

CONSTRUCTION METHODOLOGY STATEMENT

Introduction

This sketch relates to the Cavan Regional Sports Complex. The purpose of this sketch is to communicate an indicative construction sequence for the road bridge proposed as part of the scheme. The proposed bridge is a single span integral reinforced concrete bridge, supported on piled foundations. For further information, please refer to the following design drawings produced under separate cover.

- CRSP-DID-ZZ-XX-DR-C-0001 (Design ID)
- CRSP-MCA-00-00-DR-C-1100 (McAdam)

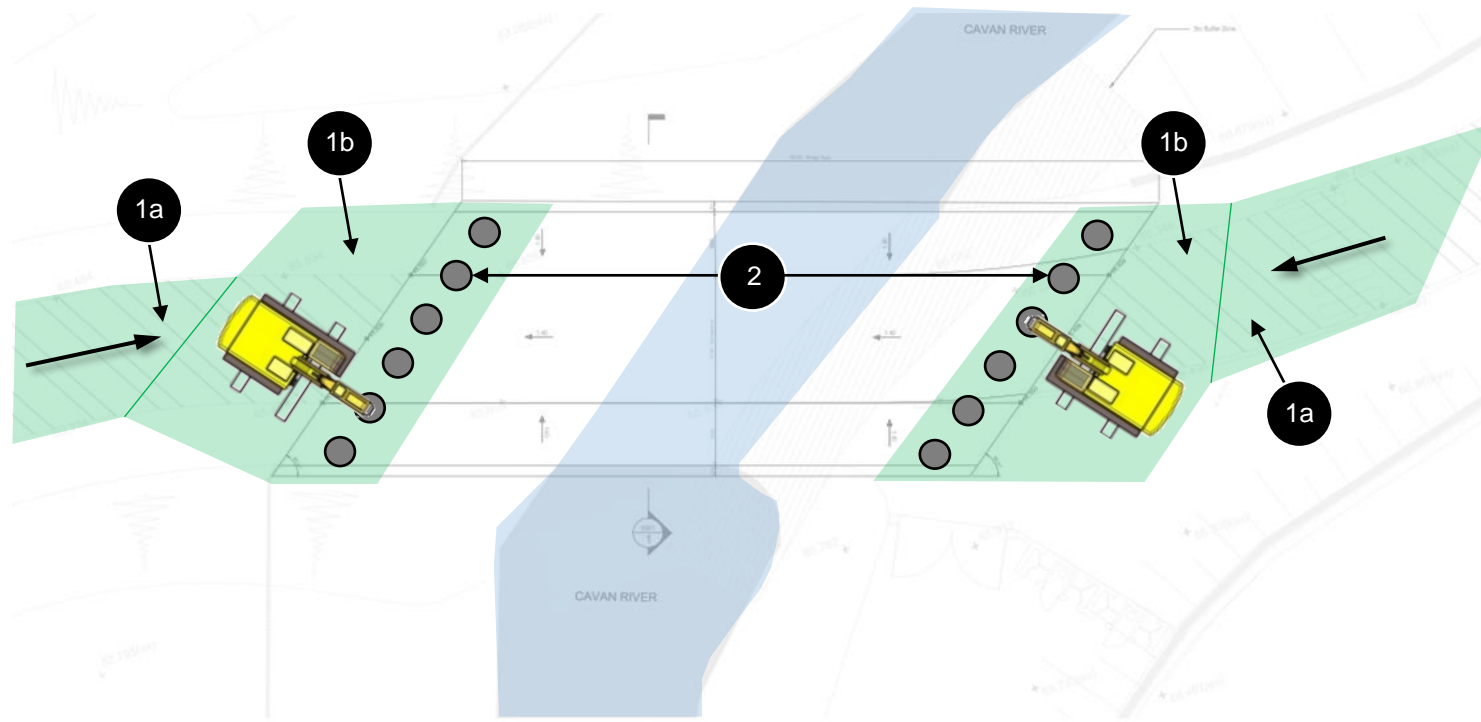
Preliminary Construction Sequence

The construction sequence can be broadly broken into the following key stages:

