



# D

## Appendix D - Navigation Study

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## Navigation Study

US 21 Bridge Replacement over Harbor River  
(Project ID: P026862)

*Beaufort County, South Carolina*  
January 15, 2016

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## Contents

1	Project Description .....	1
1.1	Existing Facility.....	1
1.2	Purpose and Need .....	4
1.2.1	Purpose of the Project.....	4
1.2.2	Need for the Project .....	4
1.3	Proposed Action .....	5
1.4	Purpose of the Navigation Study.....	9
2	Waterway Characteristics and Limitations .....	10
2.1	Physical and Operational Characteristics .....	10
2.2	Limitations by Area Bridges or Obstructions .....	10
3	Methods.....	13
3.1	Bridge Opening Logs.....	13
3.2	Onsite Camera Documentation .....	13
3.3	Vessel Survey .....	14
3.3.1	Telephone Interviews .....	14
4	Waterway Usage .....	15
4.1	Commercial .....	20
4.1.1	Gay Fish Company.....	20
4.1.2	Dopson Seafood.....	20
4.1.3	Other Shrimp Boats.....	21
4.1.4	R. L. Morrison & Sons, Inc .....	21
4.1.5	Sea Island Dock Builders .....	21
4.2	Recreational .....	22
4.2.1	Residential Dock Owners .....	22
4.2.2	Fripp Island Yacht Club .....	22
4.2.3	Fripp Island Marina.....	22
4.2.4	Fripp Island Sea Rescue.....	22
4.2.5	Beaufort County Boat Landing at Butcher's Road .....	23
4.2.6	Russ Point Boat Landing.....	23
4.2.7	Beaufort County Blueways.....	23
4.3	Future Waterway Usage.....	23
4.3.1	Land Use .....	23
4.3.2	Commercial Shrimping Facilities .....	24
4.3.3	Waterway Improvement Projects .....	24
5	Navigation Safety and Waterway Considerations .....	25
5.1	Waterway Safety Incidents.....	25
6	Recommendations .....	25
6.1	Horizontal Clearance.....	25
6.2	Vertical Clearance .....	25
6.3	Design Vessel for Collision Analysis .....	25
7	References .....	27

## Tables

Table 2-1. Tidal Elevations at NOAA Harbor River Bridge Station 8668146.....	10
Table 4-1. USCG Registered Vessels .....	17
Table 4-2. Required Vertical Clearance for Shrimp Boats at Gay Fish Company.....	20
Table 4-3. Required Vertical Clearance for Shrimp Boats at Dopson Seafood.....	21
Table 4-4. Vessel Usage and Requested Clearances for Residential Dock Owners.....	22

## Figures

Figure 1-1. Project Location Map .....	2
Figure 1-2. Aerial Photograph of Project Study Area.....	3
Figure 1-3. Existing US 21 Harbor River Bridge .....	4
Figure 1-4. Typical Section of Proposed Bridge .....	6
Figure 1-5. Alternative Alignments.....	7
Figure 2-1. NOAA Navigation Chart.....	11
Figure 2-2. SCE&G Powerline Located South of Existing US 21 Bridge.....	12
Figure 4-1. Number of Bridge Openings by Vessel Type .....	15
Figure 4-2. Opening Frequency by Month .....	16
Figure 4-3. Number of Bridge Openings by Vessel .....	18
Figure 4-4. Maritime Facilities .....	19

## Appendices

Appendix A.....	USCG Bridge Project Questionnaire
Appendix B.....	Vessel Navigation Survey Report
Appendix C.....	Vessel Survey Questionnaires
Appendix D.....	Telephone Records

# Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
EA	Environmental Assessment
FHWA	Federal Highway Administration
LRFD	Load and Resistance Factor Design
MHW	Mean High Water
MHHW	Mean Higher High Water
MLW	Mean Low Water
MLLW	Mean Lower Low Water
MSL	Mean Sea Level
NAVD88	North American Vertical Datum of 1988
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NTDE	National Tidal Datum Epoch
SCDOT	South Carolina Department of Transportation
SCE&G	South Carolina Electric and Gas

## Glossary

**Allision:** A collision between a vessel and a fixed object including bridges which may or may not result in damage to a vessel or the fixed object.

