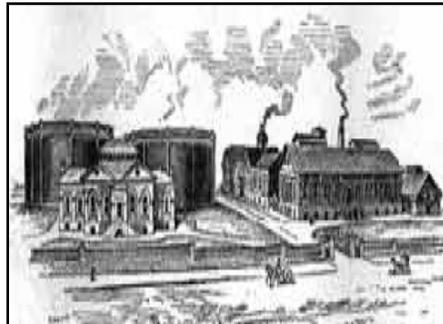




As part of the contamination assessment at the site, Geosyntec investigated sediments at this on-site pond.



A MPG in operation during the 19th Century

Client: City of Jacksonville
Start Date: 2002
Completion Date: 2012

Services Provided:

- Multi-Media Sampling
- Ecological Receptor Survey
- Contamination Assessment
- Subsurface MGP Residuals (Volume Estimation)
- Preliminary Evaluation of Remedial Options

Project Objective

The Main Street Manufactured Gas Plant (MGP) operated in Jacksonville from 1875 to 1913. The City of Jacksonville (City) performed a preliminary assessment at Confederate Park, an 8.5-acre, downtown city park of historical significance, which revealed coal tar and its constituent polynuclear aromatic hydrocarbons (PAHs) in subsurface soils and groundwater. Subsequently, the City entered into a Consent Order with the Florida Department of Environmental Protection (FDEP) Northeast District, and retained Geosyntec in 2002 to perform a contamination assessment and prepare a Site Assessment Report (SAR).

The original objective of the contamination assessment was to evaluate hydrogeologic conditions, define the distribution of coal tar and PAHs in the subsurface, characterize the release and leaching potentials, and predict the transport and fate of dissolved PAHs in groundwater. The objective was modified in 2009 when the City and two private owners of impacted properties were notified that Confederate Park and the surrounding properties were being considered for the U.S. Environmental Protection Agency (USEPA) National Priorities List (NPL). The City agreed to complete a comprehensive assessment that would include investigations at all affect parcels in order to establish the lateral and vertical extent of MGP residuals impacts.

Geosyntec's Scope of Services

Elements of the investigation have included: extensive soil, groundwater, and sediment sampling; identification of off-site source areas; a tidal influence study of Hogan's Creek (a creek that traverses the site); a hydrogeologic evaluation of the on-site pond, creek, and surficial and deep aquifers; a risk-based evaluation of surficial soil data; an ecological receptor survey; delineation of MGP residuals; preliminary evaluation of various remedial options, which include both in-situ and ex-situ alternatives; and regulatory negotiation. During the completion of the scope of services, public outreach and access agreement negotiation services were also completed.

Field investigations were conducted to evaluate subsurface lithology and to evaluate evidence of staining or contaminated media. Based on the field logs, the absence or presence of MGP residuals was imported into the Department of Defense Groundwater Modeling System (GMS) for interpretation. Volume estimates were extrapolated from the solids model, which estimated the volume of subsurface material containing MGP residuals to range between 16,500 to 21,000 cubic yards. Geosyntec finalized and submitted the site-wide SAR to FDEP and gained approval of the SAR.

Notable Accomplishments

Geosyntec performed a streamlined and focused assessment to identify source areas at four impacted properties through extensive use of historical data, angled drilling using a minisonic rig to obtain soil cores and install monitoring wells under a five story building. A "3-D solids model" was developed using GMS to estimate the volume of MGP residuals. Geosyntec gained SAR approval without regulatory comments.