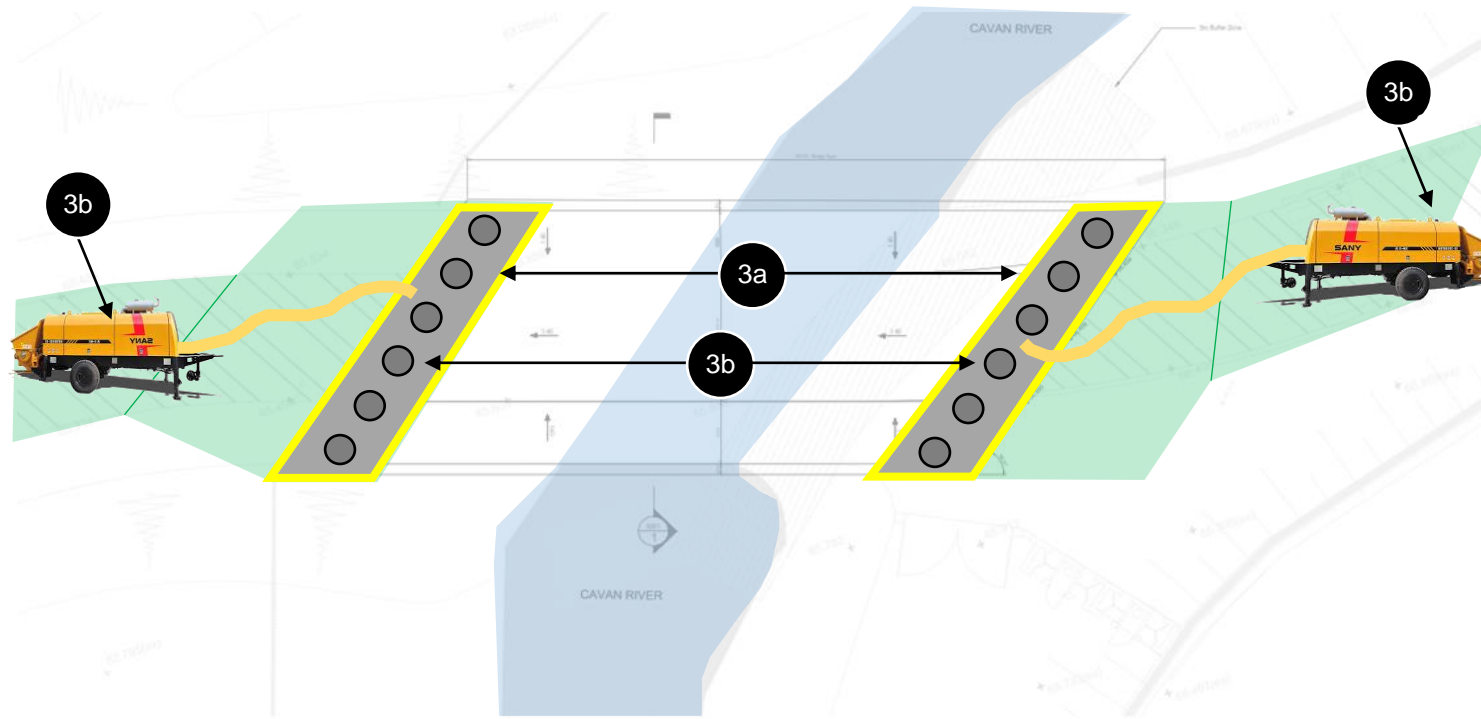
Stage 1 – The first stage of the works will require enabling excavation to facilitate construction of the foundations. This will include the construction of ramped accesses (1a) and granular working platforms in support of tracked site plant. A geotextile layer would be placed over the existing ground surface prior to placement of any imported granular fill. The Contractor must ensure that any imported fill is appropriately graded and free of contaminants.

Stage 2 – Installation of bored / augured piles to design depth, leaving projecting reinforcement to subsequently tie into pile cap. The use of a bored / augured pile solution results in a reduction in noise and ground vibration, thereby minimising the impact on the environment.

Stage 3 – Formwork and reinforcement tied to the integral RC for the precast beams (3a). It is proposed that the Contractor would pump concrete to the proposed foundation locations to ensure a controlled pour, minimising the risk of concrete contamination to the river (3b).



