

## Contract Summary

**Contract:** INDEFINITE QUANTITY CONTRACT FOR ENVIRONMENTAL ENGINEERING AND DESIGN SERVICES FOR VARIOUS PROJECTS(N40085-07-D-2610)

**Location:** MCI-EAST MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA

**Client:** MCI-EAST MCB Camp Lejeune

**Value:** \$4,000,000

**Scope:** THM Control Study; Wastewater Treatment Plant Contamination Study; Water & Wastewater Master Plan; Semiannual Detection Monitoring (Landfills); GIS Database Creation; Storm Water Collection System Master Plan; Water Capacity Development

**Date:** 2007 to 2012

## Background

AH Environmental Consultants has been awarded two 3-year, \$1.5M and one 5-year, \$4M Indefinite Quantity Contracts with by the United States Navy to provide Environmental Engineering and Design Services at Marine Corps Base (MCB) Camp Lejeune. Select projects under these contracts include:

### Rifle Range Trihalomethane (THM) Study

AH conducted a THM control study at the Rifle Range water system. The Rifle Range water system received treated water from Onslow County, and thus was considered a consecutive system. As part of this effort, AH reviewed historical compliance data and performed monitoring to identify source water wells with elevated disinfection by-product precursor concentrations and determined disinfection by-product reaction rates. AH conducted a detailed technical and economic and technical evaluation of THM control strategies for the water purveyor, Onslow County, including granular activated carbon adsorption, anion exchange and reverse osmosis and provided recommendations to Onslow County to provide effective treatment at minimum costs.

### Petroleum Oil and Lubricant Contamination and Identification Study

AH performed a Petroleum, Oil and Lubricant (POL) Contamination and Identification Study at Marine Corps Base Camp Lejeune. MCB Camp Lejeune environmental personnel identified petroleum hydrocarbons within the Advanced Wastewater Treatment Plant (AWWTP) system. The North Carolina Department of Environment and Natural Resources (NCDENR) would not allow the land application of the biosolids from the AWWTP until the biosolids tested below detection limits. AH conducted a two part investigation. AH evaluated all POL

facilities including oil water separators, lift stations, maintenance bays, car washes, manholes, floor drains, and motor pools. Based on field surveys AH provided MCB Camp Lejeune with recommendations to reduce possible discharges of POLs entering the AWWTP system. In addition, AH conducted a biological analytical investigation regarding the State mandated testing methods for total petroleum hydrocarbons (TPH) in biosolids. AH generated recommendations for alternative methods for analyzing POLs in biosolids and conducted sampling using the alternative methods. The research and analyses of these alternative methods were presented to the NCDENR. As a result of the analytical investigation conducted by AH, the NCDENR allowed MCB Camp Lejeune to land apply the biosolids generated by the AWWTP system.



## Water and Wastewater Master Plan

The primary objectives for this study were to field verify the features of the existing potable water system as well as the wastewater collection system with GPS technology and create and/or update Camp Lejeune's Integrated Geographic Information Repository (IGIR) coverages. Database links were used to catalog the various attributes of each GPS verified feature.

## Raw Water Master Plan

As with many areas, the availability of an adequate water supply of suitable quality is becoming a limiting growth factor. AH developed a comprehensive raw water master plan to assist MCB Camp Lejeune in its long-term efforts to secure and effectively manage their groundwater supply. This project involved a detailed review of the hydrogeologic framework at the base, the available groundwater resources and water quality data. Based on the findings of this review as well as on-site subsurface investigations, AH provided site-specific recommendations for well abandonment and rehabilitation and for further water source development. This project included hydraulic modeling of the raw water well system as well as distribution network.

## Semiannual Detection Monitoring

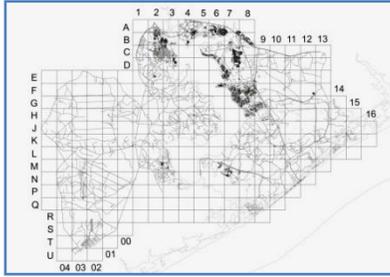
AH has been performing groundwater, surface water, and leachate sampling at the Camp Lejeune Subtitle D Municipal Solid Waste Landfill (MSWLF) for over ten years. Samples have been collected from three background wells, nine compliance wells, two surface water collection points, and a leachate sampling point. Groundwater, surface water, and leachate samples were analyzed for a comprehensive list of constituents as required by the North Carolina Solid Waste Management Rules.

## Electrical Distribution System GIS Data Collection

AH was retained by MCB Camp Lejeune to capture and inventory substations, electrical power lines, and associated spatial and non-spatial electrical distribution data for the MCB Camp Lejeune, MCAS New River, and Camp Gieger, Camp Johnson, and Rifle Range. AH updated spatial and non-spatial distribution lines for all primary and secondary electrical lines. AH created an electrical distribution geometric network for the feeder from Camp Lejeune's substation 1 to Sneads Ferry Gate and included all of Courthouse Bay and Amphibious Area. AH additionally created a separate geodatabase, and populated it with proposed



future electrical distribution system improvements using data from the integrated electrical distribution master planning deliverable provided by AH under separate delivery order.



## Storm Water Collection System Master Plan Update

AH was retained to update the MCB Camp Lejeune existing Integrated Geographic Information Repository (IGIR) of the storm water collection system. This work was accomplished using Global Positioning System (GPS) surveying methods to locate storm water collection system features, as necessary, and updating the GIS through referencing engineering/as-built maps and field verifying the storm water collection system features.

## Development of Water Capacity Development Documents

Pursuant to the Safe Drinking Water Act (SDWA) Amendments of 1996, the State of North Carolina issued changes to its drinking water regulations. The new regulations mandate that public water systems prepare three Capacity Development documents, namely: (1) a Water System Management Plan (WSMP), (2) an Operation and Maintenance Plan (O&M Plan) and (3) an Emergency Management Plan (EMP). The purpose of these documents is to help the State verify that a water utility has the financial, administrative, and management resources to responsibly operate its facilities including any new facilities that are being permitted and built as well as have the ability to respond to emergencies. AH was retained by the Mid-Atlantic Division of the Naval Facilities Engineering Command to prepare the WSMP, EMP, and O&M plans for the MCB, Camp Lejeune Hadnot Point, Holcomb Boulevard, MCAS New River, Courthouse Bay, and Onslow Beach water systems .

