





## ABOUT INLAND

Inland roots in the Calgary area date back to the early 1900's. Over time, through a number of mergers and acquisitions Inland Pipe is now part of the Lehigh Hanson group in North America and part of the world-wide HeidelbergCement Group.

HeidelbergCement is the global market leader in aggregates and a prominent player in the fields of cement, concrete and other downstream activities, making it one of the world's largest manufacturers of building materials. The company employs some 52,000 people at 2,500 locations in more than 40 countries.

Inland Pipe and our our sister company Ocean Pipe (British Columbia) combine to form the largest producer of concrete pipe and manholes in Western Canada.

Our automated Spyhill facility in Calgary, Alberta is the most advanced precast drainage facility in North America.

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### Notes:

- All concrete products within this catalog are manufactured using sulphate resistant (HS or HSb) cement as per CSA A3000
- Applicable taxes and freight charges are extra
- Prices effective April 1, 2021
- Restocking fees are 15% for returned undamaged stock items. Cancelled / custom orders may be subject to 100% restocking charges.
- Listed product weights are approximate and intended for shipping purposes. Exact weights can be calculated upon request.
- Prices shown in this catalog are intended as an estimating guide and are subject to change. Detailed quotations are available upon request.
- Cast-in fixtures and appurtenances, other than swift lifts, are subject to approval by design Engineer and extra costs will apply.

**Working together to build our communities**®

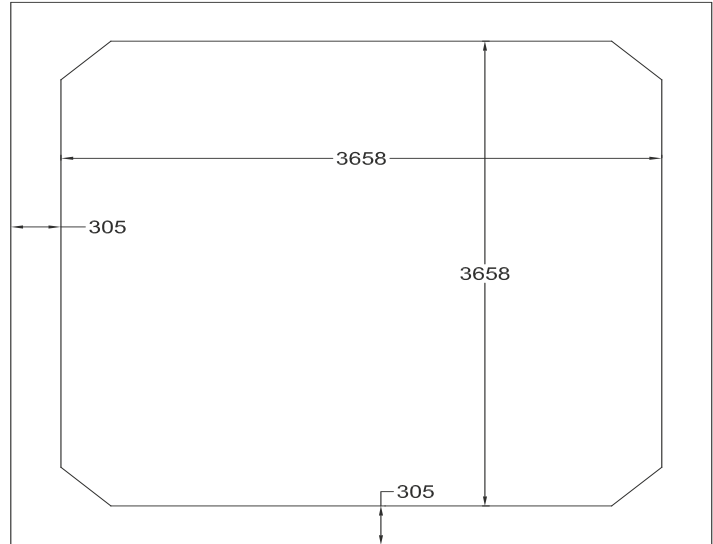


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# New Product Applications

## 3660 x 3660mm Box Culvert

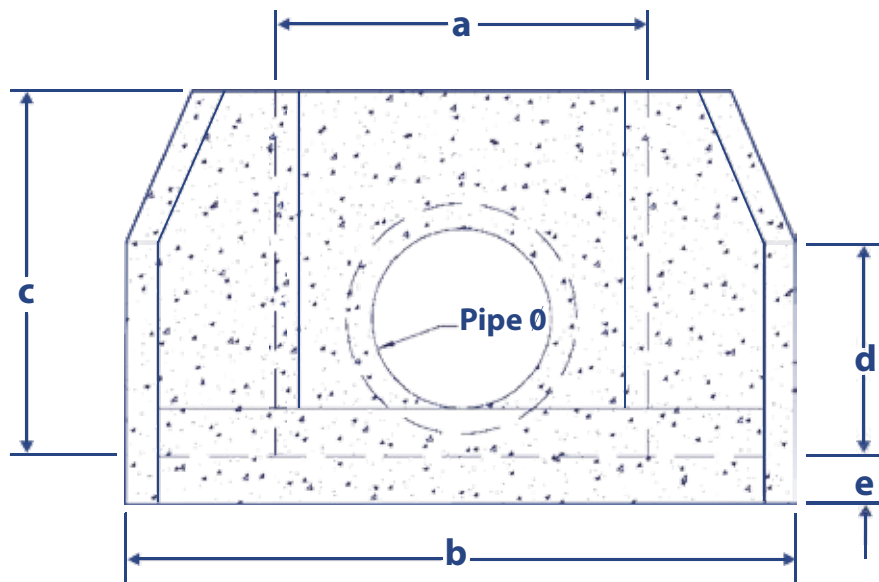


Inland Pipe’s 3660 x 3660mm box culvert can be used for a number of applications. Box sections can be used horizontally for culverts or storm water detention tanks and vertically for manholes, control structures and lift stations. See our box culvert section for more details.

### Headwalls

Inland Pipe can now provide Headwall structures for large diameter pipe in Western Canada.

Please contact your Inland Pipe representative for more information.



TYPE	PIPE DIAMETER (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
26-28	1500 - 1800	2955	4186	2540	1421	406
26-28	1950 - 2400	2955	4186	3226	2107	406



# Featured Projects

## Rangeview Sanitary Trunk

Inland was proud to be part of the Rangeview Sanitary Trunk. The project consisted of 630 sections of 1800mm x 4.0m HDPE Lined micro-tunneling pipe as well as Intermediate Jacking Stations. An additional 383 sections of 1800mm x 2.5m HDPE Lined pipe were delivered for open-cut application. This project delivered critical infrastructure for developers to ensure future service to residents in the southern region for the City of Calgary.



## Bonnybrook WasteWater Treatment Plant Outfall

Meeting the demands of an ever-growing population is a challenge Inland is happy to take on, and being part of critical projects is proof of this. The Bonnybrook Wastewater Plant D Expansion required time-sensitive delivery of over 150 sections of 3.6m x 3.0m straight box sections, short sections, and bends, in addition to over 70 sections of custom-walled 2.4m x 2.4m boxes in various lengths in both straight and radius configurations, all manufactured to Cooper E90 loading to transverse under a rail spur. An additional 520 sections of 3.6m x 3.0m boxes in straight, custom length and both vertical and horizontal bend configuration were delivered to the large project.



## Canadian Precast Concrete Quality Assurance Certification (CPCQA Certification)



This stamp means **Quality**. It signifies that your precast concrete drainage product has met the stringent demands of the **CPCQA Certification**.

The **INLAND PIPE** Calgary Plant has consistently achieved and maintained its Prequalification, and is currently certified to provide precast concrete pipe, manholes and box sections under the Program.

### **What does Prequalification mean?**

Owners of infrastructure projects, who purchase precast concrete drainage products from prequalified plants, receive products that have been tested for quality through the manufacturing process and inspected upon completion. Concrete drainage products supplied from a prequalified plant comply with the requirements of the latest editions of the following specifications:

- CSA A257.0 / ASTM C497 - testing procedures for precast drainage materials
- CSA A257.1 / ASTM C14 - non-reinforced concrete pipe
- CSA A257.2 / ASTM C76 - reinforced concrete pipe
- CSA A257.3 / ASTM C443 - joints for precast drainage materials
- CSA A257.4 / ASTM C478 - precast reinforced manhole sections
- CSA S6-06 / ASTM C1433 - precast reinforced box culvert sections

### **ACHIEVING AND MAINTAINING PREQUALIFICATION:**

A consulting engineer is retained to carry out an independent inspection of the applicant's plant and product. Samples of products are tested and the engineer submits a detailed report to the third party consultant. This report to the Chair states a compliance, or noncompliance with the prequalification requirements, together with a recommendation. The Chair issues the Prequalification Certificate.

The Certificate states the Product to which the prequalification applies and is normally valid for 12 months after the date of issue.

Each year, plants are inspected by the engineer who checks and tests to ascertain whether or not quality control and the standard of workmanship is being maintained at a satisfactory level. Every third year, the engineer undertakes detailed inspection and testing, and submits a report comparable to the original inspection for prequalification.

Quality control personnel within the precast concrete manufacturing facilities receive regular training, provided by the manufacturer, to ensure the quality control processes are performed correctly by the staff, and the information gathered is analyzed and maintained in accordance with the program.

# Pipe Fill Heights Estimation Table

PIPE DIAMETER (mm)	MAXIMUM DEPTH (m) TO PIPE INVERT FOR: STANDARD INSTALLATION TYPE				PIPE CLASS	PIPE DIAMETER (mm)	MAXIMUM DEPTH (m) TO PIPE INVERT FOR: STANDARD INSTALLATION TYPE			
	1	2	3	4			1	2	3	4
300	-	-	-	-	II	1350	6.6	5.1	4.0	2.9
	-	-	-	-	III		8.4	6.2	5.0	3.8
	-	-	-	-	IV		12.5	9.1	7.3	5.6
	15.6	11.0	8.6	5.7	V		17.1	12.3	9.9	7.5
375	-	-	-	-	II	1500	6.7	5.0	4.1	3.1
	-	-	-	-	III		8.5	6.3	5.2	4.0
	-	-	-	-	IV		12.6	9.2	7.5	5.7
	16.1	11.4	9.0	6.0	V		17.2	12.5	10.1	7.7
450	-	-	-	-	II	1650	6.8	5.1	4.2	3.3
	-	-	-	-	III		8.5	6.3	5.1	4.0
	-	-	-	-	IV		12.6	9.2	7.5	5.8
	16.3	11.4	9.1	6.1	V		17.2	12.5	10.1	7.7
525	-	-	-	-	II	1800	6.9	5.2	4.3	3.3
	-	-	-	-	III		8.6	6.5	5.3	4.2
	-	-	-	-	IV		12.7	9.4	7.6	6.0
	16.6	11.6	9.3	6.3	V		17.3	12.6	10.2	7.9
600	-	-	-	-	II	1950	7.0	5.3	4.4	3.4
	-	-	-	-	III		8.8	6.6	5.5	4.3
	12.1	8.4	6.8	4.7	IV		12.8	9.5	7.8	6.1
	16.7	11.7	9.4	6.5	V		17.3	12.8	10.3	8.1
675	-	-	-	-	II	2100	7.1	5.4	4.5	3.5
	8.0	5.6	4.6	3.2	III		8.8	6.7	5.5	4.4
	12.2	8.5	6.9	4.8	IV		12.8	9.6	7.8	6.2
	16.8	11.8	9.5	6.7	V		17.4	12.9	10.4	8.1
750	6.3	4.4	3.6	2.4	II	2400	7.2	5.6	4.7	3.7
	8.1	5.7	4.6	3.3	III		9.0	6.9	5.7	4.6
	12.2	8.6	6.9	5.0	IV		13.0	9.8	8.0	6.4
	16.9	11.9	9.6	6.8	V		17.5	13.1	10.7	8.4
900	6.3	4.5	3.6	2.5	II	2700	7.5	5.9	5.0	4.0
	8.1	5.8	4.7	3.4	III		9.2	7.2	6.1	4.9
	12.1	8.7	7.0	5.1	IV		13.2	10.2	8.4	6.7
	16.8	11.9	9.6	7.0	V		17.7	13.4	11.0	8.7
1050	6.4	4.7	3.8	2.7	II	3000	7.9	6.3	5.3	4.4
	8.2	5.9	4.8	3.5	III		9.6	7.6	6.4	5.3
	12.3	8.8	7.1	5.3	IV		13.6	10.5	8.8	7.1
	16.9	12.1	9.7	7.2	V		18.2	13.9	11.4	9.1
1200	6.5	4.7	3.8	2.8	II	All heights in meters(m) above pipe invert to surface				
	8.3	6.0	4.9	3.6	III					
	12.4	8.9	7.2	5.4	IV					
	17.0	12.2	9.8	7.3	V					

**NOTES:**

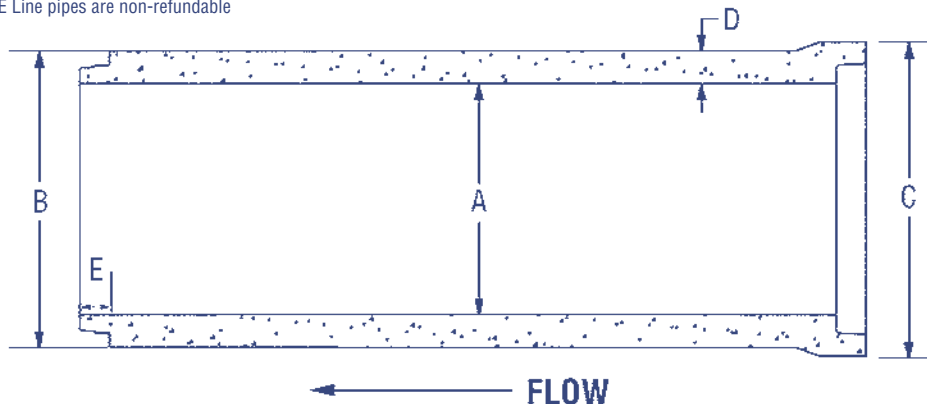
- Pipe invert maximum depth values are intended as an estimating guide only. This table is not intended to replace engineered designs or to be used with unusual loading or soil conditions.
- Calculations derived on the following parameters:
  - Soil density of 2100 kg/m<sup>3</sup>
  - Truck live load as per the CHBDC CSA S6-06; CL-800 Truck
  - Positive projection embankment conditions
  - Pipes are completely full with fluid
  - Bedding types as defined by ASTM C1479 (standard installations - refer to page 7)
- Minimum of 1.2m above crown of pipe to surface (rim elevation)
- Type 2 standard installation is typical in the City of Calgary and surrounding area.
- Under certain conditions shallow cover installations may require a higher class of pipe; call for details
- For depths greater than those shown for Class V, a direct design (SIDD) pipe should be used. Call for details.

