

# ALUMINA IMPORT TERMINAL



**PROJECT:** Raw Material Storage and Handling Terminal

**CLIENT:** National Electric Corporation, Government of Trinidad

**LOCATION:** La Brea, Trinidad

**SERVICES:** Complete Facility Design, Project Management, and Procurement Services

## DESCRIPTION

River Consulting was awarded the complete facility design, project management, procurement, and site support services for the raw material storage and handling terminal.

This facility was being constructed to support the Alutrint aluminum being constructed nearby. The terminal was to serve as the import and storage facility for the raw materials to support aluminum production at the nearby smelter.

The facility design included receiving reduction grade alumina, calcined coke, pitch, and other raw materials via ocean vessel and offloading the material for storage. 45,000 tons of live silo storage was designed for alumina along with 18,000 tons of storage for coke in a storage barn with hopper reclaim.

The alumina storage silo is a circumferential post-tensioned structure, with a silo wall height of 52.7m. An abated floor and reclaim tunnel are used for alumina recovery from the silo. Additionally, the petroleum coke fuel storage is contained within a 79m x 84m steel shed with a reclaim tunnel. The product is piled inside the shed via a 26.65m tall central reinforced concrete lowering well.

The terminal was designed for raw material to be loaded out to truck for transport to the smelter in the initial phase.

## PRINCIPAL FEATURES

- Design of material handling systems including dust collection and control system and equipment
- New dock facility with traveling rail-mounted pneumatic ship unloader
- Design of inbound system to receive alumina and petcoke
- Design utilizing belt conveyors and air gravity conveyors to transport materials to bulk storage
- Bucket elevator and pneumatic conveying system (air-lifts) transporting materials to truck loadout
- Design of facilities to receive and store liquid pitch delivered by special vessel
- Ancillary buildings such as office and control buildings, warehouse, covered pitch storage, custom bonded area and guard house



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