



# CCR BASIN CLOSURES

## Project Scope Highlights

- Cap in place of two fly ash/bottom ash basins
- Clean closure of the SO<sub>2</sub> basin
- Excavate, dewater, load, haul and place approximately 416,000 CY of CCR material
- Install 72 Acres of geosynthetic liner
- Development and operation of offsite borrow pit for 229,000 CY of cover soil
- Install 116,500 SF of fabric-form ditch
- Install two concrete lined process water basins, including 1,000 LF of concrete lined pipe
- Dike stabilization with rigid inclusions and stone buttressing



Process Water Basins

## Project Overview

The purpose of this project was to permanently close the CCR basins at a retired, coal fired, power plant. The project included closure in place of two ash treatment basins, closure by removal of one SO<sub>2</sub> pond, the installation of two process water basins and associated work. To accomplish this, a large volume of CCRs had to be dewatered and moved in a short period of time while maintaining environmental compliance.

## Project Challenges and Solutions

The nature of the materials to be moved and environmental factors created a unique set of challenges for this project:

- The SO<sub>2</sub> Pond consisted of a material that did not respond to traditional dewatering techniques. The majority of the material was handled by spreading it in thin lifts and mixing it with other CCR materials. However, the balance of the material resisted that method of drying. Lime kiln dust was utilized to ensure the material was dewatered and dried to the specifications for loading, hauling and placement.
- The ash treatment basins that were to be closed were also the storage areas for stormwater. As the basins were closed, the available footprint for water storage became limited. To increase storage capacity during final closure, Trans Ash utilized storage tanks and filtration systems for the ash contact water. With this approach Trans Ash was able to ensure all water being discharging from the site was within strict water quality limits.
- A design was created prior to mobilization that included the final design grades and estimated available material required to meet those grades. During construction, consolidation and dewatering led to a deficit of material available for the closure of Ash Treatment Basin #2. Trans Ash worked with the customer and design engineer to create a design that would meet regulations and maintain stormwater paths without requiring expensive imported material.



Spillway Concrete Installation



Fabric-Form Ditch Installation

- The specification for placement of final cover over the liner included a maximum ground pressure requirement. To ensure the underlying liner was not damaged Trans Ash constructed haul roads over the liner to allow for access of 45-ton articulating dump trucks and utilized LGP equipment for the placement of the material. The haul roads were then removed, and the area graded to final design elevations with the LGP equipment.
- Due to dam stability concerns, Ash Treatment Basin #2 required the installation of rigid inclusions. During the bidding process Trans Ash worked with our subcontractor to provide a firm price, prior to a final design being completed. Following the completion of the design by the subcontractor, Trans Ash was able to complete the work using the existing contract rates without a change order from the client.
- The 229,000 CY of soil required for cover over the liner system was not available onsite. Trans Ash worked with an adjacent landowner and was able to source the material from their property. This allowed Trans Ash to utilize a transmission corridor as a haul route and use off-road dump trucks to deliver the material to the site. The new site resulted in a cost savings to the customer and avoided impacting the local traffic.

*“Trans Ash was able to bid the work on a fixed cost basis then finish the design, source local soils and adapt to challenging site conditions to provide us the best possible value.”*



Original Basin Conditions



Final Basin Conditions