

**Memorandum For: Ms. Rachael Thompson, Executive Director
Glynn Environmental Coalition
P.O. Box 2443
Brunswick, GA 31525**

**From: Frank Anastasi, P.G., Community Technical Advisor
(PA PG-2605; WY PG-2001; NC LG-2459)**

Date: April 16, 2020

**Subject: Review of Remedial Design and Remedial Action Plan
Terry Creek OU-1 Outfall Ditch
Terry Creek Dredge Spoil Areas/Hercules Outfall Site**

Introduction

In March 2020, Geosyntec Consultants (GC) submitted to the U.S. Environmental Protection Agency (EPA) the *Remedial Design and Remedial Action Plan* (RDRAP) for Operable Unit One (OU1) of the Terry Creek Site, including appended Health and Safety Plan/Emergency Response Plan and Field Sampling Plan.

The document was submitted on behalf of Hercules LLC, the responsible party for the site, in accordance with the Interim Record of Decision (IROD) issued under the November 17, 2019 Consent Decree Statement of Work for OU1.

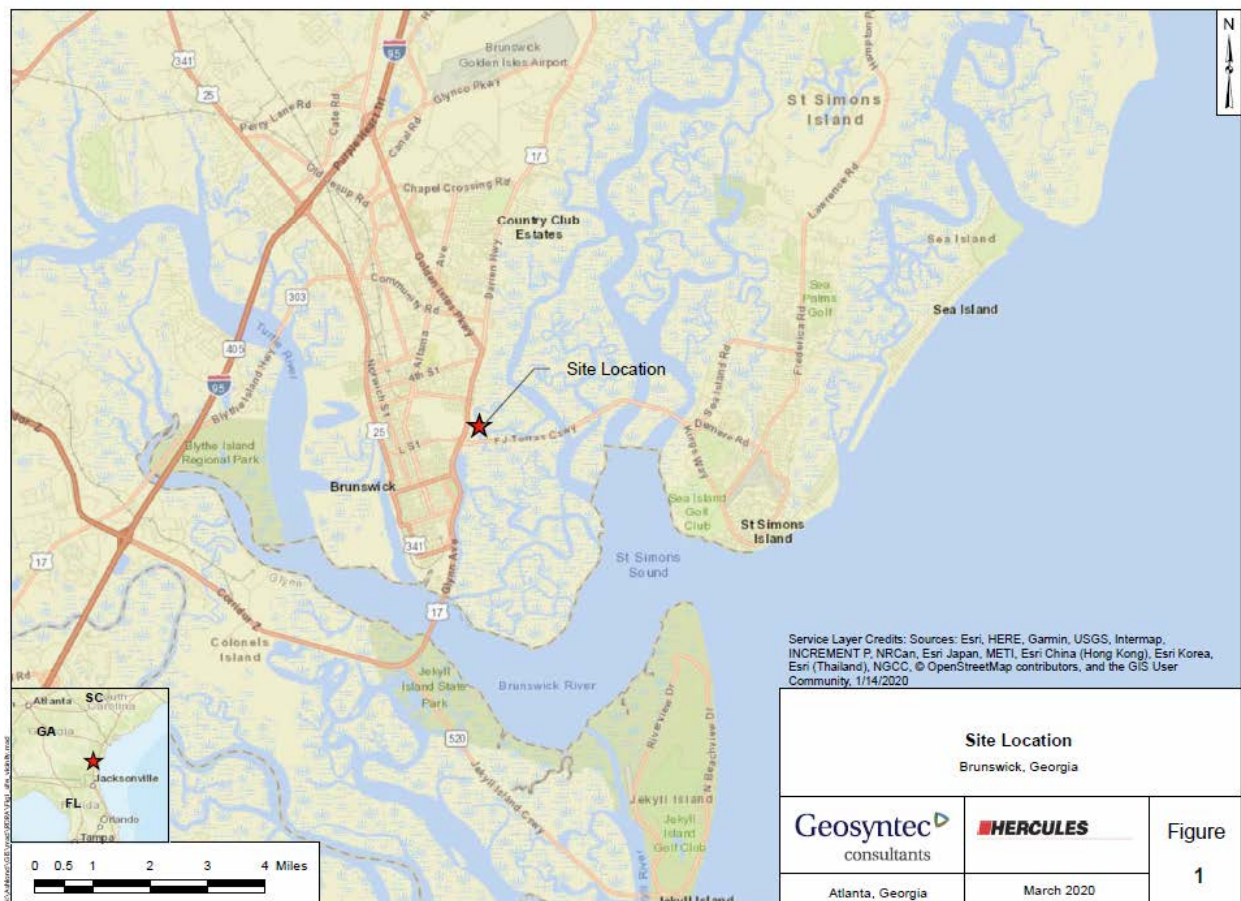
The RDRAP explains the plans for developing a complete design (also known as the 100% Design) and contracting for and performing the work, for the remedial action specified in the IROD, including a preliminary schedule for implementing the work. The RDRAP appears to include all elements typically required for such plans for Superfund Sites, and the specific requirements of the Consent Decree. The preliminary schedule included in the RDRAP indicates the 100% Design will be approved around June 9, 2021. Remedial construction should begin around December 6, 2021 and be completed around August 3, 2022.

