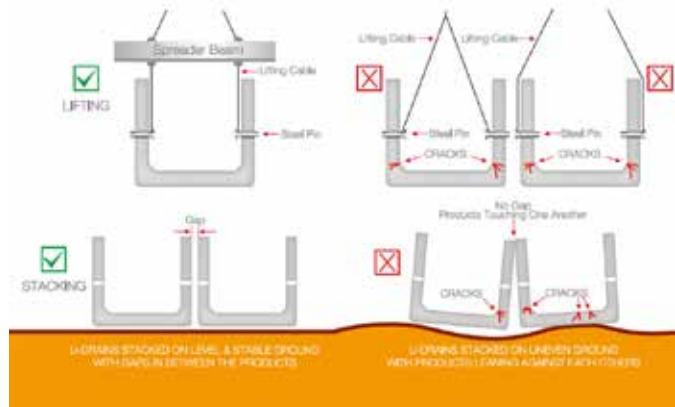
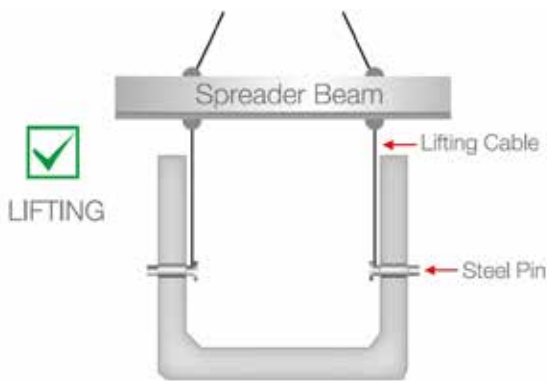




GSG R.C. BOX CULVERT

GSG R.C. BOX CULVERT



HANDLING METHODS

Handling

Lifting holes (weep holes) are provided for every box culvert wall and lifting hooks are provided at both ends of lids for handling purpose. Whereas, it is recommended that a spreader beam to be used with steel pins and lifting cables when slinging the inverts to avoid cracking at junction of side wall and base joint.

Stacking

All inverts should be stacked uniformly on leveled ground to avoid any damages. Lids should be supported with timber bearers at both end.

Laying

Box Culverts should be laid on the prepared bedding to ensure uniform support force under the full width and length of the culverts.

Jointing

GSG box culverts are supplied with plain butt joints. Cement sand mortar is normally used to fill the gap between box culverts.

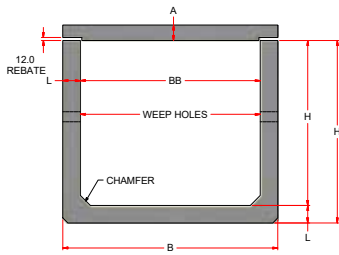
Backfilling

Backfilling around culvert units should be done after the lid of the culvert has been installed and it should be carried out in even layers on both sides simultaneously with selected free draining backfill material.

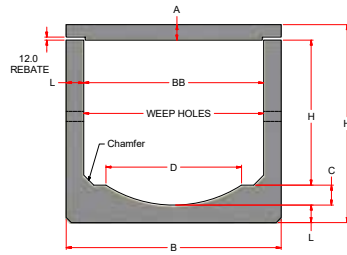


PRECAST REINFORCED CONCRETE BOX CULVERT

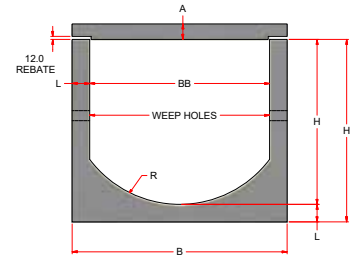
GSG R.C. box culvert are manufactured under stringent quality control and available in both Standard Size and Super-Size category in the length of 1 metre. The normal size R.C. box culvert are available in the range of nominal width 300mm to 1800mm. Whereas, for super-size R.C. box culvert are in the range of nominal width between 2100mm to 3600mm and above. Besides that, GSG R.C. box culvert also available in both WITH and WITHOUT Dry Weather Flow (DWF) channels.



