

Mattress Engineering: Proserve Contractor: W.G.A.



The river control structure and locks are being replaced using a system of float in and placement of precast elements to form a high-quality underwater structure. A key element of the system is the formation of joints and seals between the elements.

For the control gate section of the structure, concrete base shells and pier shell caissons are precast, lifted and positioned into place by a purpose made floating crane barge suitable for river use. Proserve designed, tested, and supplied appropriate grout bag systems.

Prefixed vertical grout bag seals are used to create sealed compartments under the base shells for tremie concrete infill.

Grout bag base seals are used to the pier shell for subsequent tremie concrete infill. The seals are condensed with break covers which fail when grouted, but withstand accelerated local flow to 15 ft/ s. The condensed seals are prefixed within a protective recess. The grout filling process is automated with filling hoses taken to the surface and grout sensors used in the venting system.



Condensed Grout Bag (Blue)



Pier Shell Lift



Vertical Seal Test