**Draft:** Vertical distance between the waterline and the bottom of the hull.

**Fendering:** Structural devices designed to protect marine infrastructure such as piers or bridge supports that are designed to absorb the dynamic impacts of a vessel.

**Mean High Water (MHW):** The average of all the high water heights observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent datum of the National Tidal Datum Epoch.

**Mean Higher High Water (MHHW):** The average of the higher high water height of each tidal day observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent datum of the National Tidal Datum Epoch.

**Mean Low Water (MLW):** The average of all the low water heights observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent datum of the National Tidal Datum Epoch.

**Mean Lower Low Water (MLLW):** The average of the lower low water height of each tidal day observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent datum of the National Tidal Datum Epoch.

**National Tidal Datum Epoch (NTDE):** The specific 19-year period adopted by the National Ocean Service as the official time segment over which tide observations are taken and reduced to obtain mean values (e.g., mean lower low water, etc.) for tidal datums. It is necessary for standardization because of periodic and apparent secular trends in sea level. The present NTDE is 1983 through 2001 and is actively considered for revision every 20-25 years. Tidal datums in certain regions with anomalous sea level changes (Alaska, Gulf of Mexico) are calculated on a Modified 5-Year Epoch.

### Sources:

Encyclopedia of Marine and Transportation Terms, Cornell Maritime Press, Monroe and Stewart

Maritime Terms-International Association of Maritime and Port Executives

Glossary of Tidal Datum Terms-NOAA

# 1 Project Description

The South Carolina Department of Transportation (SCDOT) proposes to replace the US 21 (Sea Island Parkway) bridge over the Harbor River in Beaufort County, South Carolina. The project study area consists of a corridor that is approximately two miles long and 600 feet wide, centered on the existing US 21 between St. Helena Island and Harbor Island. US 21 is a rural arterial route within the study area, traversing tidal wetlands and undeveloped, light residential, and light commercial portions of Beaufort County.

## 1.1 Existing Facility

US 21 is a two-lane roadway with earthen shoulders on a causeway connecting St. Helena Island with Harbor Island, Hunting Island, and Fripp Island. US 21 provides an important transportation link for the residents and visitors of the islands in meeting daily transportation needs. US 21 is also designated as a hurricane evacuation route for coastal Beaufort County.

The project corridor terrain is flat with the surface runoff draining to the adjacent salt marsh or roadside ditches. The existing land use along the project boundaries is primarily tidal wetlands, with small areas of residential and commercial development. Gay Seafood Company and its associated docks are located in the western portion of the study area. A Beaufort County boat landing is located on Butches Road, south of the causeway between St. Helena Island and the US 21 bridge over Harbor River. Harbor Island and Harbor Key residential communities are located east of the existing bridge, north of causeway.

The 2,851-foot long bridge over the Harbor River was constructed in 1939. The existing bridge includes a 170-foot long, 76-year-old metal truss swing span. The existing bridge deck consists of two 10-foot travel lanes, one in each direction, with a 1-foot curb and railing. The vertical navigational clearance is 15 feet when the swing span is closed. The horizontal navigational clearance is 60 feet. Average daily traffic was 4,100 vehicles in 2014.

The SCDOT determined that the existing bridge no longer meets the state's safety and design requirements for its transportation system. The existing bridge was evaluated in terms of its structural integrity and functional efficiency and found to be structurally deficient and functionally obsolete.



