



LANDFILL, IMPOUNDMENT, AND POND DESIGN/CLOSURE

EMC² staff has been working on municipal and industrial solid waste management projects for over a decade. We have experience designing and overseeing construction of non-hazardous solid waste landfills/waste repositories under RCRA Subtitle D, hazardous waste treatment, storage and disposal facilities under RCRA Subtitle C, as well as managing off-site transfer of numerous waste streams for incineration/landfill disposal.

Subtitle D Sanitary Landfills - EMC² staff designed numerous landfill projects across the United States including a 660-acre sanitary landfill converted from a former strip mine in West Virginia. Work included developing designs and plans for the liner system, leachate collection and treatment systems, gas management system, storm water management and final closure. EMC² staff also provided quality assurance inspection/certification of synthetic liner systems placement and geotechnical testing for soil liner systems placement.

Chemical Waste Management Inc. Hazardous Waste Landfills - EMC² staff developed the design for secure landfill cells at a proposed hazardous waste facility in Alabama and developed and implemented the design for a groundwater monitoring system at an operating hazardous waste landfill in New York. The design for the landfill cells in the Alabama facility included a RCRA Subtitle C dual containment bottom liner and leachate collection system.

Waste Characterization and Disposal -

EMC² staff has experience in characterizing and disposing a variety of solid wastes including: TPH, VOC, SVOC, PAH, PCB, metals, pesticide and herbicide contaminated soils; industrial by-products; treatment sludges; oil and gas production and refining wastes; and coal combustion wastes. On some of our projects we have worked with clients to develop beneficial uses for waste products that avoids disposal costs providing a revenue stream. We are currently using cement and lime kiln dust wastes as a soil amendment to neutralize acidity on several mine site reclamation projects.



Drummed Waste Characterization For Off-Site Transport/Incineration/Disposal

Flue Dust Operable Unit, Montana - EMC² staff developed the design and provided construction quality assurance oversight for treatment and impoundment of 500,000 cubic yards of hazardous copper smelting waste at this site. The waste was treated using cement/lime stabilization prior to placement in a modified RCRA Subtitle D repository. Design work included repository siting investigations; stabilization mix determination; repository slope stability, settlement and infiltration evaluations; surface water drainage and erosion control; groundwater monitoring; and material suitability/quantity determinations. EMC² staff subsequently provided construction quality assurance oversight during construction of the waste repository including liner inspection and testing, field geotechnical testing and construction documentation.

Arbiter/Beryllium Expedited Response Action, Montana - EMC² staff was responsible for construction management assistance and quality assurance for the construction of a RCRA Subtitle C repository and the excavation, transportation and disposal of 280,000 cubic yards of copper processing wastes at this site. EMC² staff also assisted the design engineers in making repository design modifications which included substitution of a geosynthetic clay liner for a three-foot-thick compacted clay bottom liner and a two-foot-thick cap liner. Due to the presence of trace amounts of highly toxic beryllium waste was packed in secure boxes and entombed in a cement grout matrix.

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