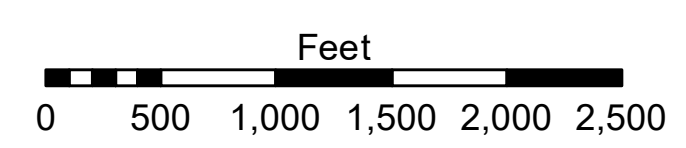
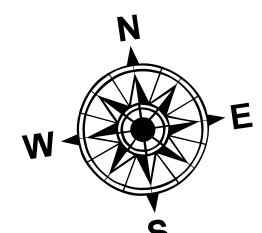


LEGEND

--- Federal Navigation Channel	○ Cable Area	□ Borrow Area	■ 0' and above
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	■ 0' to -5'
— As-built Pipeline/Cable	□ Anchorage Area	☆ Beacon, General	■ -5' to -10'
..... Unconfirmed Pipeline/Cable	⊗ Obstruction Point	◆ Red Navigation Buoy	■ -10' to -20'
— Project Depth Contour	⚓ Wrecks-Submerged	◆ Green Navigation Buoy	■ -20' to -30'
			■ -30' to -35'
			■ -35' to -40'
			■ -40' to 45'
			■ -45' and below



LWRP: 1.9
 Gage Reading: BR:27.7 D:18.2 USED:23.4 NAVD
 Sea Conditions: CALM
 Vessel Name: OB-189
 Survey Type: CONDITION
 Sounding Frequency***: HIGH

NOTES:
 Horizontal Coordinate System:
 North American Datum of 1983 (NAD83), projected to the State Plane
 Coordinate System (SPCS), Louisiana South Zone. Distance units in U.S. Survey Feet.
 Vertical Datum:
 Soundings are shown in feet and indicate depths below Low Water Reference Plane 2007 (NAVD).
 Distances on the Mississippi River, above and below Head of Passes are shown
 at 1 mile intervals.
 The location of navigation aids are base on and provided by the U.S. Coast Guard and USACE crew.
 2015 Aerial Photography data source: NAIP, USDA-FSA-APFO Aerial Photography Field Office.
 Reference is N.O.A.A. Navigation Chart No. 11370.
 ** Shoalest Sounding per Quarter per Reach.
 *** High frequency (200 kHz) survey data represents the first signal return at a sounding
 location and will include suspended solids, known as "fluff", if present. Low frequency (20 kHz)
 survey data normally penetrates through this "fluff" layer to depict elevations of consolidated bottom
 material. Low frequency accuracies may vary depending on channel conditions and fathometer
 settings.



DISCLAIMER:
 The United States Government furnishes these data and the recipient accepts and uses them with the express understanding that the Government makes no warranty, expressed or implied, concerning the accuracy, completeness, reliability, usability or suitability for any particular purpose of the information. The user is responsible for the results obtained from the application of the data for other than its intended purpose.
 Data Contaminants: Hydrographic survey data is subject to change due to several factors including but not limited to dredging, sedimentation, and changes in channel conditions. The user is responsible for the results of the data when used for purposes other than those for which it was collected. The information depicted on this map represents the results of a survey conducted on the date indicated. It is not intended to represent the general condition existing at that time.

U.S. ARMY CORPS OF ENGINEERS
 NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DJS/JDH
Recommended: Chert, Survey Section	Plotted By: BD
Approved: Chert, Waterways Maintenance Section	Checked By: AC

MISSISSIPPI RIVER - B. R. TO GULF
GRANADA CROSSING
MD_10_GRAX_20190814_BD
14 August 2019

Sheet
Reference
Number
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