NOAA COASTAL MAPPING PROGRAM
PROJECT COMPLETION REPORT

PROJECT LA0201F

FLOTATION CANAL SUPPLEMENT
PORT FOURCHON, LOUISIANA

Introduction

Coastal Mapping Program (CMP) Project LA0201F provides supplementary digital shoreline data of new construction and land development in Flotation Canal, just north of Port Fourchon at the southern end of Bayou Lafourche. This sub-project was compiled in order to supplement adjacent shoreline data previously released under project LA0201E, Port Fourchon. Both LA0201E and LA0201F are subsets of a larger project, LA0201, consisting of four side waterways of the Gulf Intracoastal Waterway system: Barataria Waterway, Bayou Lafourche, Lower Grand River, and Freshwater Bayou. The overall project, LA0201, was contracted out to 3001, Inc.

Completion of this project resulted in a densification of the National Spatial Reference System (NSRS), a set of controlled metric quality aerial photographs and a digital cartographic feature file (DCFF) of the coastal zone which compliments the Nautical Charting Program (NCP) and other geographic information systems.

The project database consists of information measured and extracted from aerial photographs and metadata related to photogrammetric compilation. Base mapping was conducted in a digital environment using stereo softcopy photogrammetry and associated cartographic practices. Project survey data is referenced to the North American Datum of 1983 (NAD 83).

Project Design

The Requirements Branch (RB) of the Remote Sensing Division (RSD) issued Project Instructions for LA0201 in accordance with guidelines in the Scope of Work Shoreline Mapping (version 12). The instructions discussed the project's purpose, geographic area of coverage, scope and priority; photographic requirements; flight line priority; Global Positioning System (GPS) data collection procedures and guidelines for both kinematic and static surveys; data recording and handling instructions; and contact and communication information.

The contractor designed and planned the project operations to conform with the guidelines and requirements in the Project Instructions.

Field Operations

The field operations consisted of the surveying of ground control points, collection of airborne

GPS data, and the acquisition of aerial photographs. The photographic mission operations were conducted by the contractor on November 7, 2002. Refer to the Field Operations and GPS Data Reduction sections of the Project Completion Report (PCR) for LA0201C - Bayou Lafourche for details.

Aerotriangulation

Softcopy aerotriangulation methods were applied to establish the network of precise airborne and ground control for mapping, and to provide model parameters and orientation elements required for digital compilation. The aerial photos covering the Bayou Lafourche Waterway, from which this sub-project was compiled, were adjusted together as a photogrammetric block separate from the other three waterways. Based on aerotriangulation statistics, the predicted horizontal circular error for this block is 0.15 meters at the 95% confidence level.

The project database consists of overall project parameters, camera calibration data, interior orientation parameters, airborne GPS antenna position and IMU orientation data, adjusted exterior orientation parameters, and a positional listing of all measured points. Positional data is based on the North American Datum 1983, and is referenced to the Louisiana State Plane coordinate system, zone 1702 (LA South), in units of U.S. Survey Feet.

Refer to the Aerotriangulation section of the PCR for LA0201C for details on the hardware, software, and methods used in the completion of this phase of the project.

Compilation

New shoreline data was compiled for this project, beginning at the limit of compilation from project LA0201E, to the visible limit of the source photographs. Feature compilation was performed by RSD Applications Branch personnel in April 2004 using a Digital Photogrammetric Workstation (DPW) in conjunction with the SOCET SET Feature Extraction module. Feature identification and the assignment of cartographic codes were based on image analysis of 1:12,000 scale natural color photographs. Cartographic feature attribution was assigned in compliance with the NGS Coastal Cartographic Object Attribute Source Table (C-COAST). Nomenclature was assigned to selected cartographic features to refine general classification.

Cartographic features were compiled to meet a horizontal accuracy of 0.3 meters at the 95% confidence level. This predicted accuracy of compiled, well defined points is derived by doubling the circular error derived from aerotriangulation statistics.

One stereo photo pair was used to compile the shoreline data for this project:

Date	Time (UTC)	Roll #	Photo #s	Scale	Tide Level
11-7-02	17:07	02CN51	0400-0401	1:12,000	non-tidal

Final Review

The final review was initiated by RSD in April 2004. The digital cartographic feature file (DCFF) was evaluated for completeness and accuracy. Online data review consisted of reviewing stereo models on a DPW for cartographic feature codes selection, positional accuracies of features, and nomenclature. The cartographic feature attribution was judged to conform to NGS's C-COAST specification. Due to the limited extent of the project area it was determined that a Chart Maintenance Print was not necessary, and was not generated.

