

CSP20 Headwall Range

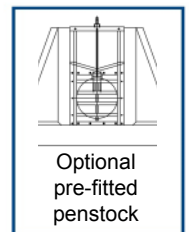
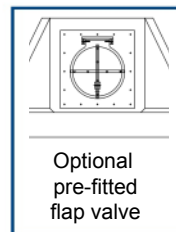
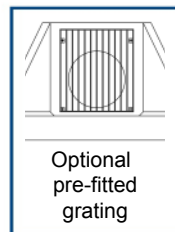
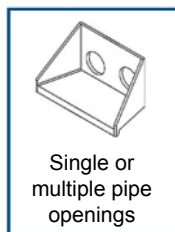
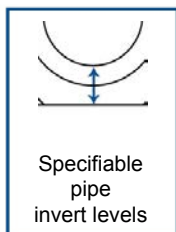
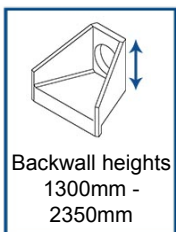
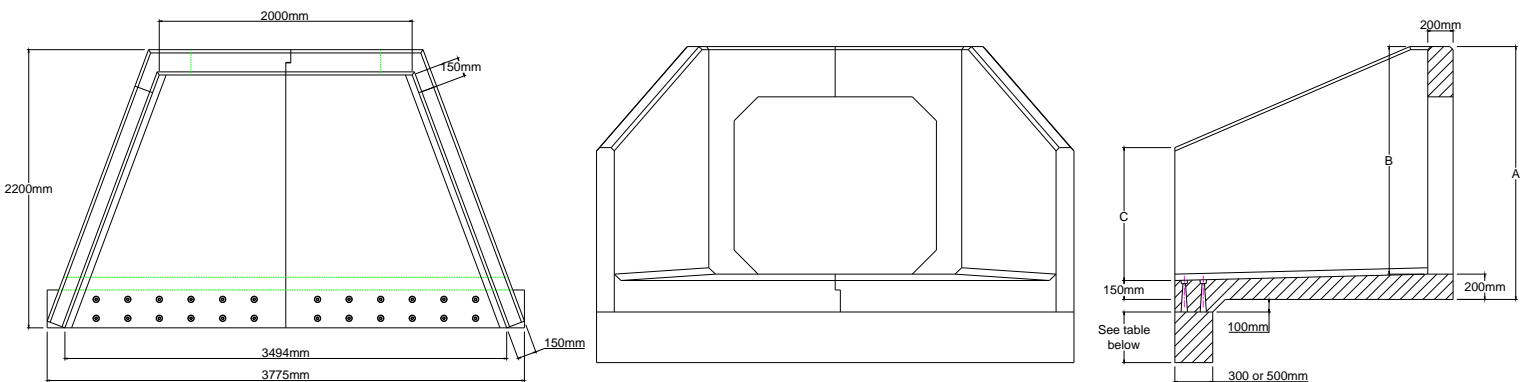
Max Internal Opening 1900 x 1750mm
1300mm - 2350mm Backwall Height

300 and 500mm Thick Toe

The Althon Culvert Headwall Range CSP20 will accommodate box culverts with a maximum internal dimension of 1900mm wide x 1750mm high. Available with four standard backwall heights 1300mm, 1650mm, 2000mm and 2350mm. CSP20 precast headwall units can be factory fitted with a range of accessories such as flap valves, penstocks, Kee Klamp® handrails and a selection of gratings depending on the application.

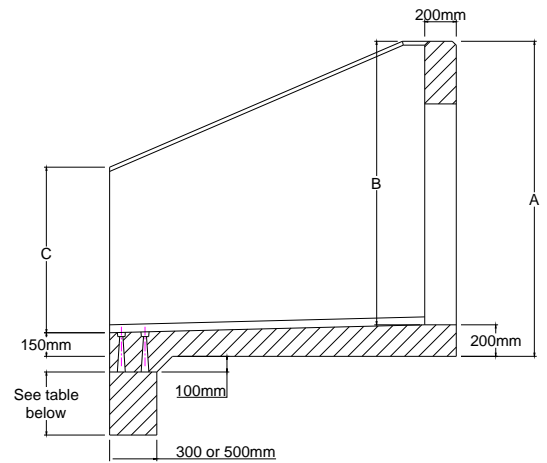
Our CSP Culvert Headwall Range is available with toe extensions either 300 or 500mm thick with depths ranging from 400 to 1000mm.