# Concrete Pipe

## ASTM C76

					PRICES per METRE								
NOMINAL INSIDE DIA.		LGTH.	WGT.	VOL.	REINFORCED PIPE ASTM C76 / CSA 257.2 CLV 140-D				DIMENSIONS (mm)				
(mm)	(in.)				A	B	C	D	E				
300	12"	2.50	193	73					305	445	508	70	90
375	15"	2.50	260	114					381	533	606	76	90
450	18"	2.50	330	164					457	622	702	83	95
525	21"	2.50	408	223					533	711	803	89	95
NOMINAL INSIDE DIA.		LGTH.	WGT.	VOL.	REINFORCED PIPE (CSA 257.2, ASTM C76)				DIMENSIONS (mm)				
(mm)	(in.)				CL II 50-D	CL III 65-D	CL IV 100-D	CL V 140-D	A	B	C	D	E
600	24"	2.50	500	292					610	800	905	95	98
675	27"	2.50	616	370					686	889	1006	102	98
750	30"	2.50	695	456					762	978	1038	108	98
900	36"	2.50	927	656					914	1156	1229	121	98
1050	42"	2.50	1192	894					1067	1334	1461	133	108
1200	48"	2.50	1489	1167					1219	1511	1514	146	108
1350	54"	2.50	1805	1478					1372	1689	1692	159	108
1500	60"	2.50	2165	1824					1524	1867	1870	171	121
1650	66"	2.50	2557	2206					1676	2045	2048	184	127
1800	72"	2.50	2965	2627					1829	2223	2226	197	127
1950	78"	2.50	3420	3082					1981	2400	2400	210	127
2100	84"	2.50	3908	3577					2134	2578	2578	222	127
2400	96"	2.50	4954	4668					2438	2934	2934	248	127
2700	108"	2.44	6302	5909					2743	3289	3289	273	149
3000	120"	2.50	6934	7297					3048	3607	3607	279	152

- 300mm to 2100mm single offset joint design comes with self lubricating (Superseal) gasket
  - 2400mm to 3000mm single offset joint design comes with manually lubricated (Wedge) gasket
  - Nitrile (oil resistant) Superseal and Wedge gaskets available for extra charge
  - Radius (beveled) pipe and Jacking pipe available in most sizes. Add 20% to list price. No returns on radius pipe.
  - Jacking and straight wall pipe only available in 1200mm size and larger
  - Pipe sizes over 600mm are not typically stocked. Please call for availability.
  - Standard Installation Direct Design (SIDD) pipe may be used for pipe 1050mm and larger in Calgary. Please call for prices.
  - Pipe designed for bell to spigot flow direction
  - Pipe 1050mm and larger includes cast in lifting device (swift lifts).
  - Contact us for information regarding the uses and benefits of lined pipe for sewer applications
- All Radius, Jacking & HDPE Line pipes are non-refundable





# Concrete Pipe

## SIDD

### STANDARD INSTALLATION DIRECT DESIGN (SIDD)

SIDD practice was introduced to Calgary in 2005 as an alternative to indirect pipe design and now can be used for all concrete pipes 1050mm in inside diameter and larger by City of Calgary Specifications. The SIDD method arose from improved analytical knowledge and field experience installing concrete pipe, which led to improvements in understanding the structural behaviour of buried pipe in its installed condition.

Direct Design of concrete pipes allows pipe design engineers to analyze the anticipated loading situation for your specific project and design the pipe accordingly using the most efficient placement of reinforcement within the pipe walls. SIDD differs from the more commonly used indirect design method in that it utilizes standard installations and allows for analysis of other limiting states for the pipe including shear and radial tension, which may govern the design of larger diameter pipes or pipes with deeper burials. Indirect design is based on the widely known ASTM C76 standard and analyzes only flexural design requirements of the pipe. SIDD offers the following additional benefits over indirect design:

1. **Better understanding of soil behaviour below and around the pipe**
2. **More accurate procedure for determining the structural response of the pipe to the applied loads**
3. **More accurate methods for determining the effective reinforcement**
4. **More effective designs in new standardized beddings and embedment soil configurations**

#### SIDD pipe conforms to following standards:

Manufacturing : ASTM C 1417  
 Design : ASCE 15-98  
 Installation : ASTM C 1479

Refer to pages 31-32 for information on Standard Installations  
 Refer to page 8 for Standard Installation illustrations

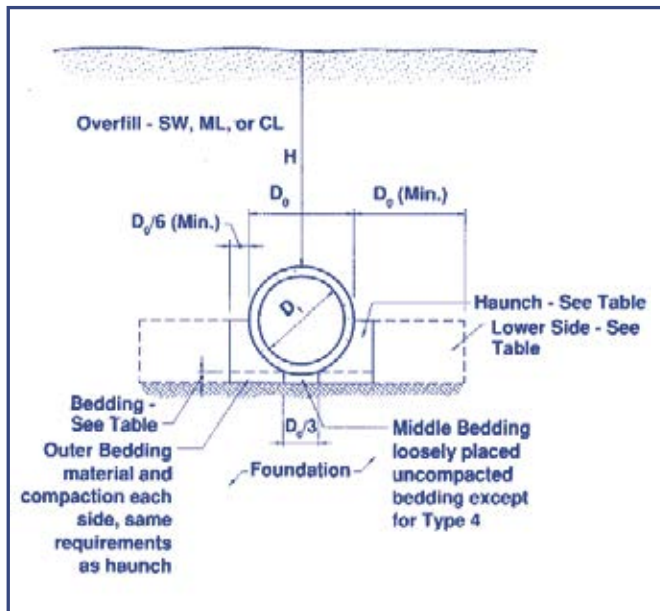
**Please call us for pricing and other details on SIDD pipe**



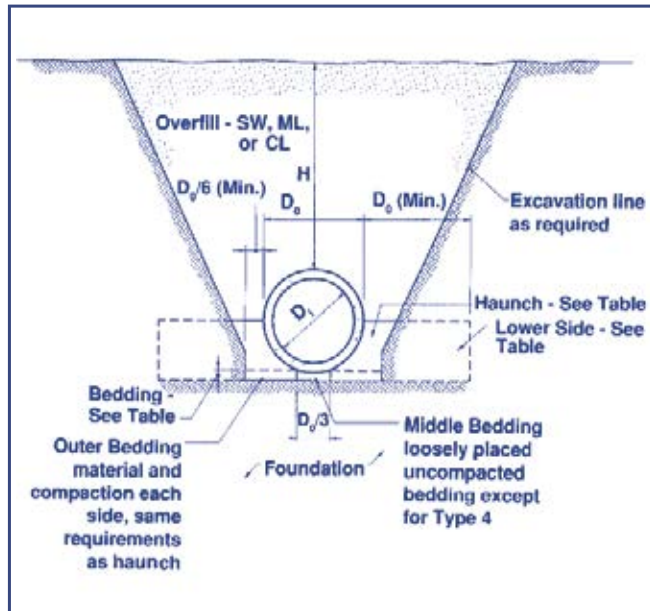
# Standard Installation Illustrations

Standard Installations

## EMBANKMENT



## TRENCH



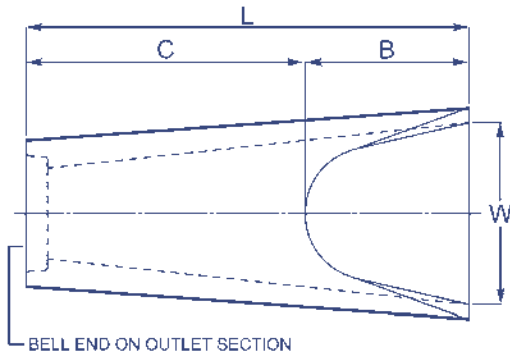
INSTALLATION TYPE	Standard Installation Soil Types and Minimum Compaction Requirements		
	Bedding Thickness	Haunch	Lower Side
TYPE 1	$D_o/24$ minimum, not less than 75 mm (3 in). If rock foundation use $D_o/12$ minimum, not less than 150 mm (6 in).	95% SW, SP, GW, GP	90% SW, SP, GW, GP 95% GM, SM, ML, GC, SC* 100% CL, MH, GC, SC
TYPE 2	$D_o/24$ minimum, not less than 75 mm (3 in). If rock foundation, use $D_o/12$ minimum, not less than 150 mm (6 in).	90% SW, SP, GW, GP 95% GM, SM, ML, GC, SC*	85% SW, SP, GW, GP 90% GM, SM, ML, GC, SC* 95% CL, MH, GC, SC
TYPE 3	$D_o/24$ minimum, not less than 75 mm (3 in). If rock foundation, use $D_o/12$ minimum, not less than 150 mm (6 in).	85% SW, SP, GW, GP 90% GM, SM, ML, GC, SC* 95% CL, MH, GC, SC	85% SW, SP, GW, GP 90% GM, SM, ML, GC, SC* 95% CL, MH, GC, SC
TYPE 4	No bedding required, except if rock foundation, use $D_o/12$ minimum, not less than 150 mm (6 in).	No compaction required, except when CL, MH, GC, or SC soil types are used to compact to 85%	No Compaction required, except when CL, MH, GC, or SC soil types are used compact to 85%

- The percentages listed above refer to standard proctor compaction levels
- The soil types above (ie. SW, GM) are taken from the Unified Soil Classification System (USCS)
- SC\* indicates SC type soil with less than 20% passing the #200 sieve

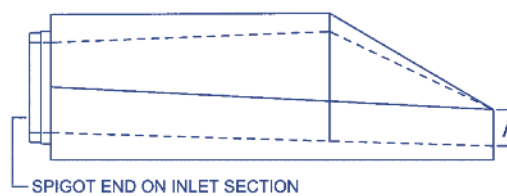
# Flared Ends

NOMINAL DIAMETER (mm)	LENGTH (mm)	WEIGHT (kg)	PRICE	GALVANIZED BAR SCREENS PRICE	GALVANIZED ROUND GRATES PRICE
300	1854	570			
375	1854	780			
450	1854	1010			
525	1854	1238			
600	1867	1465			
750	1873	1800			
900	2438	3390			
1050	2489	4660			
1200	2489	4490			
1350	2545	3665			
1500	2450	3980			

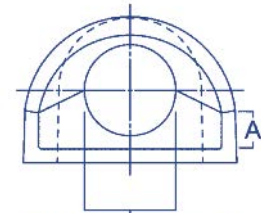
- Available with either bell end for outlets or spigot end for inlets
- Flared ends larger than 1500mm are available; call for estimates



**PLAN VIEW**



**LONGITUDINAL SECTION**



**END VIEW**

ACTUAL INSIDE DIAMETER (mm)	A (mm)	B (mm)	C (mm)	L (mm)	W (mm)
305	102	610	1245	1854	610
381	152	686	1168	1854	762
457	229	686	1168	1854	914
533	241	1105	762	1867	1219
610	241	1105	762	1867	1219
762	305	1372	502	1873	1524
914	381	1600	838	2438	1829
1067	533	1600	889	2489	1981
1219	610	1829	660	2489	2134
1372	685	1650	895	2545	2545
1524	760	1525	820	2450	2740

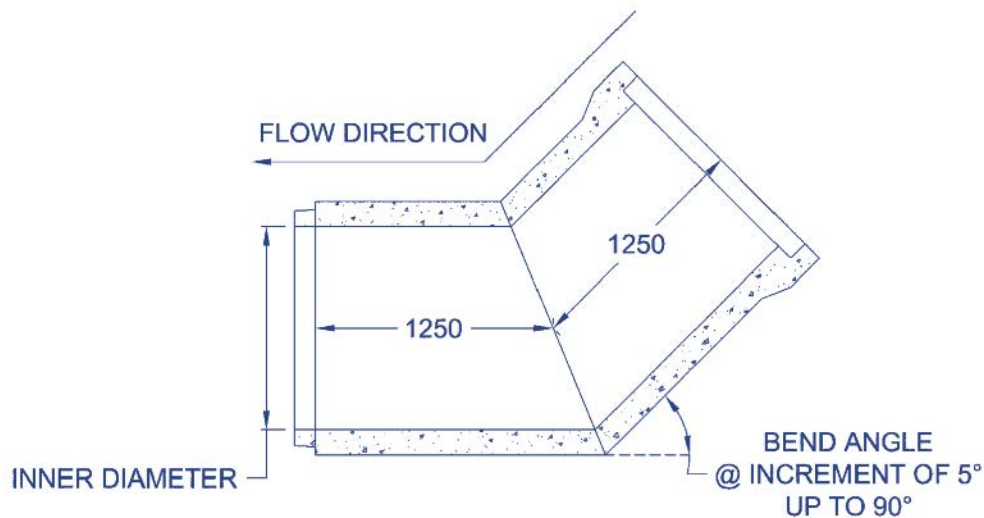
# Prefabricated Bends

## ASTM C76

Prefabricated Bends

DESCRIPTION Nominal Diameter (mm)	WEIGHT (kg)	CL IV (50D - 100D) PRICE	CL V (101D - 140D) PRICE
300	494		
375	664		
450	844		
525	1047		
600	1296		
675	1593		
750	1800		
900	2410		
1050	3106		
1200	3888		
1350	4740		
1500	5691		
1650	6778		
1800	7804		
1950	8990		
2100	10330		

- Bends are available in angles up to 90° in 5° Increments
- Custom angle bends are available; call for details
- Bends larger than 2100mm are available; call for pricing and availability
- Radius pipe may be used in place of bends in some cases; call for details

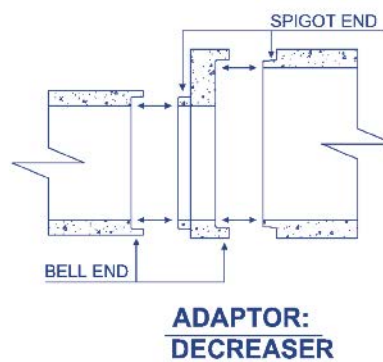
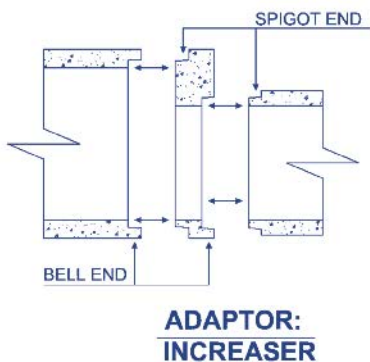
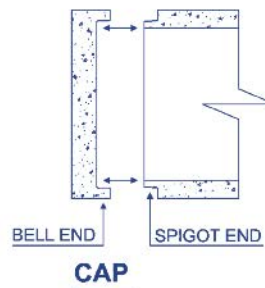
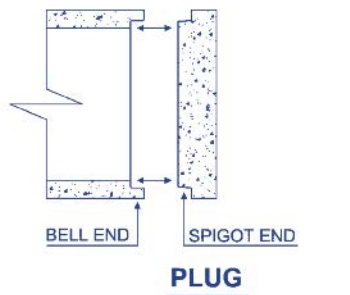




# Plugs, Caps, Adaptors

DESCRIPTION NOMINAL DIAMETER (mm)	WEIGHT (kg)	PRICE
300	76	
375	110	
450	150	
525	195	
600	248	
675	304	
750	369	
900	516	
1050	688	
1200	884	
1350	1102	
1500	1868	
1650	2241	
1800	2446	
1950	3087	
2100	3651	
2400	4720	
2700	5939	
3000	7106	

- Plugs fit into bell ends
- Caps fit onto spigot ends
- Adaptors can be fabricated to fit a variety of pipe sizes and types. Call for details.



