

Stemmers Run Relief Wastewater Force Main Project

Project Owner: Baltimore County Department of Public Works
Project Engineer: Rummel, Klepper, and Kahl, LLP
General Contractor: American Infrastructure of Maryland
Cofferdam Engineer: Peirce Engineering, Inc.

Project Background:

- ◆ Construct 54 inch diameter, sanitary sewer force main across Back River in Baltimore County, Maryland
- ◆ Approximately 1700 linear feet across Back River
- ◆ Approximately \$7.9 million dollars (Back River crossing only)

Project Challenges:

- ◆ Construct cofferdam and work platform trestle structures over the Back River
- ◆ Tidal flow conditions
- ◆ Access and tight work area provided by specified 12 feet wide trestle platform
- ◆ Deep, very soft (weight of hammer) silts and organic clays
- ◆ Hydrostatic head of 20.5 feet
- ◆ Protect wetland environment

Project Benefits:

- ◆ Eliminated separate trestle work platform
- ◆ Increased work platform width to 28 feet wide
- ◆ Sequencing shortened construction time allowing opposite shorelines to be worked simultaneously
- ◆ Cost savings from use of reclaimed materials
- ◆ Minimized environmental impact and wetland disturbance
- ◆ Improved construction operations with increased visibility, safety, and productivity



Aerial view of river crossing, east of I-695 bridge.



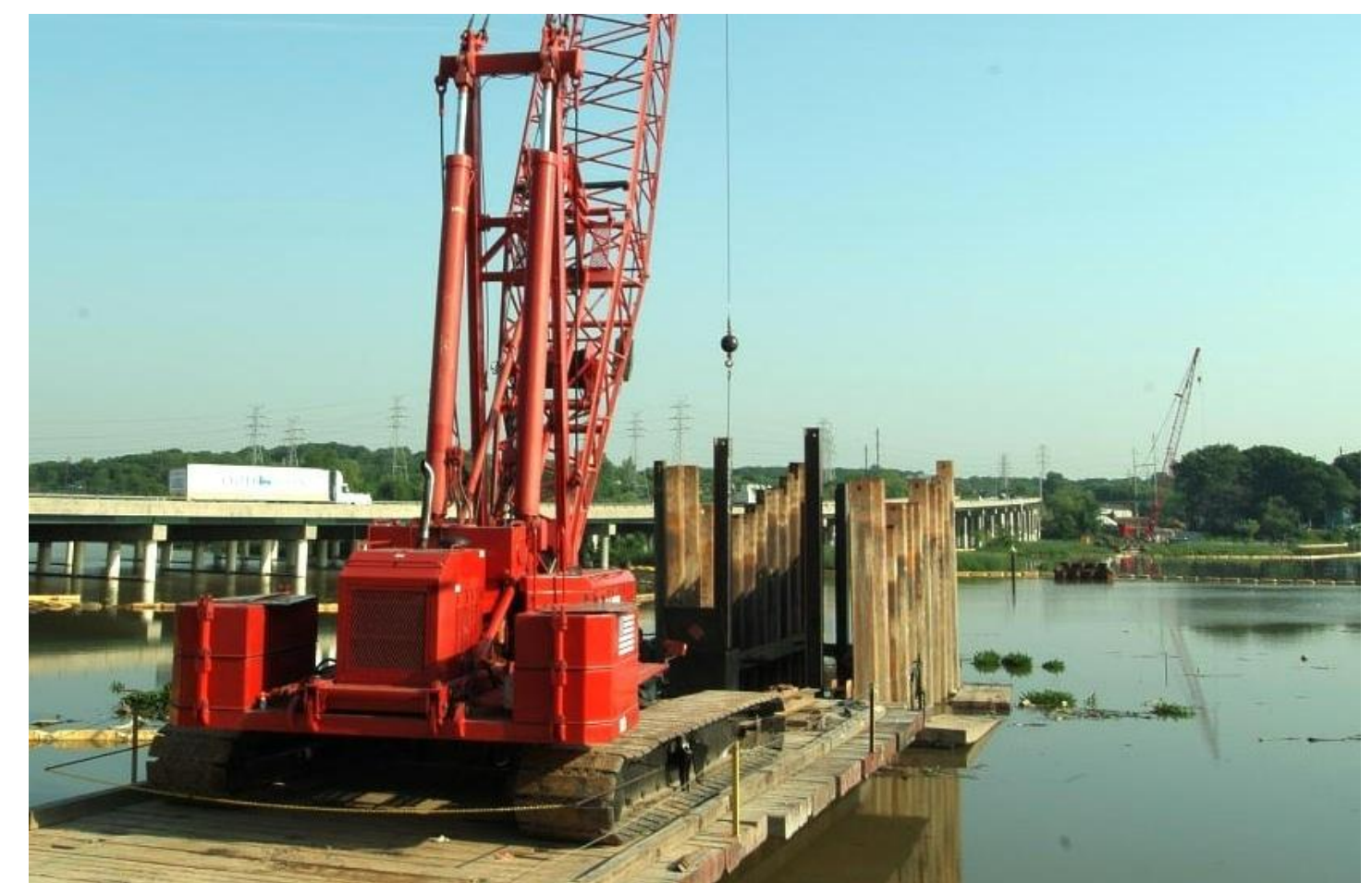
Phase 1 SSP installation from the north shore



