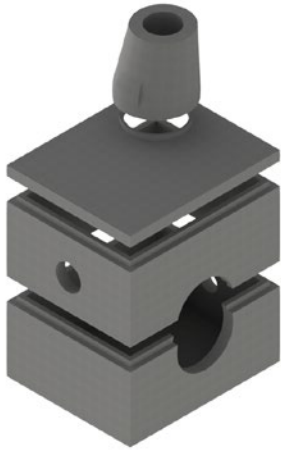


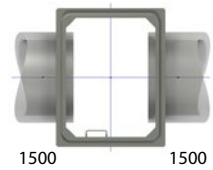
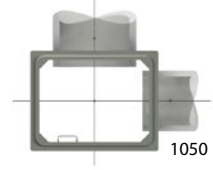




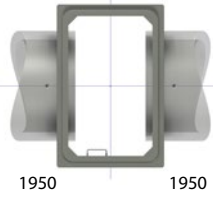
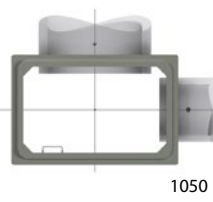
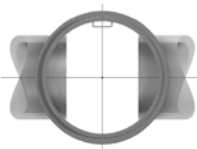

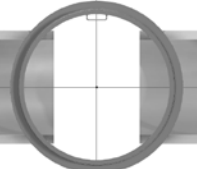
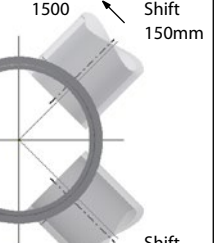
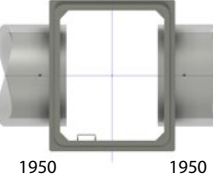
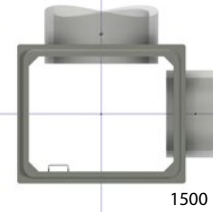
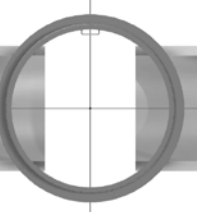
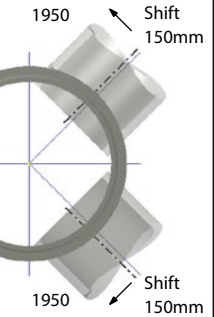


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Section 3 Maintenance Holes

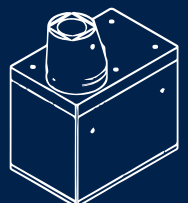
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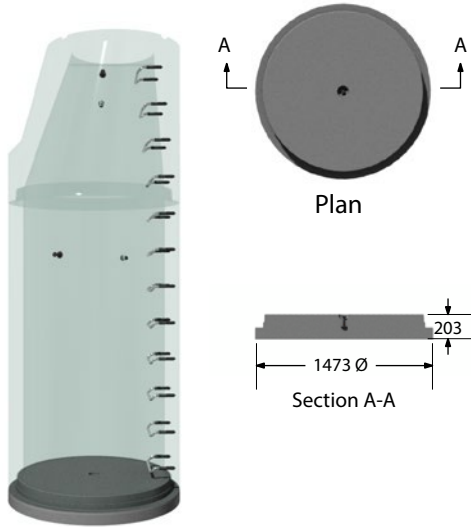
MH Size (mm)	Max. Pipe Size For Straight Through	Max. Pipe Size For Right Angle	MH Size (mm)	Max. Pipe Size For Straight Through	Max. Pipe Size For Right Angle
1200			2400 x 1800		
1500					
1800			3000 x 1800		
2400					
3000			3000 x 2400		
3600					

Maintenance Hole Max Pipe Sizes

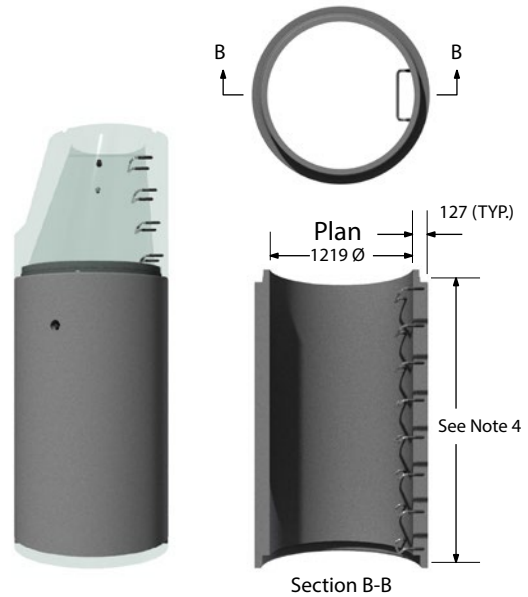
Notes

1. Knockouts for small diameter pipe leads 300mm and smaller can be provided in addition to what is shown.
2. All dimensions are in millimeters unless otherwise shown.

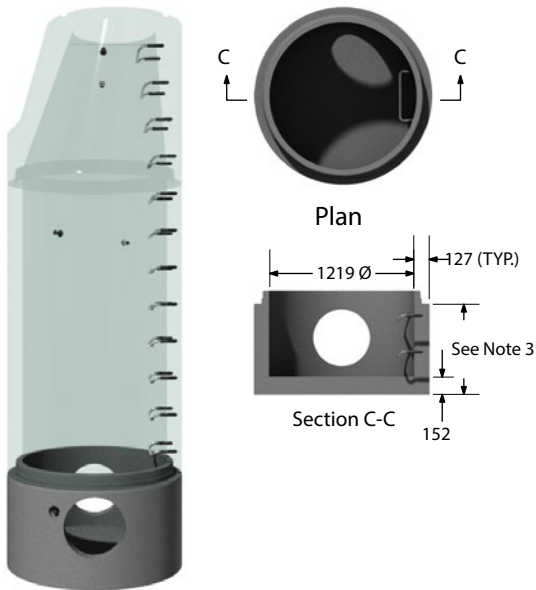




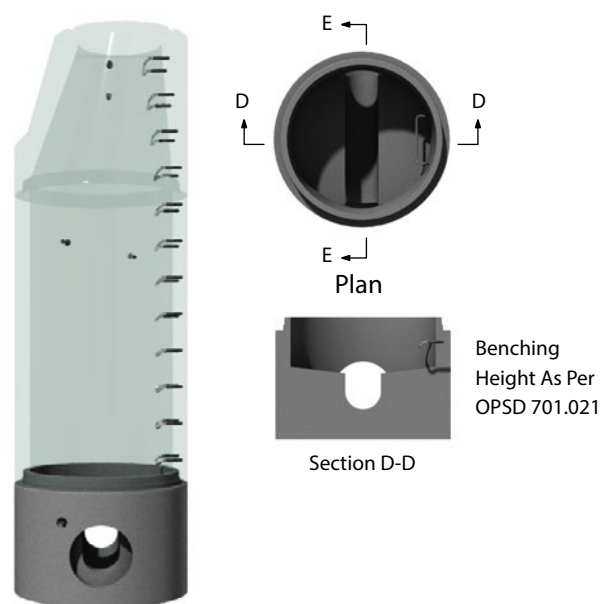
Base Slab
(mass - 759 kg)



Riser
(mass - 1340 kg/m)



Standard Mono Base
(mass - 720 kg + 1340 kg/m)

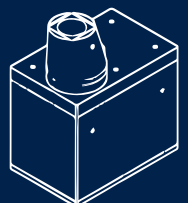


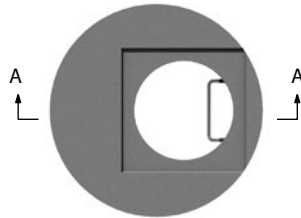
Benched Mono Base

Maintenance Hole 1200mm Riser and Base Sections

Notes

1. Manufactured in accordance with OPSD 701.031 and 701.032.
2. See page 43 for maximum pipe size and alignment angles.
3. Available mono base heights - 600, 762, 914, 1067, 1676, 1219, 1372, 1524, and 1829.
4. Available riser section heights - 305, 610, 914, 1219, 1524, 1829, and 2440.
5. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
6. All dimensions are in millimeters unless otherwise shown.

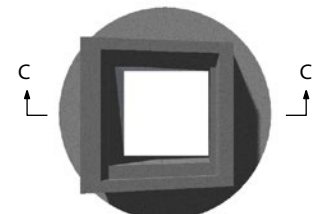




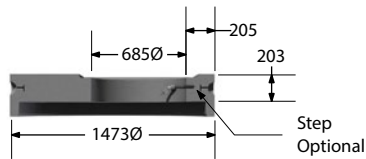
Plan



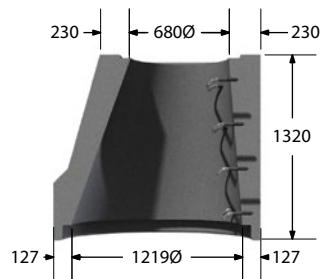
Plan



Plan



Section A-A



Section B-B



Section C-C



Flap Cap

(mass - 742 kg)



Cone

(mass - 1975 kg)



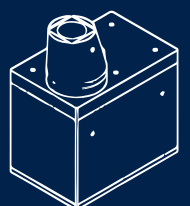
Ditch Inlet Flat Cap

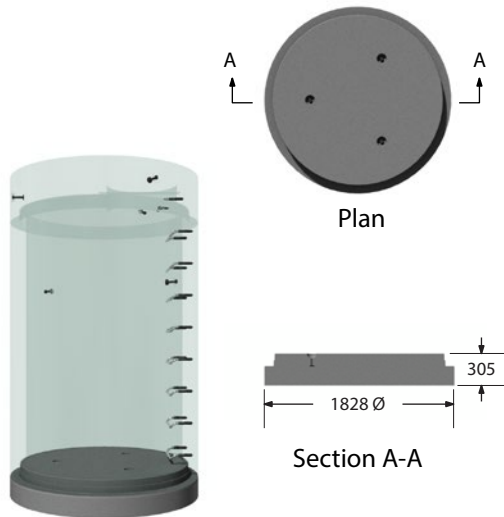
(mass - 742 kg + 1267 kg/m)

Maintenance Hole 1200mm Top Treatments

Notes

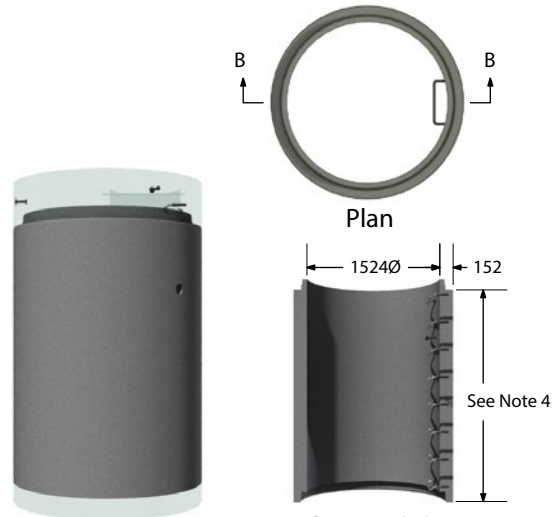
1. Manufactured in accordance with OPSD 701.030 and 705.030 (ditch inlet top only. See page 85 for ditch inlet information).
2. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
3. All dimensions are in millimeters unless otherwise shown.





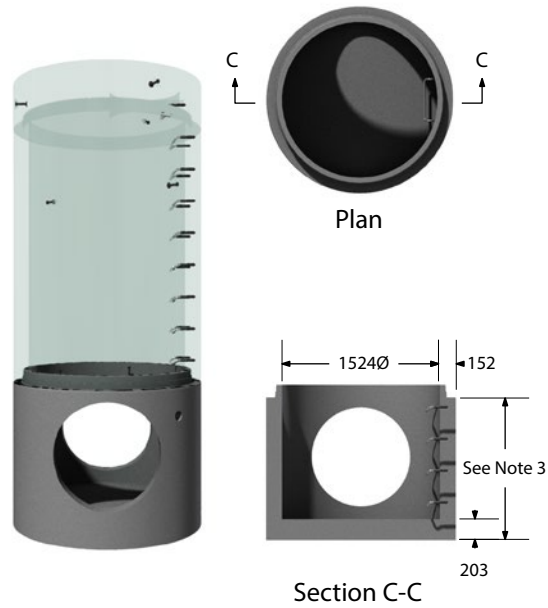
Base Slab

(mass - 1786 kg)

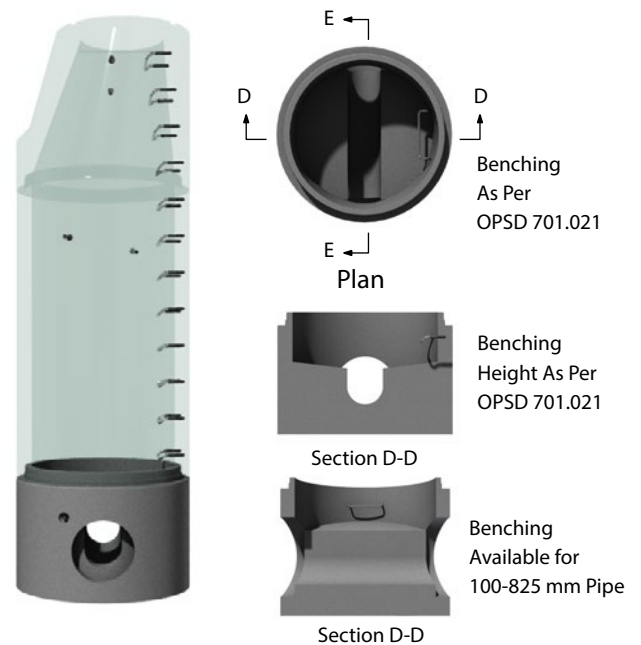


Riser

(mass - 2007 kg/m)



Standard Mono Base

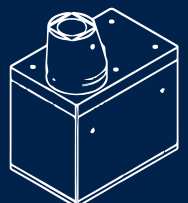


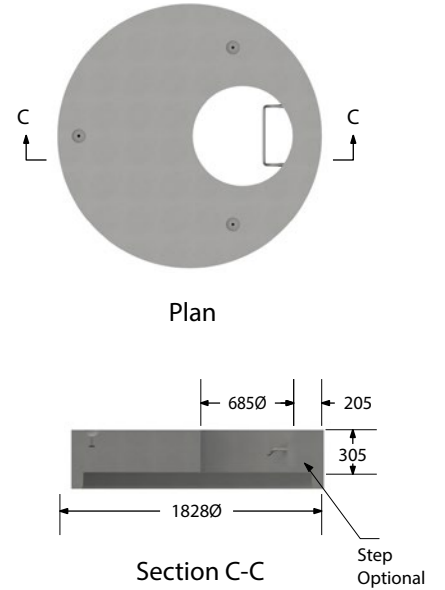
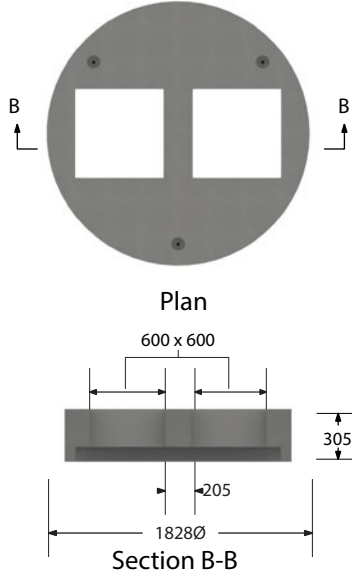
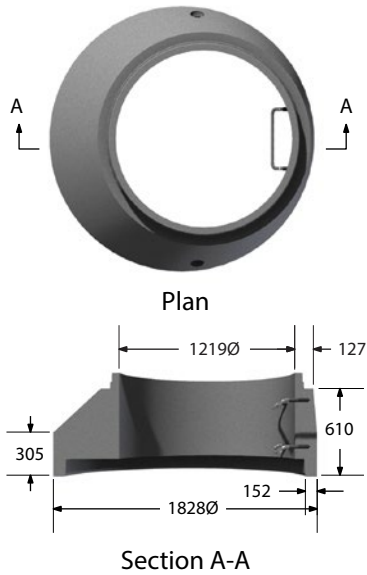
Benched Mono Base

Maintenance Hole 1500mm Riser and Base Sections

Notes

1. Manufactured in accordance with OPSD 701.040 and 701.041.
2. See page 43 for maximum pipe size and alignment angles.
3. Available mono base heights - 610, 914, 1067, 1219, 1372, 1524, 1676, 1829, 1981, 2134, 2286 and 2440.
4. Available riser section heights - 305, 610, 914, 1219, 1524, 1829, 2134 and 2440.
5. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
6. All dimensions are in millimeters unless otherwise shown.





Transition
(mass - 1633 kg)



Twin Inlet Flat Cap
(mass - 1600 kg)

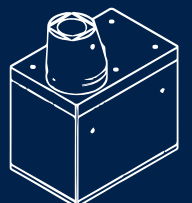


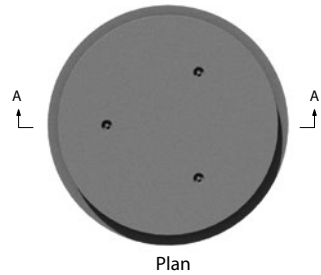
Flat Cap
(mass - 1829 kg)

Maintenance Hole 1500mm Top Treatments

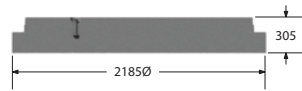
Notes

1. Manufactured in accordance with OPSD 701.040 and 703.011 and 703.021.
2. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
3. All dimensions are in millimeters unless otherwise shown.

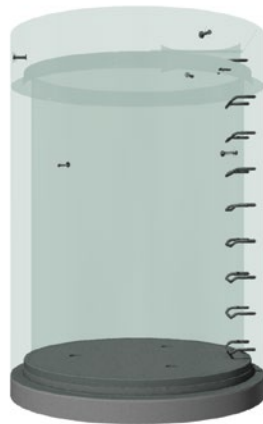




Plan

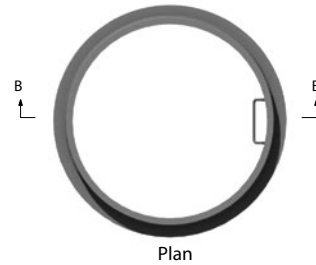


Section A-A

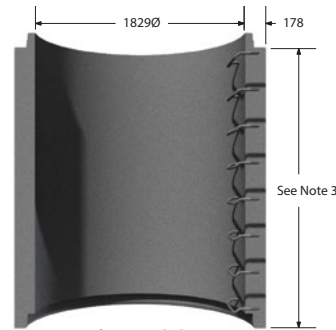


Base Slab

(mass - 2540 kg)



Plan



Section B-B

See Note 3



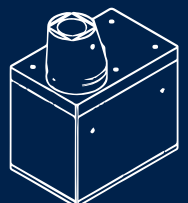
Riser

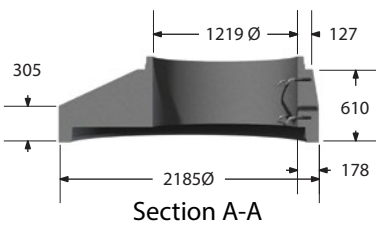
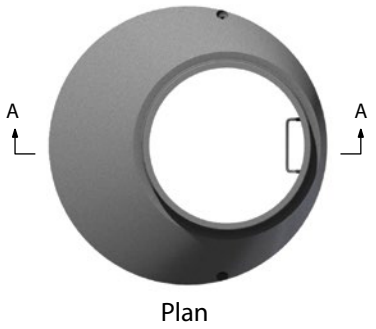
(mass - 2846 kg/m)

Maintenance Hole 1800mm Riser and Base Sections

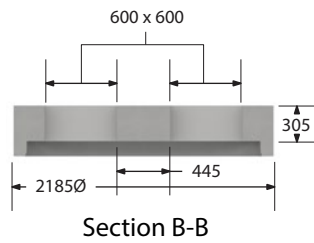
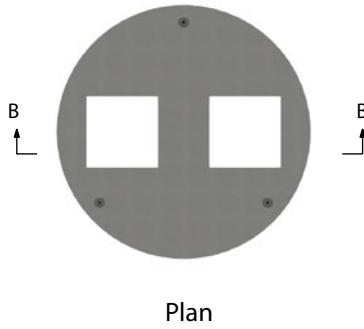
Notes

1. Manufactured in accordance with OPSD 701.040 and 701.041.
2. See page 43 for maximum pipe size and alignment angles.
3. Available mono base heights - 610, 914, 1067, 1219, 1372, 1524, 1676, 1829, 1981, 2134, 2286 and 2440.
4. Available riser section heights - 305, 610, 914, 1219, 1524, 1829, 2134 and 2440.
5. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
6. All dimensions are in millimeters unless otherwise shown.

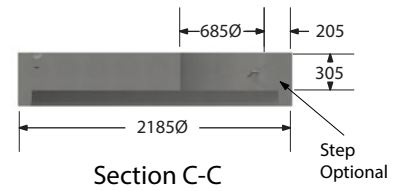
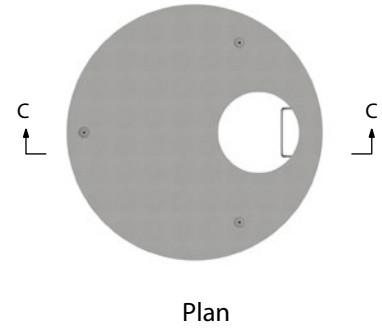




Transition
(mass - 2570 kg)



Twin Inlet Flat Cap
(mass - 2430 kg)

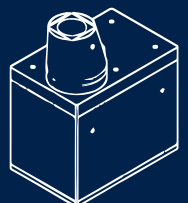


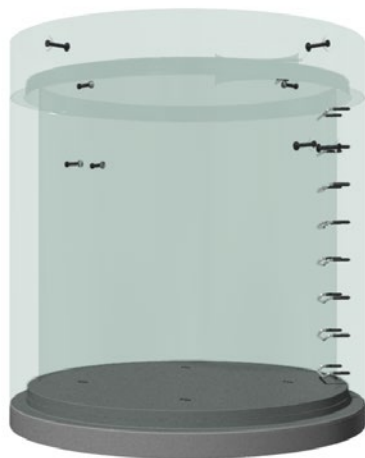
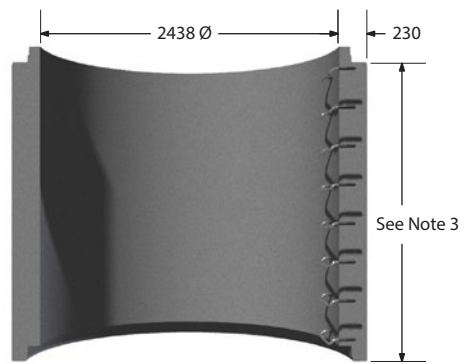
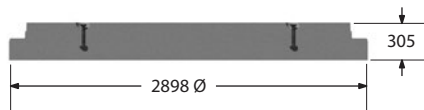
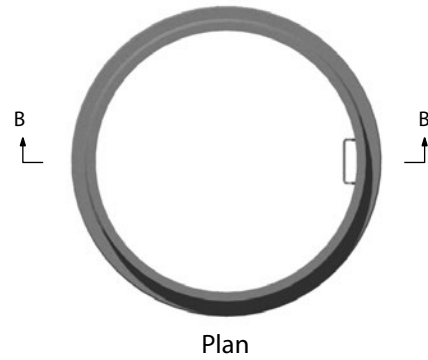
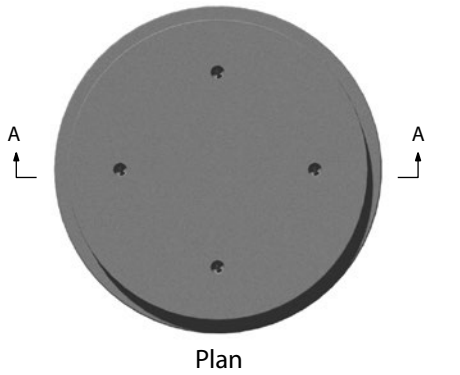
Flap Cap
(mass - 2704 kg)

Maintenance Hole 1800mm Transition and Top Sections

Notes

1. Manufactured in accordance with OPSD 701.050, 703.012 and 703.022 .
2. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
3. All dimensions are in millimeters unless otherwise shown.