Figure 1-1. Project Location Map



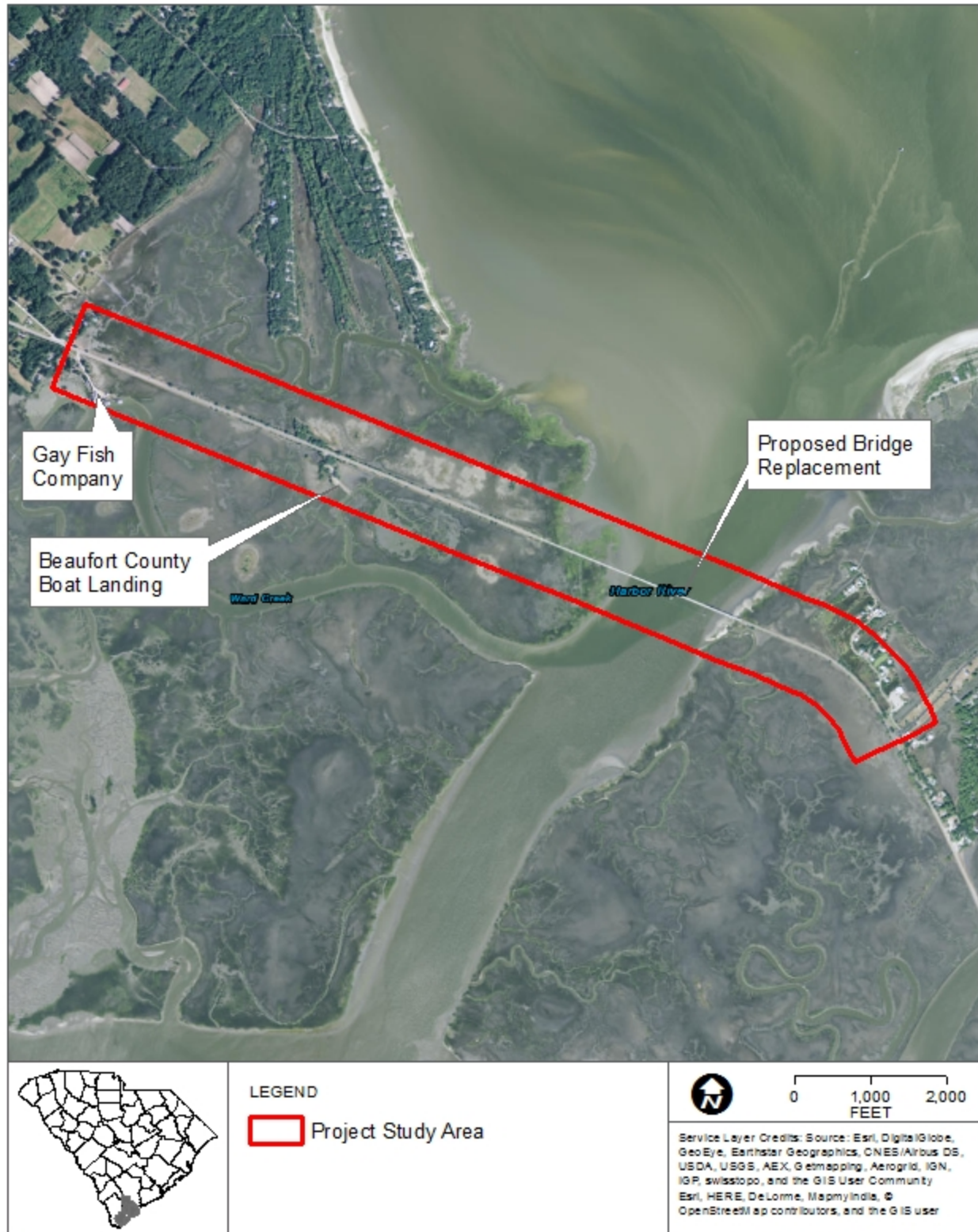


Figure 1-2. Aerial Photograph of Project Study Area



**Figure 1-3. Existing US 21 Harbor River Bridge**

## 1.2 Purpose and Need

### 1.2.1 Purpose of the Project

The purpose of the project is to correct structural and functional deficiencies of the US 21 Bridge over the Harbor River and to upgrade the bridge and its approaches to current design standards.

### 1.2.2 Need for the Project

#### Structural Deficiencies

A bridge is classified as structurally-deficient when the structure has deteriorated conditions and/or reduced load carrying capacity. Structure Inventory Assessments indicate the bridge superstructure is in poor condition. The existing bridge is currently Load Restricted to 26 tons Gross Vehicle Weight.