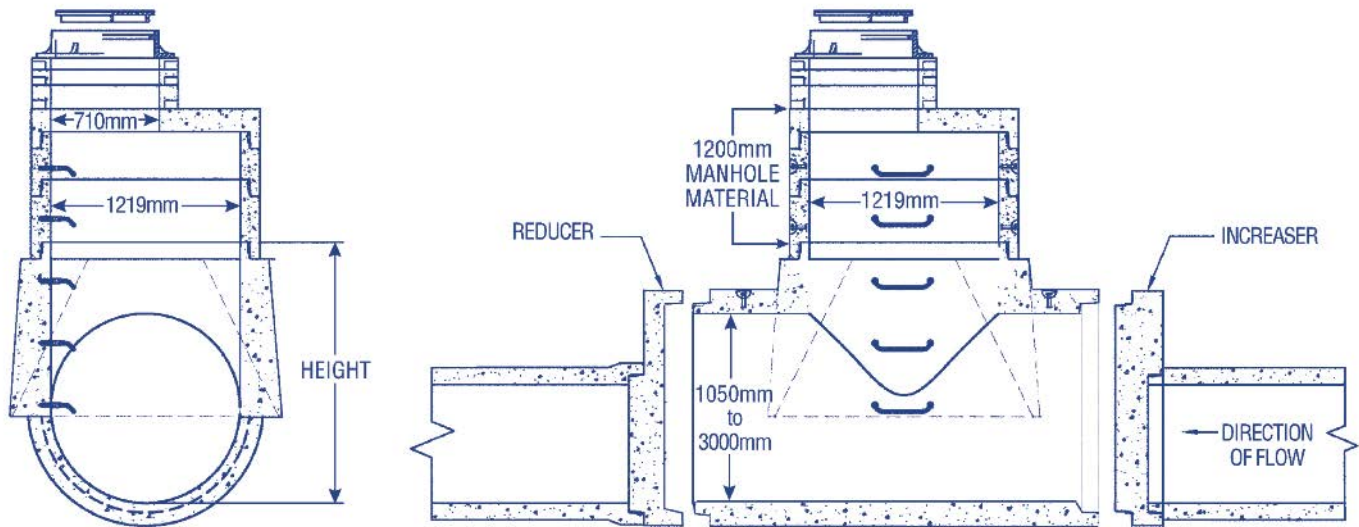
# Tee Risers

## ASTM C76

Tee Risers

DESCRIPTION Nominal Diameter (mm) x Length (m)	HEIGHT (mm)	WEIGHT (kg)	CL IV (50D - 100D) PRICE	CL V (101D - 140D) PRICE
1050 x 2.5	1633	4325		
1200 x 2.5	1786	4500		
1350 x 2.5	2098	5848		
1500 x 2.5	2258	6799		
1650 x 2.5	2418	7886		
1800 x 2.5	2583	8912		
1950 x 2.5	2743	10098		
2100 x 2.5	2908	11435		
2400 x 2.5	3338	14121		
2700 x 2.44	3638	15886		
3000 x 2.5	4088	18050		

- Tee Risers may only be used for straight through manhole applications; no extra pipe holes can be added into the Tee Riser
- 1200mm Tee Risers with adaptors may be used in straight through manhole applications for 675mm to 900mm pipe
- See page 11 for adaptor pricing



SIDE VIEW

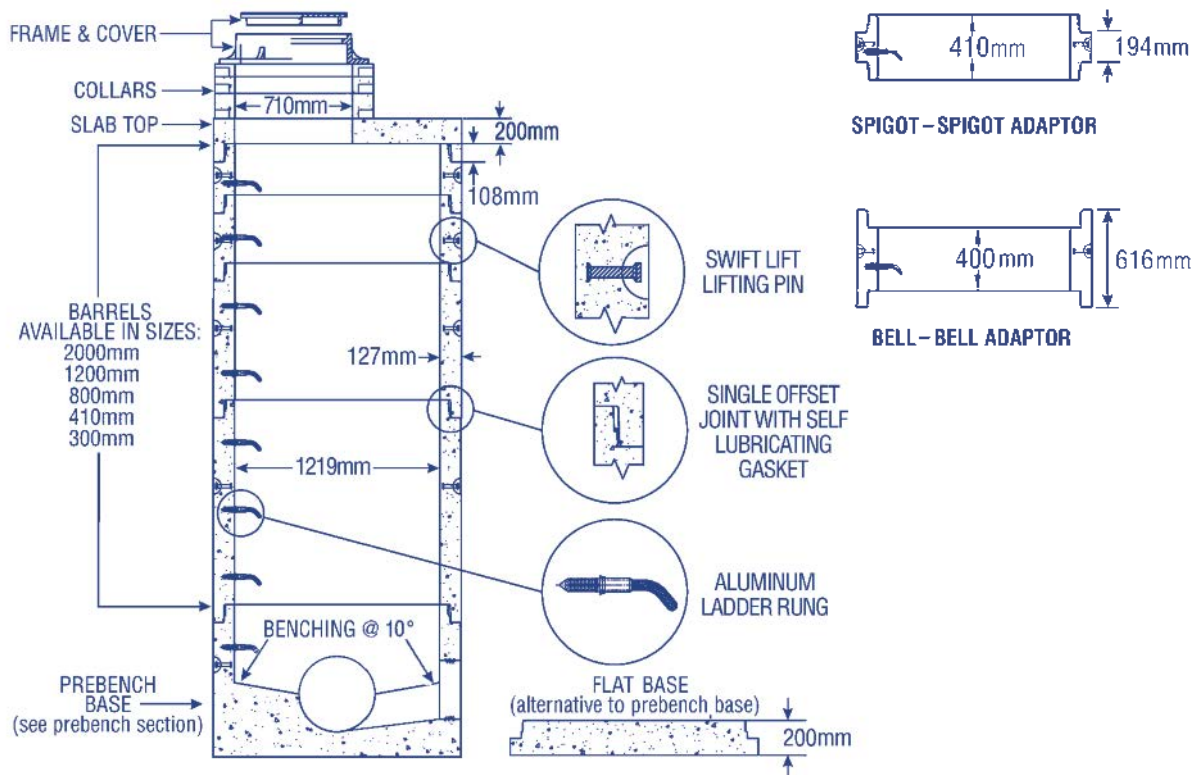
TYPICAL TEE RISER SECTION

# Manhole Material

## Standard 1200mm Diameter (Type 5A)

DESCRIPTION OF ITEMS	DIMENSIONS (RUBBER GASKET JOINT)	WEIGHT (kg)	PRICE
1200 BASE	1200mm FLAT BASE	821	
2M L BARREL	1200mm I.D. x 2000mm HIGH c/w 5 STEPS	2609	
1.2M L BARREL	1200mm I.D. x 1200mm HIGH c/w 3 STEPS	1566	
800 K BARREL	1200mm I.D. x 800mm HIGH c/w 2 STEPS	1043	
400 K BARREL	1200mm I.D. x 410mm HIGH c/w 1 STEP	520	
300 K BARREL	1200mm I.D. x 300mm HIGH c/w 1 STEP	390	
1200 SLAB TOP	1200mm DIA. x 200mm THICK c/w 710mm OPENING	675	
2" COLLAR	710mm I.D. x 50mm THICK (20 Collars/Pallet)	50	
3" COLLAR	710mm I.D. x 75mm THICK (16 Collars/Pallet)	74	
4" COLLAR	710mm I.D. x 100mm THICK (12 Collars/Pallet)	96	
6" COLLAR	710mm I.D. x 150mm THICK (8 Collars/Pallet)	197	
1200 ADAPTOR	1200mm BELL-BELL or SPIGOT-SPIGOT ADAPTOR BARREL	525	

- Self lubricating gaskets are provided with the above barrels
- Butyl joint sealant is also available for joints; see page 23
- Approximate volume capacity of barrels is 1167 L / m
- Barrels come with aluminum ladder rungs placed 400mm O.C; barrels without steps are also available
- Barrels, adaptors and slabs include swift lifts
- 1200mm Slab Top also available in K1 and K3 configuration.
- Maximum pipe size of 600mm I.D. can be put into 5A manholes
- Total maximum diameter of holes in 5A barrels may not exceed 1200mm in sum; call for details
- Manhole material complies with ASTM C478
- Rough cut and cored openings in barrels available at extra cost; call for details.
- Checkvalve manholes are available - call for details.



TYPICAL 1200mm MANHOLE CONFIGURATION

# Manhole Material

## Standard 1200mm Diameter (Type 5A)

### QUICK REFERENCE ESTIMATING TABLE

DEPTH (m)	FLAT BASE	HEIGHT OF MANHOLE BARRELS (m)					SLAB TOP 200mm	GRADE RINGS				FRAME & COVER	EST. TOTAL COST
		2.00	1.20	0.80	0.41	0.30		150mm	100mm	75mm	50mm		
1.50	1					1	1			1	1	1	
1.60	1				1		1		1			1	
1.70	1				1		1		2			1	
1.80	1					2	1			1	1	1	
1.90	1				1	1	1		1			1	
2.00	1			1			1			1	1	1	
2.10	1			1			1	1		1		1	
2.20	1				2		1	2				1	
2.30	1			1		1	1			1	1	1	
2.40	1			1	1		1		1			1	
2.50	1			1	1		1		2			1	
2.60	1			1	1		1	2				1	
2.70	1		1			1	1			1	1	1	
2.80	1		1		1		1		1			1	
2.90	1		1		1		1		2			1	
3.00	1		1			2	1			1	1	1	
3.10	1		1		1	1	1		1			1	
3.20	1		1	1			1			1	1	1	
3.30	1		1	1			1	1		1		1	
3.40	1		1		2		1	2				1	
3.50	1	1				1	1			1	1	1	
3.60	1	1			1		1		1			1	
3.70	1	1			1		1		2			1	
3.80	1	1			1		1	2				1	
3.90	1	1			1	1	1		1			1	
4.00	1	1		1			1			1	1	1	
4.10	1	1		1			1	1		1		1	
4.20	1	1			2		1	2				1	
4.30	1	1		1		1	1			1	1	1	
4.40	1	1		1	1		1		1			1	
4.50	1	1		1	1		1		2			1	
4.60	1	1		1	1		1	2				1	
4.70	1	1	1			1	1			1	1	1	
4.80	1	1	1		1		1		1			1	
4.90	1	1	1		1		1		2			1	
5.00	1	1	1			2	1			1	1	1	
5.10	1	1	1		1	1	1		1			1	
5.20	1	1	1	1			1			1	1	1	
5.30	1	1	1	1			1	1		1		1	
5.40	1	1	1		2		1	2				1	
5.50	1	2				1	1			1	1	1	
5.60	1	2			1		1		1			1	
5.70	1	2			1		1		2			1	
5.80	1	2				2	1			1	1	1	
5.90	1	2			1	1	1		1			1	
6.00	1	2		1			1			1	1	1	

- Depth is the difference between rim elevation and the lowest pipe invert elevation
- Standard solid frame & cover height of 150mm inclusive
- Based upon City of Calgary Standard Specifications for 2013

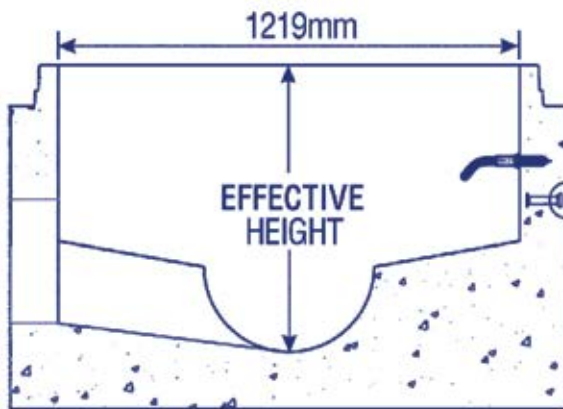


# Prebench Bases

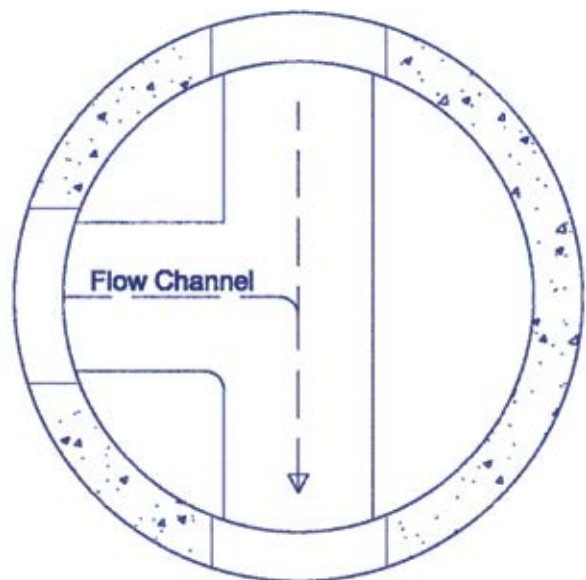
## ASTM C478 - For Concrete, SDR35 & Ultrarib Pipe

LARGEST NOMINAL PIPE DIAMETER (mm)	EFFECTIVE HEIGHT ABOVE LOW INVERT (mm)	WEIGHT (kg)	STANDARD PRICE	SPECIAL PRICE
150	660	2230		
200	775	2230		
250	775	2230		
300	860	2360		
375	860	2360		
450	970	3325		
525	970	3325		
600	1065	3400		
<b>Monolithic Flat Base</b>	973	2065		

- Prebenched bases are made to order and require approved drawings or manhole order forms before manufacturing.
- Standard Base: Four (4) pipe penetrations or less and standard 1% slope.
- Special Base: Five (5) or more pipe penetrations, or not standard slope, or special pipe holes required.
- 600mm Prebenched base only available for straight through configurations
- Includes cast in gasket for PVC pipes, for all other pipes a formed hole will be supplied.
- Monobases are available and come without any pipe openings.
- Weights given in this table are conservative estimates



**SECTION VIEW**



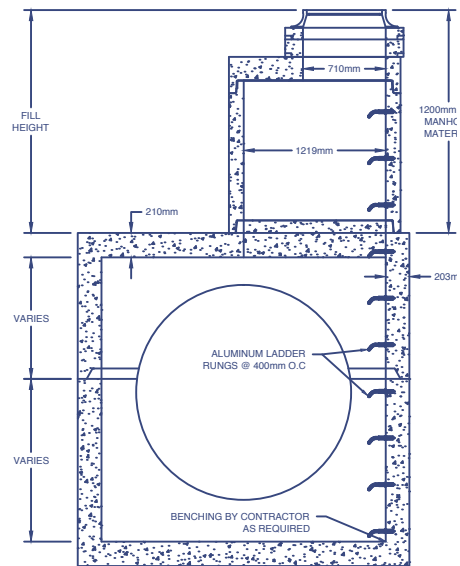
**TOP VIEW**

# Manhole Vaults

## Type 1-S

DESCRIPTION Inside Dimension x Inside Dimension x Inside Height	WEIGHT (kg)	PRICE	MAX PIPE SIZE (mm)
1220mm x 1220mm x 2007mm HIGH COMPLETE VAULT (TOP AND BOTTOM HALVES INCLUSIVE)	8257		900 I.D.
1220mm x 1220mm x 991mm RISER	3051		
1525mm x 1525mm x 2007mm HIGH COMPLETE VAULT	10599		1050 I.D.
1525mm x 1525mm x 991mm RISER	3662		
1830mm x 1830mm x 2134mm HIGH COMPLETE VAULT	13656		1350 I.D.
1830mm x 1830mm x 991mm RISER	4272		
1980mm x 1980mm x 2134mm HIGH COMPLETE VAULT	15036		1500 I.D.
1980mm x 1980mm x 991mm RISER	4572		
2440mm x 2440mm x 2439mm HIGH COMPLETE VAULT	21100		1800 I.D.
2440mm x 2440mm x 940mm RISER	5493		
2800mm x 2800mm x 2916mm HIGH COMPLETE VAULT	38058		2100 I.D.
2800mm x 2800mm x 1400mm RISER	11153		

- The above prices reflect fill heights of 1.2 to 6m over roof of vault. Call for pricing and availability for deeper and shallower burials.
- 1S Vaults are not prebenched and are not stock material. Please call to order.
- Butyl joint sealant is provided with 1S manholes. Additional measures by contractor may be necessary to achieve water tightness in the joint
- Skimming manholes and check valve vaults are available; call for details and pricing
- 1S vaults include a formed 1200mm (5A) opening in the roof, but can be made with 710 openings upon request.
- Vaults include formed pipe holes in the walls. Cored holes are available at extra cost.
- Max pipe size is based on Concrete Pipe. Flexible pipe may require larger manholes due to lack of structure provided by flexible pipe.
- Where design rim to invert height is less than the height of the vault shown above, short top vaults may be available to meet City of Calgary requirements. (These are subject to approval by design engineer. Call for availability and pricing.)