(mass - 4480 kg)

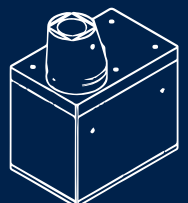


(mass - 4866 kg/m)

Maintenance Hole 2400mm Riser and Base Slab

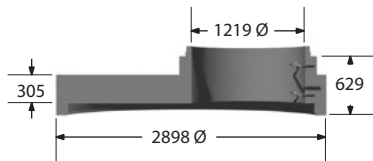
Notes

1. Manufactured in accordance with OPSD 701.061.
2. See page 43 for maximum pipe size and alignment angles.
3. Available riser section heights - 305, 610, 914, 1219, 1524, 1829, and 2440.
4. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
5. All dimensions are in millimeters unless otherwise shown.

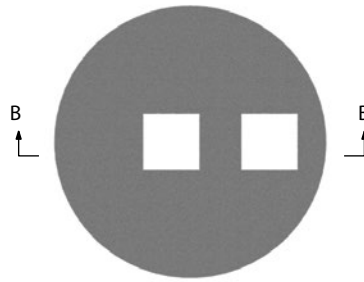




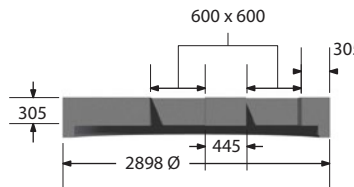
Plan



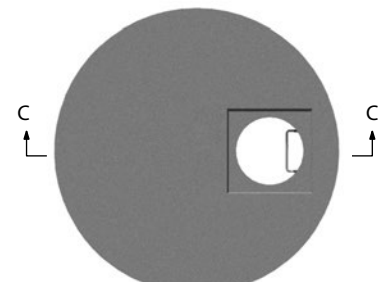
Section A-A



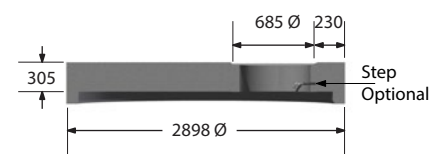
Plan



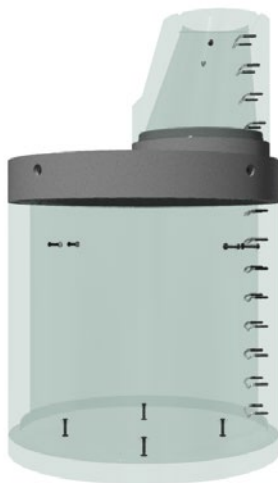
Section B-B



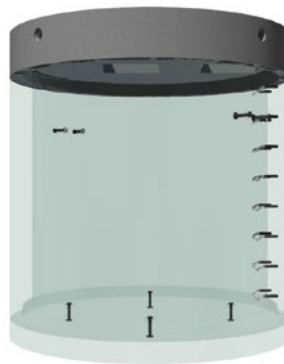
Plan



Section C-C



Transition
(mass - 4668 kg)



Twin Inlet Flat Cap
(mass - 4655 kg)

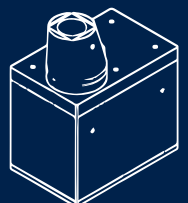


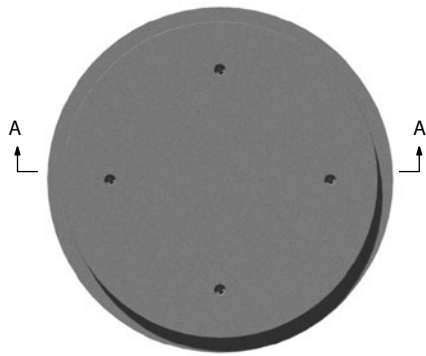
Flat Cap
(mass - 4930 kg)

Maintenance Hole 2400mm Transition and Top Sections

Notes

1. Manufactured in accordance with OPSD 701.060 and 703.013, and 703.023.
2. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
3. All dimensions are in millimeters unless otherwise shown.

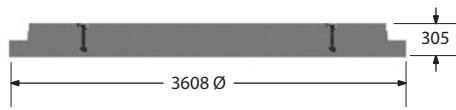




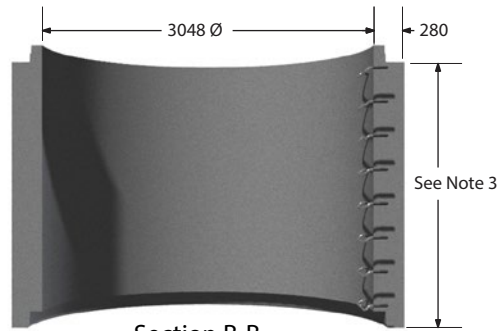
Plan



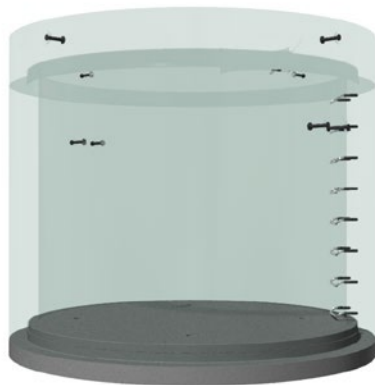
Plan



Section A-A



Section B-B



Base Slab

(mass - 6944 kg)



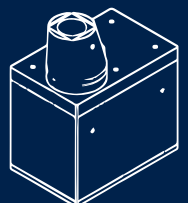
Riser

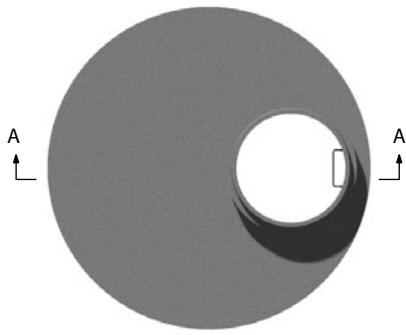
(mass - 7400 kg/m)

Maintenance Hole 3000mm Riser and Base Slab

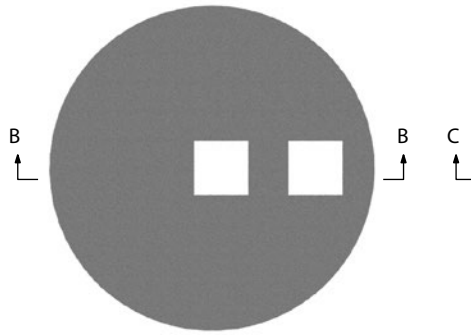
Notes

1. Manufactured in accordance with OPSD 701.071.
2. See page 43 for maximum pipe size and alignment angles.
3. Available riser section heights - 305, 610, 914, 1219, 1524, 1829, and 2440.
4. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
5. All dimensions are in millimeters unless otherwise shown.

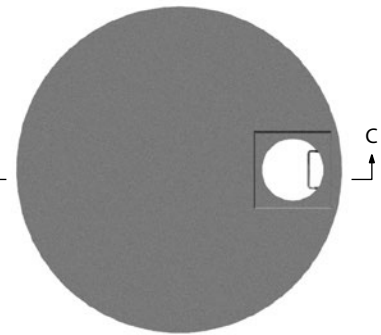




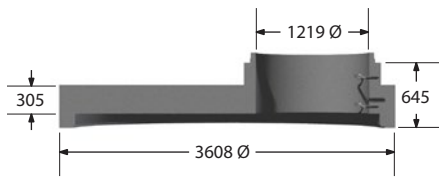
Plan



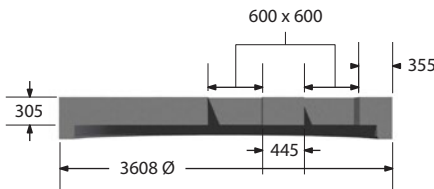
Plan



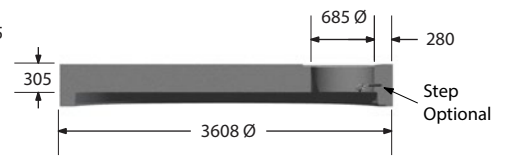
Plan



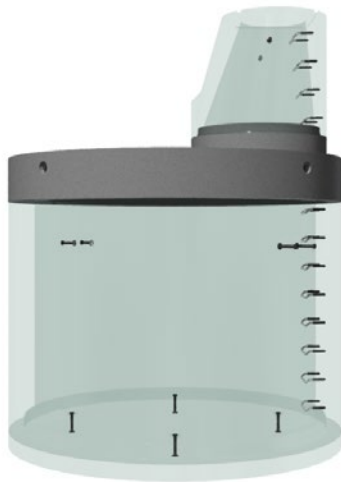
Section A-A



Section B-B



Section C-C



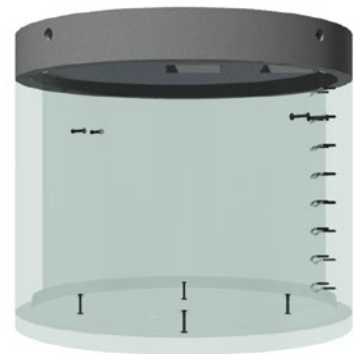
Transition

(mass - 7664 kg)



Twin Inlet Flat Cap

(mass - 7684 kg)



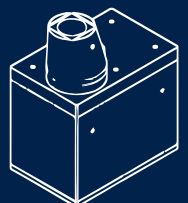
Flat Cap

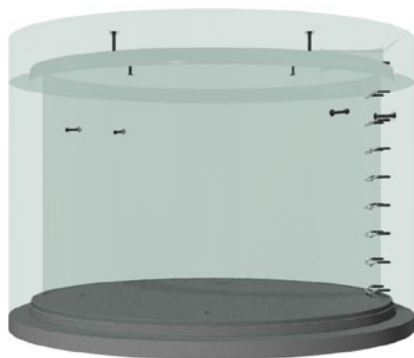
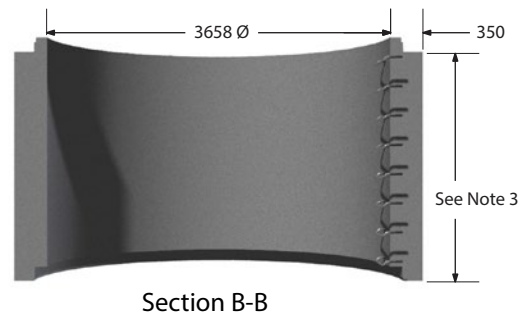
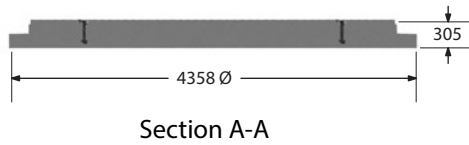
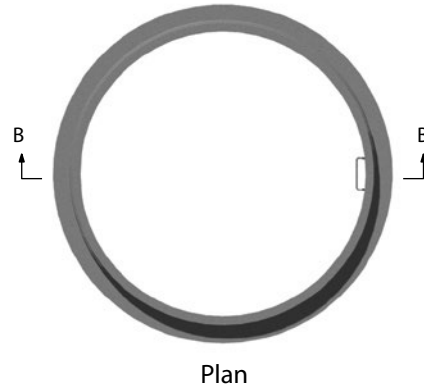
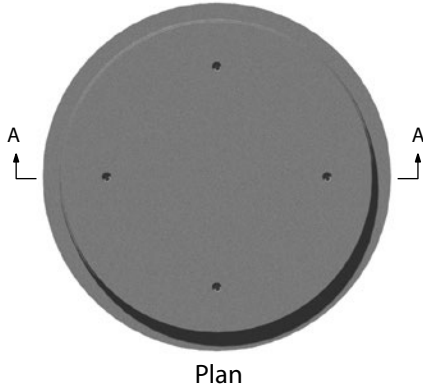
(mass - 7945 kg)

Maintenance Hole 3000mm Transition and Top Sections

Notes

1. Manufactured in accordance with OPSD 701.070 and 703.014, and 703.024.
2. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
3. All dimensions are in millimeters unless otherwise shown.





Base Slab
(mass - 10140 kg)

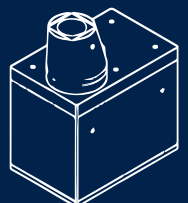


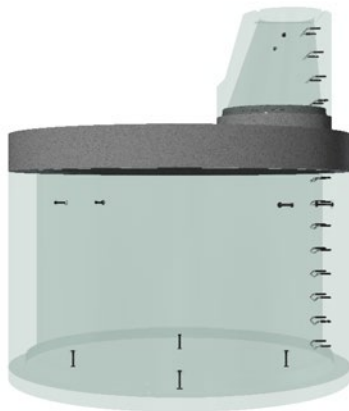
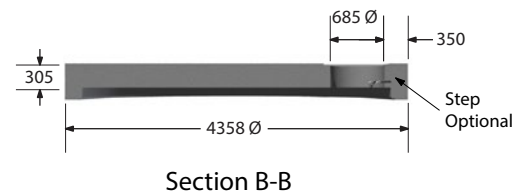
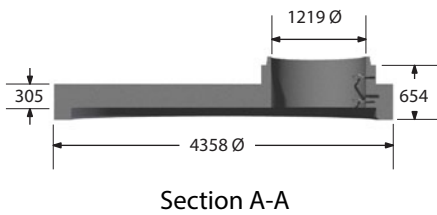
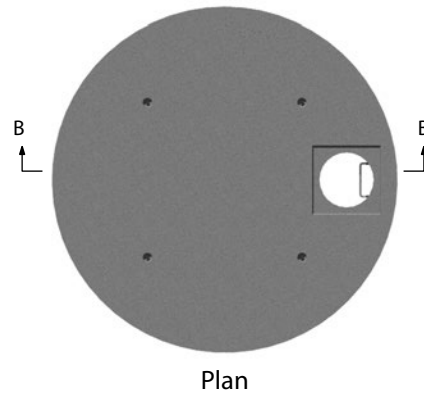
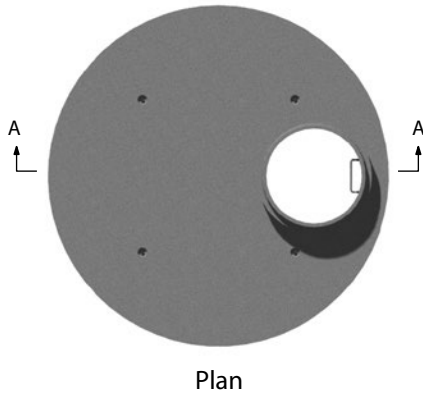
Riser
(mass - 10808 kg/m)

Maintenance Hole 3600mm Riser and Base Slab

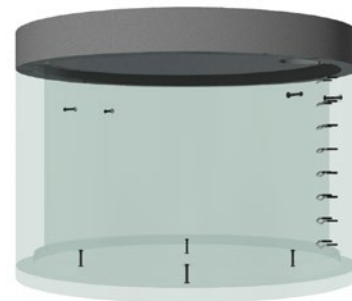
Notes

1. Manufactured in accordance with OPSD 701.081.
2. See page 43 for maximum pipe size and alignment angles.
3. Available riser section heights - 305, 610, 914, 1219, 1524, 1829, and 2440.
4. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
5. All dimensions are in millimeters unless otherwise shown.





Transition
(mass - 11932 kg)

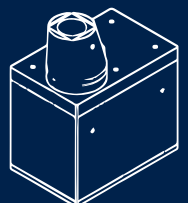


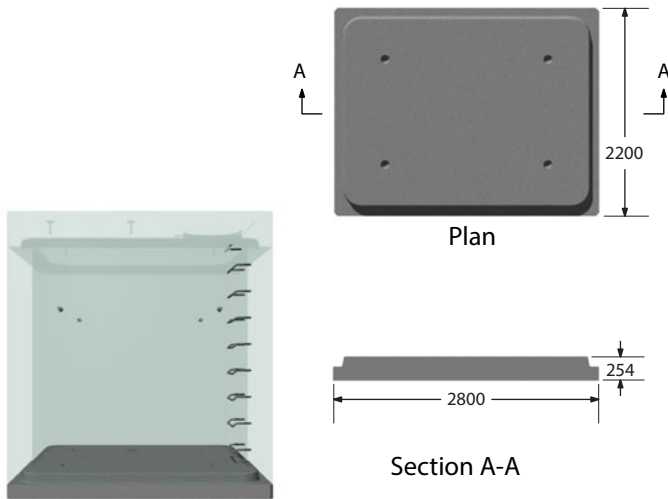
Flap Cap
(mass - 10500 kg)

Maintenance Hole 3600mm Transition and Flat Cap

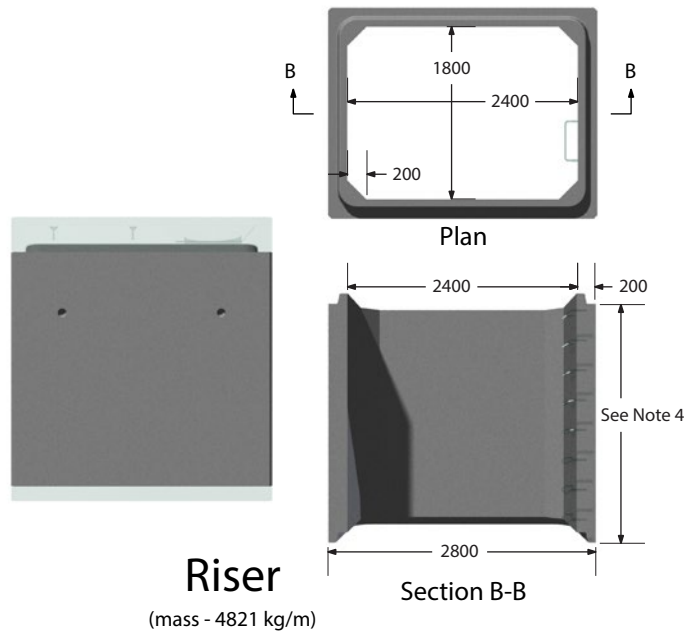
Notes

1. Manufactured in accordance with OPSD 701.080 and 701.015.
2. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
3. All dimensions are in millimeters unless otherwise shown.

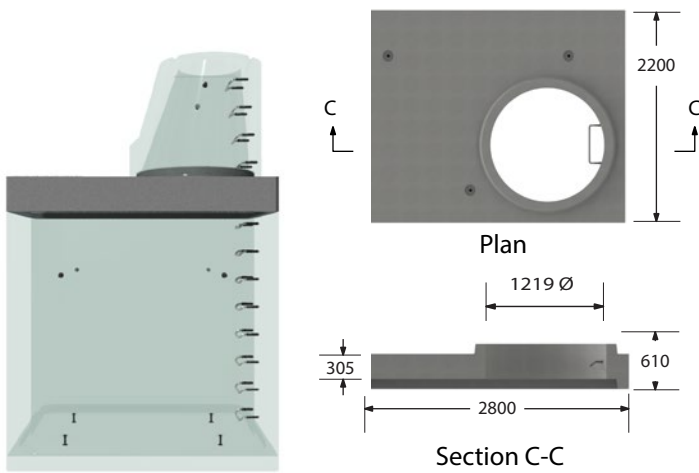




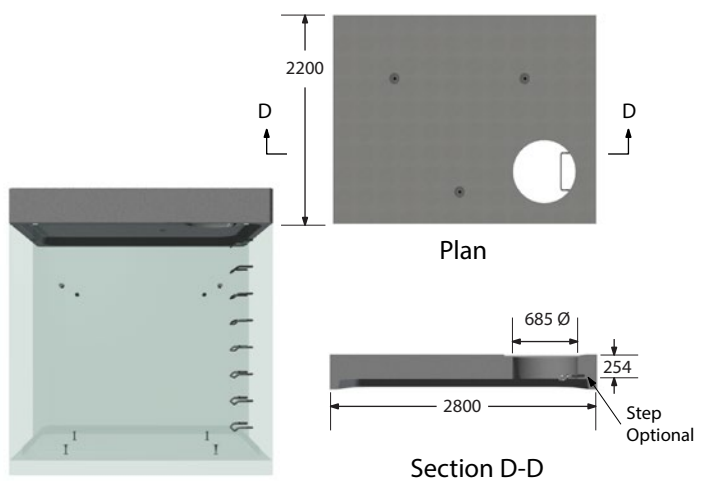
Base Slab
(mass - 3180 kg)



Riser
(mass - 4821 kg/m)



Transition
(mass - 4000 kg)

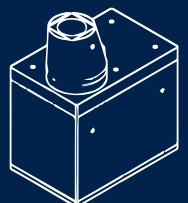


Flat Cap
(mass - 4010 kg)

Maintenance Hole 2400x1800 Box Chambers

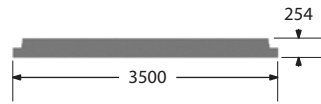
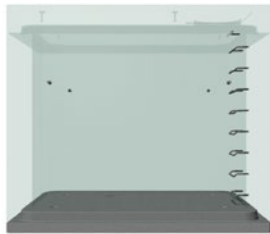
Notes

1. Manufactured in accordance with CHBDC.
2. See page 43 for maximum pipe size and alignment angles.
3. Available riser section heights - 305, 610, 914, 1219, 1524, 1829, 2134 and 2500.
4. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
5. All dimensions are in millimeters unless otherwise shown.





