Owner: CITY OF GLENWOOD SPRINGS
Contractor: MOLTZ CONSTRUCTION, INC.
Engineer: SCHMUESER GORDON MEYER, INC.

Headworks - Pipe piles completed some 50+ feet Deep

AUGUST 2010 PROGRESS REPORT

Moltz Construction has made good progress from project start and through the month of August. With the collapsible soil types present in the project limits, structures were designed with foundations firmly seated on and into the more stable soils deep below the surface. Two foundation treatments were decided for the project based on the depth of these more stable soils. These treatments are Driven Piles and Cement Treated Soil.

At the Headworks Building, the pre-design exploratory investigation found the acceptable bearing soils approximately fifty feet below the surface. It was determined for this structure, installation of 10-inch diameter pipe piles would be required and the buildings foundation and key components would bear on these piles. In total, sixty-six piles were installed with a total length of just under three thousand feet of piles. This is an average of just over forty-five vertical feet for each pile.

For the remaining structures, with acceptable bearing soils much closer to the surface (four to ten feet below the structures lowest floors), the method to achieve required foundation bearing included the treatment of less desirable materials located in the areas below the structures with Portland cement. The cement treated soil process involved the removal of overburden materials within the structural foundation areas down to the acceptable soil type below, screening the removed soils to filter out oversize rock, and placement of the screened soils back within the foundation areas in uniform compacted layers mixing in 8% Portland cement and controlling moisture content for optimum results.

Blending cement with Soil - Maintenance Building

This cement treated soil averages four to five feet in depth in the Biosolids/Digester building and is around eight feet deep in the remaining buildings. Currently the majority of the cement treated soils has been placed with a few smaller areas that will be completed following critical wall construction. To date, just under 14,000 cubic yards of cement treated soils foundations have been constructed.

Cement treated soils operations at the Clarifiers Structure

STATUS BY STRUCTURE

In addition to the driven piles and the cement treated soils, the biggest emphasis has been on the structural concrete component of the project. As of August 19, twenty-one hundred and fifty-five (2,155) cubic yards of concrete have been placed on the project. This includes slabs and walls in the Headworks building, BioSolids/Digesters building, and the two Oxidation Ditch structures.

HEADWORKS BUILDING

Overall dimensions of building(in feet): 90L x 40W

Headworks Building - August 16

For the Headworks building; the force main capture box, the grit removal chamber, and the effluent splitter box have been completed. Also the channel connecting these elements and the larger wastewater pipe entering and exiting the building have been constructed or are installed. The Headworks will be the first step in the treatment process by screening off some of the elements of wastes that don't respond to the biological process. This includes sands, grit, and solid waste items that enter the wastewater system. All remaining product is then directed towards the oxidation ditches by the splitter box. The splitter box, at the effluent side of the Headworks, was included in this design for future expansions and will divide flows both to the portions of the facility currently under construction and to those components built in future projects.

BioSolids/Digesters Building

BIOSOLIDS/DIGESTERS BUILDING

Overall dimensions of building(in feet): 171L x 54W, with additional attached rooms beyond.

The lower level slab, exterior walls, and center supporting cast-in-place concrete column of the BioSolids section of the building are complete. Moltz is currently erecting the falsework forms system in preparation of construction of the second level floor. The connecting Digester tanks include a series of four tanks connected by pipes and water control gates that represent different stages of processing and treating wastewater. The concrete slab for all tanks is complete and concrete wall construction is progressing west to east. The last wall section enclosing tank 4 (the westernmost tank) is now complete and Moltz is averaging just better than one wall section a week. The Digester tanks and BioSolids pump rooms are connected and provide biological treatment of soaps, scums, and heavier wastes. Once wastewater clears this process, it is returned to the Headworks building for final processing.

OXIDATION DITCHES

Overall dimensions of tanks(in feet): 173L x 145W

To start the biological process you need oxygen. The main purpose of the oxidation ditches is to inject air into the incoming wastewater. Slab construction of both tanks is complete. Wall construction has just started with the erection of the inside forms. Martinez Western is a subcontractor of Moltz Construction and they are building the concrete portion of the Oxidation Ditches. At the beginning of wall construction, nature provided a small set back as strong winds blew over the first days worth of wall form erection. With no injuries and minimal damage, Martinez was on the way and back to pre-wind status after a half day following the event. Wastewater leaving the oxidation ditches will flow into the clarifier splitter box for distribution into the Clarifiers.

OTHER IMAGES:

Oxidation Ditches - August 17, 2010

BioSolids/Digesters - Aug 20, 2010

Site image of general layout of facility