

We've determined that our **SCA2 arch** will work well here, it is a standard AIL Design used and tested in the past with great success. This **7.25m x 3.63m structure** offers approximately a 50% increase in end area, which should significantly enhance hydraulic capacity. I recommend a hydrotechnical engineer perform some detailed calculations to confirm the exact hydraulic requirements for the site. I have included a design of this arch which requires **3.5m of cover**, see attached.

Given your area, I highly recommend using a **polymer coating**, at least on the lower two-thirds of the structure, to ensure long-term durability and resistance to potential corrosion. Alternatively, a fully galvanized structure could be considered if we can confirm that the normal water level will consistently remain below the footings and will not come into contact with the arch, especially given the larger end area provided by this arch option. An all-galvanized structure would reduce the overall price, and I have included a budget price for this option as well.

For the footings, based on a bearing capacity of 275 SLS / 350 ULS, the required footing dimensions for the arch would be approximately **2.6m wide by 0.6m thick**. My footing pricing is based on these specifications.

Budget Quote Details

Footing Price

For the steel arch, there will be two precast footings, each 18m long, for a total combined length of 36m. A total of 9 trucks is needed to ship the footings at a total price of **\$331,826.00 + HST**. Please note that the lead time for the footings is 8-12 weeks from PO confirmation.

Footing Note

It's worth noting that **cast-in-place footings may offer a more cost-effective solution** compared to the precast option. Deep Construction can provide a cost for this in their installation quote. AIL is only able to provide pricing for precast footing options.

Arch Price (SCA2, 7.25m x 3.63m, including polymer coating on lower plates)

The budget price for an 18m long SCA2 arch (7.25m x 3.63m) including polymer coating on the lower plates is **\$165,000.00 + HST**. This equates to approximately **\$9,166.67 per meter** (\$165,000.00 / 18m).

Budget Price for All Galvanized Arch (SCA2, 7.25m x 3.63m)

The budget price for an 18m long SCA2 arch (7.25m x 3.63m) with an all-galvanized finish is **\$138,000.00 + HST**. This equates to approximately **\$7,666.67 per meter** (\$138,000.00 / 18m).

Total Budget Price Options

- **Total Polymer option with footings: \$496,826.00 + HST**
- **Total Galvanized option with Footings: \$469,826.00 + HST**

Best Regards,

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