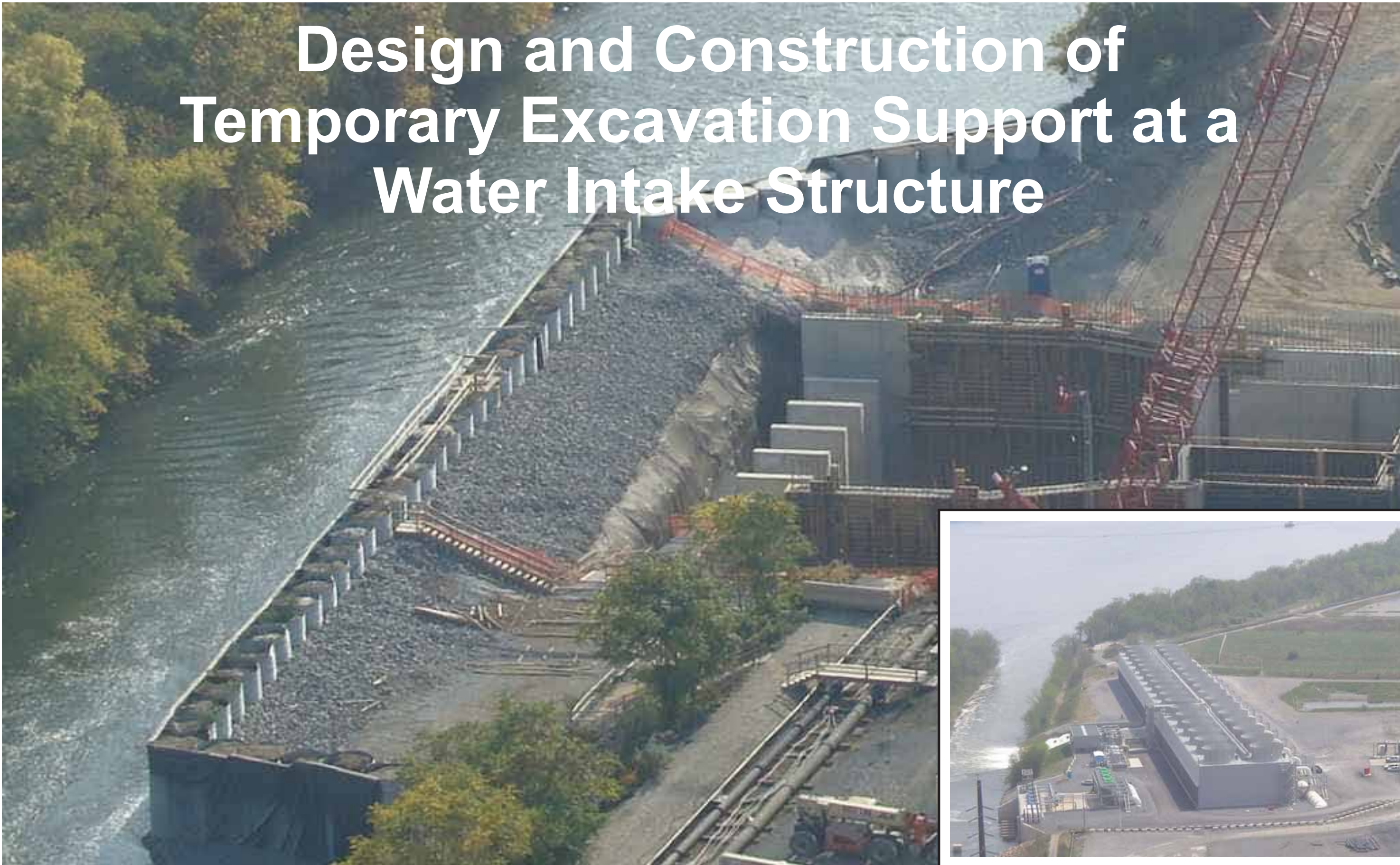
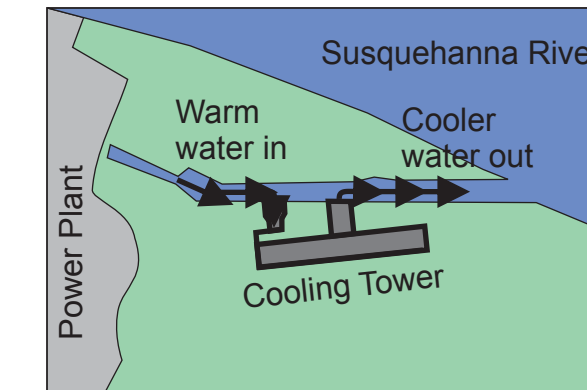