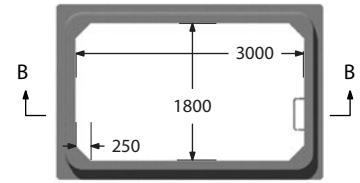
Plan



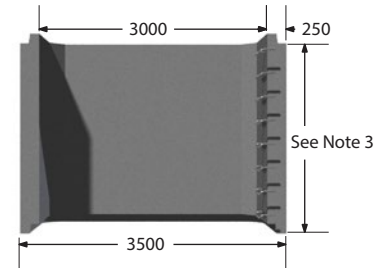
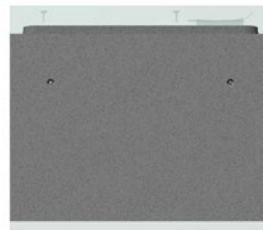
Section A-A

Base Slab

(mass - 4672 kg)



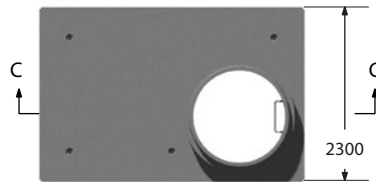
Plan



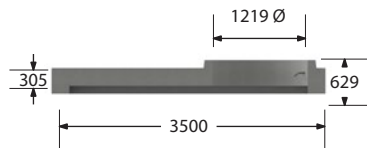
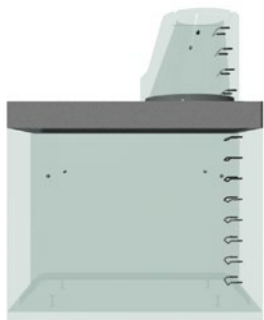
Section B-B

Riser

(mass - 6919 kg)



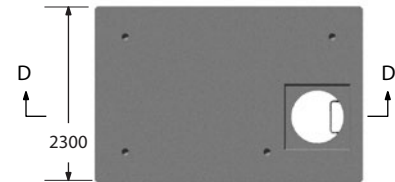
Plan



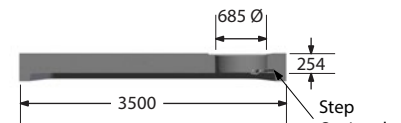
Section C-C

Transition

(mass - 5075 kg)



Plan



Section D-D

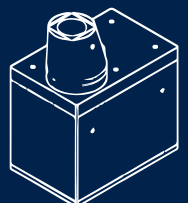
Flat Cap

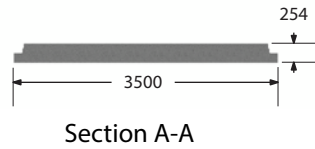
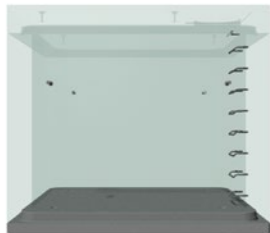
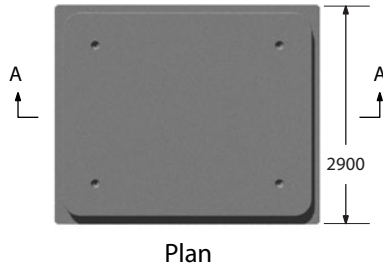
(mass - 5350 kg)

Maintenance Hole 3000x1800 Box Chambers

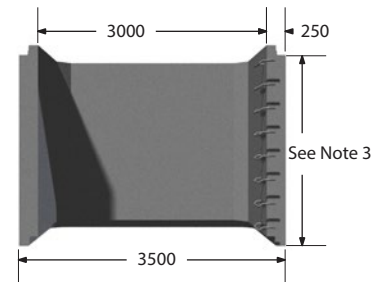
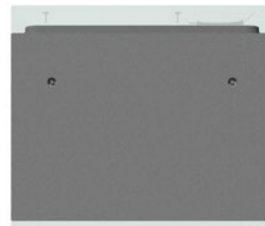
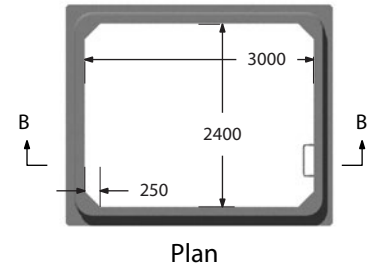
Notes

1. Manufactured in accordance with CHBDC.
2. See page 43 for maximum pipe size and alignment angles.
3. Available riser section heights - 305, 610, 914, 1219, 1524, 1829, 2134 and 2500.
4. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
5. All dimensions are in millimeters unless otherwise shown.

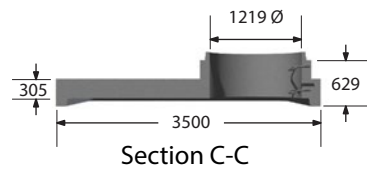
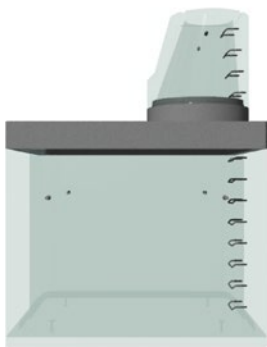
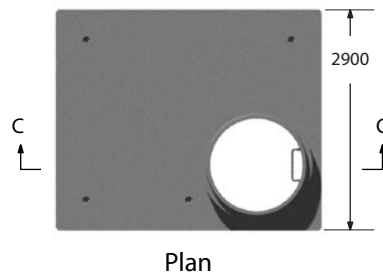




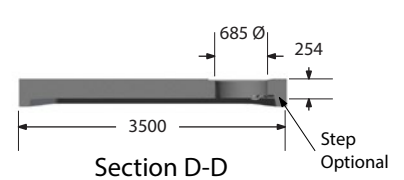
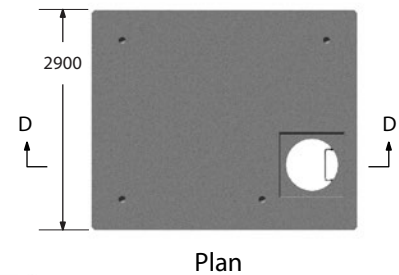
Base Slab
(mass - 5965 kg)



Riser
(mass - 2783 kg/m)



Transition
(mass - 6500 kg)

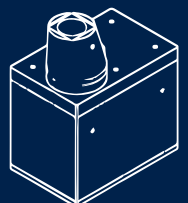


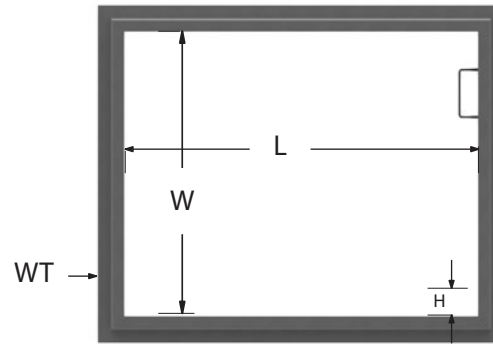
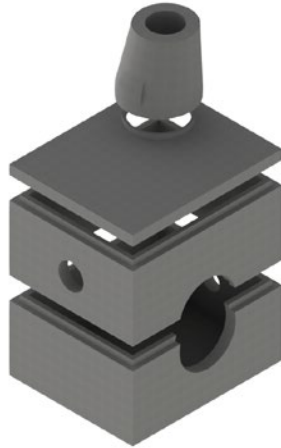
Flat Cap
(mass - 6720 kg)

Maintenance Hole 3000x2400 Box Chambers

Notes

1. Manufactured in accordance with CHBDC.
2. See page 43 for maximum pipe size and alignment angles.
3. Available riser section heights - 305, 610, 914, 1219, 1524, 1829, 2134 and 2500.
4. Maintenance hole steps (circular hollow aluminum) as per OPSD 405.010.
5. All dimensions are in millimeters unless otherwise shown.



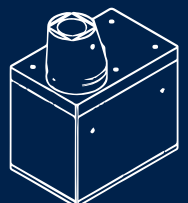


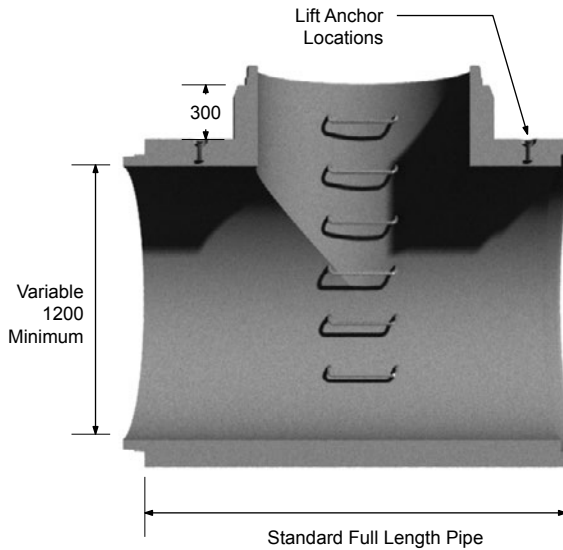
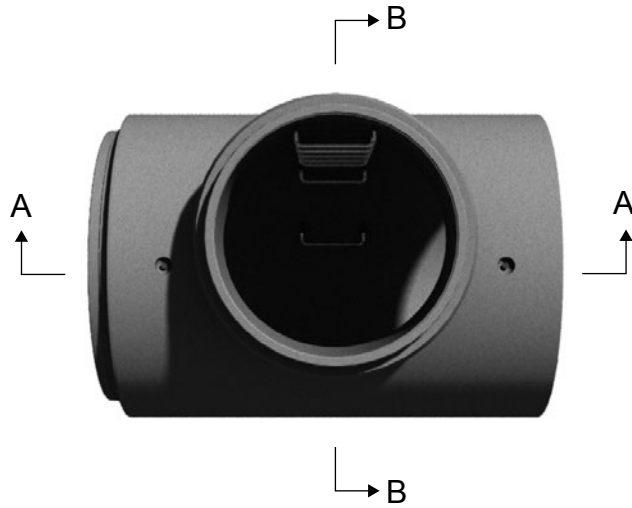
Length (L)	Width (W)	Wall Thickness (WT)	Haunch (H)
1800	900	200	200
1800	1200	200	200
2400	1200-2400	200/250/300/350	200/250/300/350
2700	1200-2700	250/300/350	250/300/350
3000	1200-3000	250/300/350	250/300/350
3300	1200-3300	250/300/350	250/300/350
3600	1200-3600	250/300/350	250/300/350
3900	1200-3900	250/300/350	250/300/350
4200	1200-4200	250/300/350	250/300/350
4500	1200-4500	250/300/350	250/300/350
4800	1200-4500	250/300/350	250/300/350
5100	1200-4500	250/300/350	250/300/350
5400	1200-4500	250/300/350	250/300/350
5700	1200-4500	250/300/350	250/300/350
6000	1200-4200	250/300/350	250/300/350
6300	1200-3900	250/300/350	250/300/350
6600	1200-3300	250/300/350	250/300/350

Maintenance Hole Box Chambers

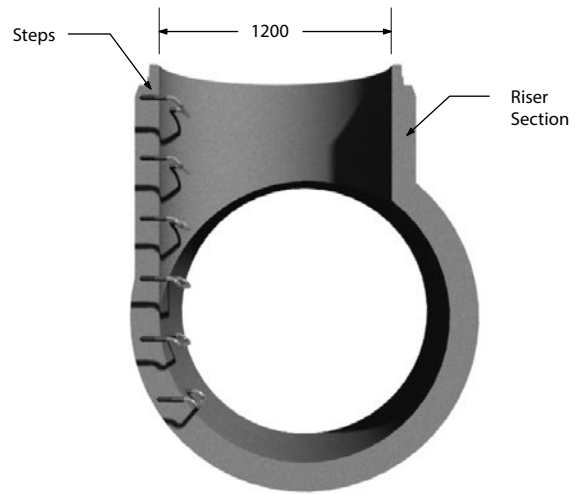
Notes

1. Designed in accordance with CSA S6 - CHBDC.
2. Chamber depth and connecting pipe size will determine chamber size and wall thickness.
3. Width size range on 300mm increments
4. See page 45 for 1200mm tapered top details.
5. Maintenance hole steps are circular hollow aluminum as per OPSD 405.010
6. All dimensions are in millimeters unless otherwise shown.





Section A-A

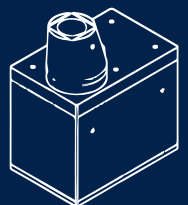


Section B-B

Maintenance Hole Pipe Tee

Notes

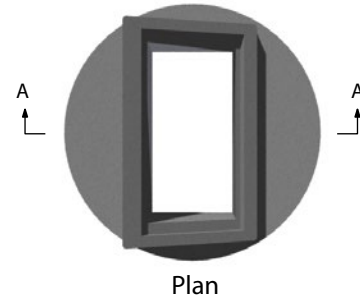
1. Manufactured in accordance with CSA A257.2 and OPSD 707.010.
2. Maintenance hole steps as per OPSD 405.010.
3. Contact the M Con engineering department for special design maintenance tee applications.
4. All dimensions are in millimeters unless otherwise shown.





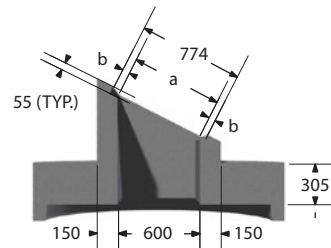
Ditch Inlet Type A

(mass - 1633 kg + 1830 kg/m)

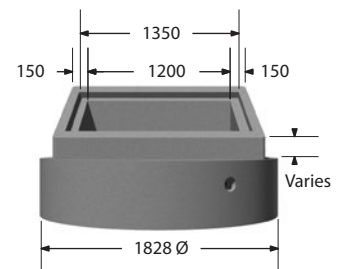


Plan

Opening Dimensions			
Grate			
Type	Slape	a	b
B	2H:1V	670	52
	3H:1V	632	71
	4H:1V	618	78
	Horizontal	600	87



Section A-A

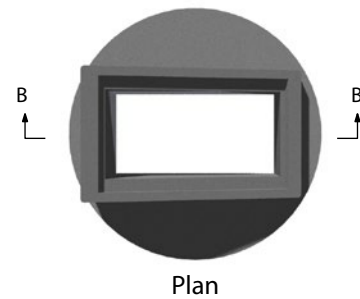


Font View



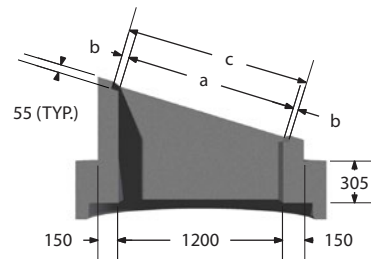
Ditch Inlet Type B

(mass - 1633 kg + 1830 kg/m)

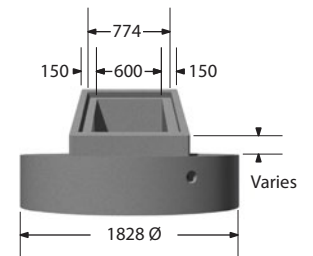


Plan

Opening Dimensions				
Grate				
Type	Slape	a	b	C
C	2H:1V	1341	66	1473
	3H:1V	1265	104	1473
	4H:1V	1237	118	1473
	6H:1V	1216	65	1346
B	Horizontal	1200	73	1346



Section B-B

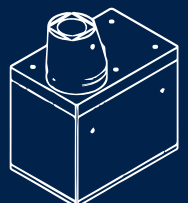


Font View

1500mm Flat Cap with
600x1200 Ditch Inlet Top

Notes

1. Designed in accordance with OPSD 706.010 and OPSD 705.040 Type A and Type B.
2. For ditch inlet top information see page 86.
3. All dimensions are in millimeters unless otherwise shown.





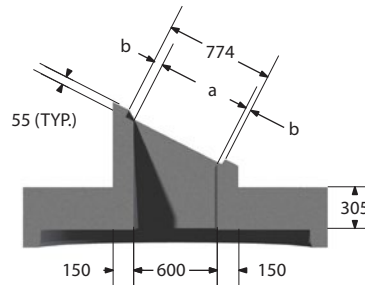
Ditch Inlet Type A

(mass - 2704 kg + 1830 kg/m)

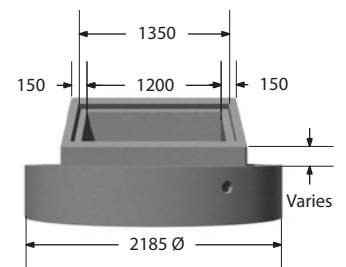


Plan

Opening Dimensions			
Grate			
Type	Slope	a	b
B	2H:1V	670	52
	3H:1V	632	71
	4H:1V	618	78
	Horizontal	600	87



Section A-A



Font View



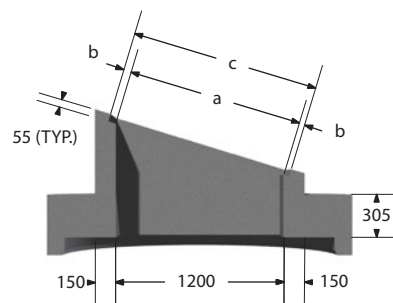
Ditch Inlet Type B

(mass - 2704 kg + 1830 kg/m)

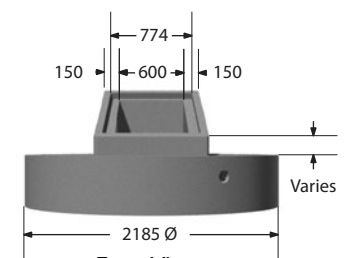


Plan

Opening Dimensions				
Grate				
Type	Slope	a	b	C
C	2H:1V	1341	66	1473
	3H:1V	1265	104	1473
	4H:1V	1237	118	1473
B	6H:1V	1216	65	1346
	Horizontal	1200	73	1346



Section B-B

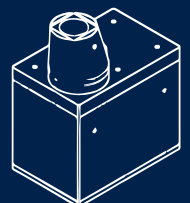


Font View

1800mm Flat Cap with
600x1200 Ditch Inlet Top

Notes

1. Designed in accordance with OPSD 706.020 and OPSD 705.040 Type A and Type B.
2. For ditch inlet top information see page 86.
3. All dimensions are in millimeters unless otherwise shown.





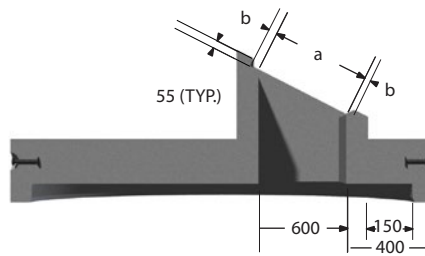
Ditch Inlet Type A

(mass - 4930 kg + 1830 kg/m)

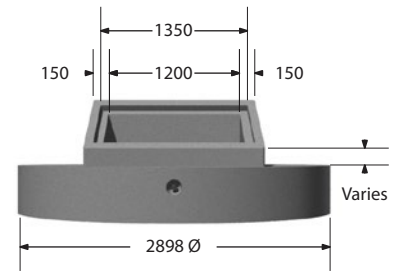


Plan

Opening Dimensions			
Grate		a	b
Type	Slope		
B	2H:1V	670	52
	3H:1V	632	71
	4H:1V	618	78
	Horizontal	600	87



Section B-B



Font View



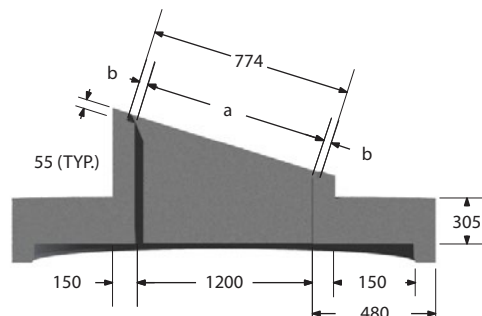
Ditch Inlet Type B

(mass - 4930 kg + 3660 kg/m)

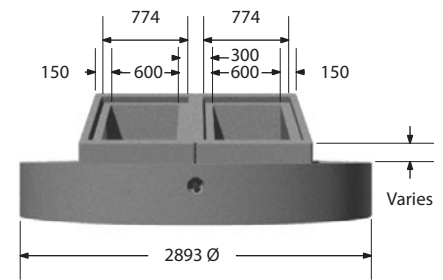


Plan

Opening Dimensions				
Grate		a	b	C
Type	Slope			
C	2H:1V	1341	66	1473
	3H:1V	1265	104	1473
	4H:1V	1237	118	1473
	6H:1V	1216	65	1346
B	Horizontal	1200	73	1346



Section A-A

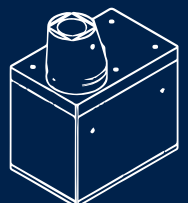


Font View

2400mm Flat Cap with
600x1200 Ditch Inlet Top

Notes

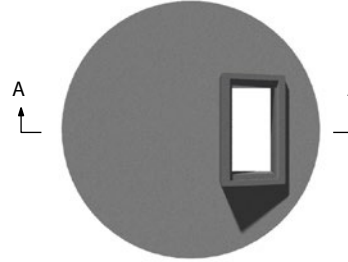
1. Designed in accordance with OPSD 706.030, 706.031 and OPSD 705.040 Type A and Type B.
2. For ditch inlet top information see page 86.
3. All dimensions are in millimeters unless otherwise shown.





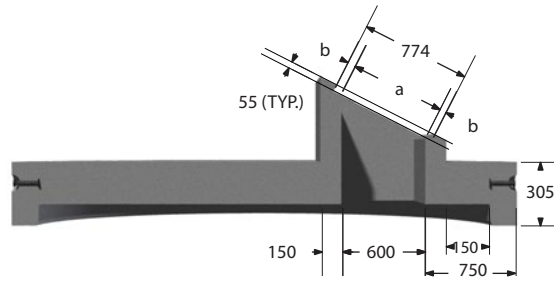
Ditch Inlet Type A

(mass - 4945 kg - 1830 kg/m)

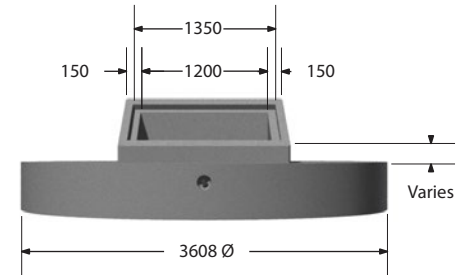


Plan

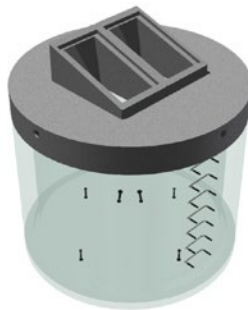
Opening Dimensions			
Grate		a	b
Type	Slope		
B	2H:1V	670	52
	3H:1V	632	71
	4H:1V	618	78
	Horizontal	600	87



Section A-A



Front View



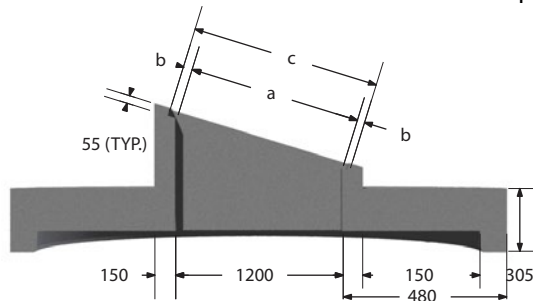
Ditch Inlet Type B

(mass - 7945 kg - 3660 kg/m)

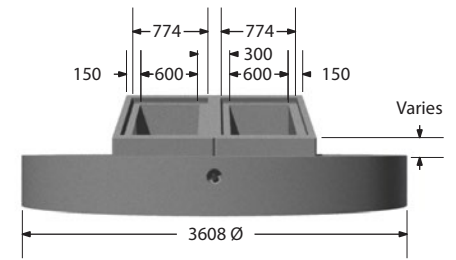


Plan

Opening Dimensions				
Grate		a	b	C
Type	Slope			
C	2H:1V	1341	66	1473
	3H:1V	1265	104	1473
	4H:1V	1237	118	1473
B	6H:1V	1216	65	1346
	Horizontal	1200	73	1346



Section B-B

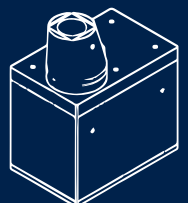


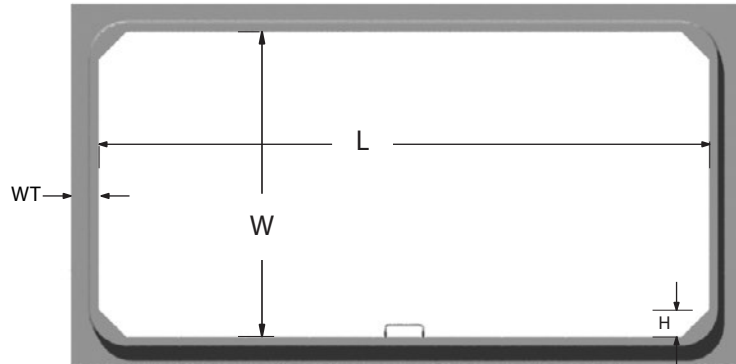
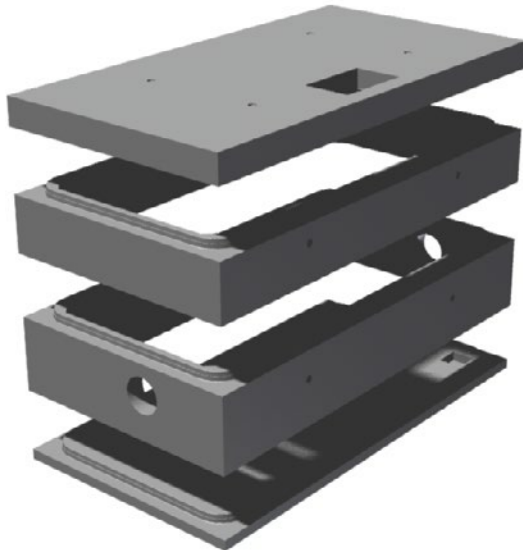
Front View

3000mm Flat Cap with
600x1200 Ditch Inlet Top

Notes

1. Designed in accordance with OPSD 706.040, 706.041 and OPSD 705.040 Type A and Type B.
2. For ditch inlet top information see page 86.
3. All dimensions are in millimeters unless otherwise shown.



