

Former Optenberg Iron Works Facility

SHEBOYGAN, WISCONSIN

The former Optenberg Iron Works parcel was originally developed in the 1890s for steel fabrication activities, including metal cutting, bending, machining, welding, painting, and other associated fabrication processes, which continued through 2003. The property owner retained Sigma in early 2004 to provide a broad range of environmental and civil engineering services to redevelop this brownfield site as a high-end residential condominium complex. Sigma also provided many other services for the Client, including coordination with geotechnical contractors and the project architect, attendance of City of Sheboygan council meetings for various project approvals, and creation of an Environmental Tax Increment Finance (TIF) district through the City of Sheboygan to fund environmental cleanup of the site.

Services provided by Sigma include:

Asbestos Management

Sigma's asbestos inspections determined that asbestos present in various building components required abatement prior to building demolition. Sigma prepared technical specifications for contractor bidding in August 2005 and performed contractor monitoring and clearance sampling during the abatement work in October 2005. Subsequent site and building demolition activities did not encounter any unidentified asbestos-containing building materials.

Investigation & Remediation

The property owner elected to enter into the Wisconsin Dept. of Natural Resources' Voluntary Party Liability Exemption (VPLE) program as an assurance to future condominium owners about future environmental liability for the site. Sigma completed a Phase 1 Environmental Site Assessment, multiple phases of soil and groundwater investigation activities, and a methane evaluation to satisfy VPLE requirements. A conceptual remedial action plan to cap the site with engineered barriers has been approved by the Wisconsin Dept. of Natural Resources.



Surveying

Sigma prepared an ALTA survey and Certified Survey Map of the site. During this process, Sigma mediated a "land swap" between the City of Sheboygan and the property owner to make a Lake Michigan beach area public property in exchange for two undeveloped parcels to add to the condominium redevelopment. This process resulted in a nearly 4-acre redevelopment project for the property owner and the City secured over 1-acre of Lake Michigan beach.

Civil Engineering

Sigma prepared site grading plans and specifications for the proposed condominium project, including plans for the use of geofoam for light-weight fill around the condominium buildings. The geofoam is required to minimize long-term settlement of exterior site features relative to the buildings that will be constructed on piles. The site grading design also incorporated a revetment structure along the shoreline to dissipate wave energy from Lake Michigan during storm events.

Storm Water Management/Permitting

Sigma prepared the storm water management, site erosion control, paving, and utility plans for the project and submitted the required documents to the City of Sheboygan for approval. Notifications to the Wisconsin Dept. of Natural Resources and Department of Commerce were also submitted for the land disturbing activities during site construction.