Central Square Advisory Committee | January 29, 2020

www.cambridgema.gov/theworks/theport
Benefits – Flood Reduction

Existing Conditions
Frequent / Smaller Storms

Storage Tanks Installed
Frequent / Smaller Storms

Decrease in surface flooding for frequent/smaller storms

Anticipated flooding for a 2030, 10 year / 24 hour storm
Existing Port Stormwater Flow
Project Scope


Stormwater Flow After Storage Tanks Installed
DESIGN OPTIONS

Mass. Ave. Crossing
DESIGN OPTIONS

**Project Scope**

**Phase 1: PL6**
- Underground storage tank
- Connection to Mass. Ave. drain

**Phase 2:**
- Underground storage tanks
- Roadway & sidewalk reconstruction
Tank constructed under City-owned Parking Lot 6.

Four 16”-18” pipes constructed from the tank, between Mass + Main proposed buildings, beneath the Red Line, and into Mass Ave.
Pipe Tunnel Beneath MBTA Tunnel
PL6 Storage Tank and MBTA Tunnel Crossing

- Storage Tank
- Wet Well/Launch Shaft
- Diversion Structure
- Casing Pipe
- MBTA Tunnel
- Receiving Shaft
• Pipe tunnel launching pit
• Approx. 40 deep
• Ultimately incorporated into the overall tank and pump station
Pipe Tunnel Beneath MBTA Tunnel
Central Square Station

- Pipe tunnel receiving pit
- Approx. 40 deep
- Diameter approx. 15 feet
• Tunnel Boring Machine (TBM)

• Pictured a bottom of launch shaft

• Approx. 6’ diameter
• Hydraulic jacks pushing pipe, which is in turn pushing TBM

• Pictured a bottom of launch shaft
• TBM operator control panel
• Located in a trailer at ground level
• TBM breaking through into the receiving shaft
• Length of tunneling was approx. 200 feet
• Actual tunneling time was about 3 weeks (about 20 feet per day)
• Another view of TBM in the receiving shaft

• TBM then removed and reconditioned for other projects
• Looking through the completed 72” steel pipe tunnel
• 16”-18” iron pipes which will actually carry stormwater and sewage

• Shown being inserted into the 72” pipe tunnel at the launch shaft
• Tunneling now complete, work proceeds on the storage tank itself
- Tank excavation
- “Boston Blue Clay” – very typical for the region
- Steel piles in middle will ultimately help support the concrete tank
• Tank construction
• Concrete floor being placed
• Parts of the concrete walls are in place
• Tank leak test

• Concrete roof panels will be placed in February

• Parking Lot will be restored this spring

• Tank capacity is approx. 400,000 gallons

• Top of tank is 1 ½’ - 2’ below parking lot

• Bottom of tank is about 18’ below surface