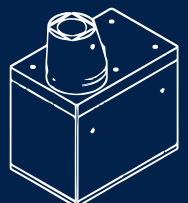


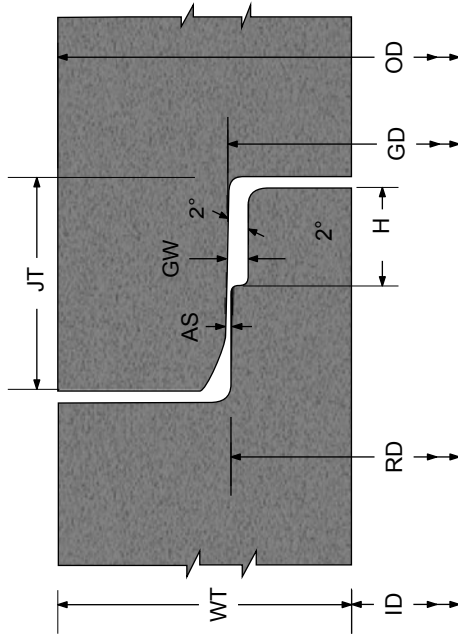
Length (L)	Width (W ₃)	Wall Thickness (WT ₂)	Haunch (H)
1800	900	200	200
1800	1200	200	200
2400	1200-2400	200/250/300/350	200/250/300/350
2700	1200-2700	250/300/350	250/300/350
3000	1200-3000	250/300/350	250/300/350
3300	1200-3300	250/300/350	250/300/350
3600	1200-3600	250/300/350	250/300/350
3900	1200-3900	250/300/350	250/300/350
4200	1200-4200	250/300/350	250/300/350
4500	1200-4500	250/300/350	250/300/350
4800	1200-4500	250/300/350	250/300/350
5100	1200-4500	250/300/350	250/300/350
5400	1200-4500	250/300/350	250/300/350
5700	1200-4500	250/300/350	250/300/350
6000	1200-4200	250/300/350	250/300/350
6300	1200-3900	250/300/350	250/300/350
6600	1200-3300	250/300/350	250/300/350

Valve and Meter Box Chambers

Notes

1. Designed in accordance with CSA S6 - CHBDC.
2. Chamber depth and connecting pipe size will determine chamber size and wall thickness.
3. Width size range based on 300mm increments.
4. Maintenance hole steps are circular hollow aluminum as per OPSD 405.010
5. All dimensions are in millimeters unless otherwise shown.



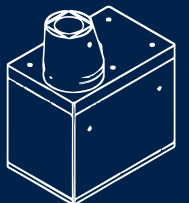


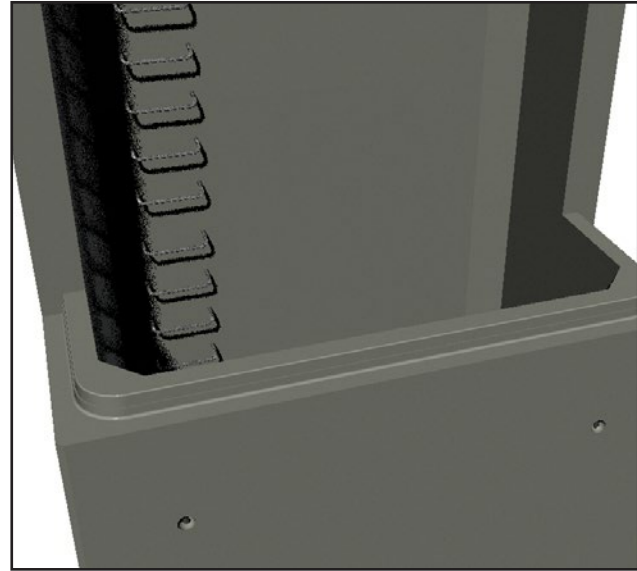
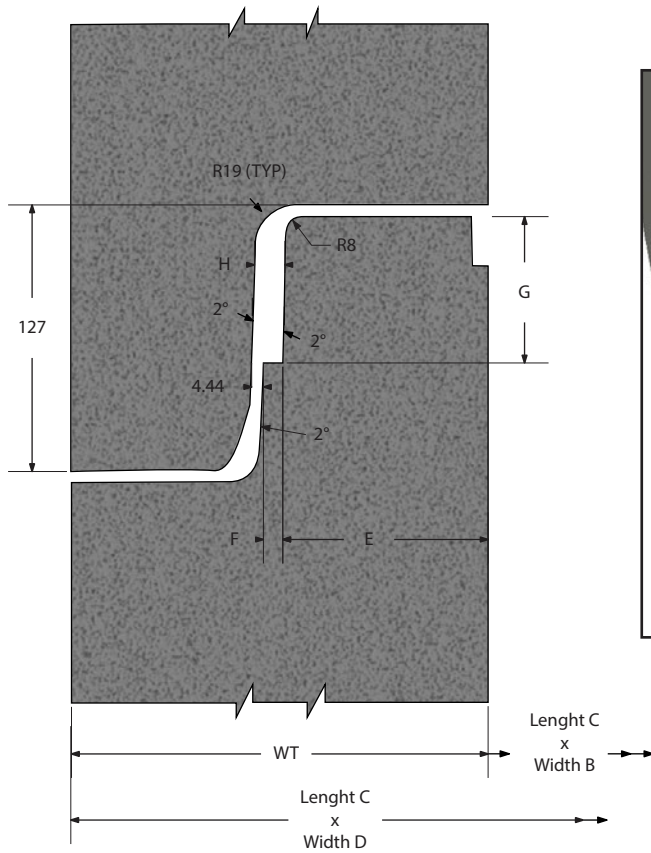
ID (Nominal)	ID (Actual)	OD	WT	JT	RD	GD	AS	GW	H
1200	1220	1474.0	127.0	107.9	1325.1	1343.3	3.7	11.3	63.5
1500	1524	1828.0	152.0	120.6	1635.2	1653.4	3.7	11.3	63.5
1800	1829	2185.0	178.0	127.0	1959.8	1978.0	3.7	11.3	63.5
2400	2438	2895.6	228.6	127.0	2619.0	2640.8	4.4	13.3	69.8
3000	3048	3606.8	279.4	152.4	3265.6	3269.5	4.4	13.3	69.8
3600	3658	4356	350.0	152.4	3895.4	3917.2	3.7	12.7	50.8

Maintenance Hole Joint Detail 1200-3600mm

Notes

1. Pre-lubricated rubber gaskets to be used with this maintenance hole joint Gaskets design.
2. All dimensions are in millimeters unless otherwise shown.



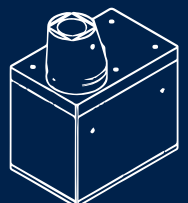


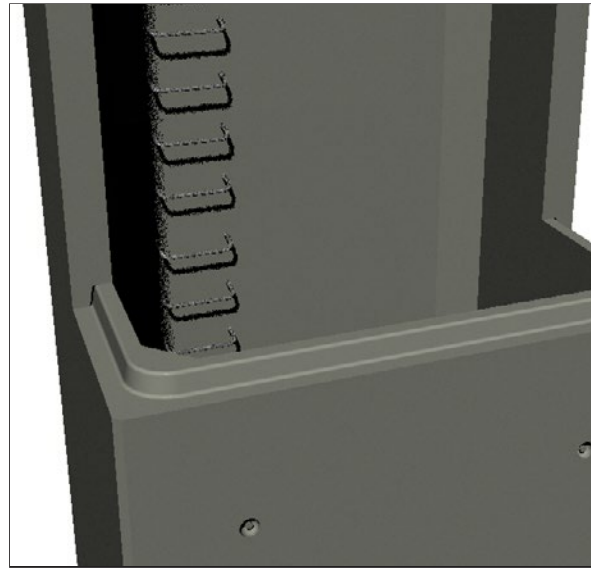
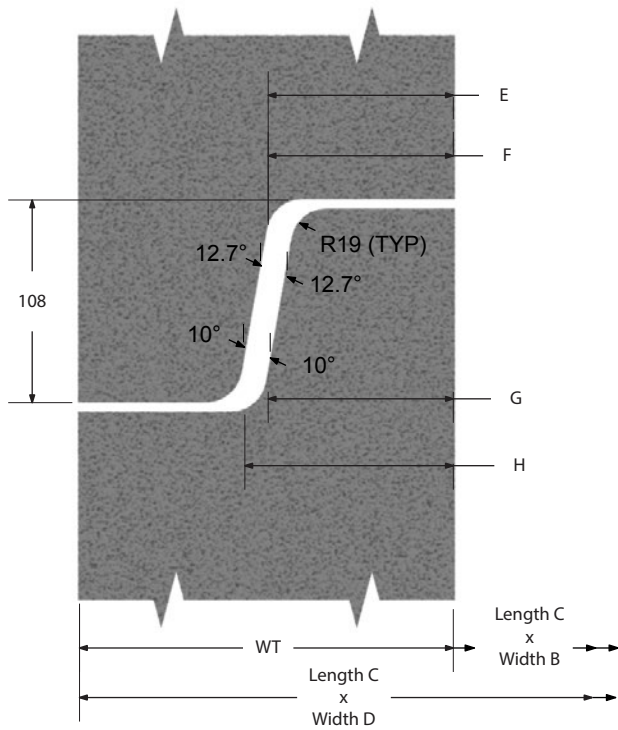
Inside		Outside		E	F	G	H	WT
Length A	Width B	Length C	Width D					
1800	900	2200	1300	100.0	8.89	69.85	13.34	200
2400	1200	2800	1600	100.0	8.89	69.85	13.34	200
2400	1500	2800	1900	100.0	8.89	69.85	13.34	200
3000	1500	3500	2000	125.0	8.89	69.85	13.34	250
3000	1800	3500	2300	125.0	8.89	69.85	13.34	250
3000	2100	3500	2600	125.0	8.89	69.85	13.34	250
3000	2400	3500	2900	125.0	8.89	69.85	13.34	250

Maintenance Hole Box Chambers Standard Wall

Notes

1. Pre-lubricated continuous rubber gasket to be used with this joint design.
2. All dimensions are in millimeters unless otherwise shown.



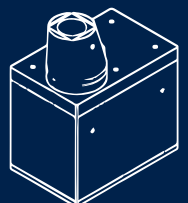


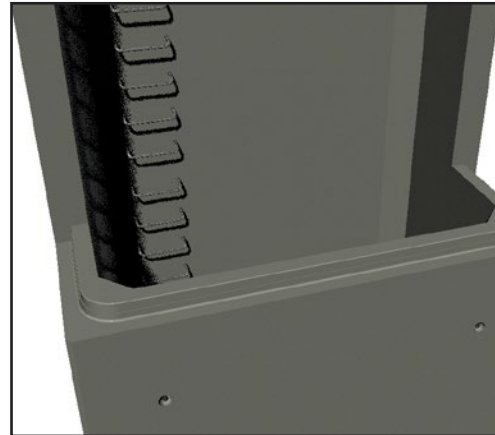
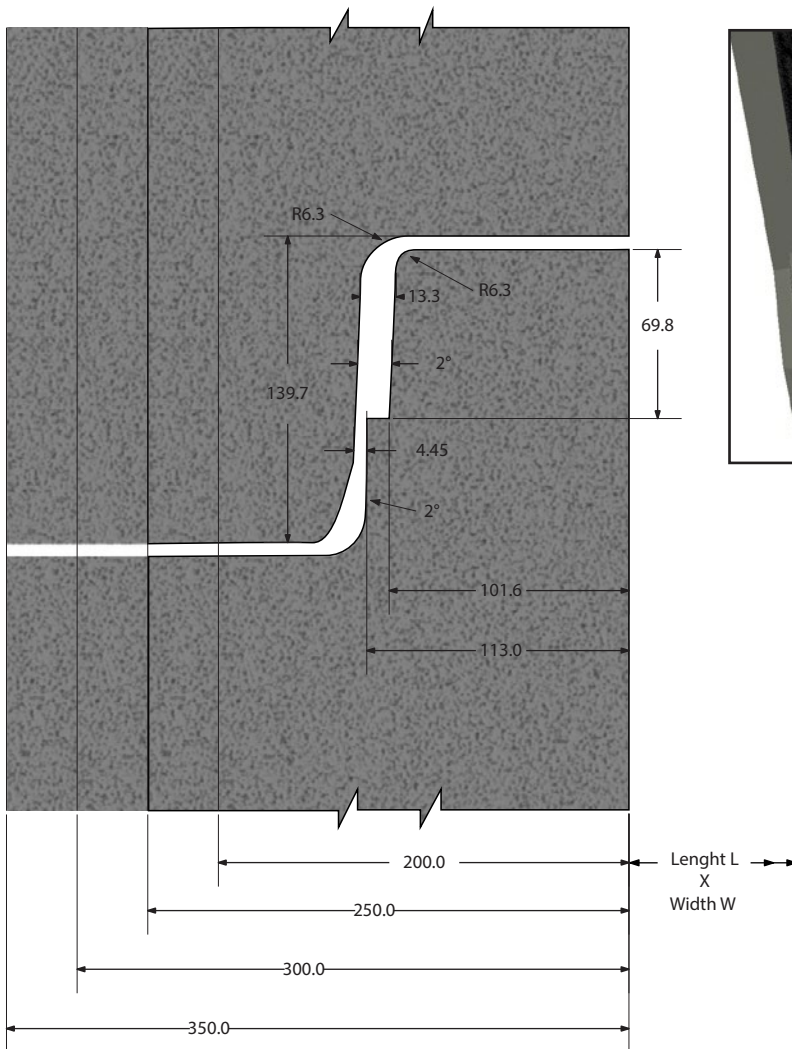
Inside		Outside		E	F	G	H	WT
Length A	Width B	Length C	Width D					
1800	1200	2200	1600	96.9	84.0	103.1	116.0	200
2400	1800	2800	2200	96.9	84.0	103.1	116.0	200

Maintenance Hole Box Chambers Standard Wall

Notes

1. Continuous Rubber Gasket to be used with this maintenance Hole Joint Design
2. Dimensions are in millimeters unless otherwise shown.



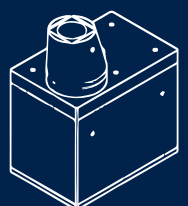


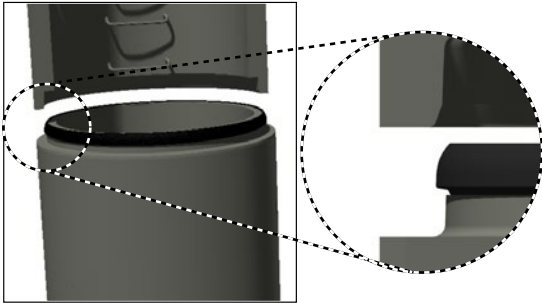
Length (A)	Width (B)
1800	900
1800	1200
2400	1200-2400
2700	1200-2700
3000	1200-3000
3300	1200-3300
3600	1200-3600
3900	1200-3900
4200	1200-4200
4500	1200-4500
4800	1200-4500
5100	1200-4500
5400	1200-4500
5700	1200-4500
6000	1200-4200
6300	1200-3900
6600	1200-3300

Maintenance Hole Box Chambers Variable Wall thickness

Notes

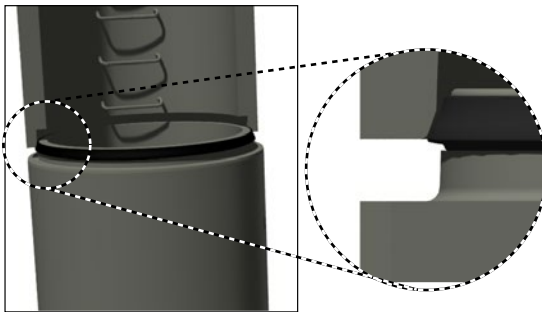
1. Pre-lubricated continuous rubber gasket to be used with this joint design.
2. All dimensions are in millimeters unless otherwise shown.





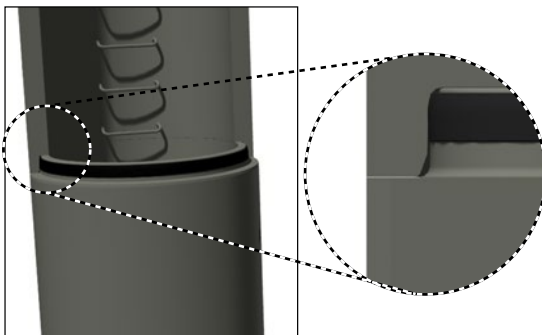
Step 1

Clean all dirt and foreign objects off the bell and spigot. Ensure both the bell and spigot are free of cracks, chips and defects.



Step 2

Align the spigot with the bell. Ensure the gasket is in contact with the entire circumference of both the bell taper and the spigot before fully homing the joint.



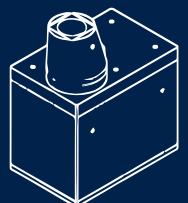
Step 3

Engage the spigot into the bell to fully install, locking the joint into place. The self lubricating gasket will roll over the step of the spigot and into the joint recess creating the complete seal.

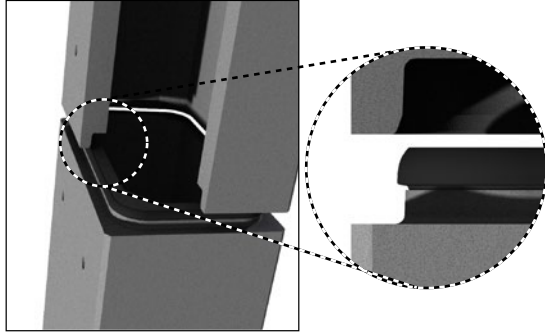
Circular Maintenance Hole Jointing Procedure

Notes

1. The following above jointing procedure will ensure full optimization of pipe joint performance.

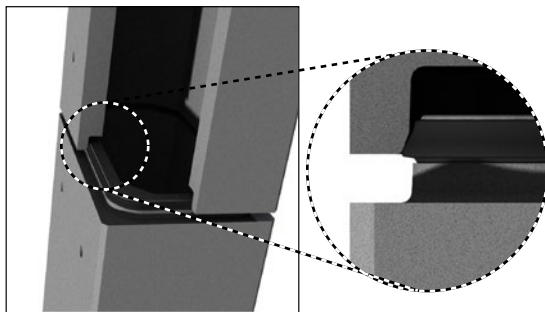


Pre-Lubricated Gaskets



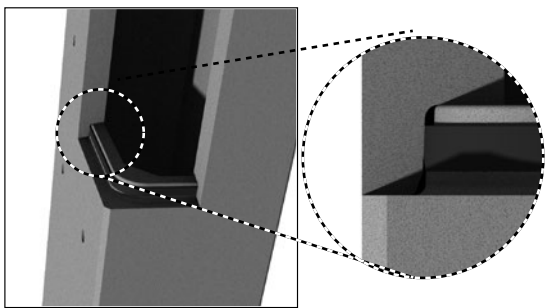
Step 1

Pre-lubricated gaskets are installed on the spigot of the box prior to delivery. Clean all dirt and foreign objects off the bell and spigot. Ensure both the bell and spigot are free of cracks, chips and defects.



Step 2

Align the spigot with the bell. Ensure the gasket is in contact with the entire circumference of both the bell taper and the spigot before fully homing the joint.



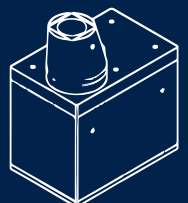
Step 3

Engage the spigot into the bell to fully install, locking the joint into place. The self lubricating gasket will roll over the step of the spigot and into the joint recess creating the complete seal.

