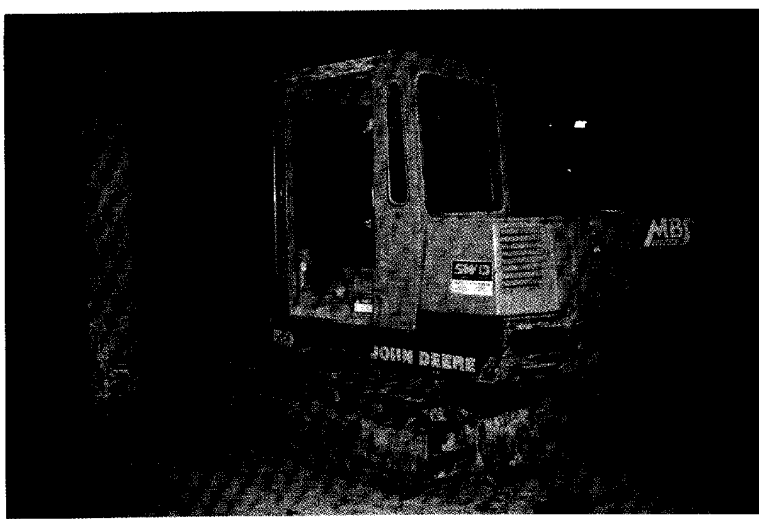


The rebar configuration was fabricated from a site-bent template. ➤

After 11 months of preparation, the tunnel was ready to be jacked into the embankment. Regularly spaced reaction "pockets" built into the thrust base served as bracing points for the 75 hydraulic jacks. For 11 days the tunnel pushed into the embankment in a slow-motion movement.

A tunnelling shield at the lead end and internal concrete working platforms provided the necessary protection and access for the workers excavating within the structure.

In order to minimize friction as the structure advanced into the embankment, layers of nylon reinforced drag sheets were placed between the arch units and the excavation roof. Pumping a bentonite slurry into the spaces between the structure and the excavation surface provided additional lubrication while ensuring stability by filling the voids. Once begun, the progress of the tunnel was a round-the-clock operation.



The tunnel and concrete platforms provided safe working areas during excavation. ◀