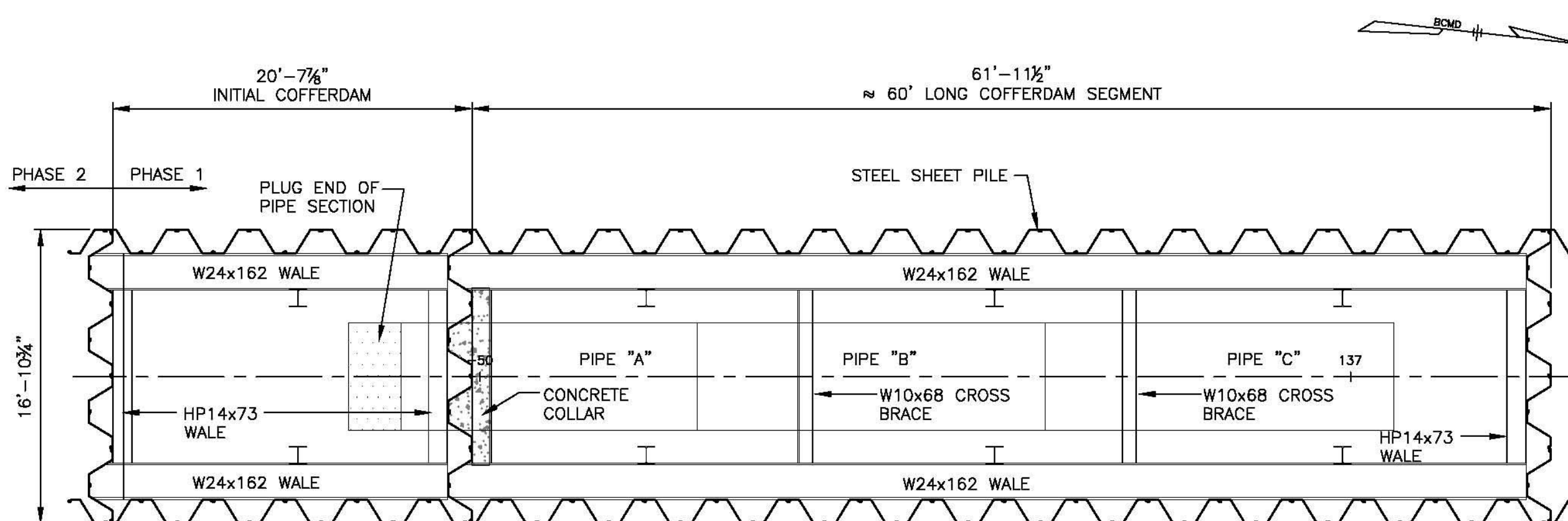
Phase 1, north shore 20 feet long initial cofferdam with pipe installation