Optional Kee Klamp handrail and toe



CSP20 Headwall Range

Max Internal Opening 1900 x 1750mm
1300mm - 2350mm Backwall Height



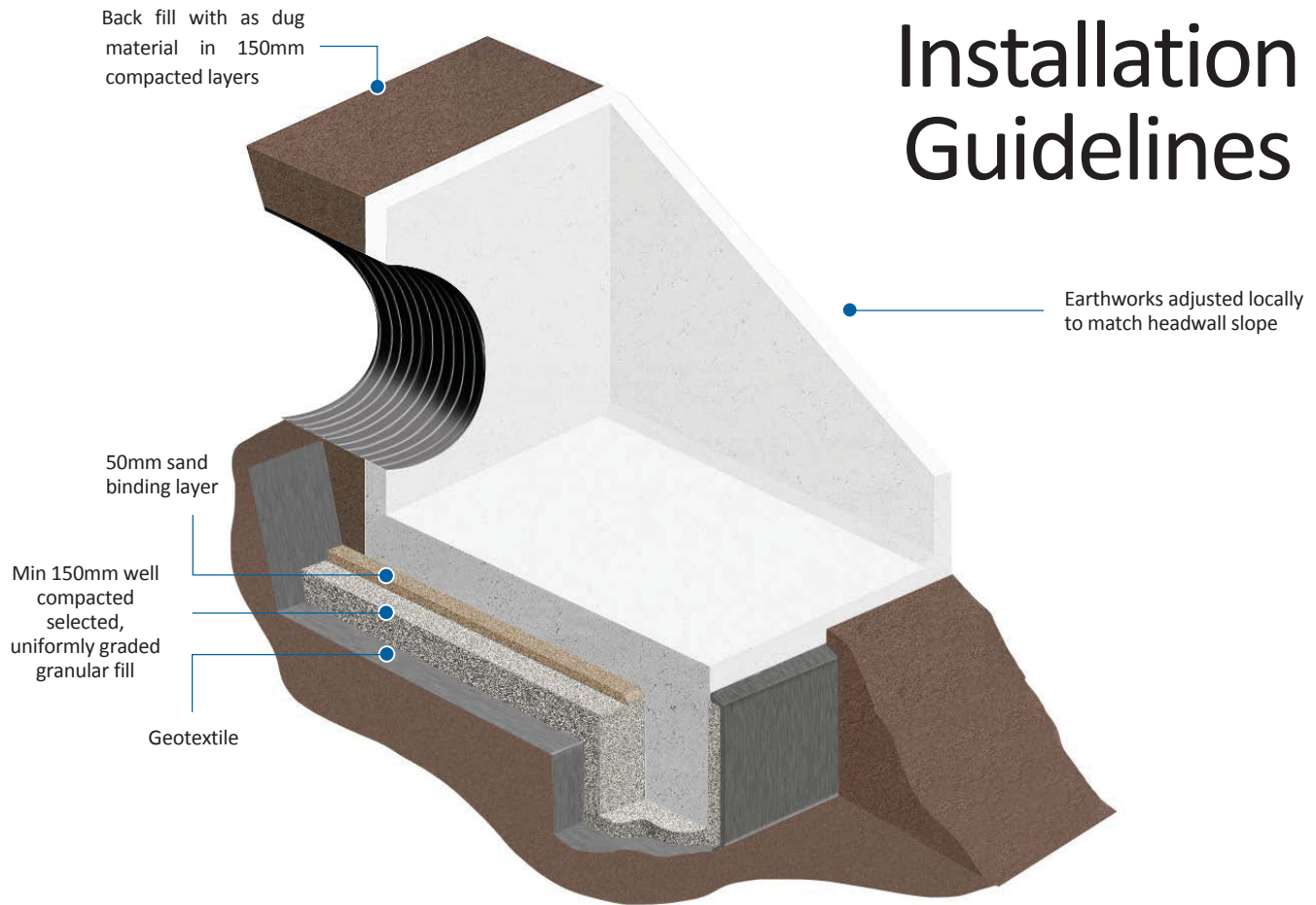
300mm Thick Toe

Headwall Ref	Back Wall Height A	Back Wall Height B	Front Wall Height C	Wing Wall Profile	Weight	Weight with Toe			Max Internal PCC Box Culvert
						400mm	650mm	950mm	
	mm	mm	mm		kg	kg	kg	kg	Width x Height
									mm
CSP20A	1300	1100	350	1:2.3	5445	6540	7225	8045	1900 x 700mm
CSP20B	1650	1450	350	1:1.6	5995	7090	7775	8595	1900 x 1050mm
CSP20C	2000	1800	350	1:1.24	6645	7740	8425	9245	1900 x 1400mm
CSP20D	2350	2150	350	1:1	7305	8400	9085	9905	1900 x 1750mm
CSP20E	1300	1100	1150	Horizontal	5960	7055	7740	8560	1900 x 700mm
CSP20F	1650	1450	700	1:2.3	6300	7395	8080	8900	1900 x 1050mm
CSP20G	1650	1450	1500	Horizontal	6870	7965	8650	9470	1900 x 1050mm
CSP20H	2000	1800	700	1:1.6	6955	8050	8735	9555	1900 x 1400mm
CSP20I	2000	1800	1050	1:2.3	7205	8300	8985	9805	1900 x 1400mm
CSP20J	2000	1800	1850	Horizontal	7780	8875	9560	10380	1900 x 1400mm
CSP20K	2350	2150	700	1:2.24	7615	8710	9395	10215	1900 x 1750mm
CSP20L	2350	2150	1050	1:1.6	7865	8960	9645	10465	1900 x 1750mm
CSP20M	2350	2150	1400	1:2.3	8115	9210	9895	10715	1900 x 1750mm
