

Estuarine Habitat Restoration on an Intertidal/Submerged Cap

Joseph Shisler¹, Matthew Adkins², Jeff Beckner³, Tim Iannuzzi⁴ and Steve Garbacia⁵

¹ARCADIS, Cranbury, NJ, USA

²CSX Transportation, Inc. Lithia Springs, GA, USA

³ARCADIS, Augusta, GA, USA

⁴ARCADIS, Annapolis, MD, USA

⁵ARCADIS, Chicago, IL, USA

Capping complexities in an estuarine ecosystem are addressed with beneficial modifications to the intertidal and submerged habitats. Containment was accomplished by the construction of a two foot impervious cap consisting of several layers for protection. The intertidal and submerged areas consisted primarily of debris associated with the historical site use. The existing tidal fringing wetland was evaluated using HGM for post evaluation to determine success. As part of cap construction, the debris was removed. Over 100,000 plants of five species were removed, maintained, and incorporated into the fringed tidal wetland restoration. Beneficial modifications include the expansion of a fringing wetland system, development of a transition area and creation of oyster reef habitat. To create the fringing tidal wetland, the rip-rap armament was covered with sand to create a substrate for intertidal planting and the transition area rip-rap was covered with topsoil. The planting and development of the wetland creates a soil bioengineered system to increase protection of the cap. The exposed submerged riprap provides habitat with oyster reef development. An adaptive management plan has been developed for the project to insure the objectives are met for a functioning intertidal wetland, transition area and oyster reef.

Contact Information: Joseph Shisler, ARCADIS, 8 South River Road, Cranbury, New Jersey 08512, Phone: 609-860-0590 x245, Fax: 609-860-0491, Email: Joseph.Shisler@arcadis-us.com