Box Chambers Jointing Procedure Up to 3000mm Span

Notes

1. The following above jointing procedure will ensure full optimization of pipe joint performance.



Section 4

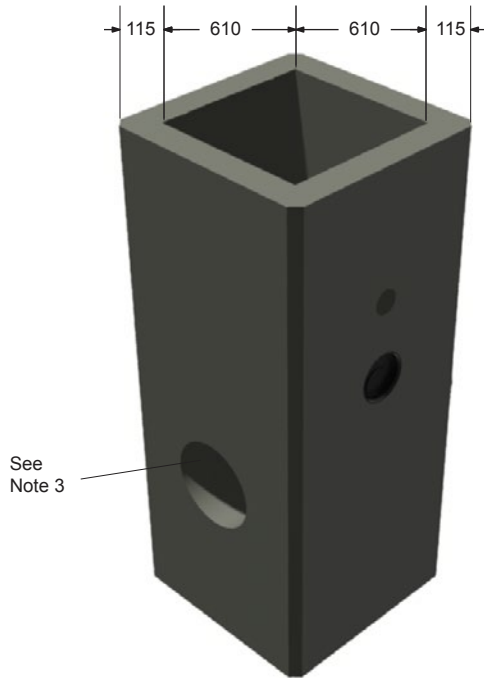
Catchbasins



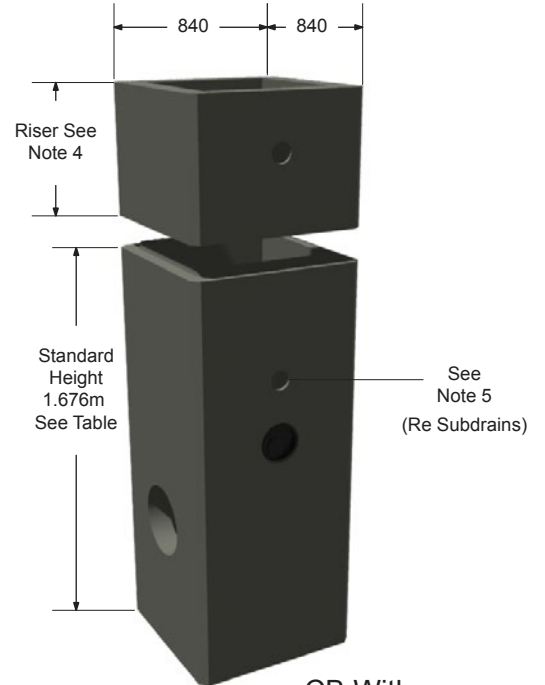
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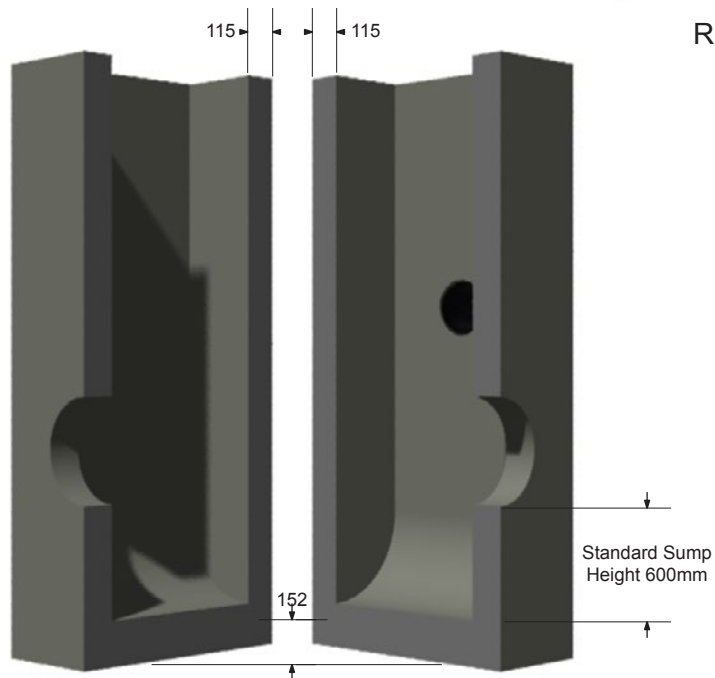


Standard CB



CB With
Riser Section

Alternate Standard Heights (mm)	
A	1219
B	1372
C	1524
D	1829
E	1981

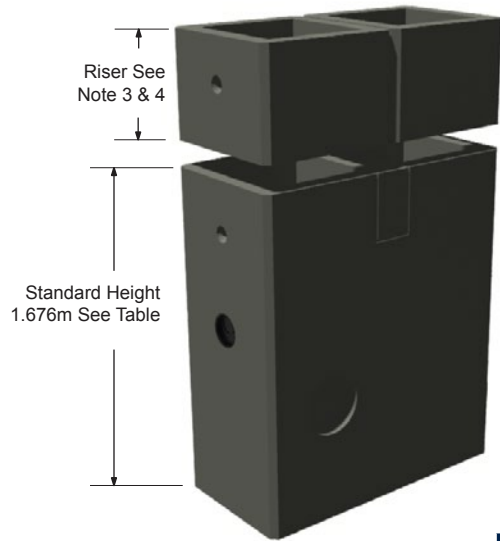
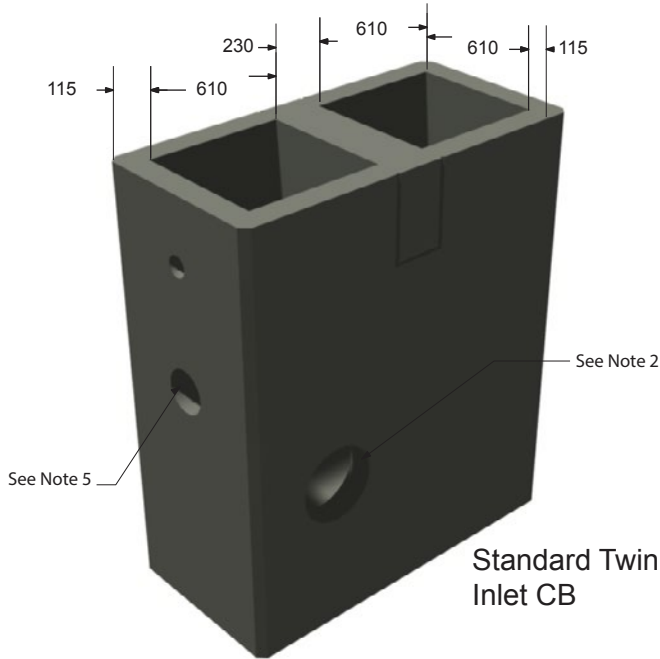


600x600mm Single Inlet Catch Basin

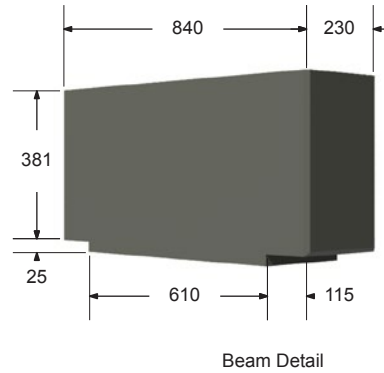
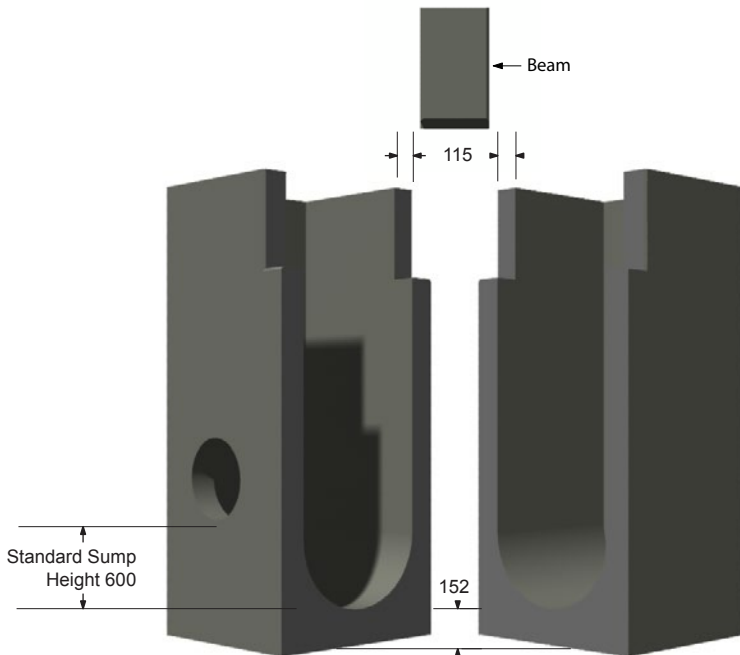
Notes

1. Manufactured in accordance with OPSD 705.010.
2. 150mm wall available upon request.
3. Standard opening size - 350mm diameter.
4. Riser sections available - 305, 457, 610, 914, and 1219mm
5. Subdrain connection insert for 100, 125, and 150mm diameter standard on all stock catch basins.
6. GOSS traps available upon request.





Alternate Standard Heights (mm)	
A	1219
B	1372
C	1524
D	1829
E	1981

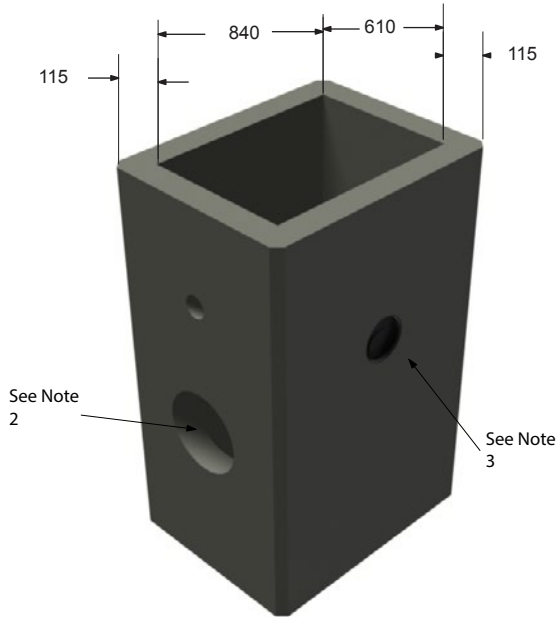


600x1450 Twin Inlet Catch Basin

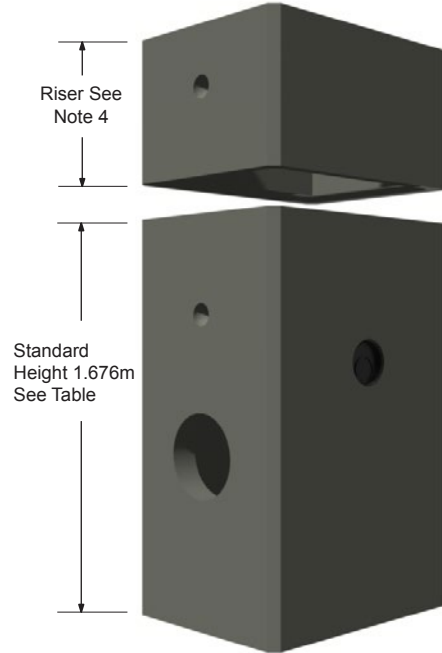
Notes

1. Manufactured in accordance with OPSD 705.020.
2. Standard opening size - 400mm diameter.
3. Vertical height may be increased by using two single catch basin riser sections. See page 81 for available riser sections
4. Riser sections available - 305, 457, 610, 914, and 1219mm
5. Subdrain connection insert for 100, 125, and 150mm diameter standard on all stock twin inlet catch basins.
6. GOSS traps available upon request.



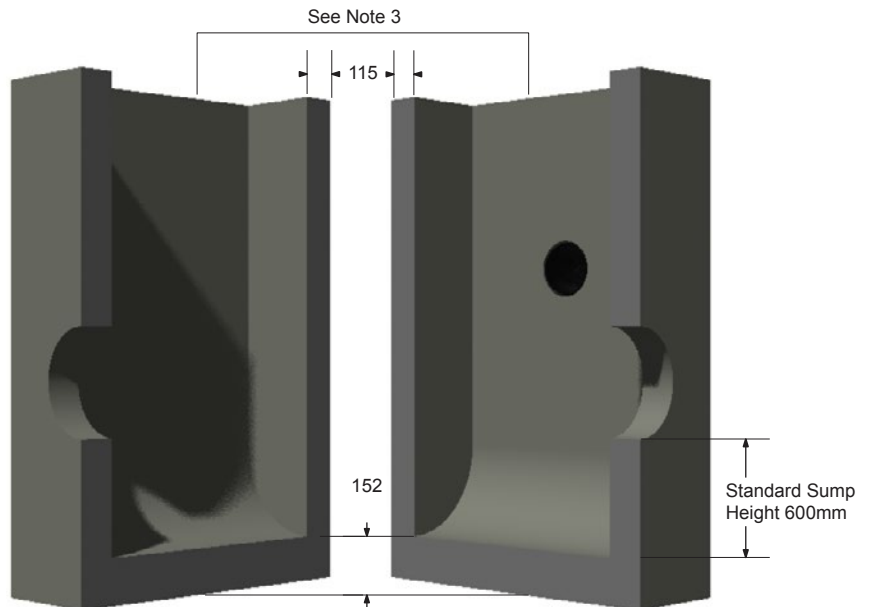


Curb Inlet



Curb Inlet With Rear Section

Alternate Standard Heights (mm)	
A	1219
B	1372
C	1524
D	1829
E	1981

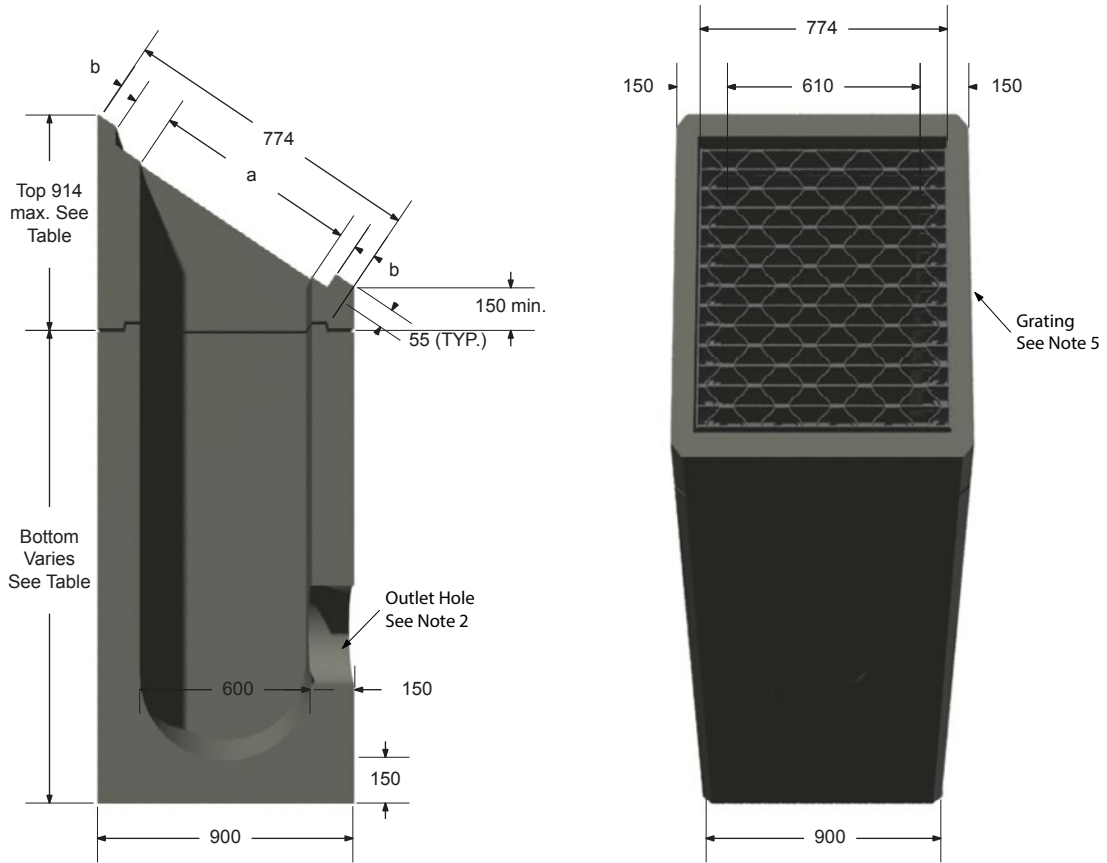


600x840 Curb Inlet Catch Basin

Notes

1. Manufactured in accordance with CSA-A257.4.
2. Standard opening size - 400mm diameter.
3. Subdrain connection insert for 100, 125, and 150mm diameter standard on all stock curb inlet catch basins.
4. Riser sections available - .305, .457, .610, .914 and 1.219m.
5. GOSS traps available upon request.
6. All dimensions is mm unless otherwise shown.





Opening Dimensions			
Grate		a	b
Type	Slope		
A	2H:1V	670	52
	3H:1V	632	71
	4H:1V	618	78
	6H:1V	608	83
	Horizontal	600	87

Standard Bottom Heights (mm)
1219
1372
1524
1676
1829
1981

Standard Top Heights (mm)	
Horizontal	305
3:1 4:1 6:1	457
2:1	610

600x600 Ditch Inlet Catch Basin

Notes

1. Designed in accordance with OPSD 705.030.
2. Standard opening size - 400mm diameter.
3. Riser sections available - 305, 457, 610, 914, and 1219mm
4. All dimensions are in millimeter unless otherwise shown.
5. Honey comb grating manufactured in accordance with OPSD 403.010 - Type A

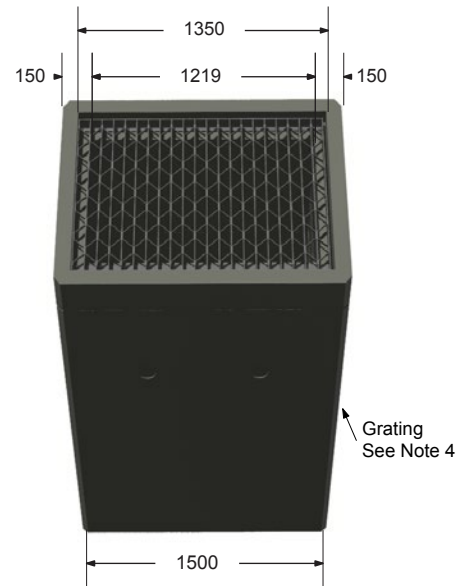
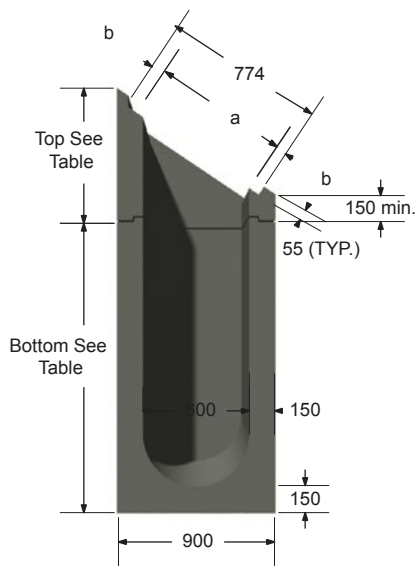


Ditch Inlet Type A

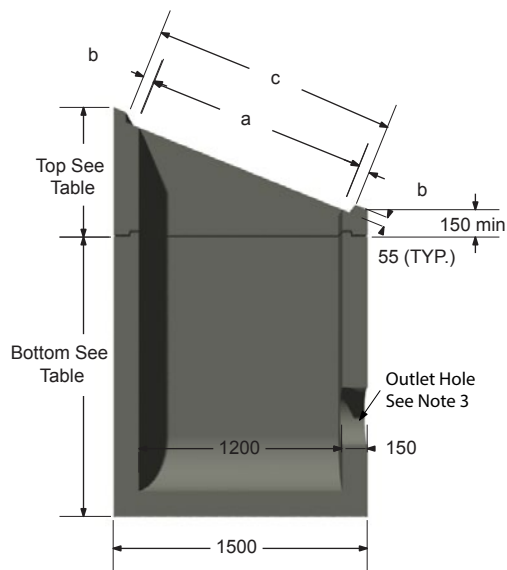
Opening Dimension			
Grate		a	b
Type	Slope	a	b
B	2H:1V	670	52
	3H:1V	632	71
	4H:1V	618	78
	Horizontal	600	87

Ditch Inlet Type B

Opening Dimension				
Grate		a	b	C
Type	Slope	a	b	C
C	2H:1V	1341	66	1473
	3H:1V	1265	104	1473
	4H:1V	1237	118	1473
B	6H:1V	1216	65	1346
	Horizontal	1200	73	1346



Ditch Inlet Type A



Ditch Inlet Type B

600x1200 Ditch
Inlet Catch Basin

Notes

1. Manufactured in accordance with OPSD 705,040.
2. Riser sections are available in heights of .305 to 1.219m in 152 increments.
3. Standard outlet opening is 50mm diameter
4. Honey comb grating as per OPSD 403,010 - Type B and Type A
5. All dimensions are in millimeters, unless otherwise shown.





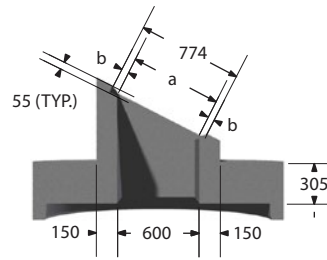
Ditch Inlet Type A

(mass - 1633 kg + 1830 kg/m)

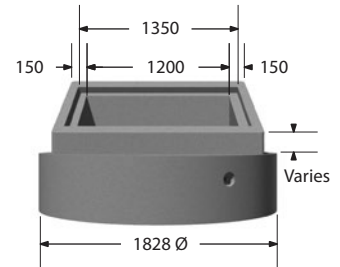


Plan

Opening Dimensions			
Grate		a	b
Type	Slope		
B	2H:1V	670	52
	3H:1V	632	71
	4H:1V	618	78
	Horizontal	600	87



Section A-A

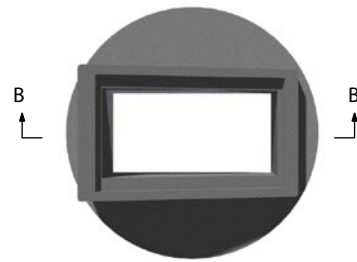


Front View



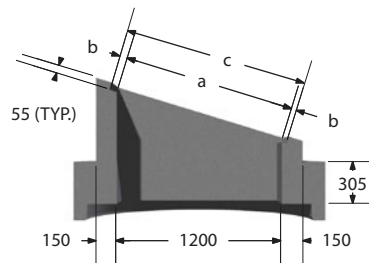
Ditch Inlet Type B

(mass - 1633 kg + 1830 kg/m)

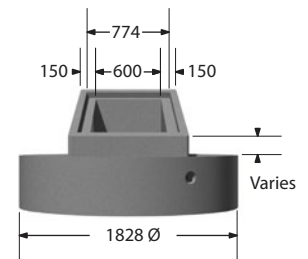


Plan

Opening Dimensions				
Grate		a	b	C
Type	Slope			
C	2H:1V	1341	66	1473
	3H:1V	1265	104	1473
	4H:1V	1237	118	1473
B	6H:1V	1216	65	1346
	Horizontal	1200	73	1346



Section B-B



Front View

1500 Flat Cap with
600x1200 Ditch Inlet Top

Notes

1. Designed in accordance with OPSD 706.010 and OPSD 705.040 Type A and Type B.
2. For ditch inlet top information see page 86.
3. All dimensions are in millimeters unless otherwise shown.



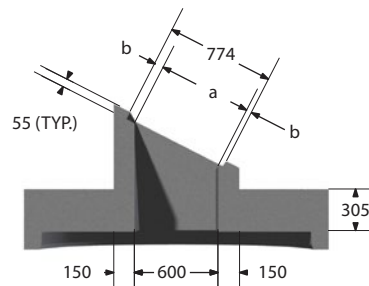


Ditch Inlet Type A

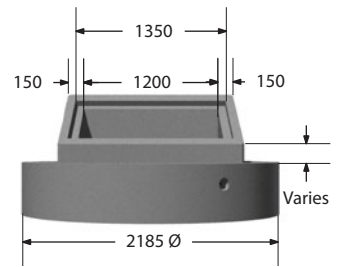
(mass - 2704 kg + 1830 kg/m)



Plan



Section A-A



Font View

Opening Dimensions			
Grate		a	b
Type	Slope	a	b
B	2H:1V	670	52
	3H:1V	632	71
	4H:1V	618	78
	Horizontal	600	87

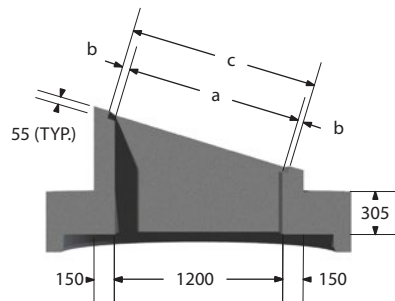


Ditch Inlet Type B

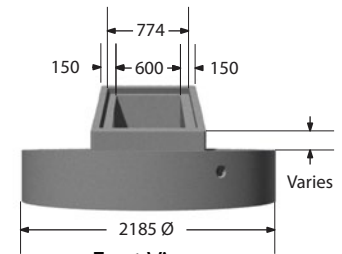
(mass - 2704 kg + 1830 kg/m)



Plan



Section B-B



Font View

Opening Dimensions				
Grate		a	b	C
Type	Slope	a	b	C
C	2H:1V	1341	66	1473
	3H:1V	1265	104	1473
	4H:1V	1237	118	1473
B	6H:1V	1216	65	1346
	Horizontal	1200	73	1346

1800 Flat Cap with
600x1200 Ditch Inlet Top

Notes

1. Designed in accordance with OPSD 706.020 and OPSD 705.040 Type A and Type B.
2. For ditch inlet top information see page 86.
3. All dimensions are in millimeters unless otherwise shown.





