Port of Miami Tunnel

A public-private partnership project by

TUNNELING PROCESS FACT SHEET

Illus. 1-This Tunnel Boring Machine, with a cutter head measuring approximately 46 feet (14.2 meters) high, was used in a project under the Elbe River at Hamburg, Germany.

Illus. 2-This Tunnel Boring Machine, measuring approximately 39.5 feet (12.06 meters) high and showing its trailing support gear, was used in a project in Barcelona, Spain.

A Tunnel Boring Machine will be used to excavate the port tunnel. It consists of a **cutter head** with an outside diameter of approximately 42 feet high and **trailing support gear**. (See Illus. 1 & 2 for similar machinery.)

- The cutter head rotates as a cutting wheel boring out the underground area.
- The trailing gear contains the electrical, mechanical and guidance systems and additional support equipment.
- Excavated material is carried back through the trailing gear on a conveyor belt and deposited outside the tunnel entrance, or portal.
- From there it may be moved off-site to be used as fill material or disposed in a manner consistent with applicable rules and regulations.
- As the TBM moves forward it erects a precast concrete liner that becomes the finished wall of the tunnel.
- Once the liner is in place, grout is pumped into the space between it and the excavated area.

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