STAGE 1 & STAGE 2



STAGE 3

Legend

- Granular Working Platform / Access Ramps
- Integral RC Abutment
- Carriageway Surface
- Waterproofing
- Pile Foundation
- Construction Sequence Reference

Please note, the layout detailing the locations of each stage of the construction sequence should be considered indicative only and subject to development at detailed design stage. All in ground and foundation works are proposed to be carried out in Spring / Summer, where the probability of adverse weather conditions is considered low.

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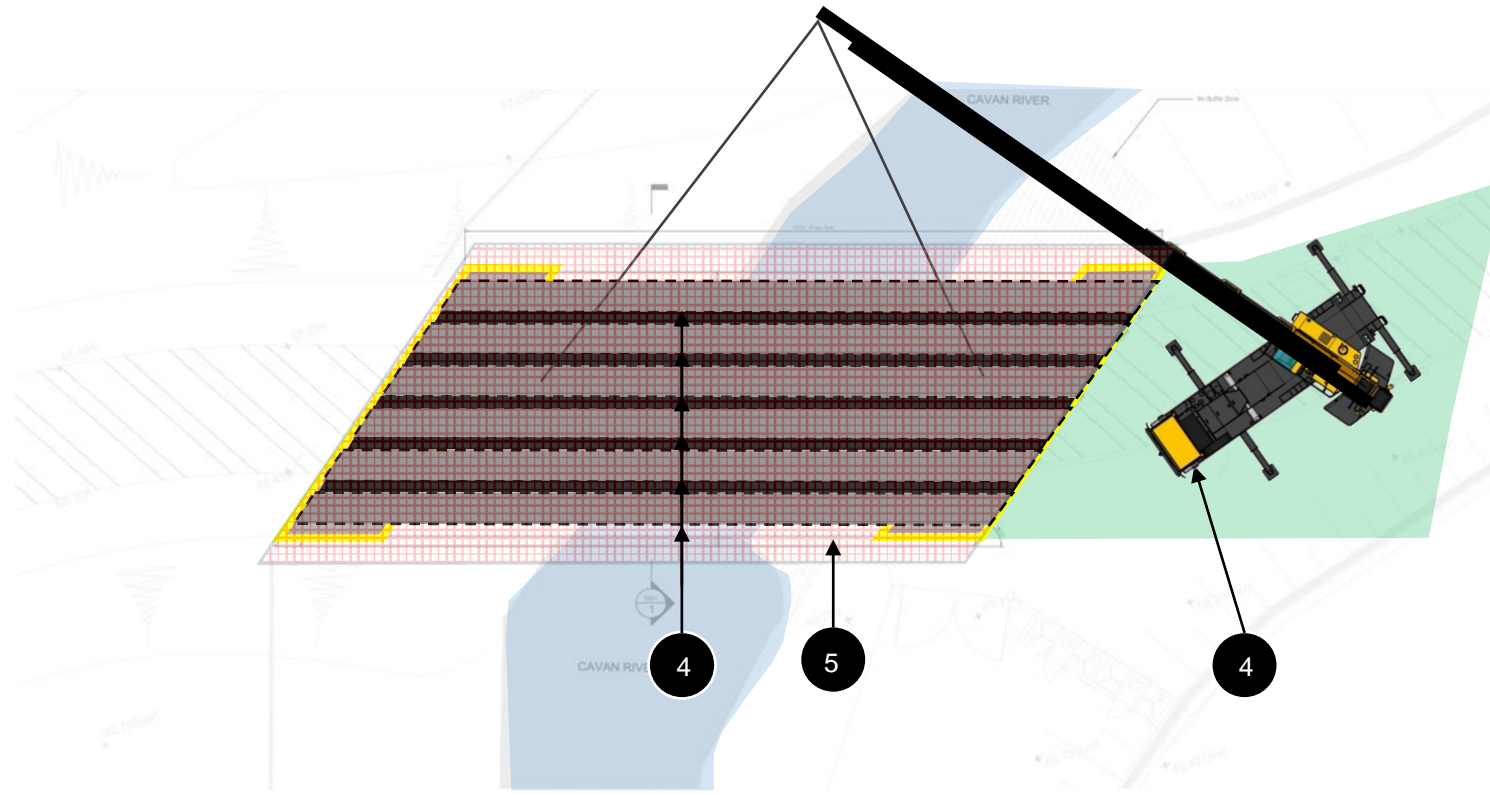
Preliminary Construction Sequence