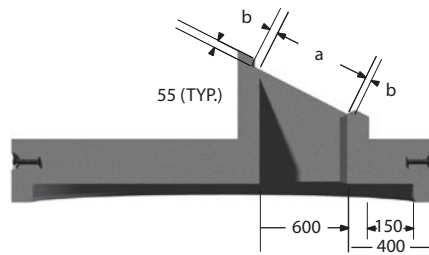
Ditch Inlet Type A

(mass - 4930 kg + 1830 kg/m)

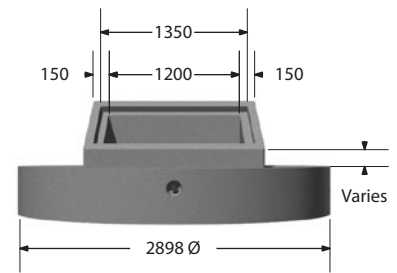


Plan

Opening Dimensions			
Grate		a	b
Type	Slape		
B	2H:1V	670	52
	3H:1V	632	71
	4H:1V	618	78
	Horizontal	600	87



Section B-B

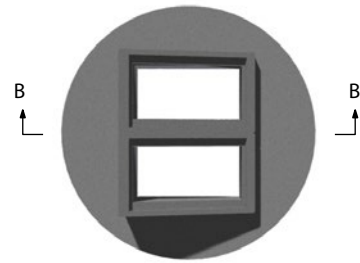


Font View



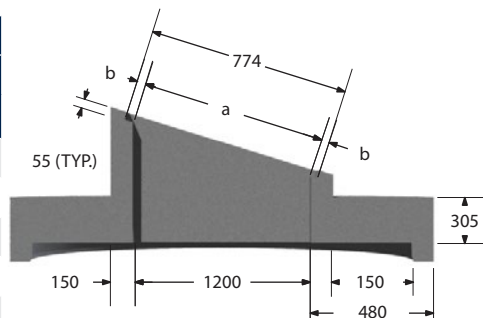
Ditch Inlet Type B

(mass - 4930 kg + 3660 kg/m)

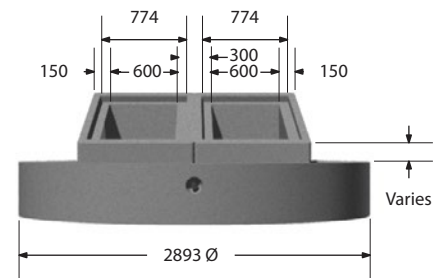


Plan

Opening Dimensions				
Grate		a	b	C
Type	Slape			
C	2H:1V	1341	66	1473
	3H:1V	1265	104	1473
	4H:1V	1237	118	1473
B	6H:1V	1216	65	1346
	Horizontal	1200	73	1346



Section A-A



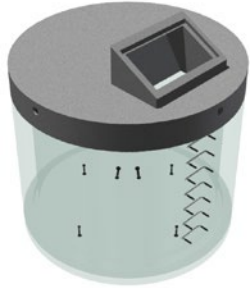
Font View

2400 Flat Cap with
600x1200 Ditch Inlet Top

Notes

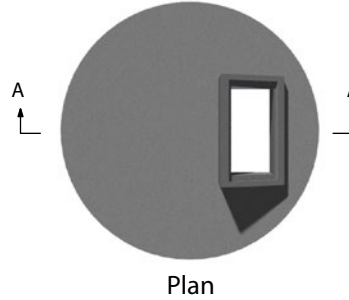
1. Designed in accordance with OPSD 706.030, 706.031 and OPSD 705.040 Type A and Type B.
2. For ditch inlet top information see page 86.
3. All dimensions are in millimeters unless otherwise shown.





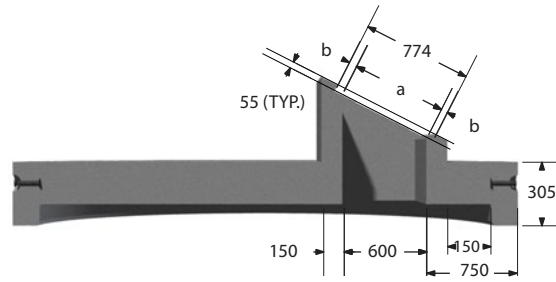
Ditch Inlet Type A

(mass - 4945 kg - 1830 kg/m)

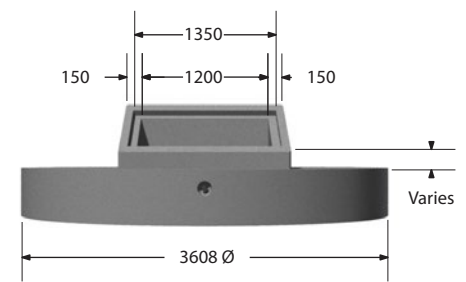


Plan

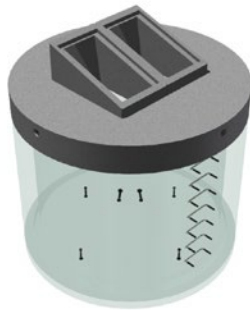
Opening Dimensions			
Grate		a	b
Type	Slope		
B	2H:1V	670	52
	3H:1V	632	71
	4H:1V	618	78
	Horizontal	600	87



Section A-A



Front View



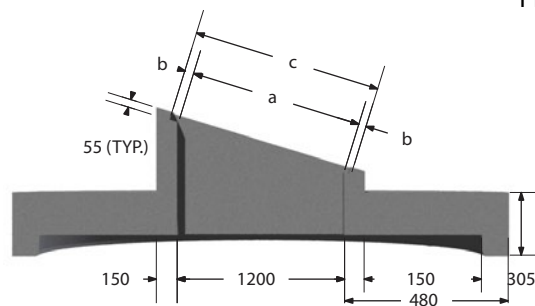
Ditch Inlet Type B

(mass - 7945 kg - 3660 kg/m)

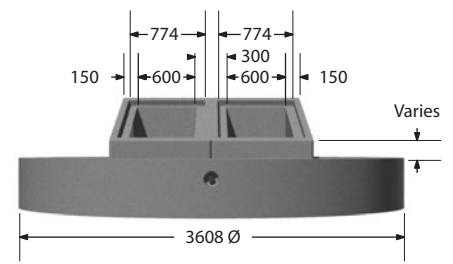


Plan

Opening Dimensions				
Grate		a	b	C
Type	Slope			
C	2H:1V	1341	66	1473
	3H:1V	1265	104	1473
	4H:1V	1237	118	1473
B	6H:1V	1216	65	1346
	Horizontal	1200	73	1346



Section B-B



Front View

3000 Flat Cap with
600x1200 Ditch Inlet Top

Notes

1. Designed in accordance with OPSD 706.040, 706.041 and OPSD 705.040 Type A and Type B.
2. For ditch inlet top information see page 86.
3. All dimensions are in millimeters unless otherwise shown.



Section 5

Headwalls

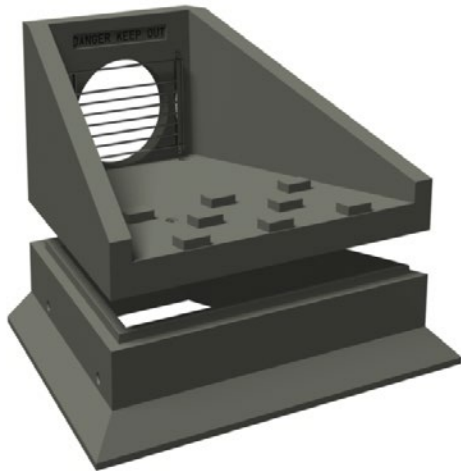
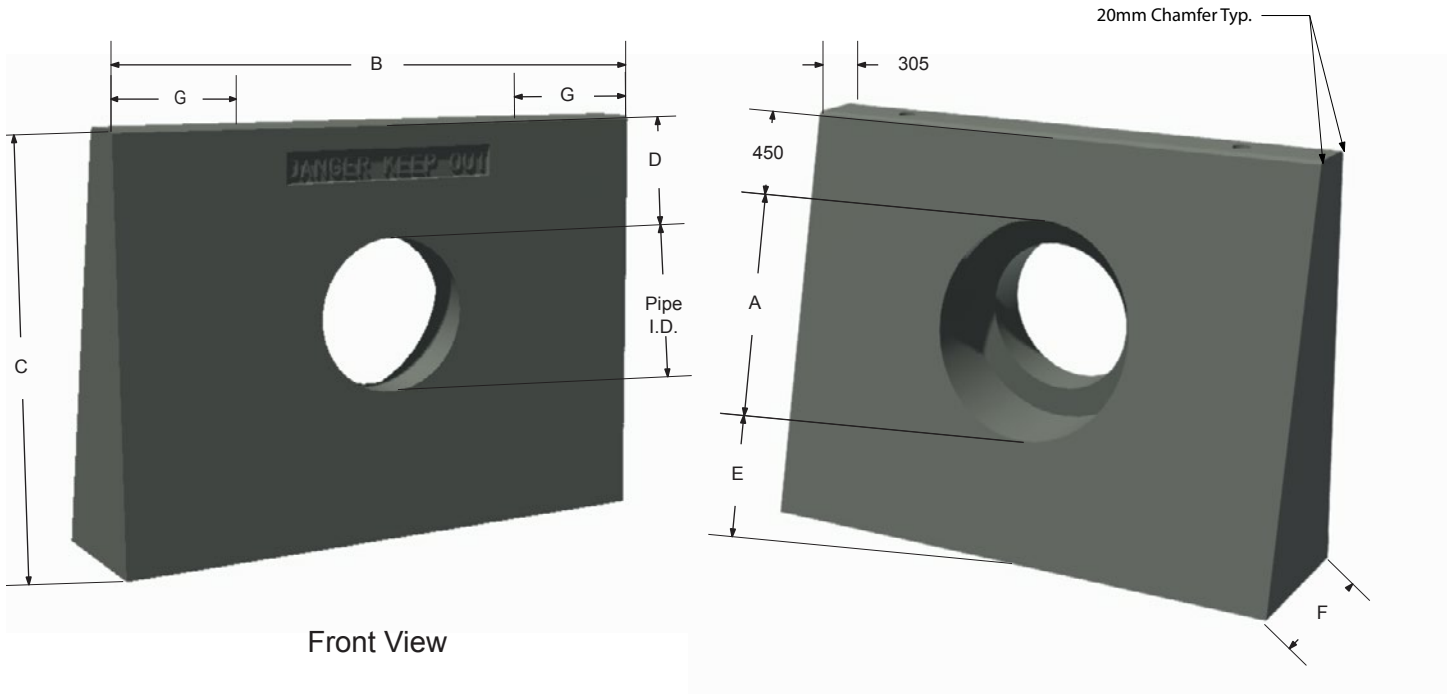


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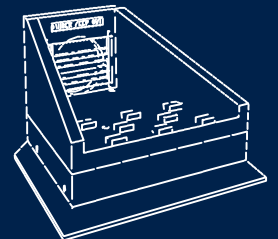
Front View

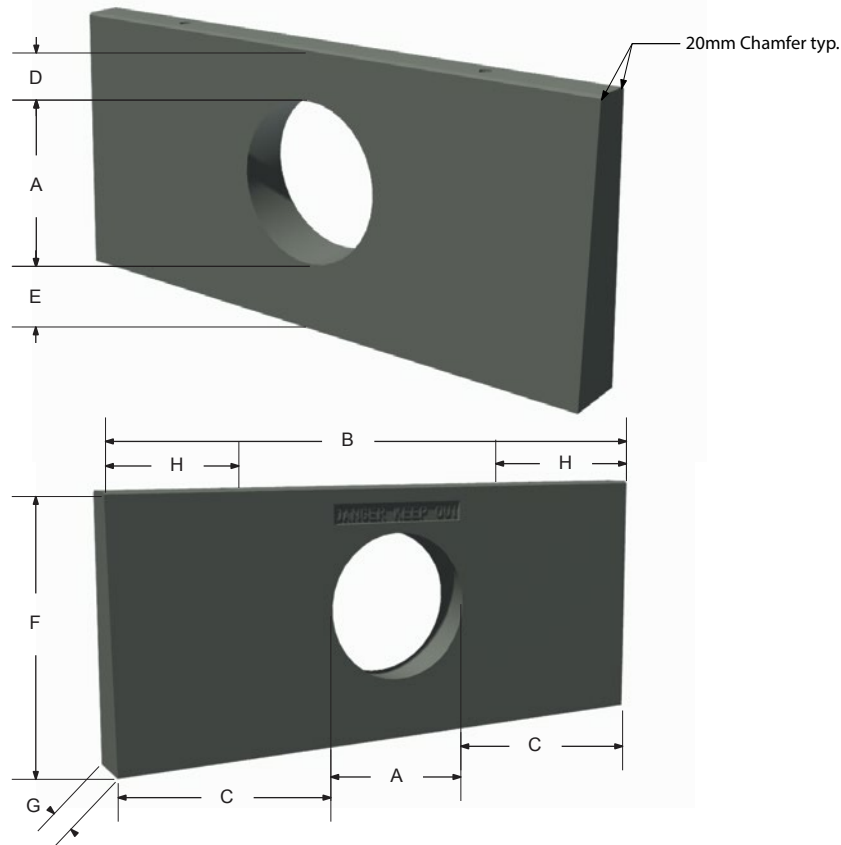
Nominal I.D.	Actual I.D.	A (Opening)	B	C	D	E	F	G	Mass (KG)
300	305	550	1980	1705	572	705	726	300	4127
375	381	640	1980	1705	579	615	726	300	4037
450	457	711	2315	1883	577	722	771	450	5467
525	533	800	2315	1883	584	633	771	450	5311
600	610	910	2690	2085	600	725	815	450	7157
675	685	965	2690	2085	590	670	815	450	6994
750	762	1080	3070	2275	609	745	870	500	9051
825	838	1170	3070	2275	616	655	870	500	9187

Endwall 300 to 825mm Pipe

Notes

1. Precast modified alternative to OPSD 804.030
2. Headwall grates are available upon request
3. All dimensions are in millimeters unless otherwise shown.



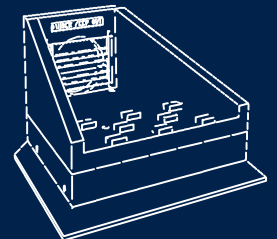


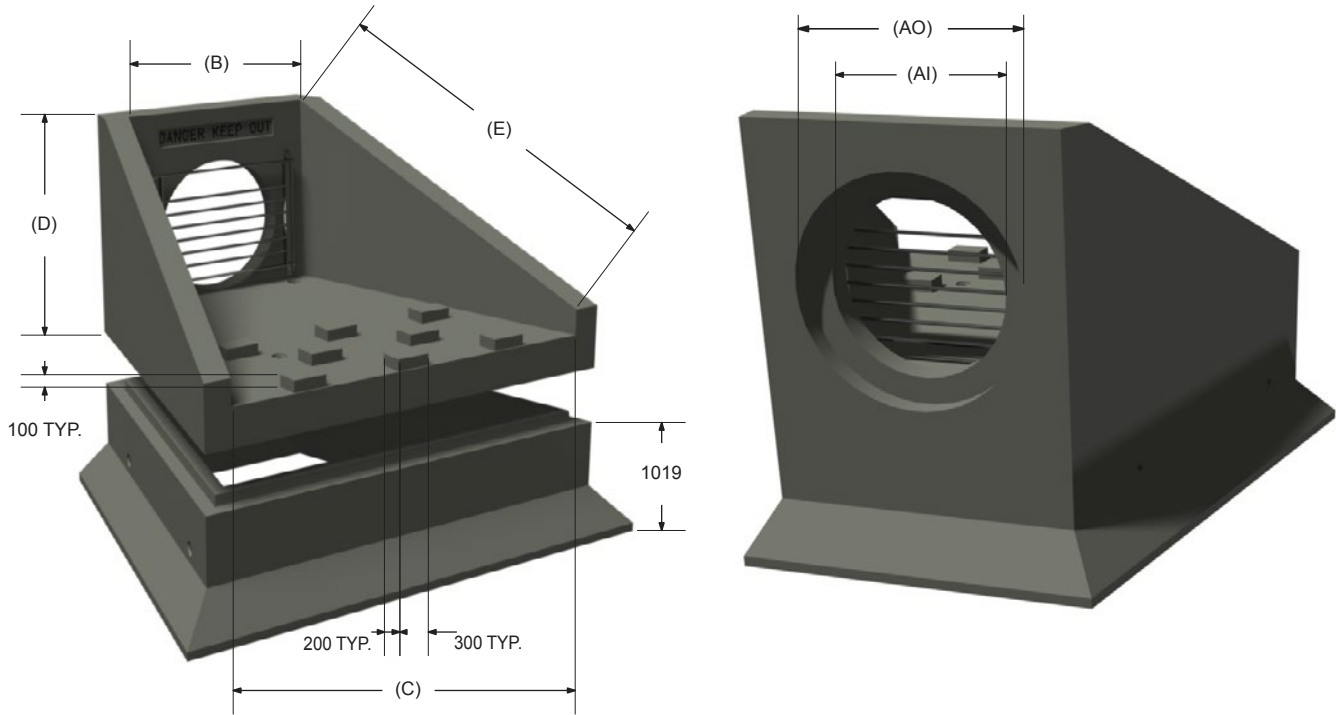
Pipe Size Conc.	Pipe Size Conc.	Opening	Width				Height	Bottom Thickness	Mass	Anchor	Anchor Size
Nom	O.D.	A	B	C	D	E	F	G	Kg	H	pcs
300	445	550	3366	1408	398	724	1672	439	5028	800	2 - 8 Ton
375	533	610	3366	1378	512	561	1672	439	4976	800	2 - 8 Ton
450	622	711	3366	1827	406	555	1672	439	4877	800	2 - 8 Ton
525	711	820	4168	1674	396	545	1939	462	7262	1000	2 - 8 Ton
600	800	910	4168	1629	395	545	1939	462	7143	1000	2 - 8 Ton
675	889	990	4168	1589	400	549	1939	462	7024	1000	2 - 8 Ton
750	978	1080	4968	1944	399	549	2206	484	9951	1000	2 - 8 Ton
825	1067	1170	4968	1899	390	548	2206	484	9789	1000	2 - 8 Ton
900	1156	1260	4968	1854	398	548	2206	484	9612	1000	2 - 8 Ton

Headwall 300 to 900mm Pipe

Notes

1. Precast alternative to OPSD 804.030
2. Headwall grates are available upon request.
3. All dimensions are in milliliters unless otherwise shown.



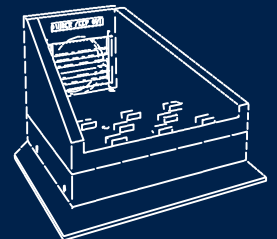


Pipe Size	Opening Front (Pipe I.D.)	Opening Back	Inside Wall (Back)	Inside Wall (Front)	PS-2 Height	PS-2 Length	Mass(Top)	Mass (Bottom)
Nom	Ai	Ao	B	C	D	E	Kg	kg
600	610	880	1219	2532	1623	2750	7,733	7,434
675	686	960	1219	2532	1623	2750	7,654	7,434
750	762	1050	1219	2532	1623	2750	7,554	7,434
825	838	1140	1219	2532	1623	2750	7,452	7,434
900	914	1230	1829	3463	2039	3350	12,652	9,627
975	991	1320	1829	3463	2039	3350	12,526	9,627
1050	1067	1410	1829	3463	2039	3350	12,394	9,627
1200	1219	1590	1829	3463	2039	3350	12,103	9,627
1350	1372	1760	2438	4072	2709	3350	17,106	10,639
1500	1524	1940	2438	4072	2709	3350	16,724	10,639
1650	1676	2120	2438	4072	2709	3350	16,308	10,639
1800	1829	2320	2438	4072	2709	3350	15,832	10,639

Headwall 600 to 1800mm Pipe

Notes

1. Precast alternative to OPSD 804.040
2. Designed in accordance with CSA S6 - CHBDC.
3. Headwall grates as shown are available upon request.
4. All dimensions are in millimeters unless otherwise shown.