Background

The site is located east of the city of Brunswick in Glynn County, Georgia, north of the Torras Causeway and east of U.S. Highway 17. The ditch discharges into Dupre Creek, near its confluence with Terry Creek and the North River (site location shown on following page).

Flow to the ditch originates at the former Hercules pesticide plant, which lies west of highway 17. The plant is currently owned by Pinova, which discharges non-contact cooling water and stormwater runoff into the ditch. Stormwater runoff from adjacent residential properties flows into the ditch as well. The ditch was a discharge point for untreated wastewater containing toxaphene from the former Hercules plant until 1972, when Hercules began treating its wastewater.

Terry Creek OU-1 Hercules Outfall Ditch Location (Source: Geosyntec Field Sampling Plan Fig. 1)



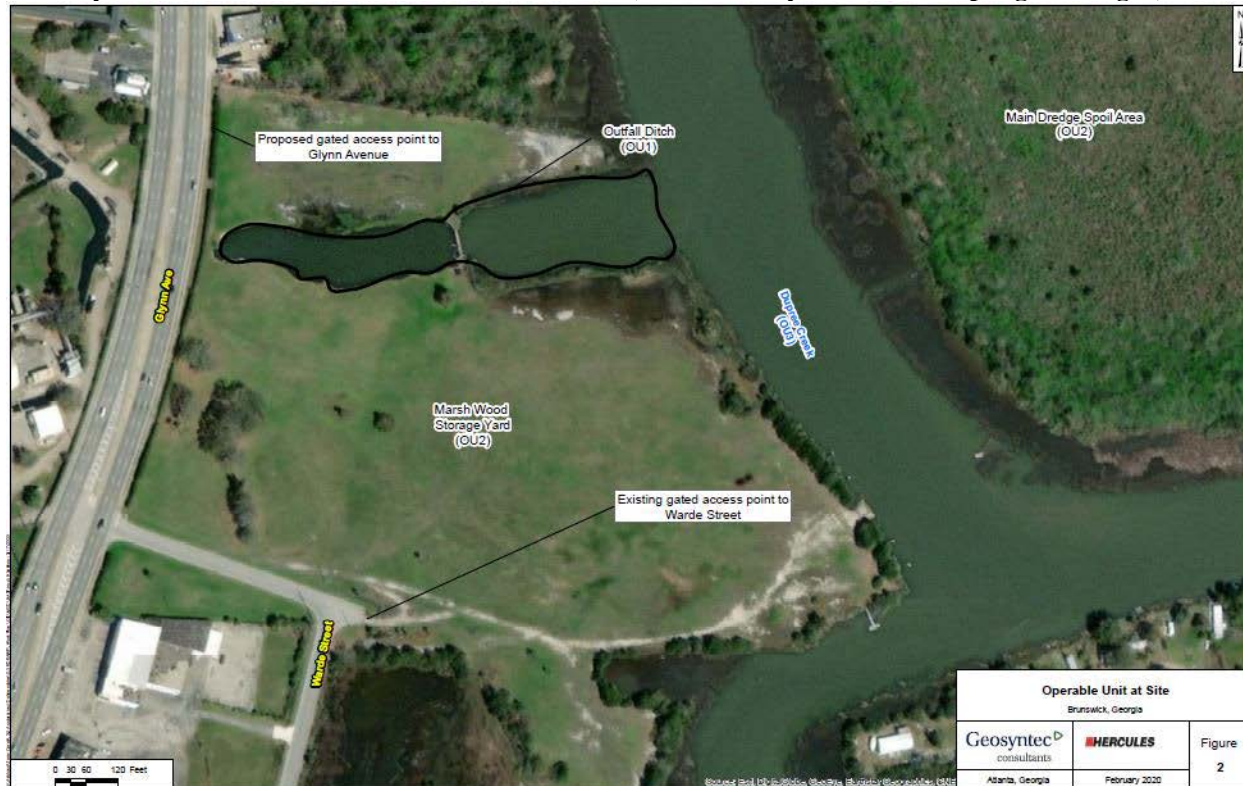
The Remedial Action

EPA selected a remedy for toxaphene-contaminated sediment at the outfall ditch (site features shown of following page). As explained in IROD, the remedial actions will include the following elements:

- Re-routing the existing stormwater ditch into a newly constructed concrete-lined ditch;
- Excavation and offsite disposal of sediment near Glynn Avenue to construct the new ditch;
- Removal of the weir;
- Placement of geo-textile fabric over existing sediment in the current outfall ditch;
- Backfilling the currently existing outfall ditch with compacted clean soil over fabric;
- Armoring the backfill slope of the currently existing outfall ditch;
- Seeding and stabilization of disturbed areas;
- Implementation of institutional controls such as an environmental covenant prescribing land use and activity restrictions to prevent unauthorized disturbance of the soil cover and other remedy components;

- Periodic inspections, maintenance, and sediment removal in the newly constructed ditch; and
- Development and implementation of a long-term monitoring plan to ensure the effectiveness of the OU1 interim remedy.

Terry Creek OU-1 Hercules Outfall Ditch Features (Source: Geosyntec Field Sampling Plan Fig. 2)