Project Final Data and Products

The following specifies the location and identification of the products generated during the completion of this project:

RSD Applications Branch Project Archive
- Page size graphic plot of DCFF contents
- Hard copy of the Project Completion Report

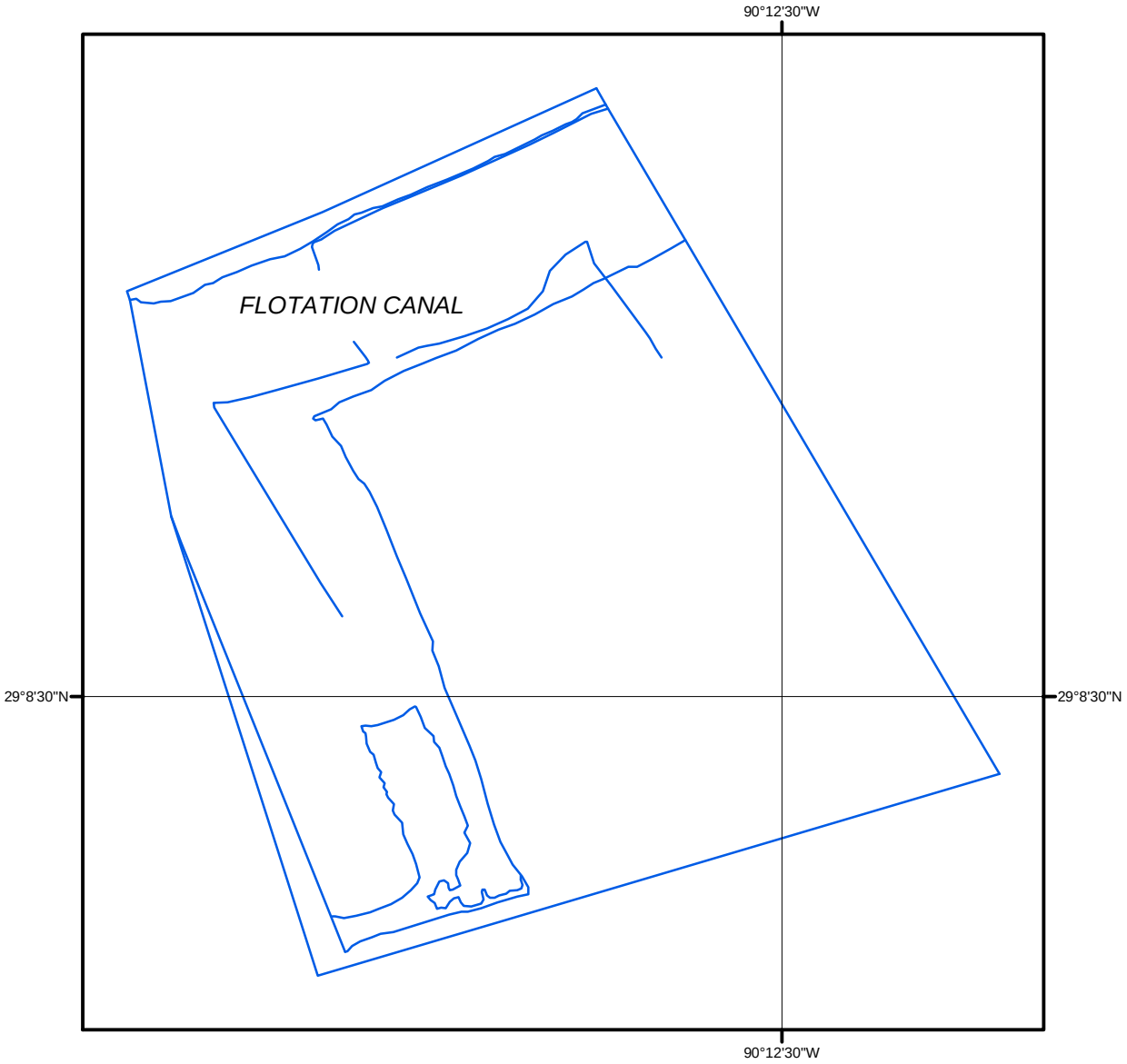
RSD Electronic Data Library:
- Project Database
- DCFF: GC10562
- Digital copy of DCFF in ESRI Shapefile format
- Digital Copy of Project Completion Report (PCR)

NOAA Shoreline Data Explorer
- Feature Database for GC10562 in ESRI Shapefile format
- Metadata file for GC10562
- Digital copy of the PCR in Adobe Acrobat PDF format

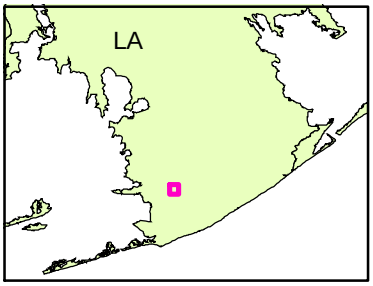
End of Report

FLOTATION CANAL SUPPLEMENT

PORT FOURCHON, LOUISIANA



Overview



LA0201F

GC10562