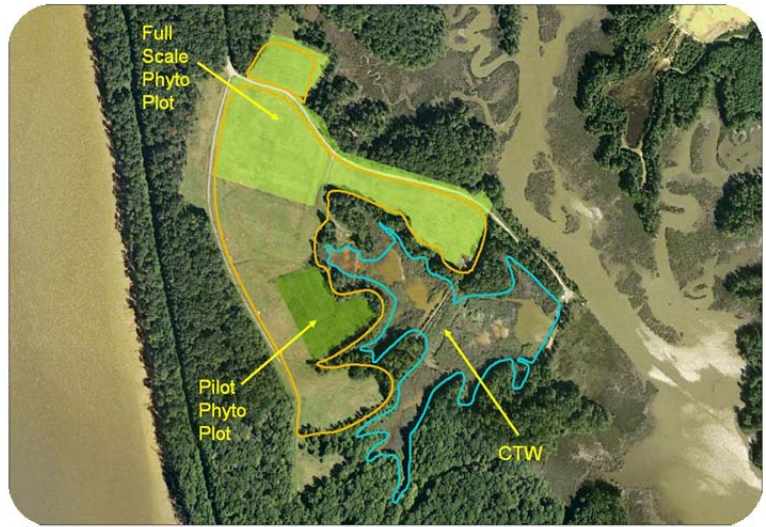


Following closure of a 700-acre manufacturing facility in the early 1990's, our client was faced with long-term maintenance of an inactive 34-acre industrial waste landfill at the Site. The unlined landfill is located adjacent to, and surrounds, a 16-acre jurisdictional wetland that was dammed and filled with dredged spoils removed from a nearby water body. Leachate from the landfill, containing high levels of zinc, iron and acidity, discharged into the wetlands and cross-contaminated wetland sediments.



Roux Associates was retained by the property owner, a multi-national chemical company, to develop a cost-effective alternative landfill cover and leachate treatment design. Key elements of the completed design include:

- Constructed Treatment Wetlands (CTW) for pH neutralization and metal removal from leachate; and
- Phytotechnology Cap (Phyto Cap) in place of the traditional RCRA Cap.

The multi-phase project was designed by Roux in 1998, with the CTW constructed in 1999. The Phyto Cap, consisting of 18,500 specialty tree species, was installed in 2001. The solution is passively operated and has the capacity to treat combined leachate/stormwater runoff flows of up to 150,000 gallons/day. Performance to date have been excellent, reducing zinc levels below 0.1 mg/L while eliminating acidity and reducing iron to less than 3 mg/L.



*CTW Influent*



*CTW Effluent*



*Phyto Cap*