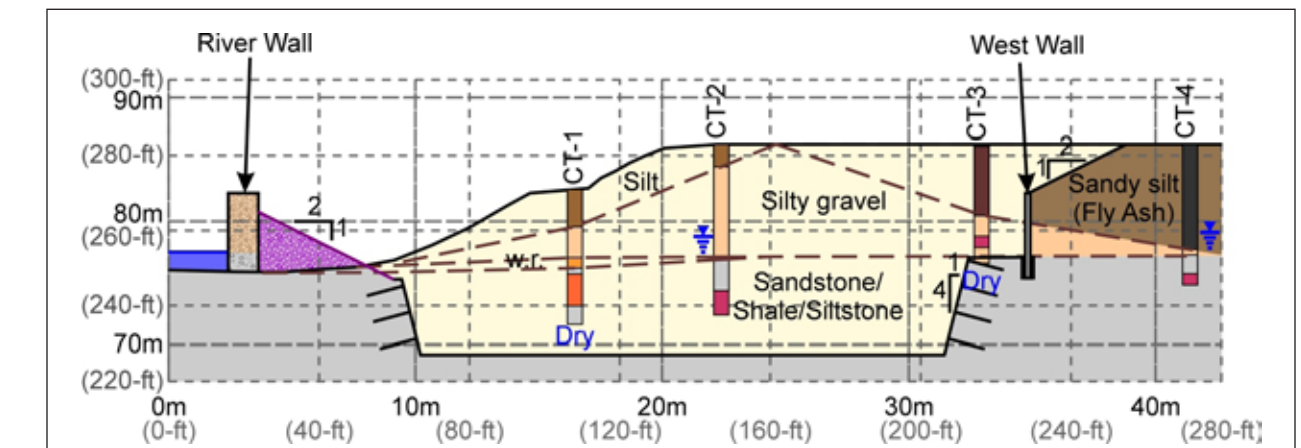
# Design and Construction of Temporary Excavation Support at a Water Intake Structure



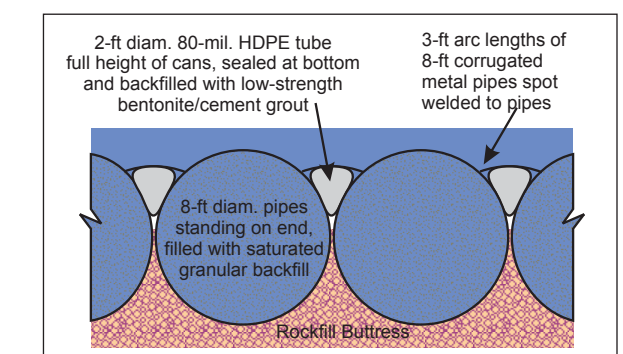
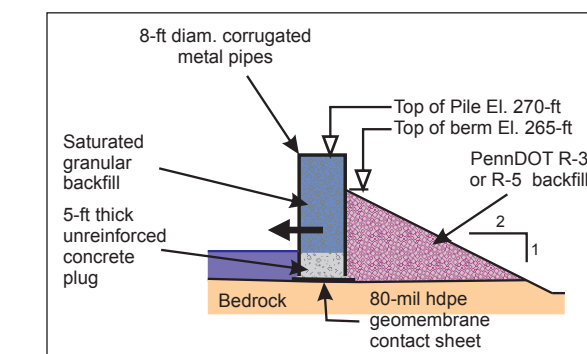
This paper describes the design and construction considerations for a water tight barrier in the Susquehanna River enabling the construction of a water intake structure that was part of a new Cooling Tower project at a power plant.



The site presented challenging conditions, which required innovative design and construction techniques to construct the river wall in the dry, maintain a water-tight barrier, and provide for unfettered wall removal and channel restoration.



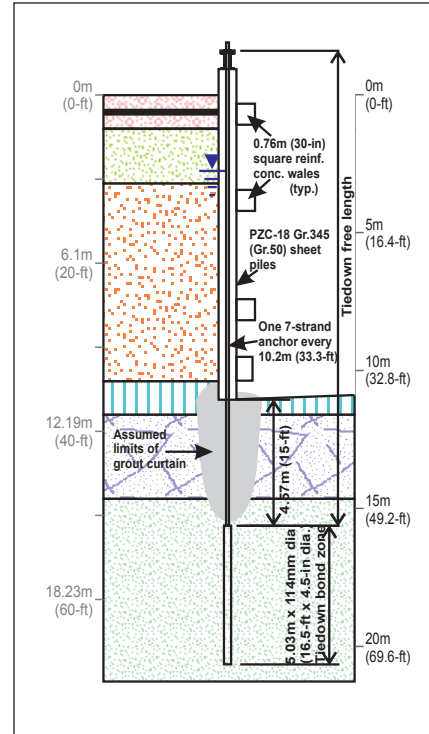
A gravity wall system made from corrugated metal pipe sections was stood on end, backfilled with site soils and supported on the land side by a rockfill buttress resulting in significant savings in cost and time over conventional barrier support systems.



