Project Profile: TBM TUNNELING

BRADSHAW CONSTRUCTION CORPORATION
TUNNELING SPECIALISTS

Bushy Park Water Tunnel
Bushy Park, SC

PROJECT OVERVIEW AND CHALLENGES

BTM Joint Venture, led by Bradshaw Construction, constructed 14,847’ of 99” raw water intake tunnel for the Commissioners of Public Works (CPW) of Charleston, SC. This tunnel extended CPW’s water source further up the Cooper River improving the quality and increasing the quantity of water. The entire tunnel was mined with a Lovat tunnel boring machine (TBM) through Cooper Marl (calcareous clay) without any tunnel supports and from only one 32’ ID x 90’ deep shaft. There was an intake shaft and structure constructed in the Cooper River that tied into the new tunnel. The principal challenge on the project was the relatively small tunnel diameter given the long tunnel length with only one mining shaft. This created logistics problems for hauling the tunnel spoil to the shaft and getting tunnel utilities and ventilation into the TBM.

PROJECT INFORMATION - 1JV2

OWNER:
Charleston CPW
Commissioners of Public Works
Larry Drolet
(843) 958-4750

ENGINEER:
Jordan, Jones, & Goulding
Refik Elibay
(770) 455-8555

CONTRACTOR:
BTM Joint Venture - Led by
Bradshaw Construction

CONTRACT VALUE:
$6,063,766.00

COMPLETION DATE:
7/25/1997

GEOLOGY:
Cooper Marl (calcareous clay)

EXCAVATION METHOD:
99" Lovat TBM
with Gripper Can

MINING DIMENSIONS:
14,847' x 99"Ø

FINAL LINING:
Unsupported and unlined

FOR MORE INFORMATION:
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Refer to Project 1JV2