CSP20N	2350	2150	2200	Horizontal	8685	9780	10465	11285	1900 x 1750mm

500mm Thick Toe

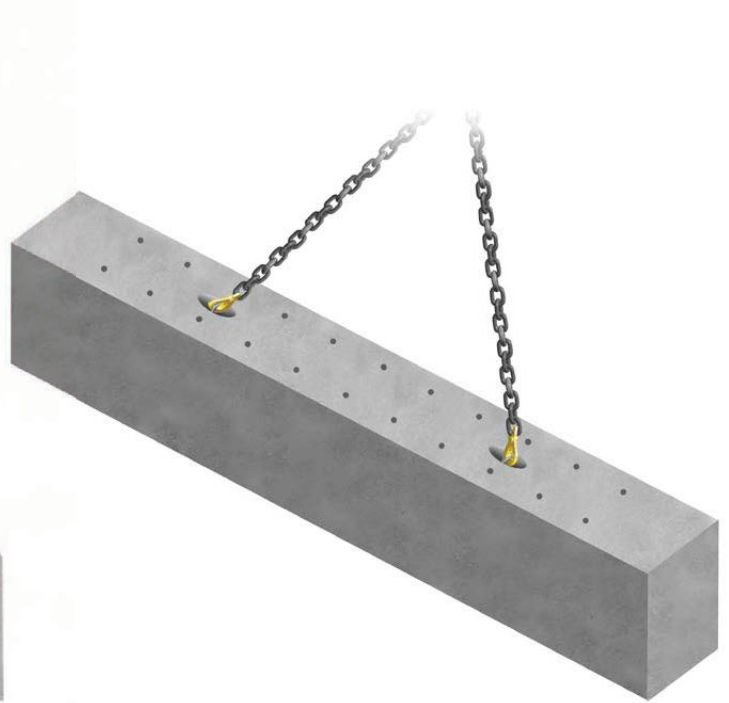
Headwall Ref	Back Wall Height A	Back Wall Height B	Front Wall Height C	Wing Wall Profile	Weight	Weight with Toe			Max Internal PCC Box Culvert
						500mm	750mm	1000mm	
	mm	mm	mm		kg	kg	kg	kg	Width x Height
									mm
CSP20A	1300	1100	350	1:2.3	5445	7405	8545	9685	1900 x 700mm
CSP20B	1650	1450	350	1:1.6	5995	7955	9095	10235	1900 x 1050mm
CSP20C	2000	1800	350	1:1.24	6645	8605	9745	10885	1900 x 1400mm
CSP20D	2350	2150	350	1:1	7305	9265	10405	11545	1900 x 1750mm
CSP20E	1300	1100	1150	Horizontal	5960	7920	9060	10200	1900 x 700mm
CSP20F	1650	1450	700	1:2.3	6300	8260	9400	10540	1900 x 1050mm
CSP20G	1650	1450	1500	Horizontal	6870	8830	9970	11110	1900 x 1050mm
CSP20H	2000	1800	700	1:1.6	6955	8915	10055	11195	1900 x 1400mm
CSP20I	2000	1800	1050	1:2.3	7205	9165	10305	11445	1900 x 1400mm
CSP20J	2000	1800	1850	Horizontal	7780	9740	10880	12020	1900 x 1400mm
CSP20K	2350	2150	700	1:2.24	7615	9575	10715	11855	1900 x 1750mm
CSP20L	2350	2150	1050	1:1.6	7865	9825	10965	12105	1900 x 1750mm
CSP20M	2350	2150	1400	1:2.3	8115	10075	11215	12355	1900 x 1750mm
CSP20N	2350	2150	2200	Horizontal	8685	10645	11785	12925	1900 x 1750mm