### 1S VAULT DIMENSIONS

VAULT SIZE (I.D.) (mm)	TOTAL INSIDE HEIGHT (mm)	INSIDE HEIGHT OF TOP (mm)	INSIDE HEIGHT OF BOTTOM (mm)	WALL * (mm)	ROOF (mm)
1220	2007	1016	991	203	210
1525	2007	1016	991	203	210
1830	2134	1067	1067	203	210
1980	2134	991	1143	203	210
2440	2439	953	1486	203	210
2800	2861	1386	1475	254	305

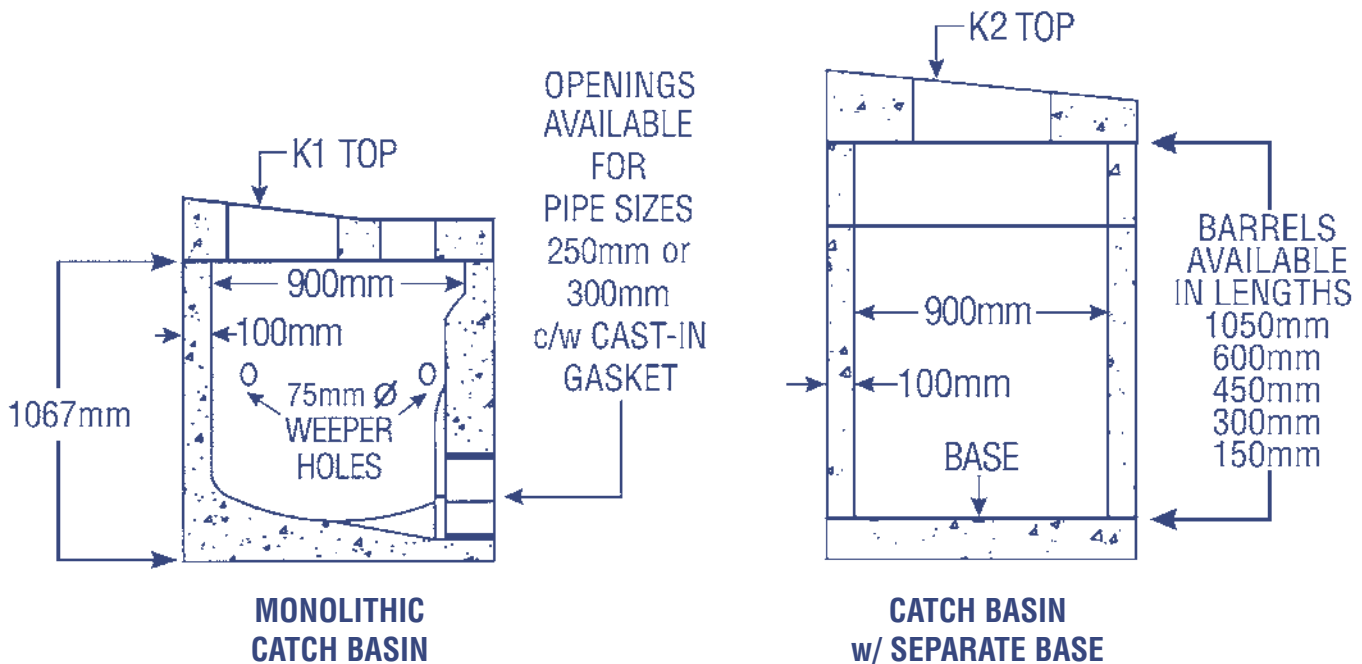
- Inside height of bottom piece measured from floor to top of spigot
- Inside height of top piece measured from inside top of bell to underside of roof
- All Dimensions are nominal. Please call for actual dimensions if you are ordering fixtures that require exact dimensions to fit.

# Catch Basin Material

## ASTM C478 - 900mm Diameter

DESCRIPTION OF ITEMS	DIMENSIONS	WEIGHT (kg)	PRICE
MONOLITHIC C.B.	914mm I.D. x 1067mm HIGH c/w BASE	1200	
A BARREL	914mm I.D. x 1050mm HIGH	865	
B BARREL	914mm I.D. x 600mm HIGH	480	
C BARREL	914mm I.D. x 450mm HIGH	360	
D BARREL	914mm I.D. x 300mm HIGH	240	
E BARREL	914mm I.D. x 150mm HIGH	120	
E TOP	914mm I.D. x 150mm THICK c/w 450mm SQUARE OPENING (AREA DRAIN)	300	
K1 TOP (C TOP)	914mm I.D. c/w 600 X 400mm OPENING & SIDE INLET (SQUARE CURB)	280	
K2 TOP	914mm I.D. c/w 930mm x 500mm OPENING (ROLLED CURB)	430	
K3 TOP	914mm I.D. x 150mm THICK c/w 600mm x 400mm OPENING (AREA DRAIN)	280	
M TOP	914mm I.D. x 150mm THICK c/w 710mm CENTERED OPENING (AREA DRAIN)	230	
C.B. BASE	914mm I.D. x 150mm THICK SLAB BASE	390	
3" C.B. COLLAR	914mm I.D. x 75mm THICK COLLAR (16 Collars/Pallet)	59	
4" C.B. COLLAR	914mm I.D. x 100mm THICK COLLAR (8 Collars/Pallet)	78	

- K1 top is called "Type C" in City of Calgary Specifications
- Monolithic CB comes with formed channels to accept ICD plate
- Monolithic CB available with a single hole for 250mm or 300mm PVC pipe with Fintight gaskets
- Base and barrel configurations do not include any pipe holes. Cored holes are available upon request; call for pricing
- Barrels, CB Base and all CB tops have flat joints
- City of Calgary approved sump catch basin also available upon request. Please call for details.

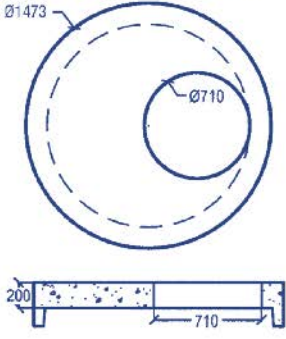
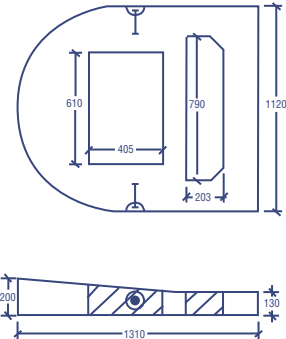
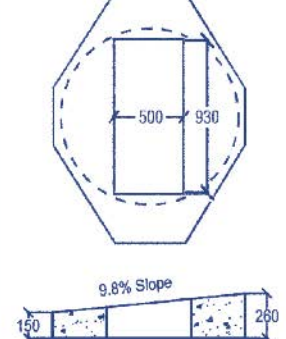
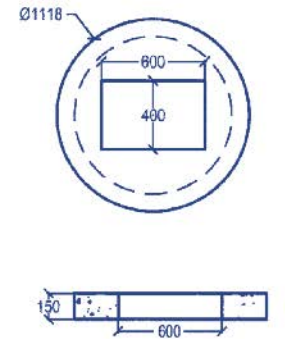
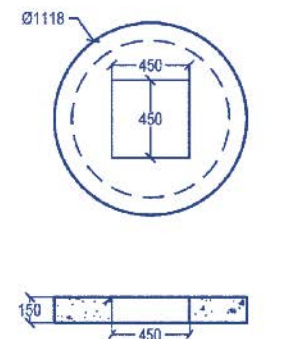
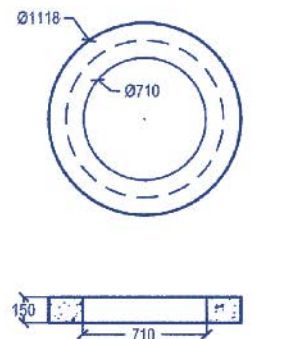
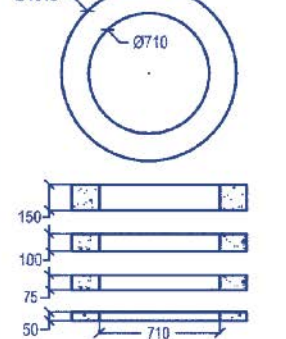
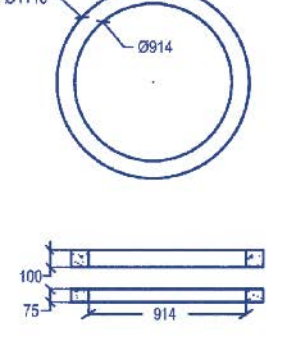


Catch Basin Material

# Slab Top

## SLAB TOP & COLLAR REFERENCE TABLE

ASTM C478

<p>1200mm SLAB TOP w/ 710mm OPENING</p> 	<p>K1 TOP (C TOP)</p> 	<p>K2 TOP</p> 	<p>K3 TOP</p> 
<p>E-TOP</p> 	<p>M-TOP</p> 	<p>710mm I.D. COLLARS</p> 	<p>914mm I.D. COLLARS</p> 

• K1 Top is a "Type C" in City of Calgary Specifications



# Manhole Material

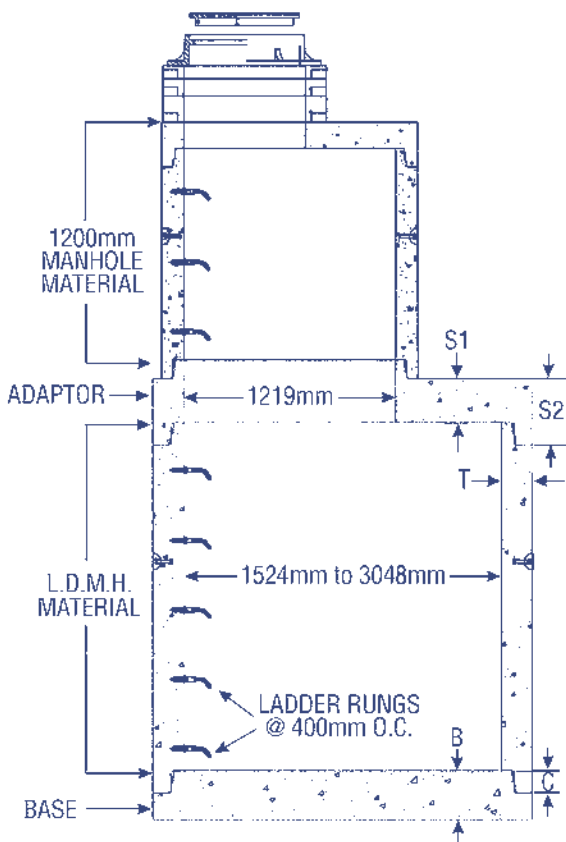
## ASTM C478 - Large Diameter

DESCRIPTION OF ITEMS (NOMINAL DIAMETER)	VOLUME (L/barrel)	WEIGHT (kg)	PRICE
<b>1500mm DIAMETER MATERIAL</b>			
1500mm x 2.5m Barrel	4560	5617	
1500mm x 2.0m Barrel	3648	4493	
1500mm x 1.8m Barrel	3283	4044	
1500mm x 1.5m Barrel	2736	3370	
1500mm x 1.2m Barrel	2189	2426	
1500mm x 0.6m Barrel	1094	1348	
1500mm Slab Top (710mm Opening)	-	1525	
1500mm Slab Base	-	1685	
<b>1800mm DIAMETER MATERIAL</b>			
1800mm x 2.5m Barrel	6568	7676	
1800mm x 2.0m Barrel	5255	6140	
1800mm x 1.8m Barrel	4729	5527	
1800mm x 1.5m Barrel	3941	4605	
1800mm x 1.2m Barrel	3153	3684	
1800mm x 0.6m Barrel	1576	1843	
1800mm Slab Top (710mm Opening)	-	2270	
1800mm Slab Base	-	2405	
<b>2100mm DIAMETER MATERIAL</b>			
2100mm x 2.5m M.H. Barrel	8942	10055	
2100mm x 2.0m M.H. Barrel	7153	8044	
2100mm x 1.8m M.H. Barrel	6438	7239	
2100mm x 1.5m M.H. Barrel	5365	6033	
2100mm x 1.2m M.H. Barrel	4292	4827	
2100mm x 0.6m M.H. Barrel	2146	2413	
2100mm Slab Top (710mm Opening)	-	3155	
2100mm Base	-	3225	
<b>2400mm DIAMETER MATERIAL</b>			
2400mm x 2.5m Barrel	11671	12747	
2400mm x 2.0m Barrel	9337	10197	
2400mm x 1.8m Barrel	8403	9177	
2400mm x 1.5m Barrel	7002	7648	
2400mm x 1.2m Barrel	5602	6118	
2400mm x 0.6m Barrel	2801	3059	
2400mm Slab Top (710mm Opening)	-	4165	
2400mm Slab Base	-	4185	
<b>2700mm DIAMETER MATERIAL</b>			
2700mm x 2.5m Barrel	14773	15758	
2700mm x 2.0m Barrel	11819	12606	
2700mm x 1.8m Barrel	10637	11346	
2700mm x 1.5m Barrel	8864	9455	
2700mm x 1.2m Barrel	7091	7564	
2700mm x 0.6m Barrel	3546	3782	
2700mm Slab Top (710mm Opening)	-	5300	
2700mm Slab Base	-	5270	
<b>3000mm DIAMETER MATERIAL</b>			
3000mm x 2.5m Barrel	18241	17797	
3000mm x 2.0m Barrel	14593	14238	
3000mm x 1.8m Barrel	13134	12814	
3000mm x 1.5m Barrel	10945	10678	
3000mm x 1.2m Barrel	8756	8543	
3000mm x 0.6m Barrel	4378	4271	
3000mm Slab Top (710mm Opening)	-	6575	
3000mm Slab Base	-	6480	