#### Functionally Obsolete

A bridge is classified as Functionally Obsolete if does not meet current design standards. The Harbor River Bridge deck geometry is rated as “intolerable” and in high priority of replacement. The existing bridge deck consists of two 10-foot travel lanes, one in each direction, with a 1-foot curb and railing. The existing section does not meet current design standards for rural arterial roads, which require 12-foot travel lanes and 10-foot shoulders.



## Sufficiency Rating

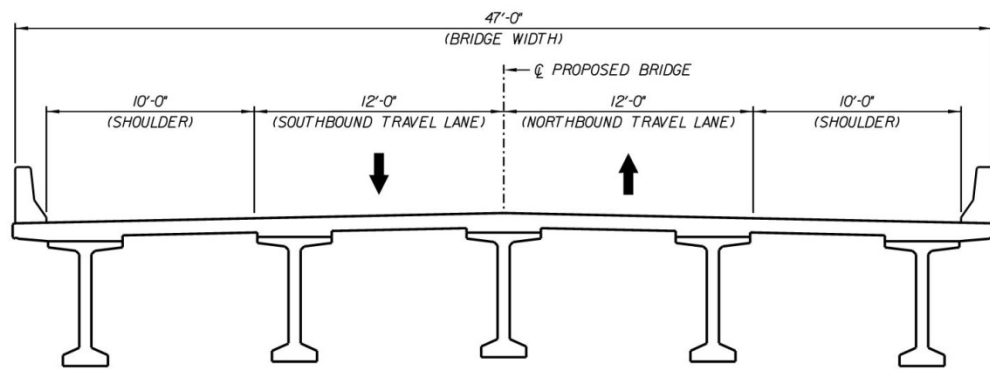
The existing bridge has been inspected by the SCDOT and received a sufficiency rating of 30.5. Sufficiency rating is a Federal Highway Administration (FHWA) generated number from 0 to 100%, which represents an overall simplified service assessment of a bridge. This rating does not necessarily imply that the bridge is unsafe or needs to be load restricted. Structures given a sufficiency rating of 50 or less are eligible for replacement through the Federal Highway Bridge Replacement and Rehabilitation Program.

There is an urgent need to replace the US 21 Bridge over the Harbor River because of the physical condition of the existing structure and the important linkage for Beaufort County. US 21 provides the only vehicle access between mainland Beaufort County and Harbor Island, Hunting Island, and Fripp Island. US 21 also serves as a designated hurricane evacuation route for coastal Beaufort County.

The bridge replacement is listed in the 2014-2019 Statewide Transportation Improvement Program with \$56 million in funding allocated for construction. The bridge continues to require greater maintenance efforts and costs to keep the structure protected from natural elements and its mechanical parts fully functional. Three malfunctions have occurred since May of 2014 that temporarily obstructed either the passage of vehicles or boats.

## 1.3 Proposed Action

SCDOT proposes to replace the existing US 21 bridge over Harbor River in Beaufort County, South Carolina. The proposed bridge would have one travel lane in each direction that is 12 feet wide, and a shoulder in each direction of travel that is 10 feet wide (Figure 1-4). During construction of the replacement bridge and approach roadway, traffic would be maintained on the existing facility. The existing swing span would remain operational for marine traffic throughout construction. The existing bridge would be demolished upon completion of construction. Construction is expected to occur between mid-2018 and mid-2020.



**Figure 1-4. Typical Section of Proposed Bridge**

The proposed bridge replacement is currently in the project development stage and a preferred alternative has not yet been selected. The SCDOT is considering shifting the location of the bridge to five alternative locations (Figure 1-5). The SCDOT is evaluating the construction of both a fixed span bridge and a new moveable bridge.



Figure 1-5. Alternative Alignments



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## 1.4 Purpose of the Navigation Study

The SCDOT, in consultation with the FHWA, is preparing an Environmental Assessment (EA) to evaluate the benefits and impacts from the proposed project, in accordance with the *National Environmental Policy Act* (NEPA) and implementing regulations. As part of the EA, the SCDOT and FHWA are considering new alignments and clearances for the proposed bridge through coordination with the US Coast Guard (USCG).

