

Appendix F. Access to Project Location Memorandum



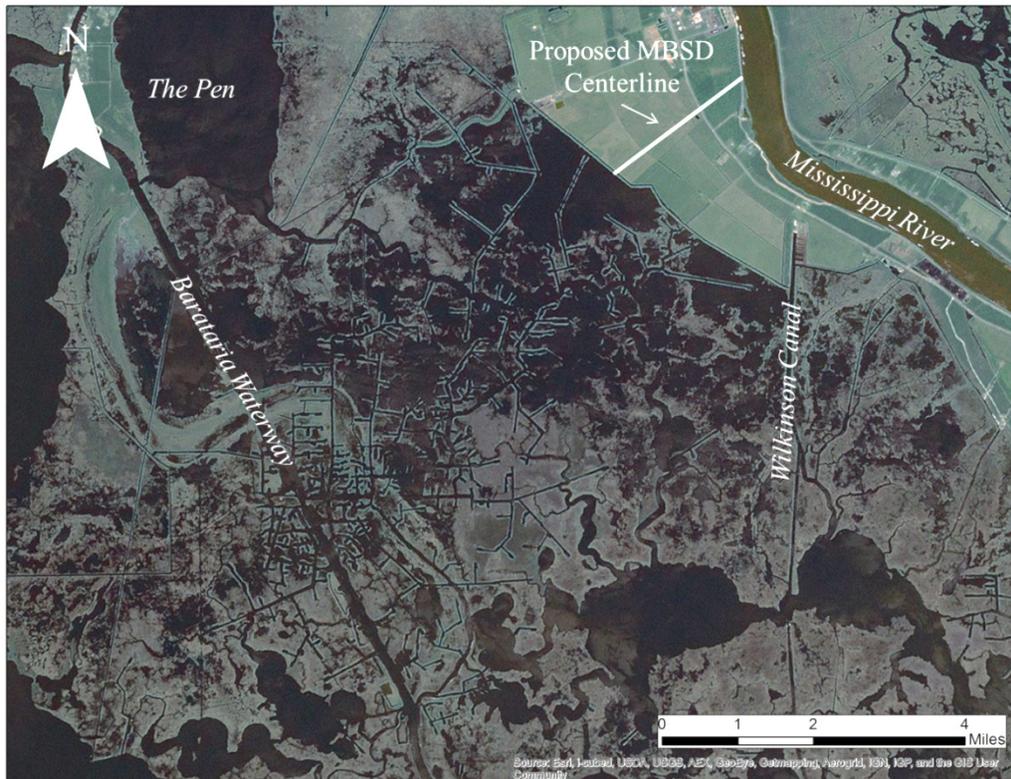
To	Garland Penninson, PE		
From	Erin Rooney, EI		
CC	Brett Geesey, PE		
Date	October 9, 2013	Job No.	BA 153-01

RE: Access to Project Location

Background

The proposed Mid-Barataria Sediment Diversion (MBSD) spans a section of land between the Mississippi River and the Barataria Bay, as shown in Figure 1. Water access to the site may be necessary to facilitate several aspects of construction. When determining the feasibility of providing an access route over water, factors such as the presence of pipelines and other existing structures, bay bathymetry, the cost to dredge access, and potential environmental concerns would need to be considered.