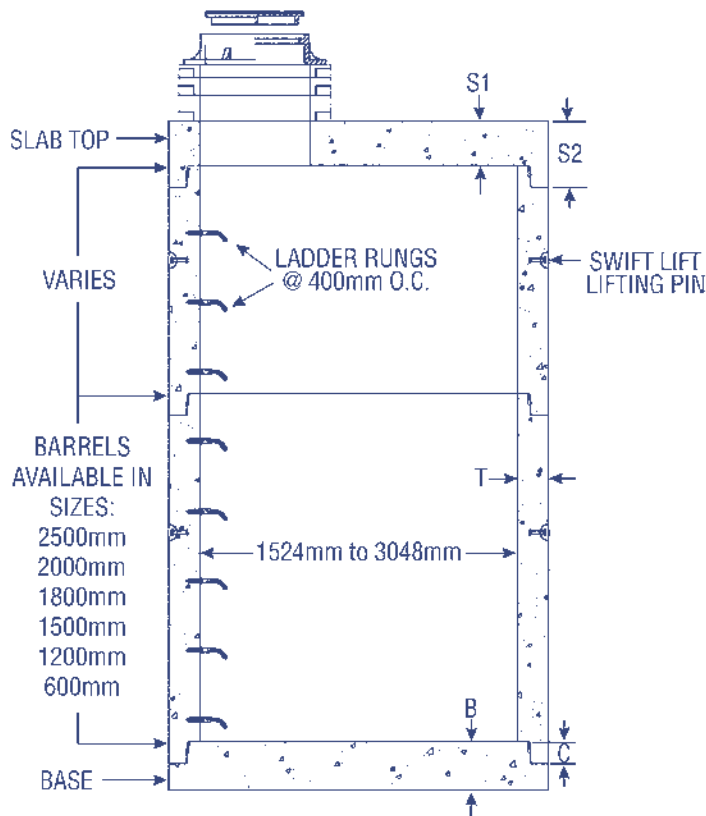
Large Dia. Manholes

# Manhole Material

## Large Diameter



**TYPICAL LARGE DIAMETER MANHOLE COMBINED WITH 1200mm M.H. MATERIAL**



**TYPICAL LARGE DIAMETER MANHOLE**

### LDMH DIMENSIONAL DETAIL

DIAMETER (mm)	WALL THICKNESS "T" (mm)	SPIGOT LENGTH "C" (mm)	SLAB TOP THICKNESS "S1" (mm)	SLAB TOP EFF. HGT. "S2" (mm)	BASE THICKNESS "B" (mm)
1524	171	121	305	386	280
1829	197	127	305	382	280
2134	222	127	305	397	280
2438	248	127	305	407	280
2743	273	149	305	429	280
3048	279	152	305	422	280

- Slab tops include 710mm formed opening.
- Large diameter manhole material is NOT stock. Please call for availability
- Rough cut and cored pipe openings can be provided at additional cost
- Butyl joint sealant is provided with large diameter manholes. Additional measures may be necessary to achieve water tightness in the joints
- Self lubricating or wedge type gaskets can be provided upon request for 2400mm and smaller sizes. Extra charges will apply
- Large diameter manholes will require 2 coils of butyl joint sealant per joint, except for 2700mm and 3000mm sizes which will need 3 coils
- Call for details on the largest pipe sizes and acceptable configurations that may be used with these barrels
- Non-standard barrel lengths are available at extra cost; call for pricing and availability
- LDMH (1500mm & larger) use 3 Swift lifts.
- 710mm access.

# Box Sections - ASTM C1433

DESCRIPTION OF ITEMS (SPAN x RISE x LENGTH)	VOLUME (L/box)	WEIGHT (kg)	PRICES		
			COVER RANGE 1.0 - 3.5m (HORIZONTAL INSTALL)	COVER RANGE 3.5m - 7.0m (HORIZONTAL INSTALL)	COVER RANGE 7.0m - 9.0m (HORIZONTAL INSTALL) 0.0m - 1.0m (HORIZONTAL INSTALL & MANHOLES)
<b>1829mm x 914mm (6'x3')</b>					
2.5m BOX LENGTH	4021	7500			
2.0m BOX LENGTH	3217	6000			
1.8m BOX LENGTH	2895	5400			
1.5m BOX LENGTH	2413	4500			
1.2m BOX LENGTH	1930	3600			
0.6m BOX LENGTH	965	1800			
BASE / SLAB TOP	-	1450			
2.5m BEND	-	7500			
2.5m BEVELED END	-	3750			
<b>1829mm x 1219mm (6'x4')</b>					
2.5m BOX LENGTH	5415	7825			
2.0m BOX LENGTH	4332	6260			
1.8m BOX LENGTH	3899	5634			
1.5m BOX LENGTH	3249	4695			
1.2m BOX LENGTH	2599	3756			
0.6m BOX LENGTH	1300	1878			
BASE / SLAB TOP	-	1620			
2.5m BEND	-	7825			
2.5m BEVELED END	-	3913			
<b>2439mm x 914mm (8' x 3')</b>					
2.5m Box Length	4030	9924			
2.0m Box Length	3220	7939			
1.8m Box Length	2900	7145			
1.5m Box Length	2420	5954			
1.2m Box Length	1930	4764			
0.6m Box Length	970	2382			
Base/Slabtop	-	2825/3304			
Bend	-	10122			
1.8m Bevel End	-	5441			
<b>2439mm x 1219mm (8'x4')</b>					
2.5m BOX LENGTH	6994	10253			
2.0m BOX LENGTH	5595	8202			
1.8m BOX LENGTH	5036	7382			
1.5m BOX LENGTH	4196	6152			
1.2m BOX LENGTH	3357	4921			
0.6m BOX LENGTH	1679	2461			
BASE / SLAB TOP	-	3012/3586			
2.5m BEND	-	10253			
2.5m BEVELED END	-	5126			
<b>2439mm x 1524mm (8'x5')</b>					
2.5m BOX LENGTH	9087	11450			
2.0m BOX LENGTH	7269	9400			
1.8m BOX LENGTH	6542	8460			
1.5m BOX LENGTH	5452	7050			
1.2m BOX LENGTH	4362	5640			
0.6m BOX LENGTH	2181	2820			
BASE / SLAB TOP	-	3330			
2.5m BEND	-	11750			
2.5m BEVELED END	-	5875			

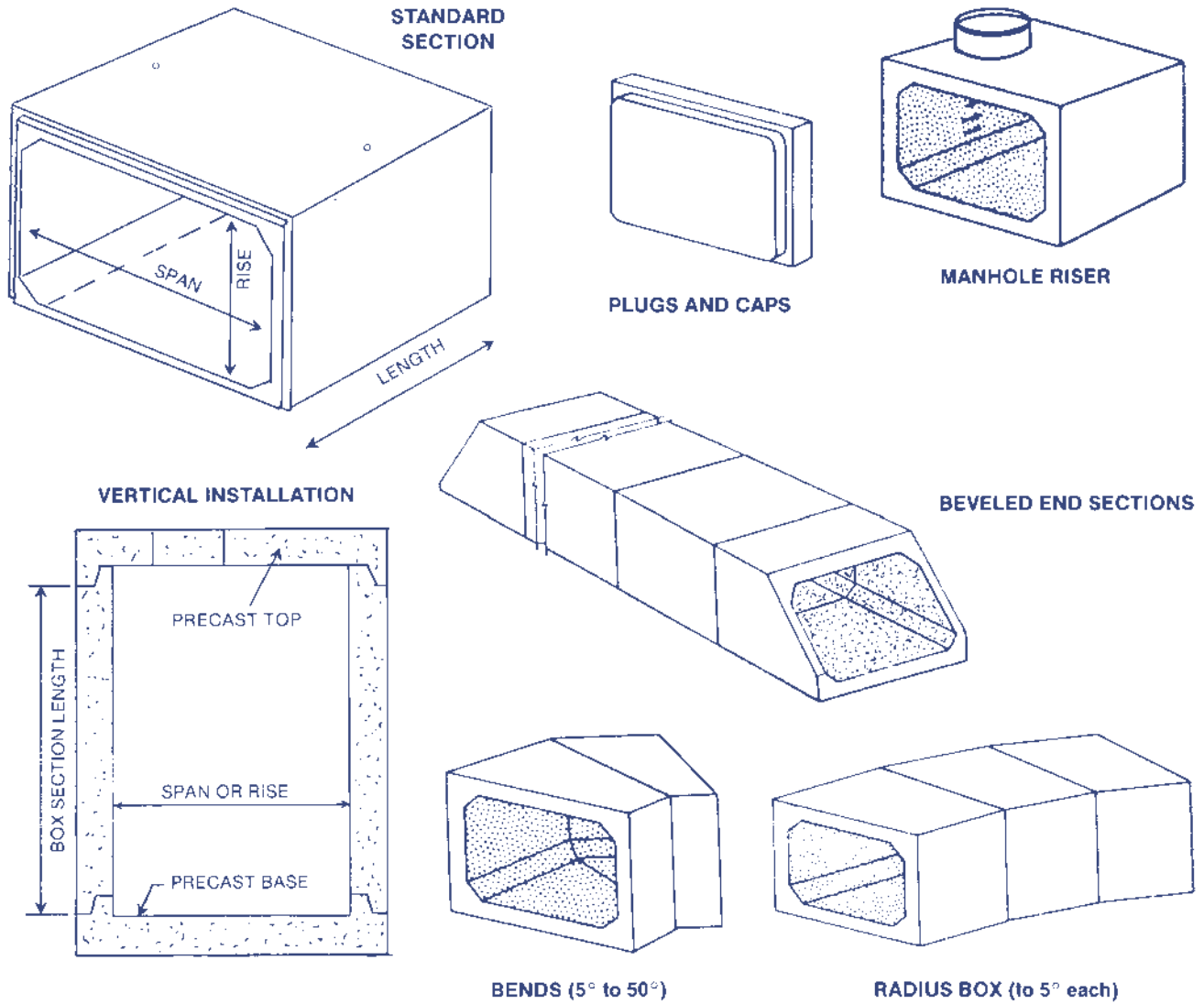
- Additional box sizes are available. Please call for details.
- Cover ranges indicate height between the top of the box and the ground surface (rim elevation).
- Boxes can be fabricated to comply with the CHBDC CSA S6-06 with CL-800 loading. For other loading conditions, call for estimate.
- Slab tops include 710mm formed opening.
- Box material is NOT stock; call for availability
- Horizontal installation indicates the longer dimension (span) of the box is parallel with the ground. Vertical installation indicates the span is perpendicular to the ground.
- Boxes may be stacked and used as manholes; call for details. Approved drawings are required before manufacture.
- All rough cut, cored or formed holes, rake out sections, viers or cast in baffles are extra; call for pricing. Approved drawings are required before manufacture.
- Box bends are available up to 50° in 5° increments and have a 2.5m length.
- Minimum fill height (over top of box) is 1.2m. Shallower burials are possible but extra charges may apply and are subject to approval by design engineer. Call for details.
- City of Calgary requires Sikaflex to be used to seal joints in box culverts. This is not supplied by Inland Pipe.
- Butyl joint sealant may be used in manhole applications. Extra measures by the contractor may be necessary to achieve water tightness in the joints.

# Box Sections - ASTM C1433

DESCRIPTION OF ITEMS (SPAN x RISE x LENGTH)	VOLUME (L/box)	WEIGHT (kg)	PRICES		
			COVER RANGE 1.0 - 3.5m (HORIZONTAL INSTALL)	COVER RANGE 3.5m - 7.0m (HORIZONTAL INSTALL)	COVER RANGE 7.0m - 9.0m (HORIZONTAL INSTALL) 0.0m - 1.0m (HORIZONTAL INSTALL & MANHOLES)
<b>2439mm x 1829mm (8'x6')</b>					
2.5m BOX LENGTH	10594	11715			
2.0m BOX LENGTH	8475	9372			
1.8m BOX LENGTH	7628	8435			
1.5m BOX LENGTH	6356	7029			
1.2m BOX LENGTH	5085	5623			
0.6m BOX LENGTH	2543	2812			
BASE / SLAB TOP	-	4203/4859			
2.5m BEND	-	9372			
2.5m BEVELED END	-	8904			
<b>2439mm x 2439mm (8'x8')</b>					
2.5m BOX LENGTH	14666	13368			
2.0m BOX LENGTH	11733	10694			
1.8m BOX LENGTH	10559	9625			
1.5m BOX LENGTH	8799	8021			
1.2m BOX LENGTH	7040	6416			
0.6m BOX LENGTH	3520	3208			
BASE / SLAB TOP	-	5636/6214			
2.5m BEND	-	13368			
2.5m BEVELED END	-	10160			
<b>3049mm x 2439mm (10'x8')</b>					
2.5m BOX LENGTH	18269	19050			
2.0m BOX LENGTH	14615	15240			
1.8m BOX LENGTH	13153	13716			
1.5m BOX LENGTH	10961	11430			
1.2m BOX LENGTH	8769	9144			
0.6m BOX LENGTH	4385	4572			
BASE / SLAB TOP	-	7262/8085			
2.5m BEND	-	15240			
2.5m BEVELED END	-	14478			
<b>3600 x 3000mm (12' x 10')</b>					
2.0m Box Length	9290	2290			
1.8m Box Length	8360	20610			
1.5m Box Length	6970	17175			
1.2m Box Length	5570	13740			
0.6m Box Length	2790	6870			
Base/Slabtop	-	15394/16790			
Bend	-	23473			
1.5m Bevel End	-	12847			
<b>3658mm x 3658mm (12' x 12')</b>					
1.8m BOX LENGTH	23751	22000			
1.5m BOX LENGTH	19793	19000			
1.2m BOX LENGTH	15834	15000			
BASE / SLAB TOP	-	16700/18300			
1.8m BEND	-	21686			
1.8m BEVELED END	-	10843			

- Additional box sizes are available. Please call for details.
- Cover ranges indicate height between the top of the box and the ground surface (rim elevation).
- Boxes can be fabricated to comply with the CHBDC CSA S6-06 with CL-800 loading. For other loading conditions, call for estimate.
- Slab tops include 710mm formed opening. Add 10% to this price for a slab top adaptor (1200mm opening).
- Box material is NOT stock; call for availability
- Horizontal installation indicates the longer dimension (span) of the box is parallel with the ground. Vertical installation indicates the span is perpendicular to the ground.
- Boxes may be stacked and used as manholes; call for details. Approved drawings are required before manufacture.
- All rough cut, cored or formed holes, rake out sections, wiers or cast in baffles are extra; call for pricing. Approved drawings are required before manufacture.
- Minimum fill height (over top of box) is 1.2m. Shallower burials are possible but extra charges may apply and are subject to approval by design engineer. Call for details.
- City of Calgary requires Sikaflex to be used to seal joints in box culverts. This is not supplied by Inland Pipe.
- Butyl joint sealant may be used in manhole applications. Extra measures by the contractor may be necessary to achieve water tightness in the joints.