Without Dry Weather Flow



With Dry Weather Flow



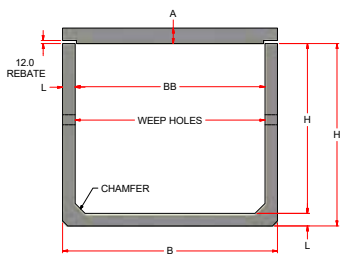
Nominal Size		Dimensions					
		Box culvert without DWF			Box culvert cast with DWF		
b	H	B	H ¹	L/T	C	D	H ²
Milimeters (mm)							
2100	600	2460	780	180	225	1075	1005
	750		930				1155
	900		1080				1305
	1200		1380				1605
	1500		1680				1905
	1800		1980				2205
	2100		2280				2505
2400	600	2760	780	180	225	1075	1005
	750		930				1155
	900		1080				1305
	1200		1380				1605
	1500		1680				1905
	1800		1980				2205
	2100		2280				2505
2700	600	3060	780	180	225	1075	1005
	750		930				1155
	900		1080				1305
	1200		1380				1605
	1500		1680				1905
	1800		1980				2205
	2100		2280				2505
3000	600	3360	780	180	225	1075	1005
	750		930				1155
	900		1080				1305
	1200		1380				1605
	1500		1680				1905
	1800		1980				2205
	2100		2280				2505
3300	600	3660	780	180	225	1075	1005
	750		930				1155
	900		1080				1305
	1200		1380				1605
	1500		1680				1905
	1800		1980				2205
	2100		2280				2505
3600	600	3960	780	180	225	1075	1005
	750		930				1155
	900		1080				1305
	1200		1380				1605
	1500		1680				1905
	1800		1980				2205
	2100		2280				2505

SUPER SIZE BOX CULVERT

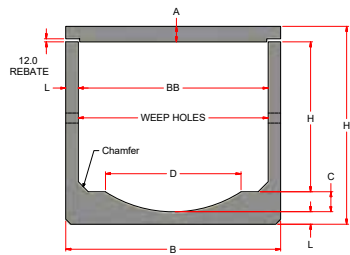
Table Dimensions Box Culvert Cast with Concrete Cover Lid Slab.

DESIGN & SPECIFICATIONS

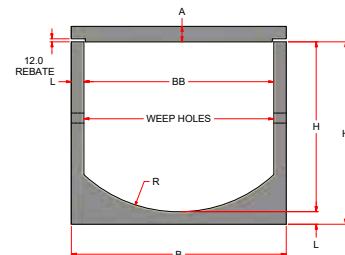
1. The structural design of **GSG** Precast R.C. box culvert is in accordance with MS 1293: Part 1: 1992.
2. Design loading requirements for GSG box culvert are in accordance with BS 5400: Part 2: 1978.
3. **GSG** box culverts are made from high strength concrete with a 28 days characteristic strength of 35-45 N/mm².
4. Concrete cover to reinforcement for:
 - Standard Size Box Culverts = 25mm
 - Super-Size Box Culverts = 30mm
5. Coefficient of the earth lateral pressure at rest = 0.5 and the bulk density of soil = 19kN/m³.
6. **GSG** Standard Size Box Culverts also comply with proof load test of 112.5kN over an area of 320mm x 320mm placed at any position on the culvert lid in accordance with MS 1293: Part 1.
7. Hydrostatic pressure is relieved by provision of the weep holes along the centerline of the invert wall.
8. **GSG** box culverts are designed to withstand a standard 2m (max.) of superimposed backfill depth and 45 units of HB vehicle live load.
9. All **GSG** R.C. Box Culverts are batched for sampling and tested strictly according to MS 1293: Part 1: 1992 to ensure the its quality.
10. For other design requirements and specifications can be checked with our Marketing Department.



Without Dry Weather Flow



With Dry Weather Flow



Nominal Size	Dimensions							
	Box culvert without DWF		Box culvert cast with DWF			Lid Slab Cover		
b	H	B	H ¹	L/T	C	D	H ²	A
Millimeters (mm)								
300	300	430	495	65	65	150	560	100
375	300	375	400				400	100
	375		475	475	100			
450	300	580	400	75	75	300	475	100
	375		475				475	
	450		550				550	
600	300	740	495	70	80	300	575	125
	375		500				500	
	450		575				575	
	600		725				725	
750	300	750	500	75	80	300	500	125
	450		575				575	
	600		725				725	
	750		875				875	
900	300	1070	510	85	80	450	510	125
	450		575				575	
	600		725				725	
	750		875				875	
1200	300	1400	550	100	225	1075	775	150
	450		600				600	
	600		750				750	
	750		900				900	
	900		1050				1050	
	1050		1200				1200	
1500	300	1720	590	110	225	1075	815	180
	450		630				630	
	600		780				780	
	750		930				930	
	900		1080				1080	
	1050		1230				1230	
	1200		1380				1380	
	1350		1530				1530	
	1500		1680				1680	
	1800		1830				1830	
1800	600	2030	895	115	225	1075	895	180
	750		930				930	
	900		1080				1080	
	1050		1230				1230	
	1200		1380				1380	
	1350		1530				1530	
	1500		1680				1680	
	1650		1830				1830	
1800	1980	1980						

STANDARD SIZE BOX CULVERT
Table Dimensions Box Culvert Cast with Concrete Cover Lid Slab.