Section 6

Accessories

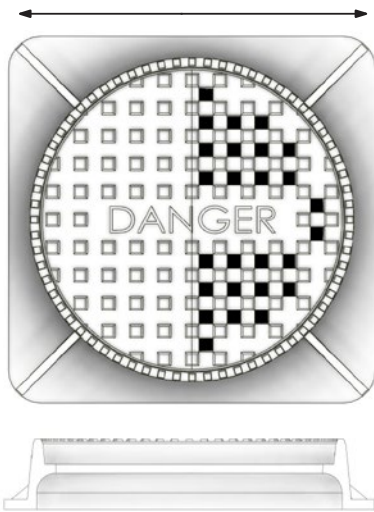


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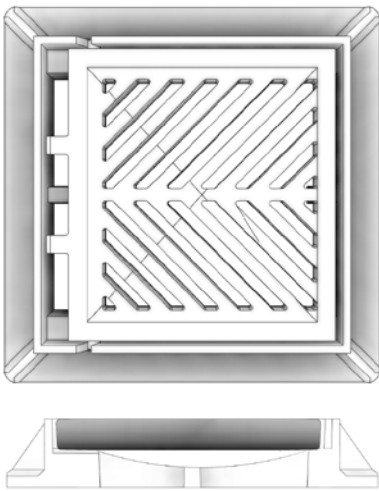
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Catch Basin Adjustment Units	87
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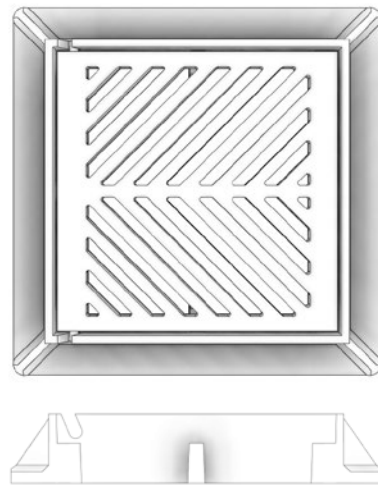
Closed Cover - Open Cover



Maintenance Hole Frame & Cover
OPSD 401.010 - Type A & B

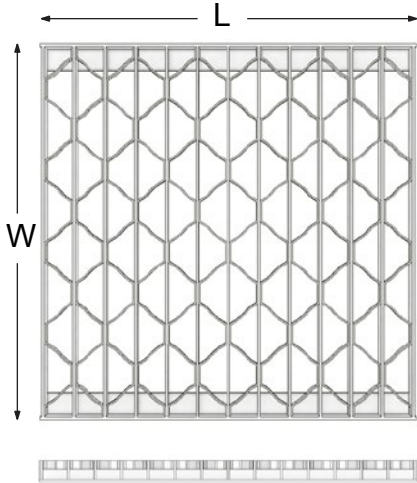


Catch Basin Frame & Cover
OPSD 400.010 Dished Grate



Catch Basin Frame & Cover
OPSD 400.020 Flat Grate





Ditch Inlet Grate

Grating Type	Grating Size	
	Lenght L	Lenght W
A	762	768
B	1338	768
C	1465	768

Notes

Conforms to OPSD 403.010

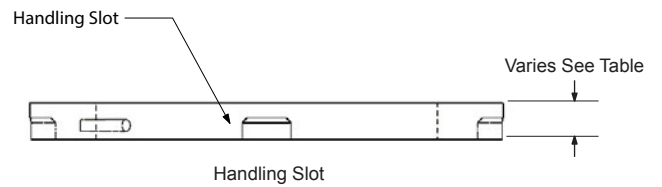
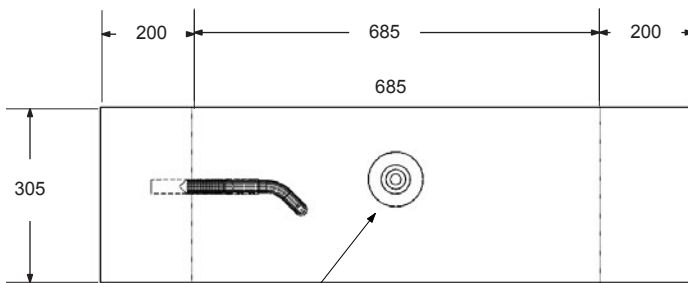
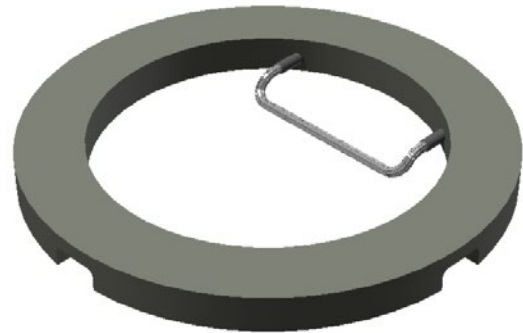
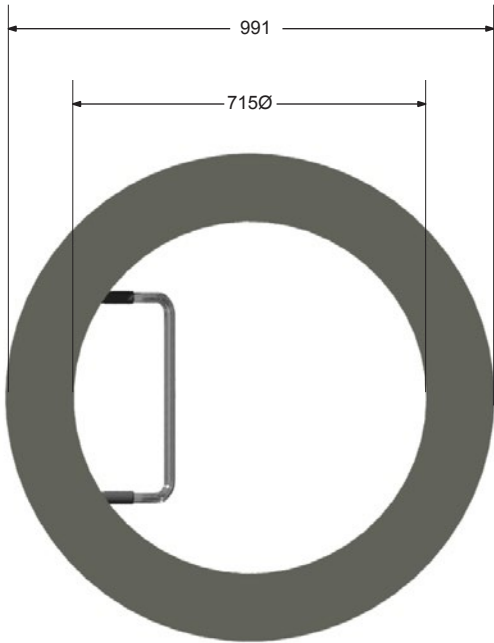
Type "A" grates are used on 600X600mm ditch inlets.

See page 85.

Type "B" grates are used on 600X1200mm ditch inlets.

See page 86.





Lift Anchor

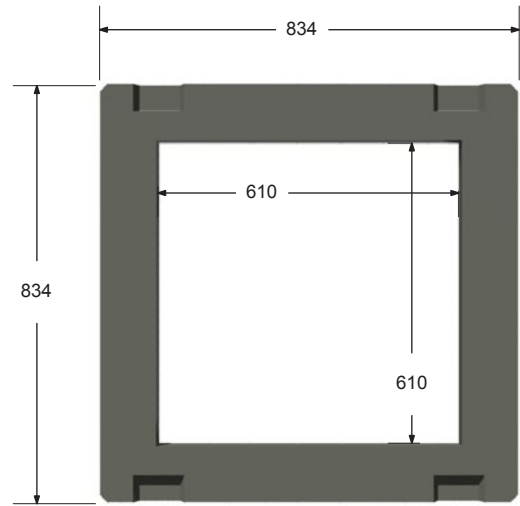
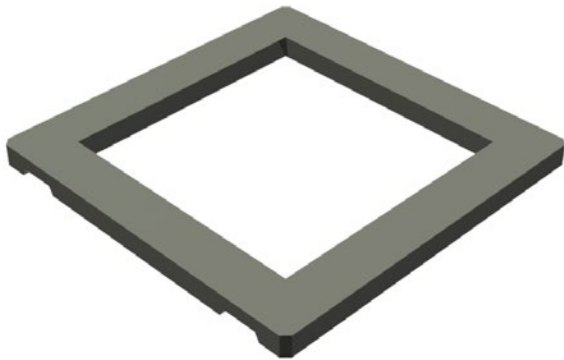
Unit Height	Bundle (PCS)	Mass (KG/EA)	Steps Y/N
51MM	12	55	N
76MM	8	82	N
76MM	8	83	Y
100MM	6	109	N
150MM	4	164	N
305MM	1	325	Y

Maintenance Hole Adjustment Units

Notes

1. Designed in accordance with OPSD 704.010
2. All dimensions are in millimeters unless otherwise shown.





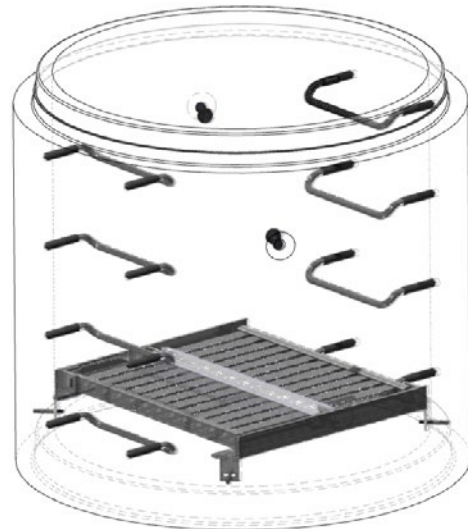
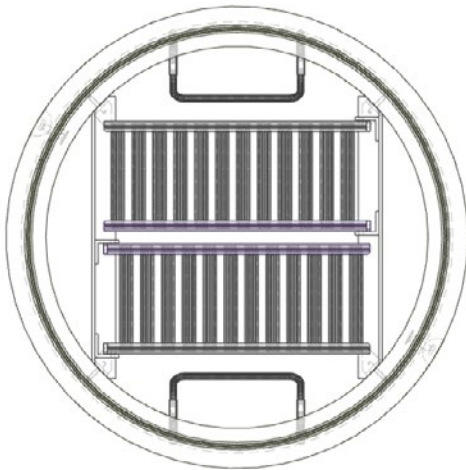
Unit Height	Bundle (PCS)	Mass (KG/EA)	Steps Y/N
51MM	12	40	N
76MM	8	61	N

Catch Basin Adjustment Units

Notes

1. Designed in accordance with OPSD 704.010
2. All dimensions are in millimeters unless otherwise shown.





Aluminum Safety Platform



Step

Maintenance Hole Aluminum Safety Platform and Steps

Notes

1. Safety platforms designed in accordance with OPSD 404.020.
2. Steps designed as per OPSD 405.010 - Hollow - Standard.
Steps as per OPSD 405.020 - Solid - available when specified
3. All dimensions are in millimeters unless otherwise shown.





The rubber boot type connector is a common method of connecting both concrete and other pipe materials to maintenance holes, providing both a flexible and watertight connection. The boot connector ranges in sizes to suit the pipe outside diameter and also the maintenance hole diameter that the pipe is to be installed into.

Contact the MCon engineering department for further details on this connector or other connecting systems that are available.

PIPE INSTALLATION PROCEDURE:

1. Clean pipe and boot to ensure no dirt or foreign materials are present.
2. Clamping surface on pipe must be clean and smooth
3. Center pipe in opening and insert pipe until it breaks the inside plane of manhole or, if manhole is benched, to the invert ledge of benching
4. Attach take-up clamp(s) and stagger screw(s) of clamps around the groove of the gasket so that take-up pressure will be equalized. Make sure each clamps is completely in the correct groove.
5. Using a torque ratchet or torque wrench, gradually tighten screw(s) of clamp(s) in an alternating pattern to 60lbs/in torque.
6. After reaching 60lb/in torque on final screw, check all screws again to ensure compression of the clamps.
7. Adjust pipe to line and grade.

Pipe to Maintenance
Hole Connector



Section 7

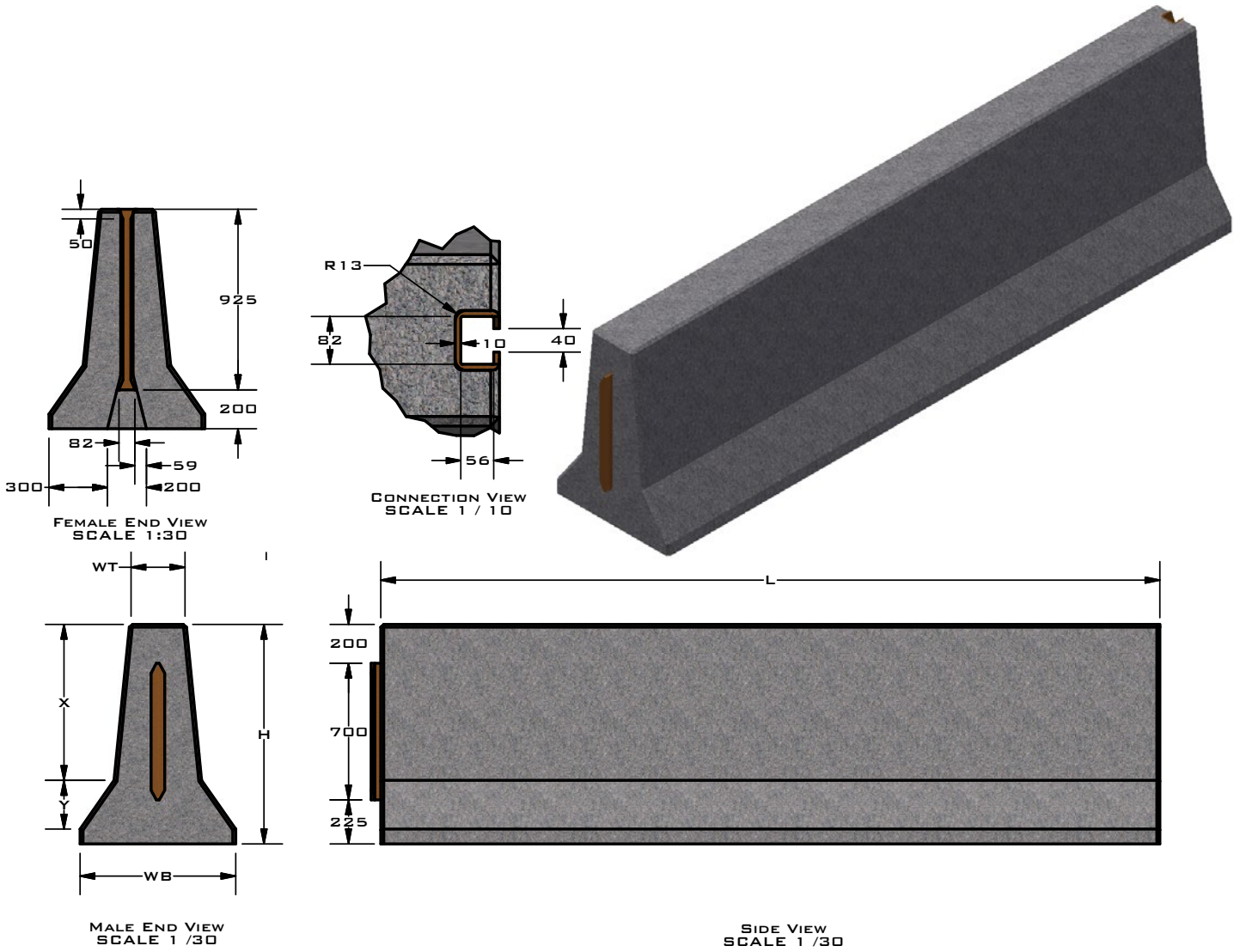
Barriers



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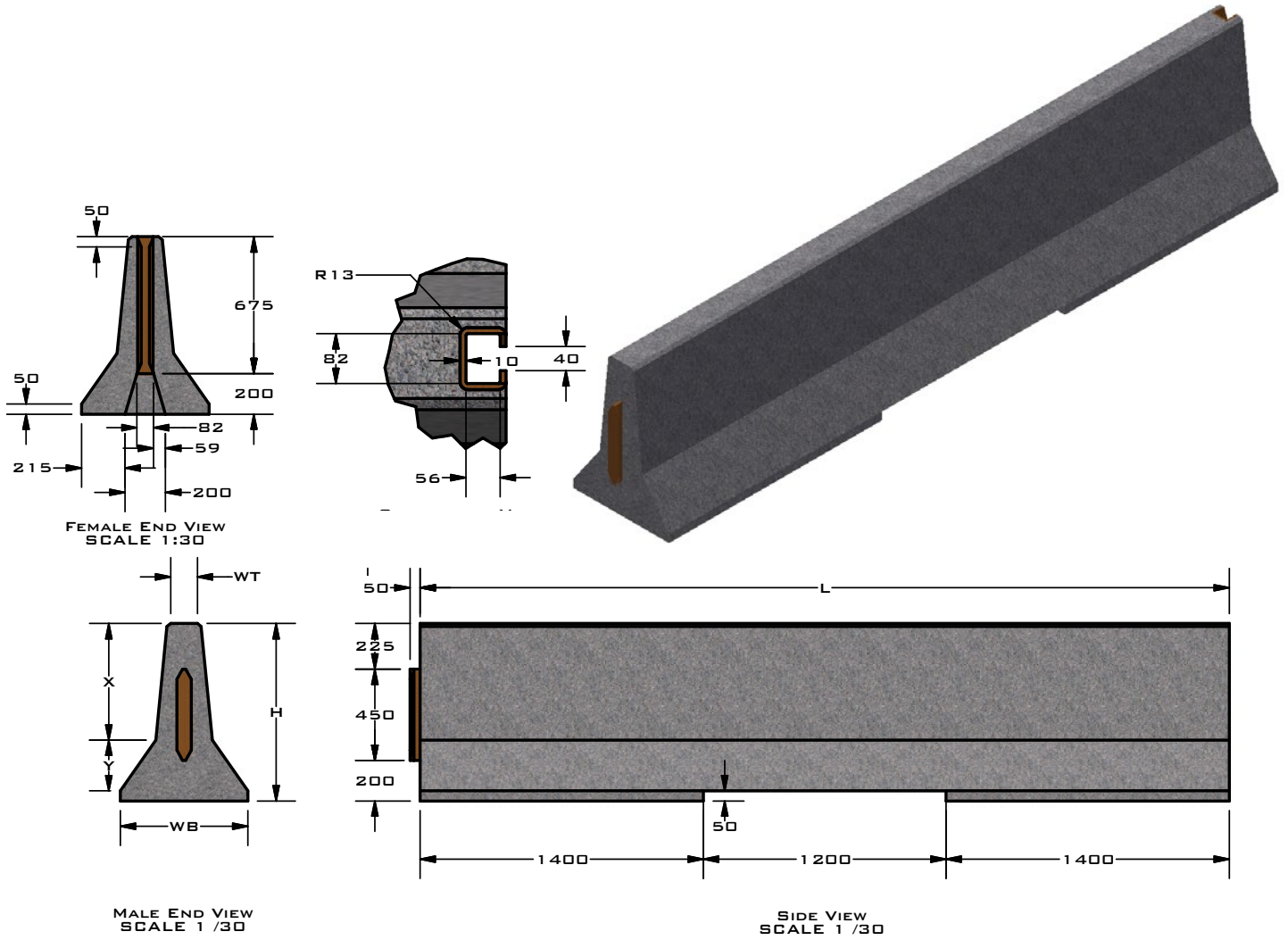


OPSD Standard	Length of Barrier (L)	Overall Height (H)	Width of Base (WB)	Width of Top (WT)	Length (X)	Length (Y)	Mass	Truckload Lots
Std. #	M	MM	MM	MM	MM	MM	KG/PC	pcs
OPSD 911.143	4.0	11250	800	290	800	250	5140	10

Type I Tall Barrier

Notes

1. Manufactured in accordance with OPSD 911.143 and to the most current OPS precast concrete barrier specifications.
2. All dimensions are in millimetres unless otherwise shown.

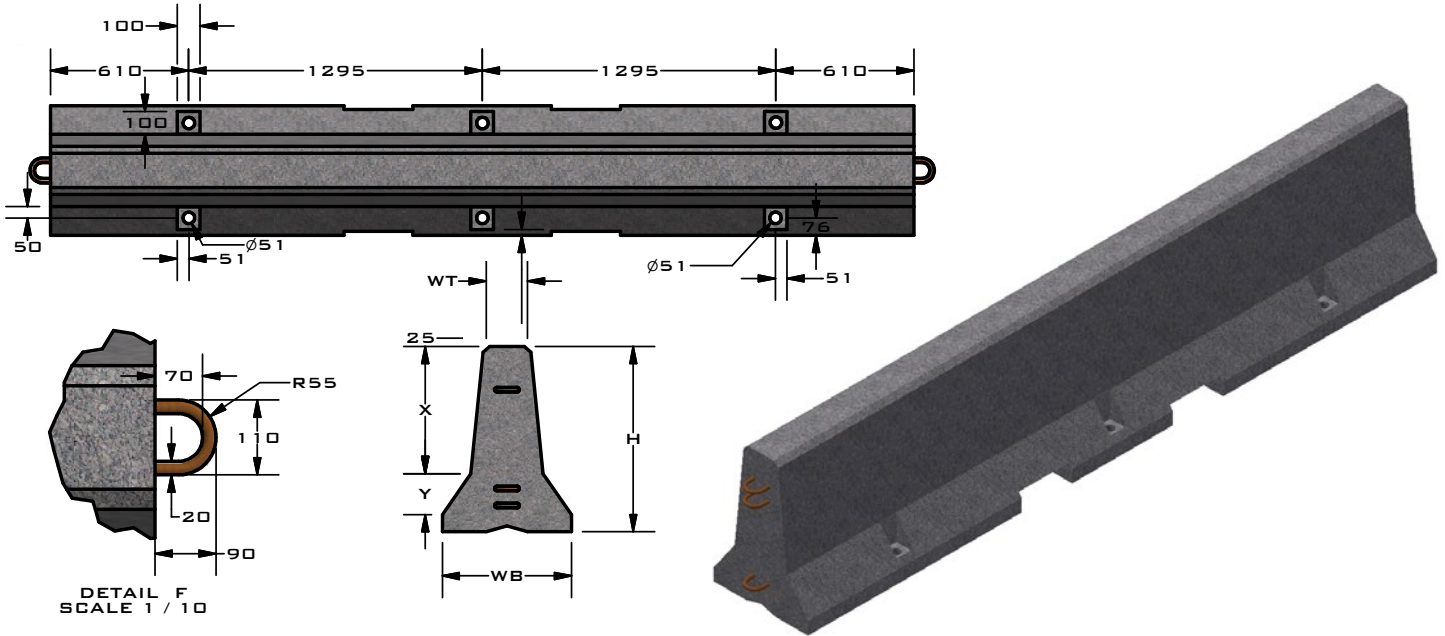


OPSD Standard	Length of Barrier (L)	Overall Height (H)	Width of Base (WB)	Width of Top (WT)	Length (X)	Length (Y)	Mass	Truckload Lots
Std. #	M	MM	MM	MM	MM	MM	KG/PC	pcs
OPSD 911.160	4.0	875	630	165	575	250	2645	15

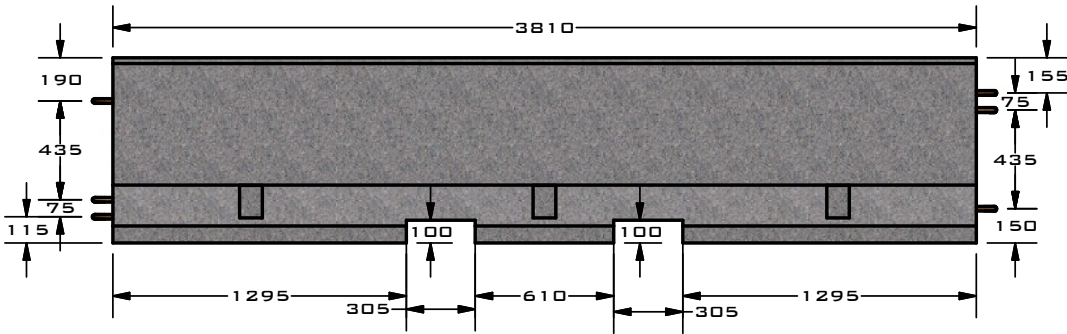
Type I Barrier

Notes

1. Manufactured in accordance with OPSD 911.140 and to the most current OPS precast concrete barrier specifications.
2. All dimensions are in millimetres unless otherwise shown.



MALE END VIEW
SCALE 1 / 30



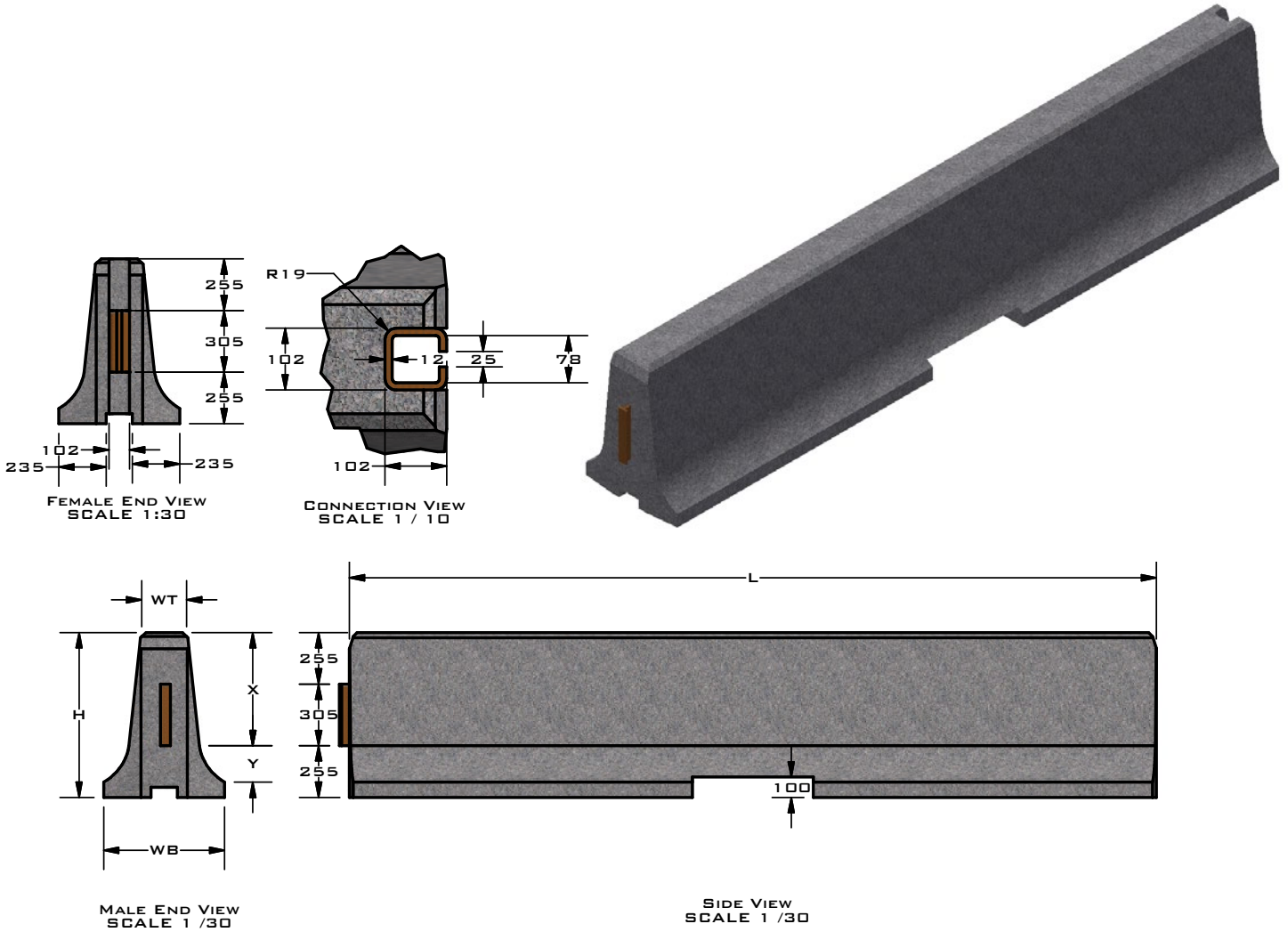
SIDE VIEW
SCALE 1 / 30

OPSD Standard	Length of Barrier (L)	Overall Height (H)	Width of Base (WB)	Width of Top (WT)	Length (X)	Length (Y)	Mass	Truckload Lots
Std. #	M	MM	MM	MM	MM	MM	KG/PC	pcs
OPSD 911.160	3.81	815	570	206	560	180	2250	15

Type M Barrier

Notes

1. Manufactured in accordance with OPSD 911.160 and to the most current OPS precast concrete barrier specifications.
2. All dimensions are in millimetres unless otherwise shown.