# Box Sections



## BOX SECTION DIMENSION DETAIL

DESCRIPTION NOMINAL SPAN x RISE	ACTUAL INSIDE DIMENSIONS SPAN x RISE	SIDE WALL THICKNESS (mm)	TOP WALL THICKNESS (mm)	BOTTOM WALL THICKNESS (mm)	SLAB TOP THICKNESS (mm)	BASE THICKNESS (mm)	SPIGOT LENGTH (mm)
1800mm x 900mm	1829mm x 914mm	178	178	178	203	203	102
1800mm x 1200mm	1829mm x 1219mm	178	178	178	203	203	102
2400mm x 1200mm	2439mm x 1219mm	203	203	203	305	305	127
2400mm x 1500mm	2439mm x 1524mm	203	203	203	254	254	108
2400mm x 1800mm	2439mm x 1829mm	203	203	203	305	305	127
2400mm x 2400mm	2439mm x 2439mm	203	203	203	305	305	127
3000mm x 1500mm	3049mm x 1524mm	254	254	254	254	254	108
3000mm x 2400mm	3049mm x 2439mm	254	254	254	305	305	127
3600mm x 3600mm	3658mm x 3658mm	305	305	305	400	400	127

# Miscellaneous Materials

DESCRIPTION OF ITEMS	WEIGHT or QUANTITY	PRICE
<b>FRAMES, COVERS &amp; GRATES</b>		
K1 FRAME - 400mm x 600mm CATCHBASIN FRAME (K1 TOP)	86 kg	
K1 GRATE - 400mm x 600mm CATCHBASIN GRATE (K1 TOP)	57 kg	
K1 SIDE INLET FRAME c/w GRATE - CATCHBASIN CURB SIDE INLET (K1 TOP)	24 kg	
K2 FRAME - 930mm x 500mm CATCHBASIN FRAME (K2 TOP)	186 kg	
K2 GRATE - 480mm x 550mm CATCHBASIN GRATE (NOTE: 2 GRATES REQUIRED)	23 kg	
K3 FRAME - 400mm x 600mm CATCHBASIN FRAME (K3 TOP)	57 kg	
K3 GRATE - 400mm x 600mm CATCHBASIN GRATE (K3 TOP)	24 kg	
E FRAME - 450mm x 450mm CATCHBASIN FRAME (E TOP)	50 kg	
E GRATE - 450mm x 450mm CATCHBASIN GRATE (E TOP)	20 kg	
150mm (6") STANDARD MANHOLE FRAME (710mm OPENING)	88 kg	
250mm (10") MANHOLE DEEP FRAME (710mm OPENING)	122 kg	
MANHOLE STANDARD SOLID COVER (710mm OPENING)	70 kg	
MANHOLE GRATED COVER (710mm OPENING)	70 kg	
150mm (6") TOWN & COUNTRY FRAME (635mm OPENING)	75 kg	
TOWN & COUNTRY SOLID COVER (635mm OPENING)	65 kg	
TOWN & COUNTRY GRATED COVER (635mm OPENING)	65 kg	
<b>MANHOLE STEPS (LADDER RUNGS)</b>		
GALVANIZED; SIZE: 12" x 12" (300mm x 300mm) 100 PER BARREL	each	
ALUMINUM; SIZE: 12" x 9" (300mm x 225mm) 50 PER BOX	each	
POLY-COVERED ALUMINUM; 12" x 9" (SIZE: 300mm x 225mm) 50 PER BOX	each	
<b>CEMENT, SEAL &amp; LUBRICANT</b>		
TYPE HS CEMENT - HIGH SULFATE RESISTANCE (72 BAGS/PALLET)	20 kg BAGS	
3/4" (19mm) WIDE KENT SEAL (8 COILS/BOX)	18.0' COILS	
1200mm MANHOLE GASKET (SUPERSEAL)	each	
WL-8 LUBRICANT	3.6 kg PAIL	
<b>LIFTING DEVICES - SWIFT LIFT</b>		
4 TON CLUTCH (LIFTING EYE)	each	
8 TON CLUTCH (LIFTING EYE)	each	
4 TON PIPE CHAIN SLING for 1050mm DIAMETER to 1650mm PIPE	per SET	
8 TON PIPE CHAIN SLING for 1800mm DIAMETER & LARGER PIPE	per SET	
4 TON MANHOLE CHAIN SLING for 1200mm DIAMETER to 1800mm MANHOLES	per SET	
8 TON MANHOLE CHAIN SLING for 2100mm DIAMETER & LARGER MANHOLES	per SET	

- Refer to page 18 for slab top and collar reference table
- MSU access hatches, safety platforms, safety grab handles and other products can be ordered. Call for estimates.



# Terms & Conditions

## TERMS AND CONDITIONS OF SALE

• Prices listed in this publication are effective as of April 1, 2021

### 1. Definitions.

- (a) "Products" means concrete pipe, manholes and associated products.  
 (b) "Purchaser" means the individual or company placing an order to purchase Products.
- 2. Purchase of Products.** The Quotation and these Terms and Conditions shall together constitute the purchase agreement ("Agreement"). The Agreement is the only agreement between the parties and supersedes all other agreements, representations, correspondence, undertakings or communications between the parties regarding the purchase of Products.
- 3. Payment Terms.**  
 (a) Full payment is due on the 25th day of the month following the Purchaser pick-up or delivery of Products.  
 (b) Prices exclude applicable taxes, fees, duties and surcharges. Purchaser is solely responsible for the payment of such amounts.  
 (c) Unless otherwise stated, prices are in Canadian Dollars.  
 (d) Purchaser shall pay all fees, expenses and disbursements (including legal fees on a solicitor and his own client basis) incurred by Seller in connection with collecting any overdue accounts.  
 (e) Seller reserves the right at any time to require the Purchaser to post adequate security, and to discontinue the supply of Products in the absence of such security, in its sole discretion.  
 (f) All purchases by Purchaser pursuant to this Quotation require payment in advance unless Seller has entered into a written credit agreement with Purchaser. In the event Purchaser makes payment with a cheque, and such cheque, upon presentation, is not promptly negotiated by Purchaser's bank, Purchaser shall immediately make payment using a certified cheque. Purchaser shall also pay a service charge of \$25.00 for any cheque that is not negotiated by Purchaser's bank promptly upon presentation. Purchaser shall pay Seller interest on all amounts not paid when due at a rate of 2.0% per month (24% per annum). Invoice shall be deemed correct unless Purchaser notifies Seller in writing of any errors within 30 days from the date of such invoice. Purchaser's payments shall be applied first against any outstanding interest charges, next against any service charges and then to the outstanding principle in the invoice.  
 (g) If Purchaser defaults or if Seller considers Purchaser's financial responsibility impaired or unsatisfactory, Seller shall be entitled to suspend or terminate, in whole or in part, any order or agreement until all outstanding payments are made and/or acceptable assurances or security is provided by Purchaser.  
 (h) All Products approved for fabrication must be taken no later than January 31 of the following year. Products NOT taken prior to the due date will be subject to per diem storage charges.

### 4. Additional Surcharges.

- (a) A surcharge will be added for a delivery requiring a wide load permit and pilot vehicles.  
 (b) A surcharge of \$100/hour will be added if the Purchaser has not unloaded the truck within one hour of the truck's arrival at the destination specified.  
 (c) A surcharge will be added if the Purchaser does not unload a delivery in its entirety at the destination specified.
- 5. Availability of Products.** The quantities of the Products stated in this Quotation are for the sole purpose of identifying the estimated total quantities and price of the Products expected to be delivered by Seller to Purchaser and are not intended to constitute a commitment by Purchaser to purchase, or Seller to deliver, the stated quantities of the Products (or another quantity or Products sufficient to meet Purchaser's requirements) to Purchaser. Although Seller will make reasonable efforts to deliver Products in accordance with Purchaser's schedule, Seller's ability to actually deliver the amount of the Products stated in Seller's invoices to Purchaser is subject to the availability of the Products (which availability might be limited for reasons both within and outside of Seller's control, including, without limitation, those set forth in Section 6).

- 6. Force Majeure.** Seller shall not be considered in default in the performance of its obligations hereunder if such performance is prevented or delayed because of an act of God, lack of availability of raw materials or Products, equipment or facility failures, war, blockade, embargo, hostilities, revolution, civil commotion, strike or lockout, labor dispute, epidemic, fire, wind, earthquake or flood, severe weather, traffic delays, delays of third parties or because of any law, order, proclamation, regulation or ordinance of any government, or for any other cause, whether similar or dissimilar to those enumerated, beyond the reasonable control of Seller. If Seller's performance is prevented or delayed Seller shall have the right to prorate among its various customers such Products as it may be able to manufacture and deliver.

### 7. Delivery Conditions.

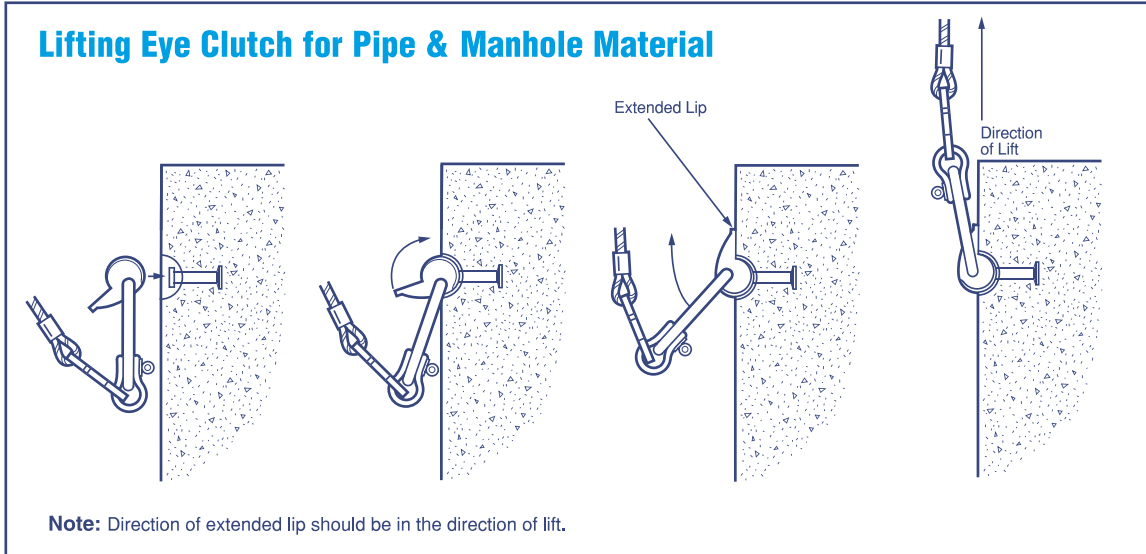
- (a) Purchaser shall schedule all deliveries directly with the Seller. Purchaser shall provide a minimum of 24 hours' notice.  
 (b) Purchaser is responsible to provide Seller with safe and reasonable access for Seller's delivery truck to deliver Products. Seller reserves the right to stop deliveries until Purchaser provides such access.  
 (c) Delivered prices are for delivery to the destination specified.  
 (d) Seller shall be responsible to provide suitable access roads to destination specified as well as equipment to unload the Products.  
 (e) In the event Seller requires access over curbs, sidewalks, driveways or other property, Seller shall not be responsible for any loss, cost or damage in connection therewith. Purchaser waives all claims against Seller and shall indemnify and save the Seller harmless

and against any and all losses, damages, expenses, liabilities, claims, suits and demands of whatever nature (including legal fees on a solicitor and client basis) suffered or incurred by Seller and resulting from such access.

- 8. Unloading.** Purchaser will be responsible for unloading the Products at the destination specified.
- 9. Products Specifications and Warranty.** Products shall conform to present standard specifications (for the respective Products) of CSA and/or ASTM. Seller expressly warrants the title to the Products and, except as provided in this section, Seller makes no representation or warranty whatsoever with respect to the Products, express or implied (whether written, oral, statutory or arising by previous course of dealing or usage of trade) including merchantability and fitness for a particular purpose, and Seller hereby disclaims all such other representations and warranties to the maximum extent permitted by applicable law.
- 10. Indemnity.** The Purchaser shall indemnify, hold harmless and defend Seller, its employees, contractors, and representatives from and against any and all losses, damages, expenses, liabilities, claims, suits and demands of whatever nature (including legal fees and expenses on a solicitor and client basis) suffered or incurred by Seller and resulting from any and all claims, suits or demands made against Seller by any other person arising out of or in connection with Purchaser's resale of the Products purchased from Seller, unless and to the extent attributable to any negligence or breach of this Agreement by Seller of the terms and conditions herein.
- 11. Limitation of Liability.** Notwithstanding any other provisions of this Agreement, Seller shall not be liable to the Purchaser whether due to breach of contract, negligence, warranty, strict liability or otherwise, for any special, indirect or consequential damages, or for any loss of profits, loss of revenue or loss of anticipated business suffered or incurred by the Purchaser. Seller's liability to a Purchaser in relation to this Agreement, whether due to breach of contract, negligence, warranty, strict liability or otherwise, is strictly limited to the replacement of the Products or a refund of the purchase price for the order of Products in question. Seller having no control over the use of the Products will not guarantee finished work, nor shall Seller be responsible for the condition of the Products after delivery to Purchaser.
- 12. Limitation of Actions.** Purchaser is responsible for inspection of the Products upon delivery. Notwithstanding any other provisions in this Agreement, no suit or claim based on any cause of action whatsoever arising out of or in any way connected with this Agreement or the Products may be brought by the Purchaser, or any party claiming through the Purchaser, more than 60 days after receipt of the Products. Claims for loss or damage in transit must be reported to Seller within 24 hours of delivery of Product to the destination specified and must be supported by customer's notation on truck delivery receipt and/or bill of lading.
- 13. Use of Products.** Purchaser's use of the Products is at its own risk and the Purchaser shall indemnify and save Seller harmless from any and all losses, damages, expenses, liabilities, claims, suits and demands of whatever nature (including legal fees and expenses on a solicitor and client basis) suffered or incurred by Seller arising out of, or relating to the Purchaser's control, use, possession, transportation or ownership of the Products.
- 14. Title and Risk of Loss.** Title and risk of loss to the Products shall pass to Purchaser on Purchaser's pick-up at Seller's premises. Title and risk of loss to Products delivered shall pass to Purchaser on delivery at the destination specified.
- 15. Waiver.** No waiver of any provision of the Agreement shall be binding unless given in writing and signed by an authorized officer of the party to be bound thereby.
- 16. Governing Law.** This Agreement shall be interpreted under and governed by the laws of the Province where the Products are delivered and the federal laws of Canada applicable therein.
- 17. Arbitration.** If any dispute arises between the parties pursuant to this Agreement such dispute shall be resolved by a sole arbitrator pursuant to the provisions of the Arbitration Act of the Province where the Products is delivered.
- 18. Term of Agreement.** Unless otherwise agreed to by the parties in writing, the prices in the Quotation are valid for the period of time set out in the Quotation from the date of the Quotation. Seller may, in its sole discretion, increase the price of, or decline to deliver, the Products identified in this Quotation after such date.
- 19. Builder's Lien.** For the purposes of the Builder's Lien Act Products not herein quoted but delivered or supplied to the same project shall be considered part of the same contract until last date of delivery or supply notwithstanding separate purchase orders.
- 20. Product Return.** Purchaser may return any standard Product to Seller's premises provided:  
 (a) such Product is in good condition;  
 (b) Purchaser pays Seller a restocking fee of 15% of the price of the Product; and  
 (c) such Product is returned to Seller on or before six months from the date of the original pick-up from Seller's premises or delivery to the destination specified. Custom and non-standard Products including but not limited to manhole and catch basin barrels with custom holes, radius pipe, pipe larger than 1200mm, custom slab tops, bends, wyes, tees and specialty cast in components will not be refunded. Custom or nonstandard Products returned will not receive credit and be subject to a disposal fee of \$20.00 per tonne charged by Seller to Purchaser. Custom and non-standard Products remaining on completed orders will be invoiced to the Purchaser and can either be picked-up by Purchaser (FOB Seller's Plant) or will be subject to a disposal fee of \$20.00 per tonne.
- 21. Freight Rates.** Freight rates are based on a minimum truck load of 27,000 kilograms and do not apply during periods of road restrictions. Delivery charges for truckloads of less than 27,000 kilograms shall be calculated at an hourly rate as described in the Freight Guidelines outlined in Seller's catalogue and shall include loading, traveling and unloading time.