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and Gary Pate, P.E.



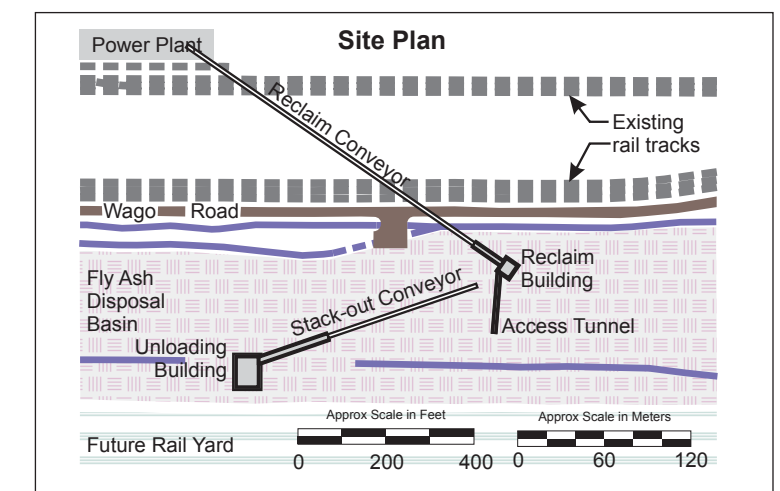
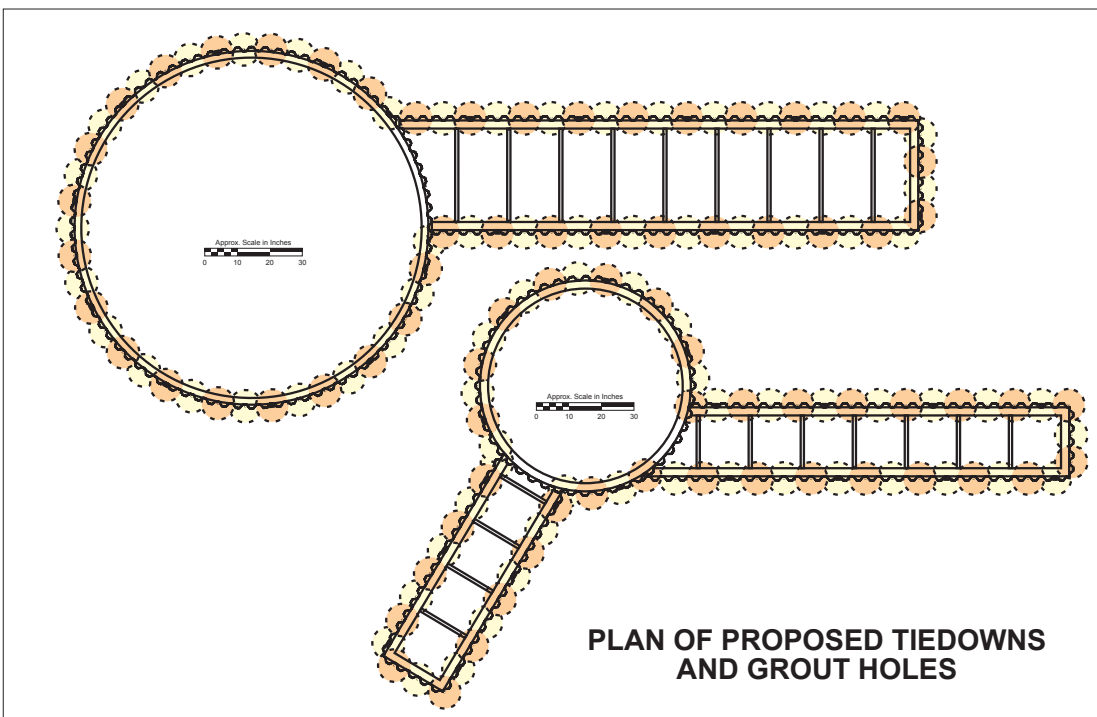
# Design and Construction of Circular Cofferdams for Earth Retention in a Flyash Disposal Basin



This paper describes the successful design and construction of a pair of circular cofferdams, to provide the support of excavation for two deep excavations in a saturated fly ash disposal basin containing elevated concentrations of arsenic, chromium and mercury.

The circular driven sheet pile cells were internally braced using multiple levels of reinforced concrete compression wales. Excavations were maintained watertight by the use of proprietary water stop material in the sheet interlocks, and a program of injection grouting to form a cut-off wall in the rock beneath the sheet pile tips. Tie-downs were used to oppose the residual uplift.

This solution not only allowed unrestricted overhead access to the excavation, it also offered significant savings in cost and schedule, in maintaining a clean and tidy site where potentially contaminated soils existed, as well as optimizing the combined resources of the construction team.



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Paul Martin, and Daniel D. Uranowski, M. ASCE, P.E.