The Plan for Designing the Remedial Action

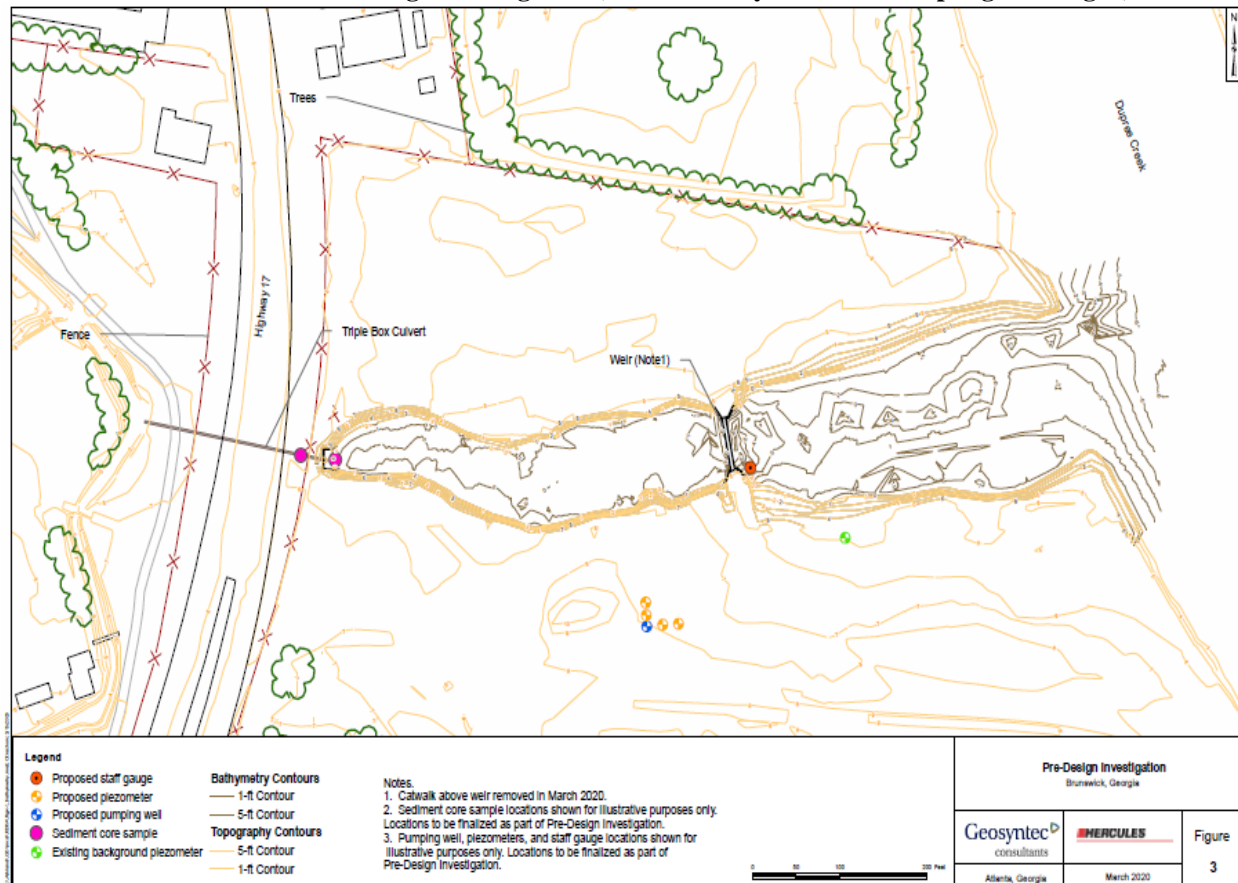
The RDRAP presents how the project will be designed and implemented. It establishes the roles and relationships of the involved parties (e.g., EPA, Hercules, and Remedial Contractors); how Hercules will participate in community involvement; and how the remedial actions will be design, implemented, and performed.

The following activities will be completed to develop the 100% Design for the remedy.

- Pre-design Investigation
 - Environmental survey of wetlands and creeks
 - Update of site topography and bathymetry
 - Characterization of contaminated sediments to be removed for proper disposal
 - Determine ground water management needs (quantity and quality) due to construction dewatering
- Defining needs for and obtaining local, state, and federal permits required for the work
- Prepare Pre-design Report with conclusions and recommendations for incorporating into the design

- 50% Design Report with criteria and basis for design, project approach, permit requirements, plans for minimizing environmental impacts, and how institutional controls will be implemented
- Supporting documents for 50% Design will include plans, draft design drawings and technical specifications, such as Operations and Maintenance, Long-term Monitoring, Sediment Transport and Disposal plans; drawings for current site conditions, ditch realignment, construction of structures, stormwater and sedimentation control; and specifications for earthwork, concrete, rip-rap, and other materials to be used to construct the remedy

Hercules Outfall Ditch Pre-design Investigation (Source: Geosyntec Field Sampling Plan Fig. 3)



After the 50% Design is submitted to EPA, a Pre-final (95%) Design will be prepared. The 95% Design will incorporate comments on the 50% Design and expand on all elements of the remedial design. EPA will review the Pre-final and provide comments which will enable a Final (100%) Design to be prepared.