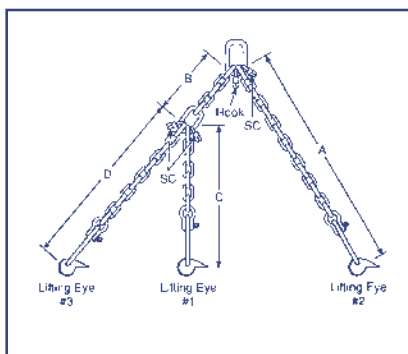
# Swift Lift Procedures

## How to Guide



1. To install the P-50 Universal Lifting Eye, hold the unit upside down with the T-shaped slot of the body directly over the head of the swift lift anchor.
2. Lower the body of the lifting eye until the T-shaped slot engages the head of the anchor.
3. Rotate the body until the extended lip of the body touches the concrete surface.

### Lift Chain Sling Detail



HOISTING GEAR LEG DIMENSIONS			
A	B	C	D
1440mm (57")	400mm (16")	1040mm (41")	1940mm (76")

• The measurements listed above are for pipe 1.5m to 2.5m in length.

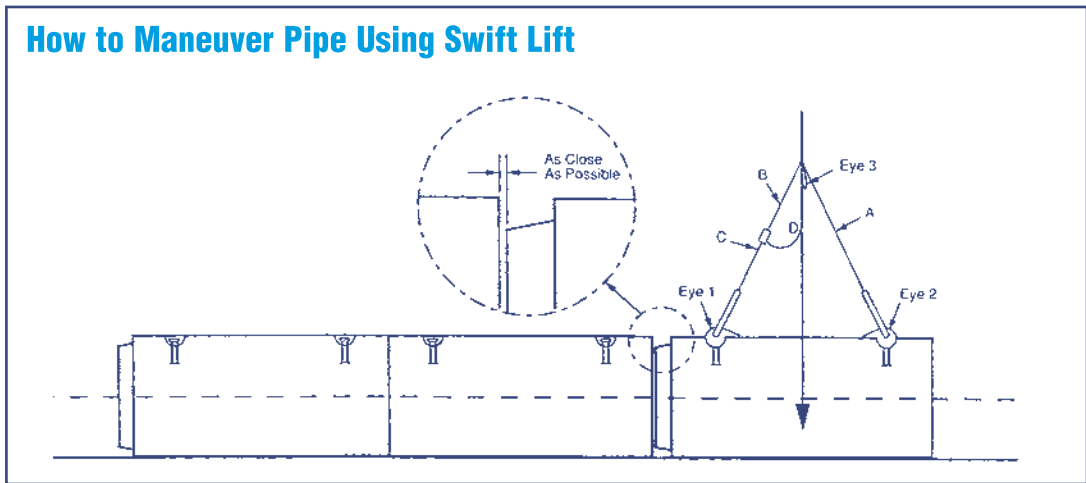
**Notes:**

1. Swift Lift anchors are available in pipe sizes 1050mm and larger.
2. Pipe 1050mm Ø to 1650mm Ø use the 4 ton lifting eye and pipe 1800mm and larger use the 8 ton lifting eye.
3. Manholes 1200mm and 1800mm use 4 ton lifting eye and manholes 2100mm and larger use the 8 ton lifting eye.

# Swift Lift Procedures

## How to Guide

### How to Maneuver Pipe Using Swift Lift

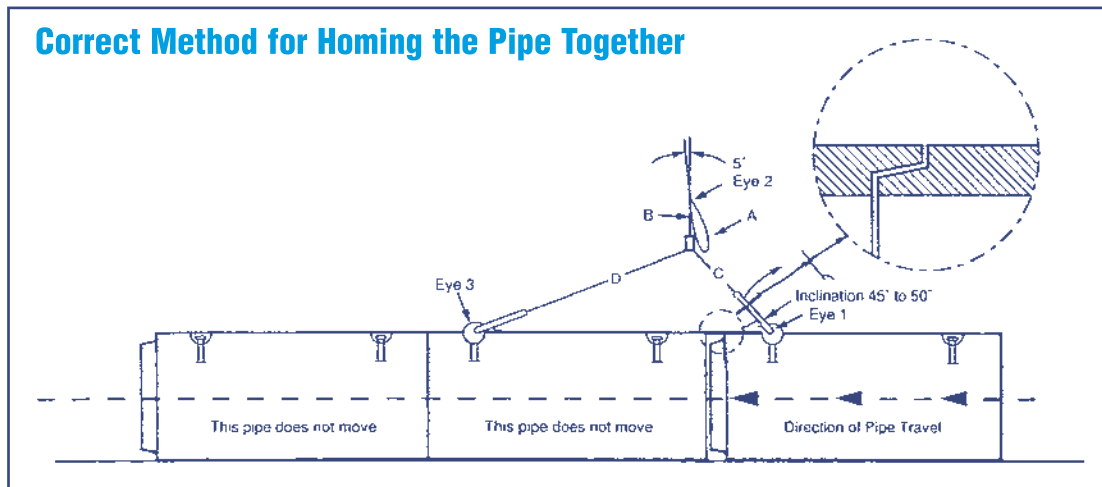


1. The pipe is first transported to the installation site with the symmetrical sling and lowered close to the already placed pipe.

Note: a) As with lifting any concrete element, special care should be taken by the driver of the placement vehicle to ensure the impact or dynamic loads are reduced to a minimum. Because these loads can greatly increase the weight of the element, and this safety note should not be overlooked.

b) Load must be applied simultaneously to all Swift Lift Anchors in order to safely lift product.

### Correct Method for Homing the Pipe Together



1. To pull the pipe into position, the long leg of the hoisting gear is coupled to the previously placed pipe.
2. Eye 2 is disconnected from the swift lift anchor and attached to master link.
3. Eye 3 is then connected to the pipe you will be homing to.
4. Crane or backhoe operator must ensure the lifting point is over the outer lifting anchor of the previously placed pipe so that the direction of pull is slightly inclined toward placed pipe.
5. Operator must then lift up on the hoisting gear until pipe is homed together.

# Swift Lift

## Clutch & Pins

PIPE	TON	LIFT PINS
250 - 900 PIPE (DO NOT HAVE LIFTING PINS)	0	0
1050 - 1650 PIPE	4T	2 LP
1800 - 3000 PIPE	8T	2 LP
<b>FLARED ENDS</b>		
300 FE TO 1200 FE BELL / SPIGOTS	4T	2 LP
1350 FE TO 1500 FE BELL / SPIGOTS	4T	4 LP
<b>BENDS</b>		
1200 - 1650 BEND	4T	4 LP
1800 - 2100 x 2.5M BEND	8T	4 LP
2700 x 2.5M BEND	8T	4 LP
3000 BEND	8T	4 LP
2400 X 1200 BOX BEND	8T	4 LP
2400 X 1800 BOX BEND	8T	4 LP
2400 X 2400 BOX BEND	8T	4 LP
<b>PLUGS / CAPS / ADAPTOR</b>		
1500 SPIG TO SPIG ADAPTOR	4T	2 LP
1800 X 1650 REDUCER	8T	2 LP
1200 - 1650 CAP / PLUG	4T	3 LP
1800 - 3000 CAP / PLUG	8T	3 LP
1800 X 1200 BOX CAP / PLUG	4T	6 LP
2400 X 1200 BOX CAP / PLUG	8T	6 LP
2400 X 1800 BOX CAP / PLUG	8T	6 LP
2400 X 2400 BOX CAP / PLUG	8T	6 LP
3000 X 2400 BOX ADAPTOR	8T	4 LP
1050 - 2100 INCREASE / DECREASER	4T	2 LP
<b>TEE RISERS</b>		
1050 - 1650 T-RISER	4T	2 LP
1800 - 3000 T-RISER	8T	2 LP
1200 T RISER SADDLE	4T	2 LP
<b>1200 MANHOLE MATERIAL</b>		
1200 BASE	4T	1 LP
1200 RISERS	4T	2 LP
1200 SLABTOP	4T	2 LP
1200 PREBENCHES	4T	2 LP
<b>CATCH BASIN MATERIAL</b>		
900 CB'S & RISERS	4T	No LP
900 BASE	4T	1 LP
900 SLABTOP /K2 / K3 / DK7 / E-TOP / T-TOP / M-TOP	4T	2 LP

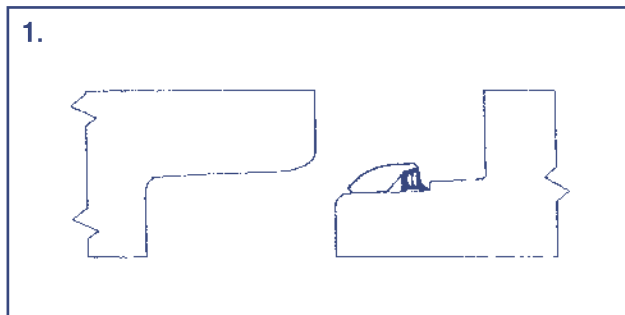
# Swift Lift Clutch & Pins

LARGE DIAMETER MANHOLE MATERIAL	TON	LIFT PINS
1500 - 1800 BASE	4T	1 LP
2100 BASE	8T	1 LP
2400 - 2700 BASE	8T	3 LP
3000 BASE	8T	4 LP
3600 x 3600 BASE	8T	4 LP
1500 - 1800 ST 635 / 710 / 914 / 1200	4T	3 LP
1500 K3 / ETOP	4T	2 LP
2100 - 2700 ST 635 / 710 / 914 / 1200	8T	3 LP
2100 - 2400 SLABTOP W / HATCH	8T	4 LP
3000 SLABTOP (ALL)	8T	3 LP
3600 x 3600 SLABTOP	8T	3 LP
1500 - 1800 RISERS	4T	3 LP
2100 - 3000 RISERS	8T	3 LP
3600 X 1.0M RISER	8T	3 LP
<b>BOX SECTIONS</b>		
1200 X 600 / 900 BOX BEVEL	4T	4 LP
1200 X 600 - 900 BOX BASE / SLABTOP	4T	2 LP
1200 X 600 - 900 BOX MATERIAL	4T	4 LP
1800 X 1200 BOX BASE / SLABTOP	4T	4 LP
1800 X 1200 BOX MATERIAL / T-RISER	8T	4 LP
2400 X 1200 BOX MATERIAL / SLABTOP	8T	4 LP
2400 X 1200 BOX BASE	8T	2 LP
2400 X 1800 BOX SLAB / BASE / BOX MATERIAL	8T	4 LP
2400 2400 BOX MATERIAL	8T	4 LP
2400 X 2400 BOX BASE / SLAB	8T	4 LP
3000 X 2400 BOX BASE / ST / BOX MATERIAL / BELL / SPIGOT	8T	4 LP
<b>VAULTS</b>		
1220 X 1220 X 1000 VAULT RISER	4T	4 LP
1220 X 1220 X 2000 VAULT	4T	8 LP
1525 X 1525 X 1000 VAULT RISER	4T	4 LP
1525 X 1525 X 2000 VAULT	4T	8 LP
1830 X 1830 X 1000 VAULT RISER	4T	4 LP
1830 X 1830 X 2140 VAULT	4T	8 LP
1980 X 1980 X 1000 VAULT RISER	4T	4 LP
1980 X 1980 X 2200 VAULT	4T	8 LP
2400 X 2400 X 1000 VAULT RISER	8T	4 LP
2400 X 2400 X 2380 VAULT	8T	8 LP
2800 X 2800 X 1000 VAULT RISER	8T	4 LP
2800 X 2800 X 1400 VAULT RISER	8T	4 LP
2800 X 2800 X 2800 VAULT	8T	8 LP

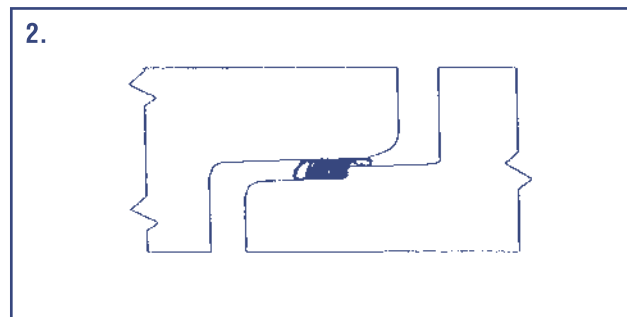
# Superseal Gaskets Installation

1. Ensure Bell, Spigot and Gasket are free from loose debris or foreign material.

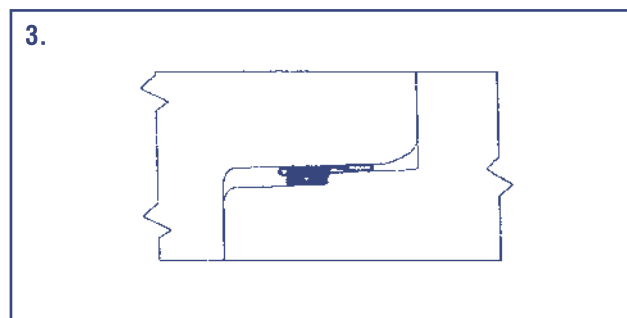
Stretch the gasket around the spigot, with the nose against the step, and the tube laying flat against the spigot. **DO NOT LUBRICATE.**



2. Align the spigot with the bell, and thrust the spigot home using suitable mechanical means. The homing process will cause the lubricated tube to “roll” over itself, above the compression section, allowing the pipe to slide forward.