An indicative construction sequence for the proposed bridge is as outlined below:

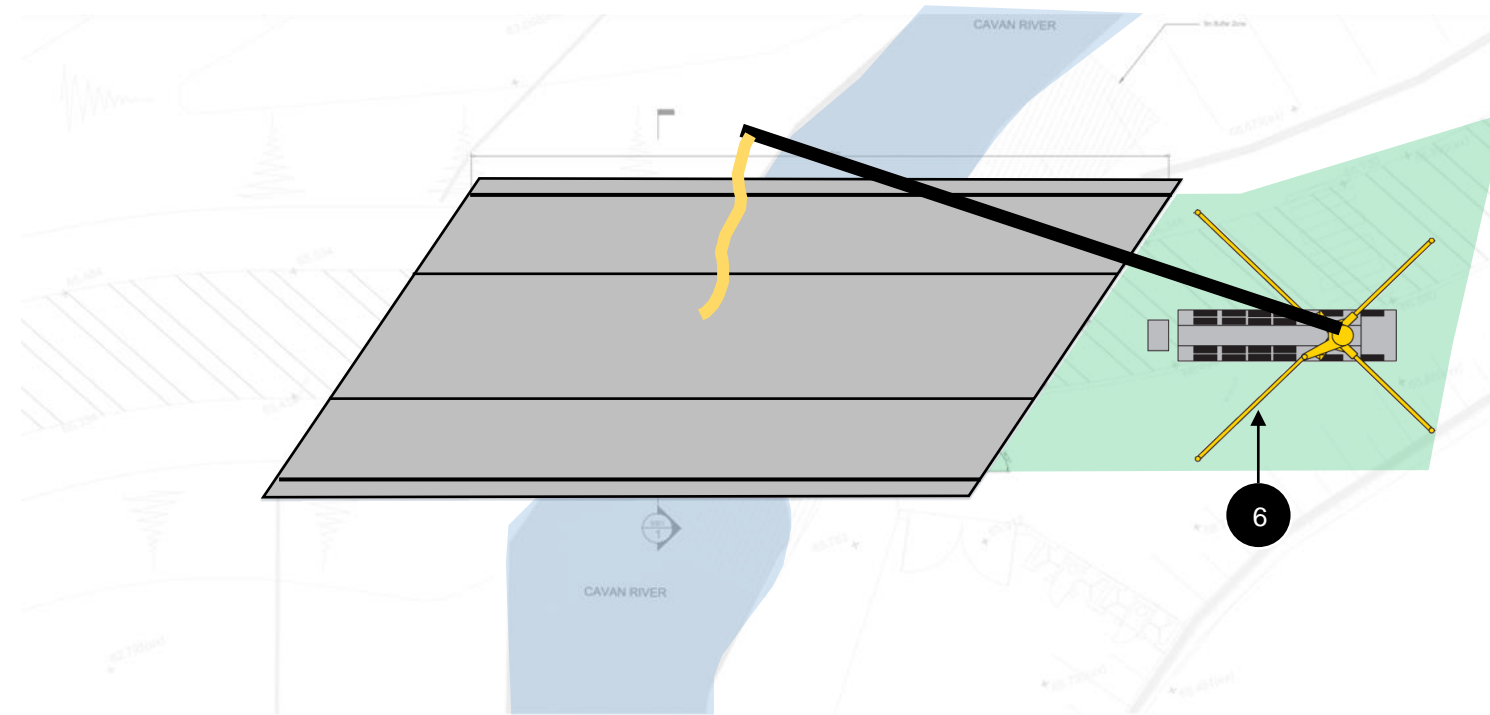
Stage 4 - Transportation and lifting of W beams into place onto the abutments. Beams will be temporarily supported on bearing/grout pads. The use of pre-cast concrete beams as the main load bearing members spanning the river, reduces the risk of contamination of the watercourse by minimising the quantity of in-situ concrete required in the deck construction. In addition, the beams are designed to support the wet weight of the in-situ concrete deck pour. Therefore, there is no requirement to introduce formwork or falsework within the watercourse during the deck construction.