Remedial actions will commence following EPA’s approval of the 100% Design. Potential Contractors will be solicited, their qualifications evaluated, and those determined to be most qualified will offer proposals for completing the work. Hercules will negotiate with and place under contract the remedial action contractor(s) determined to provide the best value. The

selected contractor will update any plans, schedules, and permitting requirements that may need to be refined to accomplish the project as designed, subject to EPA approval.

Reporting

Monthly Progress Reports will be prepared and submitted to EPA as remedial construction proceeds. Quarterly reports may be approved by EPA if requested by Hercules and deemed adequate. Progress reports will summarize work accomplished during the reporting period, work projected for the next period, and any schedule updates, if needed. Although not specifically noted in the RDRAP, progress reports typically include mention of any problems or unusual situations either experienced or anticipated.

Meetings will be held during the remedial construction, including kick-off, conference calls with EPA and Georgia Environmental Protection Division (EPD) staff to report on progress, update schedules, and discuss pertinent matters. Periodic inspections will be conducted by EPA and EPD, and any noted deficiencies will be communicated to Hercules and its contractor so they can be addressed.

A Remedial Action Completion Report will be prepared after inspections and review of a draft report (Interim Remedial Action Report). Hercules, EPA and GC will conduct an inspection, and any noted deficiencies will be corrected (and followed up with additional inspections). Once all work is found to be satisfactory, Hercules and the contractors' Engineer of Record will certify that the work has been completed in full compliance with the Final Design and specific work scopes included in it. The report will include as-built drawings; documentation of proper sediment disposal, long-term monitoring data and O&M activities; and a summary and schedule for implementing Institutional Controls. Finally, EPA will certify that the remedial action is complete.

Schedule

A preliminary schedule for the Remedial Design is included in the RDRAP. It includes the following major milestones.

EPA Approval of RDRAP	April 30, 2020
Preliminary (50%) Design	October 27, 2020
Pre-final (95%) Design	March 26, 2021
Final (100%) Design	June 9, 2021
Start of construction	December 6, 2021
Construction Completion	August 3, 2022

Health and Safety Plan and Field Sampling Plan

EPA requires Health and Safety and Field Sampling plans for all Superfund remedial action projects. These plans are included as appendices to the RDRAP.

The Health and Safety Plan (HASP):

- Includes an Emergency Response Plan (ERP) and was prepared to address project-specific hazards associated with the site conditions and planned remedial construction work. The HASP/ERP appears to include all elements typically required for such plans for Superfund Sites, and the specific requirements of the Consent Decree; and
- Contains descriptions of hazards, worker protection procedures and safe work practices, and emergency response procedures. It also includes detailed information on important matters such as key H&S personnel organization and responsibilities, hazardous materials data, routes to hospitals, worker safety training, personal protection equipment, and medical surveillance.

The Field Sampling Plan (FSP):

- Addresses project-specific activities for conducting the pre-design investigation, including sediment sampling and management, environmental and bathymetry surveys of wetlands and creeks, and aquifer testing and associated soil and ground water sampling and management. The FSP appears to include all elements typically required for such plans for Superfund Sites, and the specific requirements of the Consent Decree; and
- Contains specific procedures for using and decontaminating field equipment, performing site surveys, installing wells (for the aquifer testing to inform construction dewatering/ground water management), managing investigative-derived wastes, and conducting aquifer pumping tests. Detailed information on procedures for documenting sampling activities, handling environmental samples, personal protective equipment, and managing data generated by the investigations.

Next Steps

I will continue to be in contact with EPA to monitor progress on this effort as the remedial design is developed. I trust this memorandum provides GEC and the community with a good understanding of how the remedial action for the Hercules Outfall Ditch will be designed and the projected schedule for completing the work. Feel free to contact me if you have any questions or desire any additional information.