HDR Inc., on behalf of the SCDOT, prepared this Navigation Study to evaluate the current and prospective navigation on the Harbor River at US 21. The study will be provided to the USCG Bridge Program to assist with determining the reasonable navigational clearance on Harbor River. The USCG Bridge Program ensures marine safety, security, and stewardship and has the authority to approve the location and plans of all new bridges, modifications of existing bridges, international bridges, and causeways in or over navigable waterways of the United States. In accordance with 33 CFR 116.01, “[a]ll bridges are obstructions to navigation and are tolerated only as long as they serve the needs of land transportation while allowing for the reasonable needs of navigation.” Pursuant to the Rivers and Harbors Act, “No bridge shall at any time unreasonably obstruct the free navigation of any navigable waterway of the United States.” In addition, per the Bridge Act, “No bridge erected or maintained under the provisions of sections 491 to 498 of this title, shall at any time unreasonably obstruct the free navigation of the waterway over which it is constructed.”

Determining the vertical and horizontal clearance of the structure spanning the navigation channel is the focal point of the USCG permitting process. USCG authority for the permitting process is found in 33 U.S.C. 401, 491, 525-533, the International Bridge Act of 1972 and various acts of Congress. This study considers current and reasonably foreseeable future navigation. The USCG cannot permit a structure to be built over “Navigable Waters of the United States” which does not provide for the reasonable needs of current and foreseeable future navigation.

This study was prepared in accordance with the USCG Bridge Program Manual, Bridge Permit Application Guide, and white paper on the reasonable needs of navigation (USCG 2012). The study includes the USCG’s Bridge Project Questionnaire and supporting attachments, including a project location map and representative photographs (Appendix A). This study and its recommendations are based on current facts and circumstances and may be amended if facts and circumstances surrounding the project change over time, or are discovered during the permit application and public notice process.



## 2 Waterway Characteristics and Limitations

### 2.1 Physical and Operational Characteristics

The existing US 21 bridge over Harbor River is located approximately 0.88 mile from St. Helena Sound. The confluence of Harbor River and St. Helena Sound is approximately 1.9 miles from the Atlantic Ocean. The Harbor River is not part of the Atlantic Intracoastal Waterway.

The Harbor River is a saltwater river that experiences a 6.1-foot tidal range. The waterway at the existing swing span is approximately 34.5 feet deep and 1,835 feet wide at mean high tide. The waterway narrows to approximately 28.5 feet deep and 1,415 feet wide at mean low tide.

The 2,851-foot long bridge over the Harbor River was constructed in 1939. The existing bridge includes a 170-foot long, 76-year-old metal truss swing span. The vertical navigational clearance is 15 feet when the swing span is closed. The horizontal navigational clearance is 60 feet.

Table 2-1 provides the elevations at the National Oceanic and Atmospheric Administration (NOAA) Harbor River bridge station (Station ID 8668146). The water level heights are referenced to NAVD88 (North American Vertical Datum of 1988) and on the 1983 to 2001 National Tidal Datum Epoch.

**Table 2-1. Tidal Elevations at NOAA Harbor River Bridge Station 8668146**

	Elevations (Feet)	Adjusted to NAVD88 (Feet)
Mean Higher High Water (MHHW)	6.69	2.97
Mean High Water (MHW)	6.30	2.58
NAVD88	3.72	0
Mean Sea Level (MSL)	3.41	-0.31
Mean Low Water (MLW)	0.21	-3.51
Mean Lower Low Water (MLLW)	0.00	-3.72

Source: NOAA 2015

### 2.2 Limitations by Area Bridges or Obstructions

Surrounding bridges and obstructions are shown on the NOAA Navigational Chart in Figure 2-1. There are no bridges across Harbor River besides the existing US 21 bridge. Downstream (or north) of the existing bridge, the Harbor River waterway channel veers east as it enters St. Helena Sound, reaching depths of 49 feet at mean high water. The waterway becomes shallower as it approaches sand bars and shoals off of Harbor Island, with depths of 15 feet at mean high water. Vessels must navigate around these obstructions before reaching the deeper channels of St. Helena Sound and the inlet to the Atlantic Ocean.



