

Coast 2050 Region 3

VERMILION RIVER CUTOFF (T/V-03)

TV-03-MSPR-0297-2

PROGRESS REPORT NO. 2

for the period

August 20, 1996 to February 20, 1997

Project Status

No additional data have been collected since the previous progress report.

Project Description

The Vermilion River Cutoff project was designed to protect and stabilize the shoreline along the east bank of the Vermilion River Cutoff and the adjacent wetlands, located in Vermilion Parish, La. (figure 1). The Vermilion River Cut off was constructed in 1944 to connect the Vermilion River and the Gulf Intracoastal Waterway (GIWW) with Vermilion Bay for navigational purposes. Comparison of the 1955 and 1985 aerial photographs indicate a shoreline erosion rate of 23.3 ft per year of the west bank of the Vermilion River Cutoff, assuming a constant annual erosion rate (U. S. Army Corps of Engineers and Louisiana Department of Natural Resources 1991). Erosion on the east bank threatens to breach the land bridge between the Vermilion River Cutoff and Onion Lake. In February 1996, a 6,520-ft rock breakwater was constructed parallel to and intermittently connected to the bank of the Vermilion River Cutoff (figure 2).

The project objectives are to maintain and protect approximately 54 acres of brackish marsh along the eastern side of the Vermilion River Cutoff and to prevent the Vermilion River Cutoff from widening into adjacent marshes and interior lakes. The specific goal of the project is to decrease the rate of shoreline erosion along the east bank of the Vermilion River Cutoff, adjacent to Onion Lake, through the use of a rock breakwater.

Monitoring Design

Near-vertical, color-infrared aerial photographs (1:12,000 scale) are scheduled preconstruction and 3 times postconstruction at year 2, 9, and 17 to determine wetland gain/loss within the project area over time and whether the project is successful at retarding shoreline erosion.

Continuous differential Global Positioning System (GPS) data will be established at the mean high water line along the original shoreline adjacent to the breakwater and at the reference site. The shoreline position will be measured every 3 yr to calculate shoreline changes and movement over time. Paired t-tests or analysis of variance (ANOVA) will be used to detect shoreline changes over the postconstruction period. In addition, shoreline position will be compared to historical data sets available in digitized format for 1956, 1978, and 1988.

Results/Discussion

Only baseline data have been collected at this time. Near-vertical, color-infrared photography (1:12,000) was obtained in November 1993 and will be taken again in November 1998, after which time two data sets will be available for interpretation. The initial GPS survey was conducted in September 1995 and will be repeated in February 1999, after which time two data sets will be available for analysis and interpretation.

References

U.S. Army Corps of Engineers (USACE) 1996. Vermilion River Cutoff (T/V-03) project plan. Data from as-built surveys recorded during project construction. New Orleans, La.: USACE district office.

U.S. Army Corps of Engineers (USACE) and Louisiana Department of Natural Resources (LDNR), Coastal Restoration Division 1991. Vermilion River Cutoff (T/V-03), Candidate Project Information Sheet for Wetland Value Assessment. Baton Rouge: LDNR, Coastal Restoration Division.

Prepared on March 4, 1997, by Christine Thibodeaux.

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Federal Sponsor:	USACE/Bill Hicks	(504) 862-2626
Construction Start:	January 1, 1996	
Construction End:	February 16, 1996	