3. Once fully homed, the compression section seals the total annular space; the rolling tube comes to rest within the small annular space - acting as a cushion against side loads, and the serrations act to resist pipe pull-out



## MATERIALS

Tylox<sup>®</sup> SuperSeal gaskets\* are available in the following materials:

- Isoprene

Optional Materials

- Nitrite (Oil Resistant)
- Isoprene / EPDM blend (Green Book & C425)
- Neoprene (Oil and Ozone Resistant)

Other materials may be available as special order.

**Contact Inland Pipe for your specific requirements**

## SPECIFICATIONS

Tylox SuperSeal gaskets\* are manufactured to meet material requirements of the following specifications:

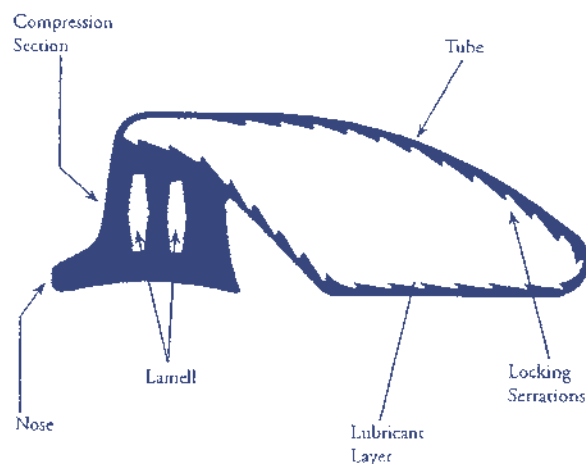
- ASTM C361, C425, & C443
- AASHTO M198.4
- CSA A257
- “Green Book”

Other specifications may be available as special order.

**Contact Inland Pipe for your specific requirements**

\*Tylox SuperSeal Gaskets are patented under US Patent 4934716

## ...in Round Pipe & Manholes





# Standard Installations

## RESEARCH PRODUCES NEW INSTALLATIONS

*This foldout presents new installation technology with respect to concrete pipe through four unique standard installations developed over 20 years of investigation and research into the behavior of concrete pipe in the buried condition. The Standard Installations provide both the designer and the installer with measurable and verifiable soil types and compaction levels for the material used in the installation. These new installations facilitate the design of a rational and cost-effective concrete pipe soil system by providing an optimum range of installation characteristics.*

**Versatile:** There is one word to describe the new standard installations, and that word is **VERSATILITY**. The range of installation types from 1 through 4 offer a concrete pipe designer the ability to tailor any individual project to suit specific site conditions and budgetary constraints.

In a Type 1 installation for example, the soil zone adjacent to the pipe and below the springline requires select materials with specified compaction limits. Through the use of this controlled soil envelope, a wide load distribution is achieved. In other words, a Type 1 installation uses this select material as an advantage in the design of the whole system—a situation which translates to a lesser dependence on inherent pipe strength, and therefore lower pipe material costs when compared to the same site with a lower quality installation.

On the other end of the spectrum, in areas where native material is suitable, but perhaps not of the highest grade (silts and low plasticity clays), a Type 4 installation can be chosen by the designer. This installation type requires little or no inspection, almost no compaction requirements on the material, and the versatility to use almost any type of native soil as backfill in the trench. The trade-off here is reduced backfill material costs, and greatly reduced installation costs in terms of manpower required, but greater dependence on inherent pipe strength.

Figure 1 illustrates this versatility in a graphical manner. Looking at a Type 1 installation, it can be seen that the dependence on installation is significant in comparison to the dependency on the pipe section.

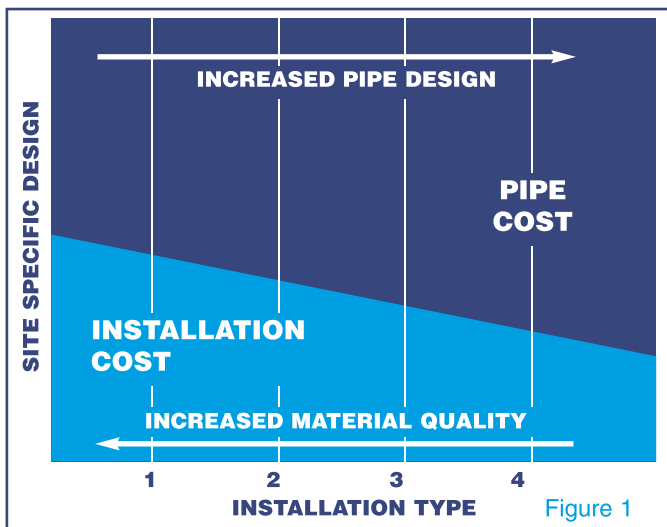


Figure 1

Conversely, in a Type 4 installation, a greater percentage of total dependency resides in the pipe section, while very little dependency is associated with material and installation. This graph is not meant to say that all four installation types are equivalent in terms of the total costs. By evaluating the ratio of pipe cost to backfill material cost, the four new standard installations can be used to optimize total expenditure by balancing the performance of the pipe-soil system.

**Conservative:** The design associated with the Standard Installations is founded in conservatism. The loads and pressures experienced by the pipe in the installed condition have been analyzed in depth and modeled through the use of the finite element analysis computer program, SPIDA (Soil-Pipe Interaction Design and Analysis). The SPIDA analyses are based on several key assumptions:

1. The worst case (embankment) loadings are used, and the same load factors used in the traditional AASHTO direct design procedure are still employed.
2. Voids are assumed to exist in the haunch zone of all four installation types. These voids are modeled into the SPIDA computer simulations used in the development of the design procedure.
3. In recognition of the variability of the loading characteristics, the new installations are based on the greatest predicted loads for design. Typical loads would likely be 10-20 percent less.
4. Through quantification of material and compaction requirements, a degree of uncertainty has been eliminated from the design assumptions – the new installations can, therefore, more accurately assess long-term performance of the system.

The new installations allow for better prediction of the loads and pressures which a pipe may experience during its life.

**Quantifiable:** One of the greatest benefits of the new installation types is that they are quantifiable, that is, they prescribe definite and measurable levels of acceptance. As is indicated in Figure 2, each of the new installations has specific materials requirements, and accompanying compaction levels, making them uniquely different, and prescribing clear and defined direction to the installer as to the requirements of a particular installation. These definitions provide direction to the engineer, owner, and contractor as to the installation factors impacting pipe performance.

# Standard Installations

## TECHNOLOGY LEADS TO STATE-OF-THE-ART BEDDINGS

*These four new Standard Installations represent the first major change in the recommended installation of concrete pipe in over 70 years. Many changes have taken place in the design, manufacture and construction method over the years, but none regarding recommended beddings for concrete pipe. The new beddings are state of the art installations based on over 20 years of comprehensive research and analysis of the factors which affect field performance.*

The four new installations reflect the many factors affecting the pipe-soil system. The research recognized the difficulty in obtaining good compaction in the haunch area below the pipe and assumed poorly compacted material in this area. One of the key factors affecting performance, identified by the research, is the support provided by the haunch and lower side area adjacent to the pipe. Because of its importance, the new beddings quantify the required compaction levels in this area. Improved backfilling procedures, compaction methods and introduction of modern testing equipment provide engineers the opportunity to use these new state of the art installations.

A bedding constructable in the underground utility environment is a necessity. There are more reasons for the new standard beddings. They are verifiable and quantifiable. The means to construct the beddings and the technology to measure the compaction levels are readily available.

If the pipe is installed in a trench or in a sub-trench within an embankment, the soils in the walls of the trench should have a firmness equivalent to the stiffness of the placed soils. This provision may require removal of soft soil, or soil with inadequate stiffness in the walls or foundation of the trench adjacent to the pipe.

## STANDARD INSTALLATIONS

*These new Standard installations identify four principal zones surrounding the lower half of the pipe, which are critical to the pipe-soil system. The four zones are the middle bedding, the outer bedding, the haunch and the lower side. The type of material (based on soil characteristics) and level of compaction varies with the installation type, i.e., 1,2,3 or 4, and the material utilized in construction of these important zones.*

**Installation - Type 4** Type 4 is intended for installations where the most cost effective design approach is to specify the minimal requirements for soil type and compaction, together with a pipe having sufficient strength to safely resist the increased structural effects that result from using low quality soils. Thus, Type 4 has little or no requirement for control of compaction and type of placed soil used in the bedding and haunch areas, except if silty clay soils are used in the haunch and outer bedding zones, they must be compacted. It is desirable to scarify (loosen) hard native soils before placing the pipe.

**Installation - Type 3** Type 3 permits the use of soils in the haunch and bedding zones having easily attained compaction requirements, justifying less stringent inspection requirements with granular and some native soils. Silty clays may be used in the haunch zone if adequately compacted. In addition to the foundation similar to Type 4, a bedding layer with a minimum thickness of 75 millimeters is required to avoid placing the pipe directly on hard or variable subgrade.

**Installation - Type 2** Type 2 is a standard installation where certain native soils are permitted to be used with proper compaction in the haunch and bedding zones. Adequately compacted native silty granular soils or select granular soils may be used in the haunch and outer bedding zones. This is intended to allow the use of soil frequently found at the site. Any natural soil adjacent to the pipe should have a firmness equivalent to the placed soils. Foundation and bedding requirements are similar to Type 3.

**Installation - Type 1** Type 1 requires well compacted, select granular soil to be placed in the haunch and bedding zones. The structural design of the pipe section then takes advantage of the support provided by this high quality soil envelope, making this installation often cost effective for deep bury applications and for pipe 600 millimeters and larger.

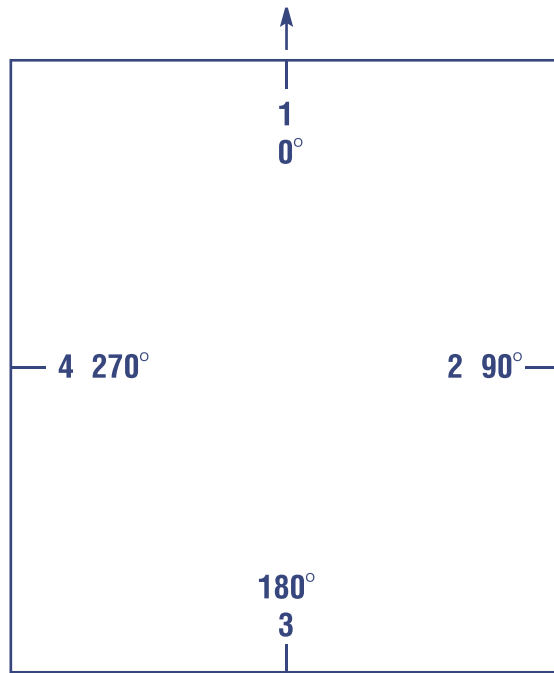
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**1200mmØ M.H. TAKE OFF WORKSHEET**



PROJECT # :		CUSTOMER:	
PROJECT NAME:			
CONSULTANT:		DRAWN BY:	
DATE REQUESTED:		DATE:	

FROM:	PIPE LGTH: _____ m	PIPE Ø: _____ mm	PIPE TYPE: CONC(C76-____) SDR U/R			
M/H #	INVERT ELEV.	MANUF. ELEV.	PIPE SIZE & TYPE			
	1.	1. $\varnothing$	1.	mmØ	CONC	SDR U/R
	2.	2.	2.	mmØ	CONC	SDR U/R
	3.	3.	3.	mmØ	CONC	SDR U/R
	4.	4.	4.	mmØ	CONC	SDR U/R
	5.	5.	5.	mmØ	CONC	SDR U/R
	6.	6.	6.	mmØ	CONC	SDR U/R
	RIM:	NOTES:				
TOTAL HEIGHT:						
TO:	PIPE LGTH: _____ m	PIPE Ø: _____ mm	PIPE TYPE: CONC(C76-____) SDR U/R			
M/H #	INVERT ELEV.	MANUF. ELEV.	PIPE SIZE & TYPE			
	1.	1. $\varnothing$	1.	mmØ	CONC	SDR U/R
	2.	2.	2.	mmØ	CONC	SDR U/R
	3.	3.	3.	mmØ	CONC	SDR U/R
	4.	4.	4.	mmØ	CONC	SDR U/R
	5.	5.	5.	mmØ	CONC	SDR U/R
	6.	6.	6.	mmØ	CONC	SDR U/R
	RIM:	NOTES:				
TOTAL HEIGHT:						
TO:	PIPE LGTH: _____ m	PIPE Ø: _____ mm	PIPE TYPE: CONC(C76-____) SDR U/R			
M/H #	INVERT ELEV.	MANUF. ELEV.	PIPE SIZE & TYPE			
	1.	1. $\varnothing$	1.	mmØ	CONC	SDR U/R
	2.	2.	2.	mmØ	CONC	SDR U/R
	3.	3.	3.	mmØ	CONC	SDR U/R
	4.	4.	4.	mmØ	CONC	SDR U/R
	5.	5.	5.	mmØ	CONC	SDR U/R
	6.	6.	6.	mmØ	CONC	SDR U/R
	RIM:	NOTES:				
TOTAL HEIGHT:						
TO:	PIPE LGTH: _____ m	PIPE Ø: _____ mm	PIPE TYPE: CONC(C76-____) SDR U/R			



MANHOLE \_\_\_\_\_ ACCESS OPENING SIZE: 5A / 710

VAULT SIZE \_\_\_\_\_ RIM \_\_\_\_\_

• STANDARD DESIGN GOOD TO 8.0m COVER OVER ROOF

1) Size \_\_\_\_\_ Invert \_\_\_\_\_ CON / PVC / ULR

2) Size \_\_\_\_\_ Invert \_\_\_\_\_ CON / PVC / ULR

3) Size \_\_\_\_\_ Invert \_\_\_\_\_ CON / PVC / ULR

4) Size \_\_\_\_\_ Invert \_\_\_\_\_ CON / PVC / ULR

Contractor \_\_\_\_\_

Job Name \_\_\_\_\_

Job Number \_\_\_\_\_

Date \_\_\_\_\_

Required \_\_\_\_\_



# INLAND PIPE Spyhill Facility

## The **most advanced** precast drainage material production facility in North America

In December of 2011 **Inland Pipe** completed the expansion of the Spyhill Pipe Production Facility located in Calgary. The Spyhill Plant is the most advanced precast drainage material production facility in North America.

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- High capacity pipe and manhole production equipment
- State of the art robotic pipe handling equipment
- Advanced concrete mixing systems
- Flying bucket concrete delivery system
- Large wetcast area
- Moving floor kiln system
- Capable of producing pipe, boxes and manholes up to 3600 mm



*State of the art robotic pipe handling*



*High capacity automated production*



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