



USACE, MOBILE DISTRICT

TOTAL MAXIMUM DAILY LOAD PROGRAM IMPLEMENTATION

Cape Canaveral Air Force Station & Patrick Air Force Base, Florida

PROJECT HIGHLIGHTS

CLIENT PROFILE

The U.S. Army Corps of Engineers (USACE) Mobile District manages a variety of programs in Alabama, Georgia, Florida, Mississippi, and Tennessee as well as Central and South America. The District's mission includes supporting all branches of the U.S. military, other federal agencies such as the U.S. EPA, and providing design and construction for civil works projects. Cape Canaveral Air Force Station (CCAFS) is an installation of the U.S. Air Force Space Command 45th Space Wing, which is headquartered at Patrick Air Force Base (PAFB) in Brevard County. CCAFS is the primary launch facility for the Command's Eastern Range and has supported America's space program since the 1950s.

PROJECT OVERVIEW

To support the 45th Space Wing Environmental Compliance Program, the project team identified and implemented a data collection program for total maximum daily load (TMDL) pollutant load screening model (PLSM) input parameter refinement. The firm has performed these services on a continual basis since 2011.

CHALLENGES

The primary challenge of the project was compiling the large volume of data collected each day into a meaningful scientific evaluation that could be prepared in an annual report presented to the U.S. Air Force, Florida Department of Environmental Protection (FDEP), and regional stakeholders.

THE MSE GROUP APPROACH

To assist USACE in developing and implementing a monitoring program, the firm assembled a team of professionals experienced in hydrology, water quality, stormwater, groundwater, chemistry, and water sampling equipment. The team established drainage basins and outfalls, developed groundwater contour maps, and installed water sampling equipment at 19 monitoring sites to collect hydrologic and physical data. The team also installed additional monitoring wells and seepage meters to supplement the existing monitoring network to provide data for groundwater and surface water interaction modeling. The firm was responsible for all aspects of field implementation, analysis, reporting, and regulatory coordination as well as public presentation of the data.

ACCOMPLISHMENTS

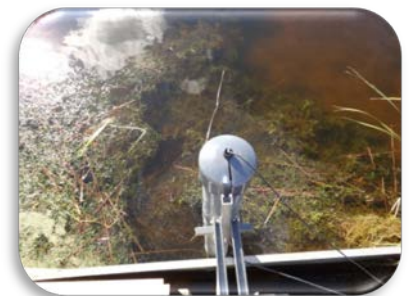
- At no cost to the government, provided a TMDL technical support team of scientists and engineers to establish criteria for data quality, develop data collection methodologies, and collaborate with the Air Force and FDEP to develop a data collection design.
- Designed a solar panel and battery bank energy system for each location as a sustainable energy source, providing cost reduction and value to the Air Force in attaining renewable energy goals as established in its Pollution Prevention Management Action Plan.
- Developed an interactive data viewer to aid stakeholders with real-time observation of trends.

AREAS OF EXPERTISE

- Water quality monitoring and analysis
- Data management
- Modeling
- GIS mapping and data analysis
- Public outreach



Monitoring stations were designed, installed, and maintained by the project team.



Telemetry systems provide data collection efficiencies and reduce manual field data collection costs.