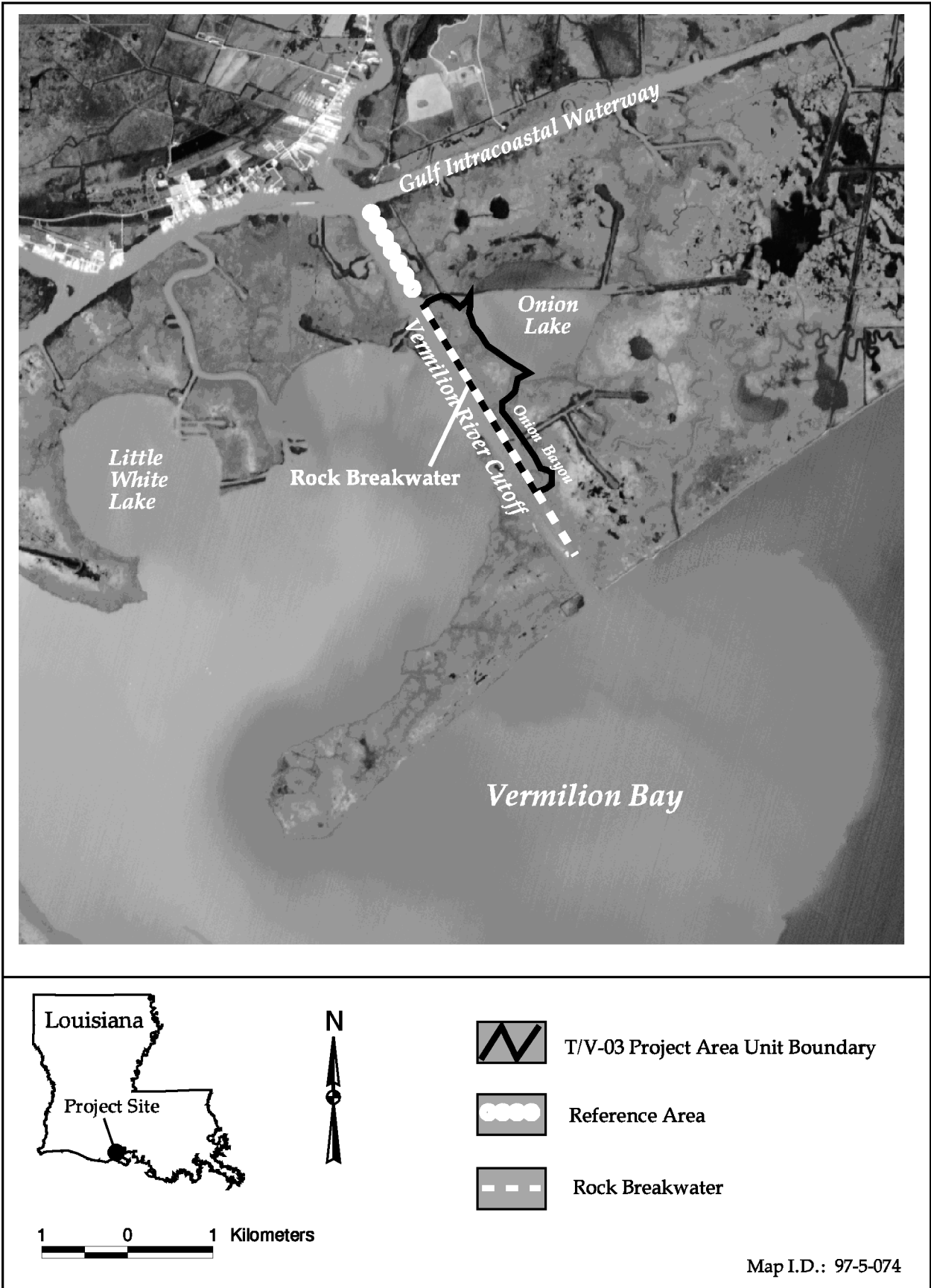


Figure 1. Vermilion River Cutoff (T/V-03) shoreline protection project and reference area.

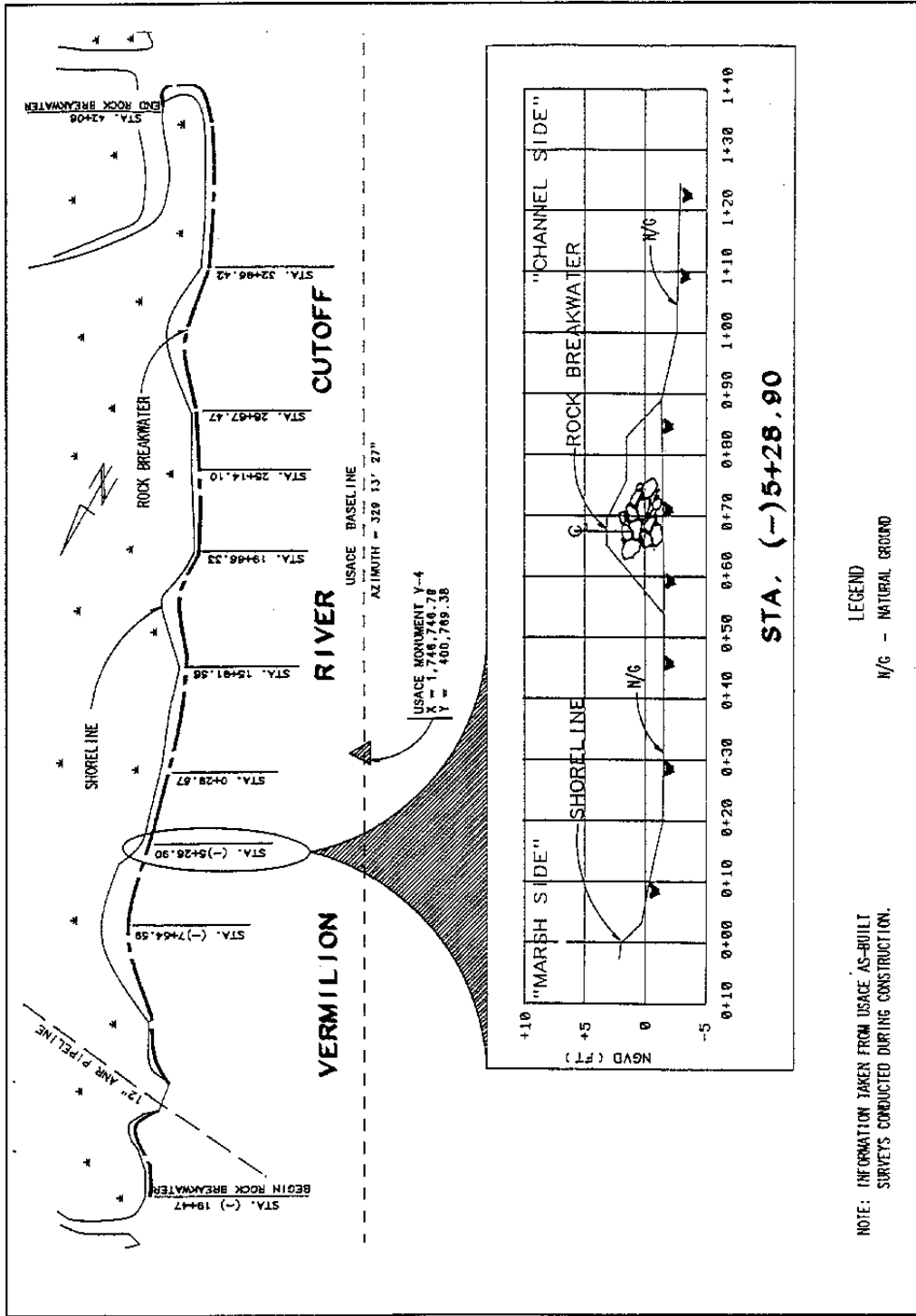


Figure 2. Plan and cross section showing location and elevation profile of station (-) 5+28.90 in as-built survey (data from USACE 1996).