Stage 5 - Tying of reinforcement and casting of deck monolithically to form a jointless integral construction between the precast beams and abutments. All reinforcement tying can be completed from the top surface of the pre-cast beams, minimising the risk of falling debris into the river. By adopting a jointless integral construction, the long-term risk of contamination to the watercourse is also reduced, by minimising surface contaminant pathways. In addition, this construction form does not require formal bearings, therefore reducing the need for ongoing maintenance works and inspection within the sensitive river environment.

Stage 6 - In-situ reinforced concrete pour to the bridge deck would commence. As before, the deck construction would be carried out using a controlled concrete pump and completed in a single pour, to minimise the risk of contamination. It is anticipated given the scale of the pour (~100m³), that a boom pump would be used for this operation.



STAGE 4 & STAGE 5



STAGE 6



Legend

- Granular Working Platform / Access Ramps
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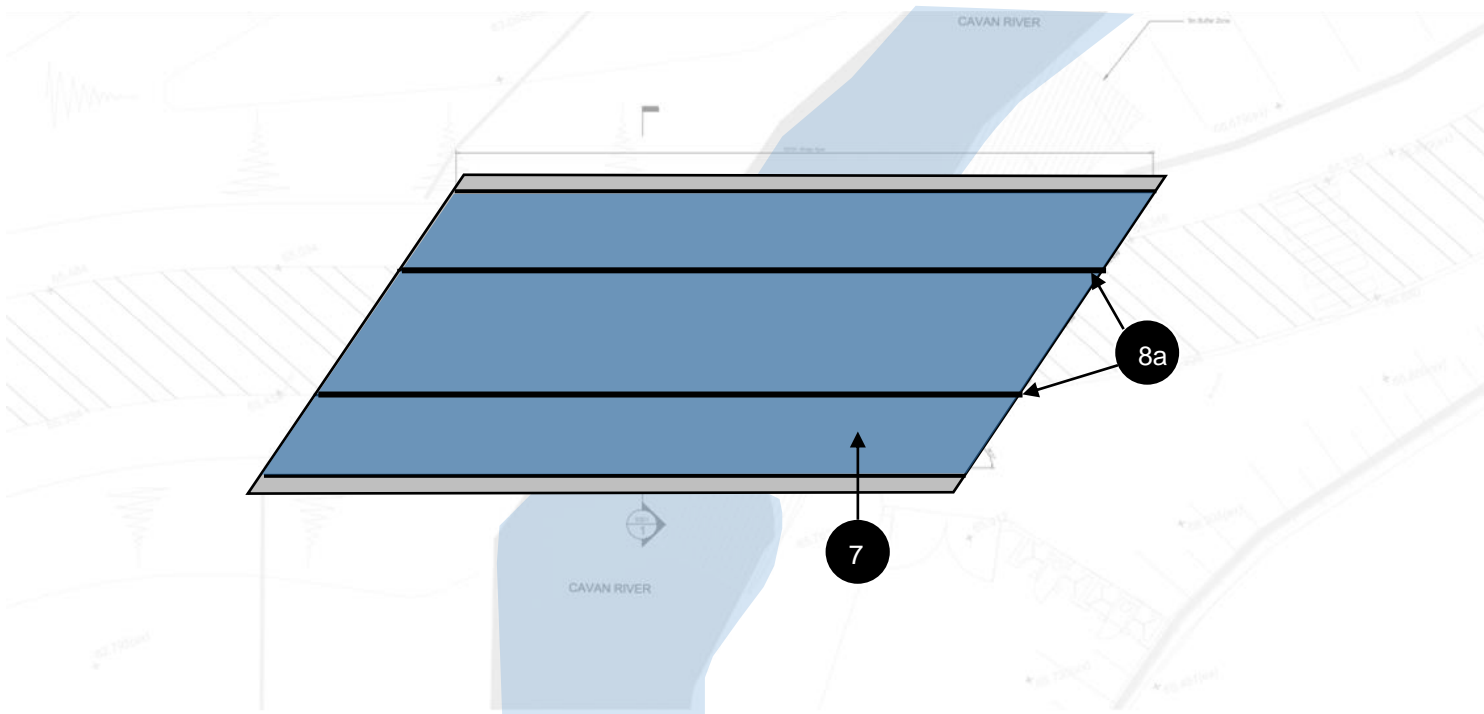
Preliminary Construction Sequence