Figure 2-1. NOAA Navigation Chart



A South Carolina Electric and Gas (SCE&G) powerline is located approximately 120 feet upstream (or south) of the existing bridge (Figure 2-2). The powerlines are elevated approximately 110 feet over Harbor River at mean high water.



**Figure 2-2. SCE&G Powerline Located South of Existing US 21 Bridge**

Vessels in the Harbor River can travel through inland waterways to reach Fripp Island. Harbor River narrows to the south, or upstream, of the existing bridge. The maximum depth in the southern portion of the waterway is 44 feet at mean high water. Approximately  $\frac{1}{2}$  mile to  $\frac{3}{4}$  mile south of the US 21 bridge, the Harbor River becomes increasingly shallow. As boaters proceed south, there are large mud flats and oyster beds on each side of the Harbor River. In order for a vessel to reach Fripp Island, it must travel through “Amen Corner”, a locally-known, narrow channel between the Harbor River and Story River (Cliff Spann, see Appendix D). The channel is very shallow (4 to 5 feet) at low tide and is marked with buoys to aid navigation (Figure 2-1). Once a vessel passes through Amen Corner, it enters a tributary to the Story River, a saltwater, tidally-influenced river that flows behind Fripp Island. Vessels can access Fripp Island Marina (see Section 4.2.3) from Old House Creek off the Story River. Vessels traveling toward Port Royal Sound via inland waterways would continue south on the Story River toward Trenchard’s Inlet and Station Creek.

Small, recreational vessels can reach the Atlantic Ocean through Fripp Island Inlet. The fixed bridge over Fripp Island Inlet (between Hunting Island and Fripp Island) has an existing vertical clearance of 15 feet above mean high water and 21 feet above mean low water. The bridge has a 60-foot horizontal clearance over Fripp Island Inlet.



## 3 Methods

The primary goal of the study was to determine the types of navigational activities supported by the waterway in the vicinity of the proposed bridge project. In order to make this determination, representative data regarding boat types and heights was collected. Prior to initiating the vessel survey, online research was conducted to determine:

- the project's situation within the marine environment (location with regard to other bridges, the Intracoastal Waterway, etc.);
- the location of local marinas and the services they provide;
- the location of marine-dependent businesses; and,
- the proximity of local boat ramps.

### 3.1 Bridge Opening Logs

The SCDOT maintains logs of the Harbor River bridge openings, which include the date and time the swing span is opened, the type of vessel, the vessel name, and vessel port location. HDR reviewed the bridge opening logs between July 2014 and December 2015 to evaluate the predominant type of vessel using the waterway and seasonal variances in vessel activity. This data was used to determine when the waterway is considered to be active. Bridge opening logs can be provided upon request.

### 3.2 Onsite Camera Documentation

A camera system was installed on the existing bridge on October 19, 2015 that documented vessel movements on the Harbor River. Video documentation is obtained by continuous video data acquisition using a remotely-accessible, stationary, all-weather, self-contained camera rigidly mounted to the steel catwalk system located on the fixed portion of the western approach to the swing bridge. SCDOT onsite personnel augment this data by obtaining digital photographs of the vessel's passage through the bridge opening and recording the date, time, and vessel ID number (registration number). Information documented by SCDOT is consolidated in Bridge Opening Logs and electronic photographs.

The date and time data recorded in the Bridge Opening Logs is used to search the continuous video data obtained to isolate the occurrence of each vessel. The video data is processed using AutoCAD software tools calibrated by field measurements to estimate the approximate vessel height, as well as the estimated waterline elevation at the time of crossing. Data for each target vessel occurrence is consolidated into a Vessel Data Sheet. The Vessel Navigation Survey Report for data collected between October 19 and November 30, 2015 is located in Appendix B.