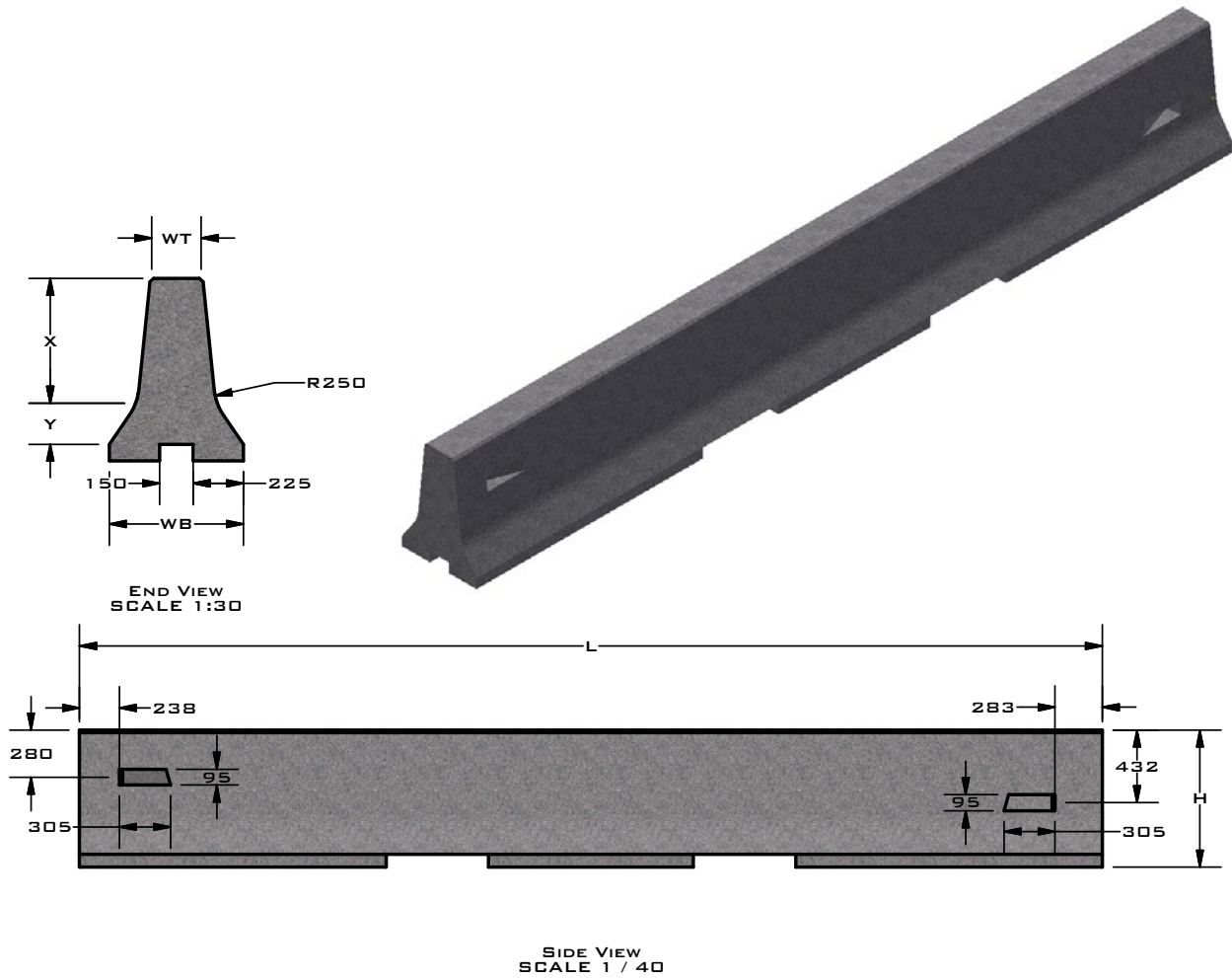


OPSD Standard	Length of Barrier (L)	Overall Height (H)	Width of Base (WB)	Width of Top (WT)	Length (X)	Length (Y)	Mass	Truckload Lots
Std. #	M	MM	MM	MM	MM	MM	KG/PC	pcs
OPSD 911.180	4.0	815	600	230	560	180	2690	15
OPSD 911.181	6.0	815	600	230	560	180	3890	10

Type T Barrier

Notes

1. Manufactured in accordance with OPSD 911.180 (4m), OPSD 911.181 (6m) and to the most current OPS precast concrete barrier specifications.
2. All dimensions are in millimetres unless otherwise shown.



OPSD Standard	Length of Barrier (L)	Overall Height (H)	Width of Base (WB)	Width of Top (WT)	Length (X)	Length (Y)	Mass	Truckload Lots
Std. #	M	MM	MM	MM	MM	MM	KG/PC	pcs
OPSD 911.193	3.048	815	600	235	560	180	2067	15
OPSD 911.198	6.1	815	600	235	560	180	4138	10
OPSD 911.190	9.144	815	600	235	560	180	6025	6

Type X Barrier

Notes

1. Manufactured in accordance with OPSD 911.193 (3m), 911.194 (4m), 911.198 (6.1m), 911.190 (9.1m) and to the most current OPS precast concrete barrier specifications.
2. All dimensions are in millimetres unless otherwise shown.

Section 8

Stone Strong

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Section 8 Stone Strong



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24 SF Mass Extender Block	101
6 SF Block	101



24 SF Block

FACE 8' X 3', WIDTH 44"

The 24 SF Block contributes to the speed of installation. A small crew and a couple pieces of equipment can install 1,200 SF a day.



24 - 62

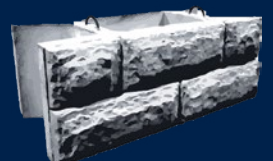
FACE 8' X 3', WIDTH 62"

Build walls up to 18' tall with no tie-back.



24SF Block
24-62

Notes
1. Spec sheets 102





24 -86

FACE 8' X 3', WIDTH 86"

Setting the standard for tall gravity walls. At 22.5' it can go vertical with no tie-back.



24 SF Top Block

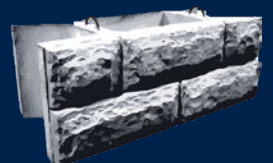
FACE 8' X 3', WIDTH 44"

The Top Block has an 8" recess at the top of the face to allow for multiple finish options.



24-86
24SF Top Block

Notes
1. Spec sheets 102





24 SF Mass Extender Block

FACE 8' X 3', WIDTH 56"

The addition of the extender to the 24 SF Block provides for greater gravity wall heights.



6 SF Block

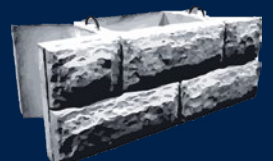
FACE 4' X 18", WIDTH 44"

The 6 SF block allows for tighter turning radius, wall steps a 18" increments and vertical and horizontal adjustments.



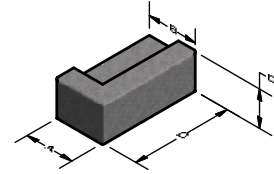
24 SF Mass
Extender Block
6 SF Block

Notes
1. Spec sheets 102

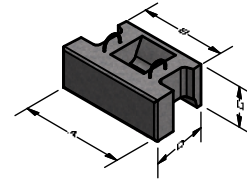




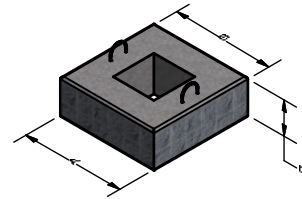
Stone Strong End Unit				
A	B	C	D	Mass
0.61M	0.61M	0.46M	1.12M	640KG



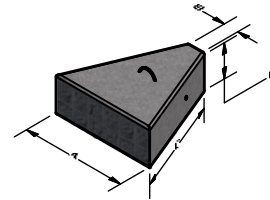
Stone Strong 6SF-28 Unit				
A	B	C	D	Mass
1.2m	1.08m	.91m	.71m	430 kg



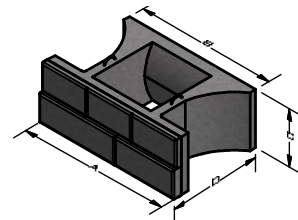
Stone Strong 90~ Unit				
A	B	C	D	Mass
1.2m	1.2m	0.41m		1179 kg



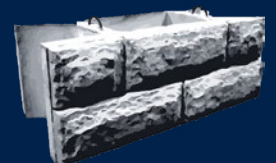
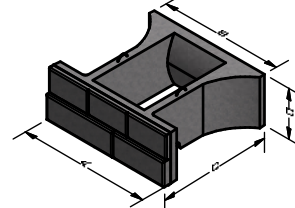
Stone Strong 45~ Unit				
A	B	C	D	Mass
1.2m	0.18m	1.3m	0.41m	907 kg



Stone Strong 24SF-62 Unit				
A	B	C	D	Mass
2.44m	2.22m	0.91m	1.58m	3109 kg

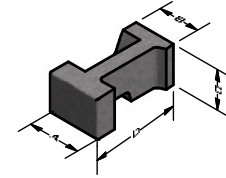


Stone Strong 24SF-86 Unit				
A	B	C	D	Mass
2.44m	2.22m	0.91m	2.18m	3489 kg

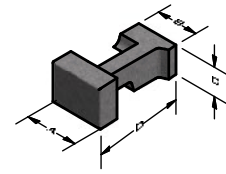




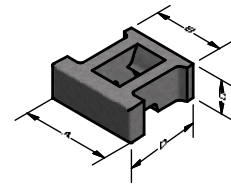
Stone Strong 3SF Unit				
A	B	C	D	Mass
0.61M	0.36m	0.46M	1.12M	363 kg



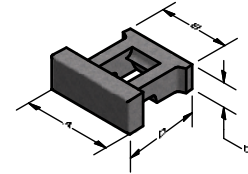
Stone Strong 3SF Top Unit				
A	B	C	D	Mass
0.61m	0.36m	0.46m	1.12m	327 kg



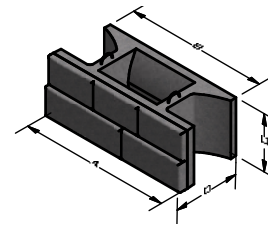
Stone Strong 6SF Unit				
A	B	C	D	Mass
1.22m	0.97m	0.46m	1.12m	726 kg



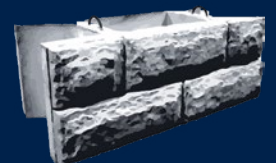
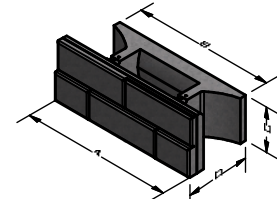
Stone Strong 6SF Top Unit				
A	B	C	D	Mass
1.22m	0.97m	0.46m	1.12m	635 kg



Stone Strong 24SF Unit				
A	B	C	D	Mass
2.44m	2.29m	0.91m	1.12m	2722 kg



Stone Strong 24SF Top Unit				
A	B	C	D	Mass
2.44m	2.29m	0.91m	1.12m	2449 kg



Section 9

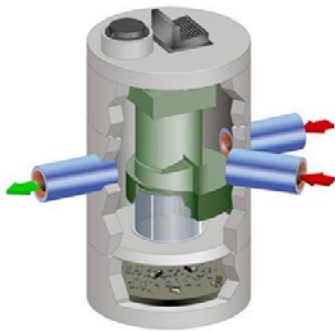
CDS

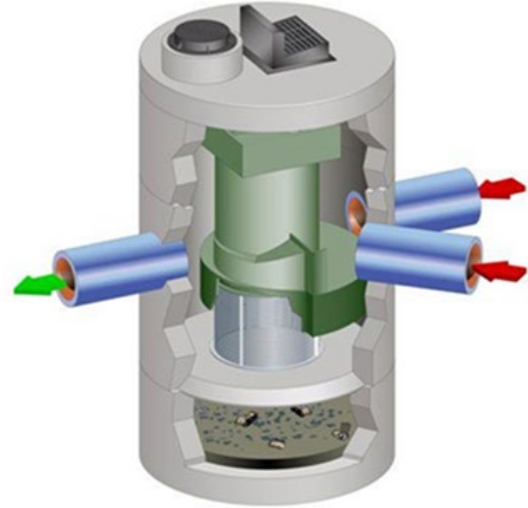
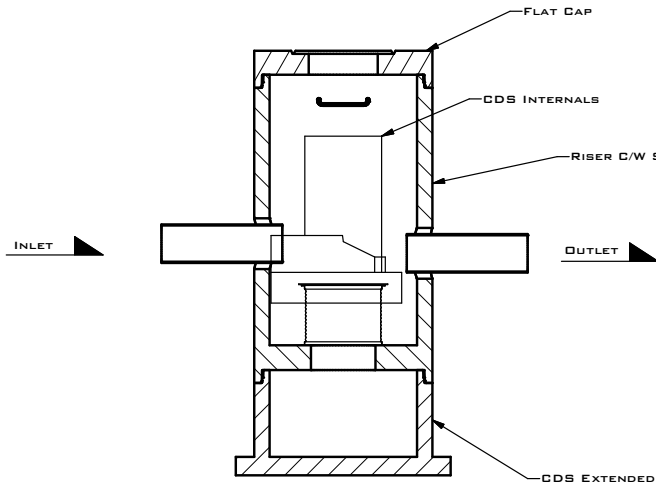


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CDS SECTION VIEW
SCALE 1 / 40

Stonestrong® is the industry's most efficient precast concrete retaining wall system, and is the first to be fully engineered both structurally and geotechnically.

The engineered block technology allows for a lighter, interlocking block that greatly reduces installation time and labor costs – with unmatched safety, durability and aesthetics.

CDS

Notes
1. For further information please contact
info@echelonenvironmental.ca



Section 10

Devine Valve Chamber



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Section 10 Devine Valve Chamber

Devine Valve Chamber 109



Devine Valve Chamber

Notes
1. For further information contact info@mconpipe.com.



Section 11

Stormtrap



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Single Trap.....	114
mconpipe.com.....	115

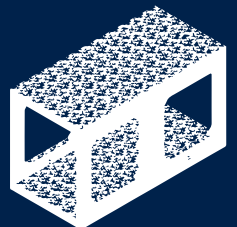


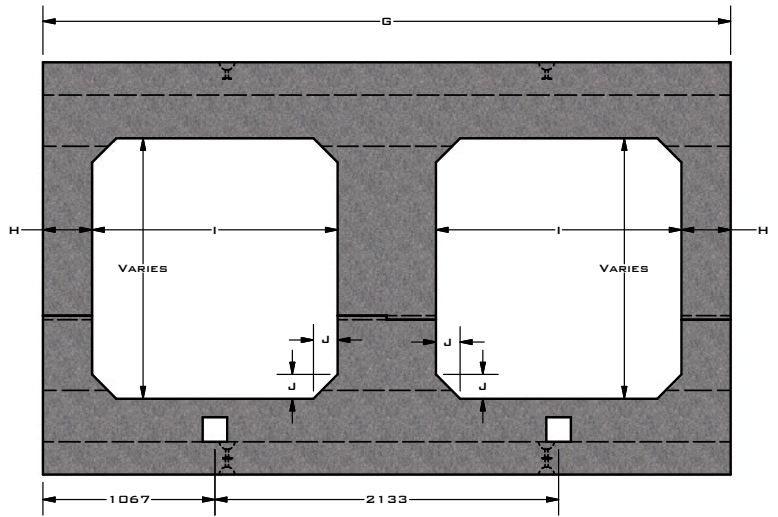
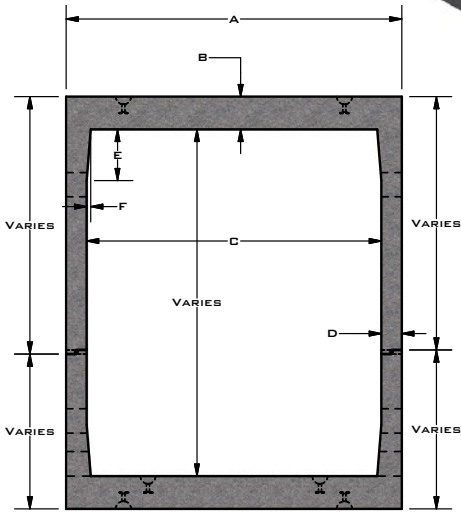
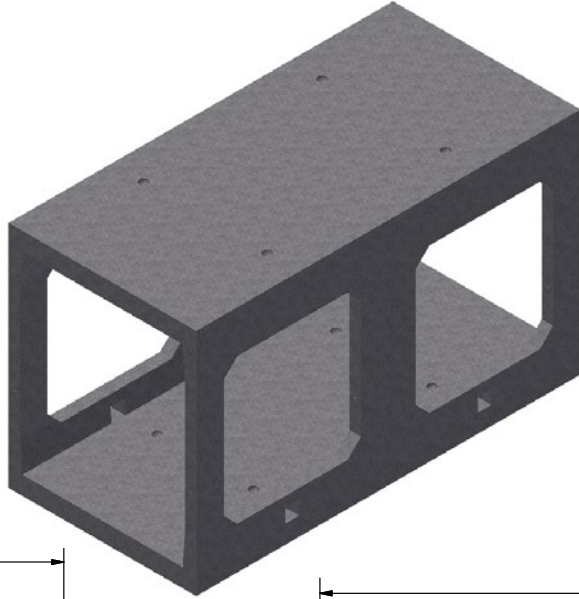


Stormtrap® is a cost effective, engineered, underground precast concrete chamber system that provides stormwater solutions including detention, infiltration, and rainwater harvesting.

Notes

1. For further information please contact info@echelonenvironmental.ca



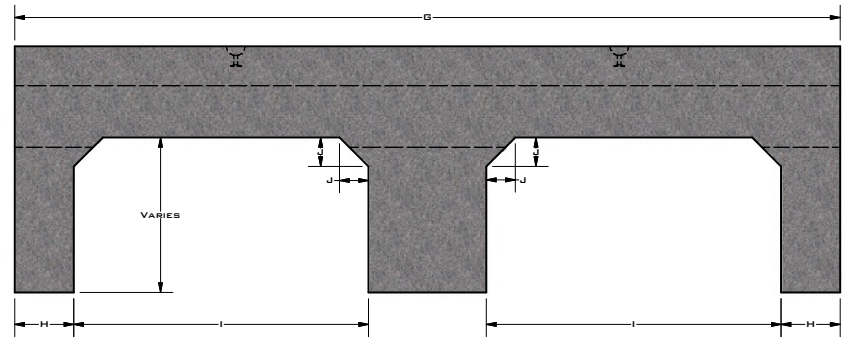
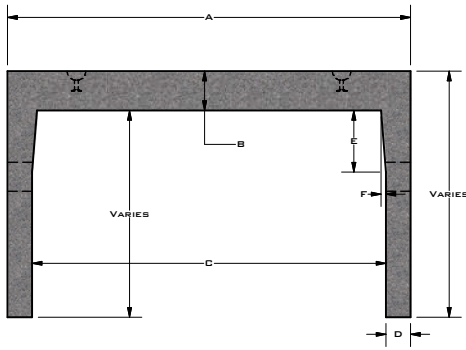
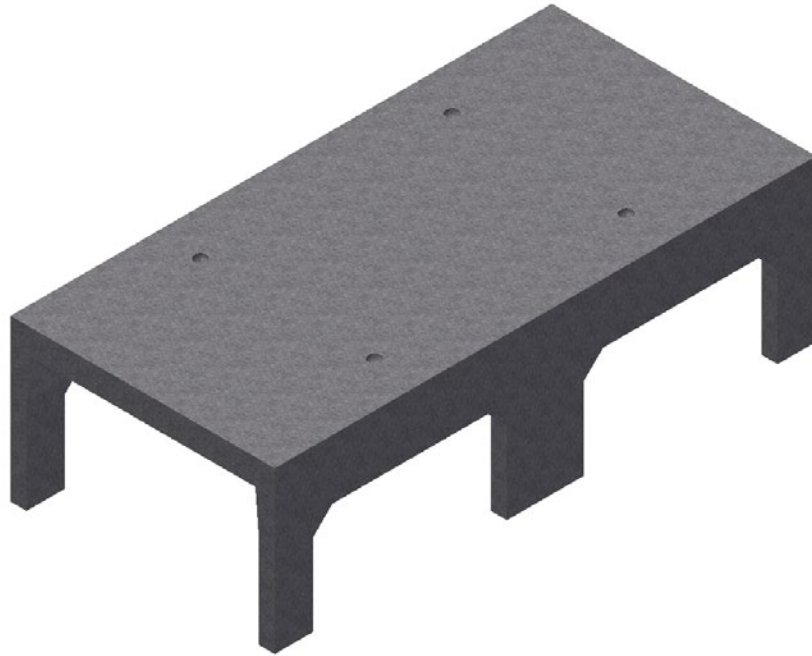


Length (A)	Length (B)	Length (C)	Length (D)	Length (E)	Length (F)	Length (G)	Length (H)	Length (I)	Length (J)
2083	203	1829	127	318	25	4287	305	1524	150

Double Trap

Notes
1. For further information please contact
info@echelonenvironmental.ca

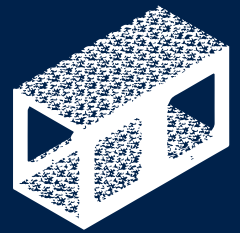




Length (A)	Length (B)	Length (C)	Length (D)	Length (E)	Length (F)	Length (G)	Length (H)	Length (I)	Length (J)
2083	203	1829	127	318	25	4287	305	1524	150

Single Trap

Notes
1. For further information please contact
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