Installation Guidelines



- 1 Ensure that first or last spigot/butt or socket/butt pipe that is to be fitted to the Headwall is in position and free from backfill.
- 2 Dig out the bank of the watercourse to take the size of the headwall making sure that the Headwall will not protrude into the path of the water flow. The angle of the excavation to the rear of the Headwall should be roughly the same as the existing bank profile.
- 3 Dig out sufficient size trench to take the toe along the front of the foundation.
- 4 Line toe foundation with Geotextile then place selected, uniformly graded granular fill in the base and compact well. Lift Toe into position and level then fill around the toe with selected, uniformly graded granular fill and compact well. Insert supplied threaded rod into the sockets cast into the top of the toe.
- 5 Line the base of the rest of excavation with Geotextile then place a minimum bed of 150mm Class 6A or 6K* Selected Well Graded Granular Material on the base & compact well, especially around the back of the toe, then a 50mm topping of fine material (Class 6L*) to ensure units are level and stable. Lift Headwall into position, over the end of the pipe & locate over threaded rod protruding from the toe and level. Place washer over threaded rod (SFA10 8 No) in recess in Headwall apron and tighten nut. Fill recess with high strength non-shrink grout.
- 6 The pipe should be flush with the front of the back wall if fitting grating or flap valve, or protruding by 50mm if not.
- 7 Shim the pipe until it is central within the opening then fill void with sand cement mortar or high strength non-shrink grout.
- 8 If flap valve or grating is supplied, this will need to be removed before the pipe is inserted and sealed into place. Then reinstall using stainless steel fixing bolts into cast in sockets. (When bolting flap valves against headwall, use a good quality sealant but do not over tighten bolts or distortion may occur resulting in the valve not seating correctly.
- 9 Backfill pipe section first then backfill all around Headwall with as dug material. Make good at front of toe with as dug material ensuring river bank is returned to its original profile. It may be necessary to provide protection in front of the toe, please refer to engineers' recommendation.

*Manual of Contract Documents for Highway Works: Volume 1 (MCHW1), Specification for Highway Works, Series 600 (Nov 09)



Rapid-Lift Lifting Anchors

All Althon CSP Headwalls and Toes are fitted with Rapid-Lift lifting anchors. The Althon Rapid-Lift system allows the CSP Headwalls & Toes to be offloaded, transported and located in their final position without the need for any specialised lifting equipment. Standard lifting hooks and chains can be used with the three lifting points (two lifting points on Toes). The minimum chain leg length for all units is 1500mm.

Althon Precast Concrete CSP Headwall Safety Sheet

Althon Limited manufacture pre-cast concrete SFA Headwalls using :-

6 - 14mm aggregate · 0/4mm Sharp sand · Portland cement BS EN 197-1- Cem 1 52.5 · Cryso Fluid Premia 205 Varit Superplasticiser

When units have been manufactured and cured they are in a chemically inert state. But the following information should be considered.

- It is advisable to wear toe cap safety footwear when handling any concrete products. Please refer to your company Safety Policy for specific details on manual handling.
- When cutting with masonry grinding discs or drilling with masonry drill bits it is necessary to wear eye protection and a dust mask. It is also recommended to wear ear protection during either of these two processes.
- Due to some units having sharp edges it is advisable to wear protective gloves when handling Althon products.
- When fitting or removing some of the larger accessories it is necessary to use a mechanical system to prevent risk of back injury.

Maintenance of CSP Headwalls

With respect to the maintenance of any exposed surfaces of concrete components, only routine (Annual) cleaning may be necessary with a Power Washer and possibly some mild detergent to any exposed surfaces to maintain appearance; however all sites are unique and environmental impact of cleaning should be taken into account. Where cleaning is required and environmental conditions prevent mild detergent, using clean water and a power washer/stiff brush should suffice. Concrete units are often expected to “weather” and some coverage will help them to blend into their environment.

If damage to the structure of any pre-cast concrete components occurs we recommend their replacement not repair. If there is minor damage to corners during their normal life by grass cutting equipment etc. then repair with an epoxy compound such as ‘Mason Mate 0868PR380 Polyester Resin’.

To dispose of any Pre-Cast concrete components the preferred method is to recycle the material by crushing and grading, but if the quantity is too small to be cost effective then disposal in conventional landfill is acceptable as all the concrete components are inert with regard to having any environmental impact.

Maintenance of Galvanised Grates & Handrails.

Annual/bi-annual visual checks are basic recommendations. If gratings are in a water course subject to a higher level of debris/weed, then more regular checks may be required. Clearing of debris/weeds from the grate will ensure no disruption to the flow, or backing up of the water course. Handrails should also only require a visual inspection – annually or at the same time as the headwall & grates.