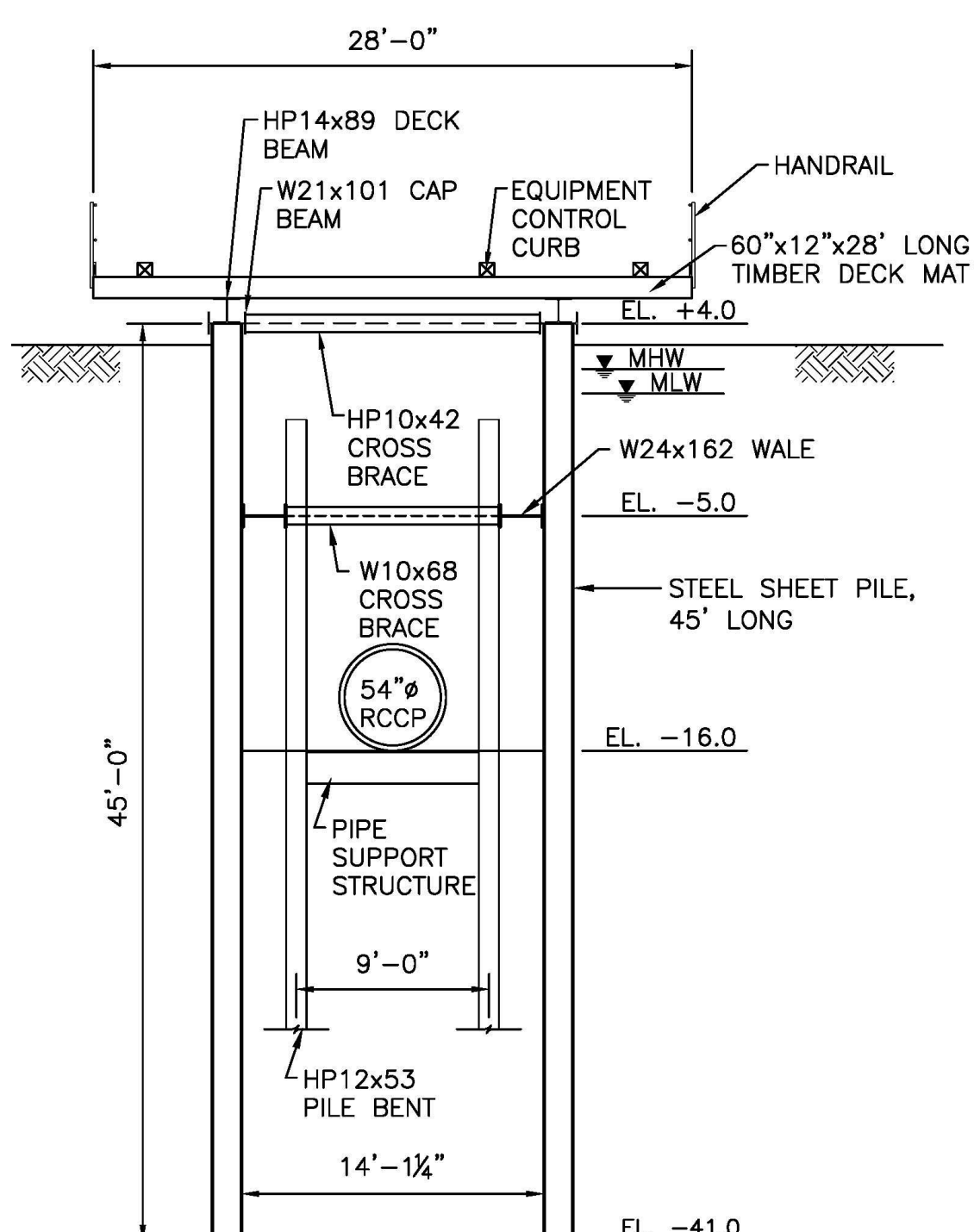
Pipe installation in the foreground with SSP installation beginning from the south shore



Phase 2 SSP installation from the south shore



Initial cofferdam phasing detail



Typical cofferdam section



Sixty feet long cofferdam segment with 54 inch diameter pipe installed