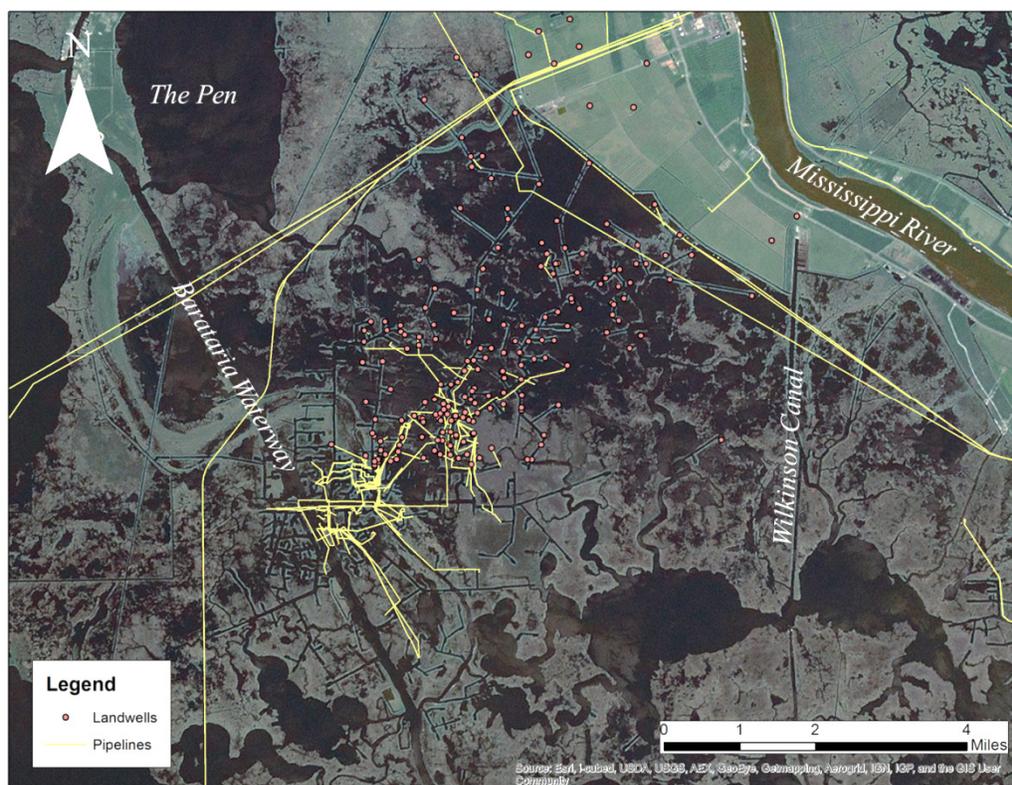
Figure 1. Project location



Data Available

Pipeline and wellhead information within the project area, including location and approximate depth, provided by Fugro Geospatial Services and John Chance Land Surveys, Inc. (Fugro JCLS), is shown in Figure 2 (Fugro JCLS 2013). These data are part of an internal Fugro JCLS geographic information system database routinely updated with permitted proposed pipelines and wellheads from the Louisiana Department of Natural Resources; however, additional pipelines and wellheads may exist. Fugro JCLS also probed the Shell pipeline parallel to the bayside Non-Federal Levee and found depths of cover between 0 and 2 feet. Interference with these pipelines and wellheads would be minimized to decrease costs and potential damage to the infrastructure. Once a preliminary access route is chosen, pipeline and wellhead data would be confirmed in the field with probing and magnetometer surveys. If the access route is determined to be in the right-of-way of existing infrastructure, communication and potential easements and agreements with the affected pipeline companies would require land rights coordination.

Figure 2. Pipelines and wellheads



Source: Pipeline and wellhead data from Fugro JCLS (2013)

Approximate bathymetry data of Barataria Bay was made available via two numerical model geometries provided to HDR, one by Moffatt & Nichol (2005) and one by FTN Associates, Ltd. (2013). These geometries were calculated using elevation data from multiple sources including the National Oceanic and Atmospheric Administration, Louisiana Department of Natural Resources, and the U.S. Geological Survey. These data would be used to identify any preexisting channels or other geometries within the marsh that might be suitable locations to provide water access and minimize dredging within the bay. Any proposed access routes should be field surveyed to verify conditions.

Historical aerials of the marsh area are available from 1952, 1979, and 1980 (Cartographic Information Center 2013). The 1952 and 1980 aerials were taken at a 1:40,000 scale and the 1979 aerial was taken at a

1:48,000 scale. Relic channels within the marsh can be identified in the aerials, helping to locate previously dredged sections or channels within the area.

Data Required

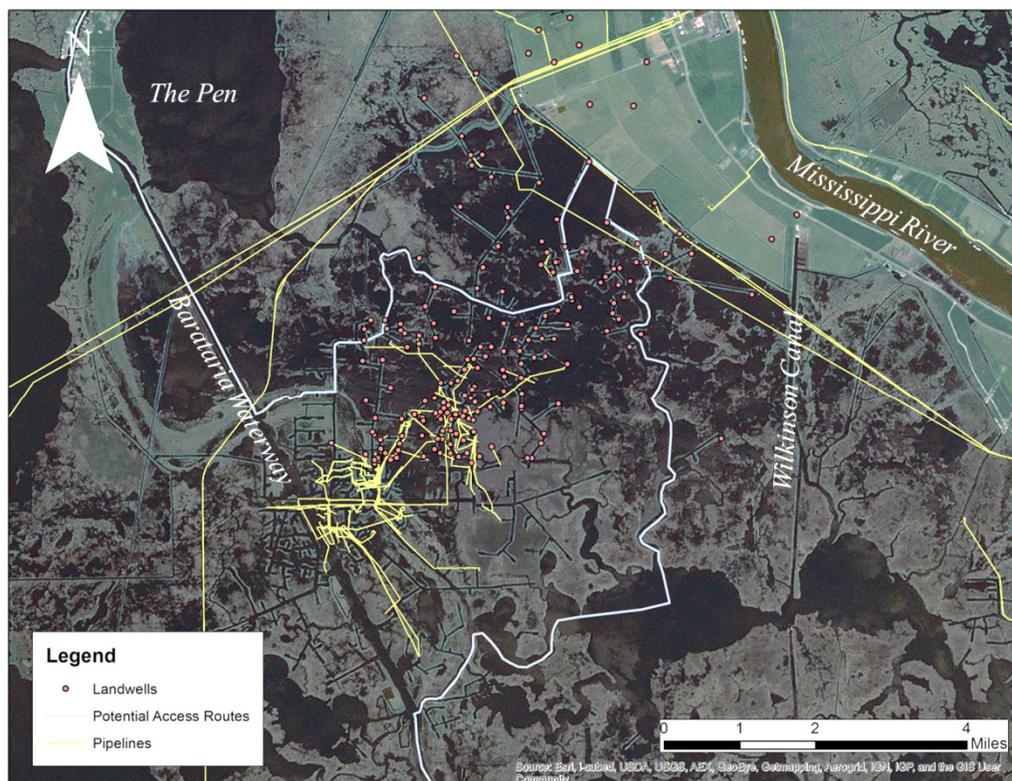
Geotechnical analysis along the chosen access route should be authorized by the Coastal Protection and Restoration Authority of Louisiana to determine the stability of a typical channel cross-section. Factors to be considered include the maximum channel depth, the side slope angle of repose, the maximum height of a temporary stockpile of dredged material, and the required distance from the stockpile to the channel.