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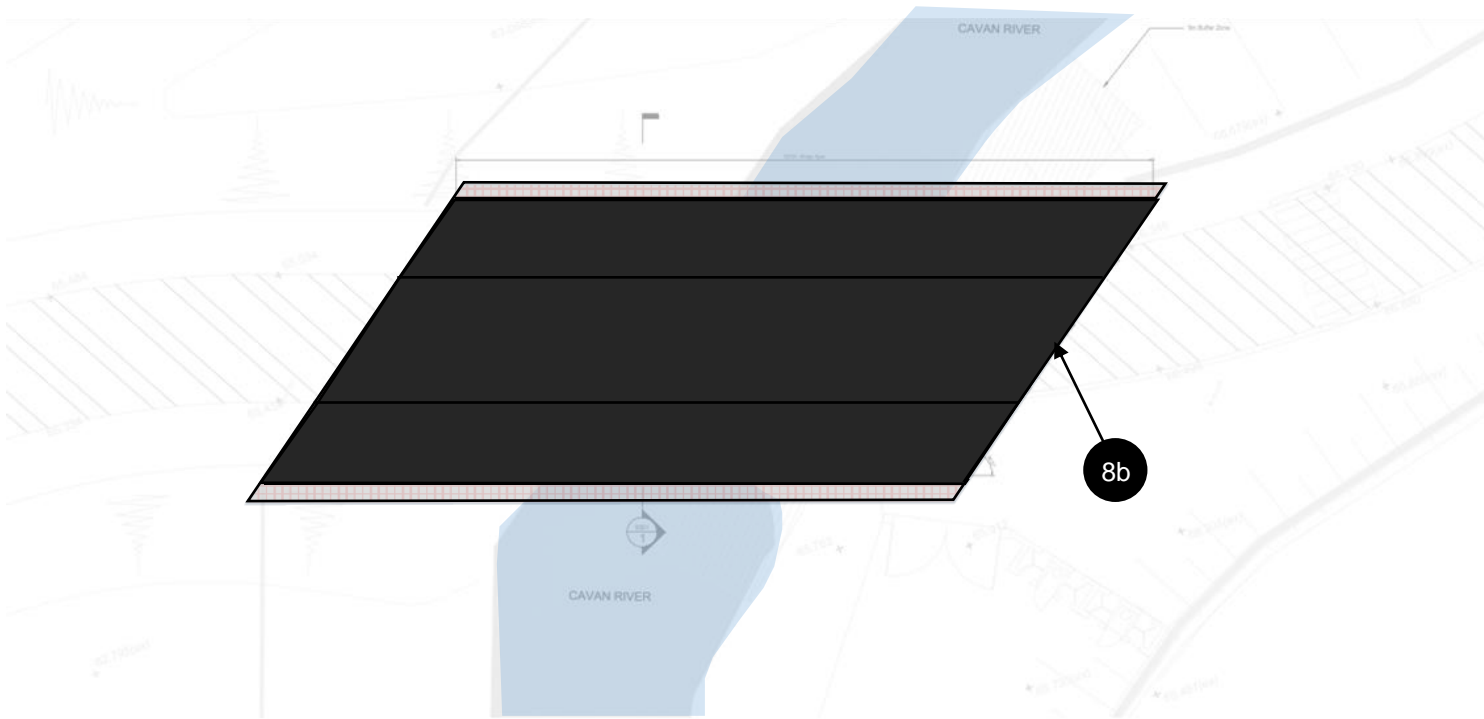
Stage 7 - Installation of waterproofing to bridge deck. The waterproofing would be installed across the full extent of the bridge deck to ensure all precast and permanent formwork joints are sealed, prior to the commencement of the carriageway surface. In the long term this system will ensure that the sensitive river environment is protected against any potential surface contaminants arising at carriageway level.

Stage 8 – Installation of kerbing to the carriageway extents, followed by the construction of the proposed road build-up. The road-build up would be constructed to suit drainage falls as required by the design.

Stage 9 – The final stage of the construction will be to carry out landscaping works and miscellaneous works to include but not limited to the installation of street lighting, vehicle restraint systems and appropriate road signage, where relevant.



STAGE 7 & 8a



STAGE 8b

Legend

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- Integral RC Abutment
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- Waterproofing
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