Additionally, similar data should be collected along the proposed access route to verify any currently available data, including the pipeline location and depth and bay bathymetry.

Preliminary Recommendations

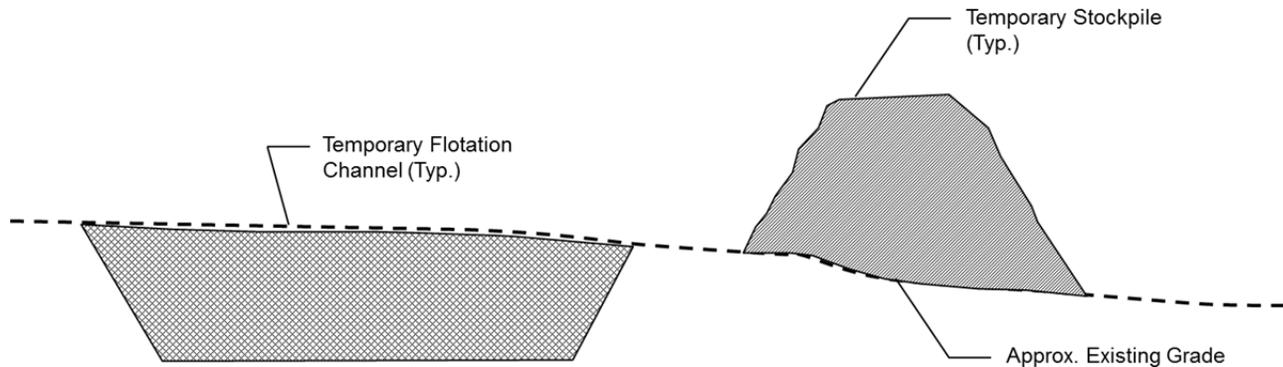
Water access to the site would likely begin in the Gulf Intracoastal Waterway, traveling through the Barataria Waterway, and ending at the proposed MBSD location. Two potential routes are illustrated in Figure 3. Both routes attempt to avoid most pipelines in the area and follow relic channels. The pipelines parallel to the bayside Non-Federal Levee are unavoidable if an access channel is to reach the proposed MBSD location. Based on the pipeline depth information provided by Fugro JCLS, these pipelines may need to be lowered to dredge access to the project.

Figure 3. Potential access routes



If an access channel is dredged in Barataria Basin, the typical cross section would be similar to the cross section shown in Figure 4. Specifications for the access channel would include a maximum dredge template with prescribed construction limits that the contractor would be required to stay within. Material removed from the channel would be placed parallel to the channel within prescribed construction limits, allowing the material to be placed back into the channel at the end of the project. The maximum limits of the channel and temporary stockpile would be determined by the horizontal space limits, geotechnical stability, pipeline coordination, and permit requirements. Acquiring additional servitude beyond the boundaries identified as permissible would be the contractor's responsibility.

Figure 4. Dredge access flotation channel typical section



The cost to dredge an access channel would vary depending on the route chosen, interference with pipelines, and final channel template, among other factors. Expected cost for dredging of an access channel may range between \$3 million and \$15 million. This range may be refined as more information becomes available.

References

- Cartographic Information Center. 2013. *Historical Aerials from 1952, 1979, 1980*. Obtained from Cartographic Information Center, Department of Geography and Anthropology, Louisiana State University.
- Fugro Geospatial Services John Chance Land Surveys, Inc. (Fugro JCLS). 2013. *Survey Report for Mid Barataria Diversion Project (BA-153) Design Phase Topographic and Bathymetric Surveys*. July 23, 2013. JCLS Ref. No. 2012-0712.
- FTN Associates, Ltd. 2013. *Numerical Modeling for LCA Medium Diversion at Myrtle Grove with Dedicated Dredging: Model Calibration and Validation*.
- Moffatt & Nichol. 2005. *Barataria Basin: Hydrodynamic & Salinity Model Development*. Prepared for Louisiana Department of Natural Resources. Baton Rouge, Louisiana.