All information provided in the Vessel Navigation Survey Report is based on visual interpretation of video data, which is subject to bias of the interpreter and can be affected by pixilation, weather, relative contrast of the vessel components with respect to the background, time of day, lighting conditions, etc. Based on the uncertainties of data

collection, measurement of vessel height was considered to be accurate within plus or minus five feet.

### 3.3 Vessel Survey

Three questionnaires were developed to gather information about the type and height of vessels using the Harbor River at US 21. The questionnaires, included in Appendix C, were developed for residential dock owners, commercial businesses or vessels, and marinas.

HDR prepared a mailing database for distribution of the questionnaires. Parcel data from Beaufort County GIS was used to identify the property owner and address. USCG registration data was used to identify addresses for registered commercial vessels. On October 5, 2015, HDR mailed 120 questionnaires to:

- 100 residential or homeowner association owned properties with docks within a 3 mile radius of the existing bridge.
- 16 commercial businesses, including marine construction companies, seafood companies, registered shrimp boats, and sea rescue organizations.
- 4 marinas or marine-related organizations, including Fripp Island's Marina, Marina Village, Property Owners Association, and Yacht Club.

Responses were requested within 30 days, or by November 5, 2015. The SCDOT received 44 completed questionnaires: 35 from residential dock owners, 6 from commercial vessels or facilities and 3 from marinas and/or yacht clubs. Four questionnaires were returned to sender. Results of the vessel surveys are incorporated into the discussion in Section 4.

#### 3.3.1 Telephone Interviews

Follow-up telephone interviews were conducted with key recreational and commercial users, including Gay Fish Company, Fripp Island Marina, R L Morrison & Sons Inc and Dopson Seafood. Telephone logs are included in Appendix D.

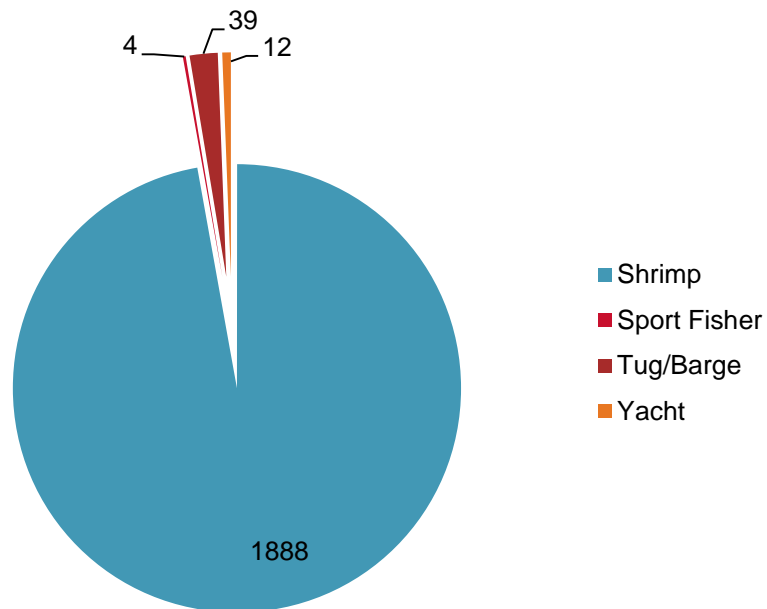
Gay Fish Company and Dopson Seafood were asked about the type of boats at their facility, the vessel names and size, and the requested clearances. Fripp Island Marina was asked about the type and size of vessels, length of stay, number of slips, and maximum slip length. The users were also asked about any seasonal variances in maritime activity. R L Morrison & Sons Inc were asked about the size of barge used to provide guidance on the vessel impact collision analysis (Section 6.3). Results of the telephone interviews are included in Section 4.

## 4 Waterway Usage

The following section presents the results from the vessel survey and review of bridge opening logs and onsite camera. Commercial and recreational facilities are identified on Figure 4-4. The section also considers surrounding land use and potential future waterway uses.

Based on the SCDOT bridge opening logs, the predominant vessel requiring greater than 15-foot clearance are shrimp boats (Figure 4-1). Small percentages of yachts, sport fishers, and tug boat and barges were documented since July 2014. No sailboats were documented in the logs.

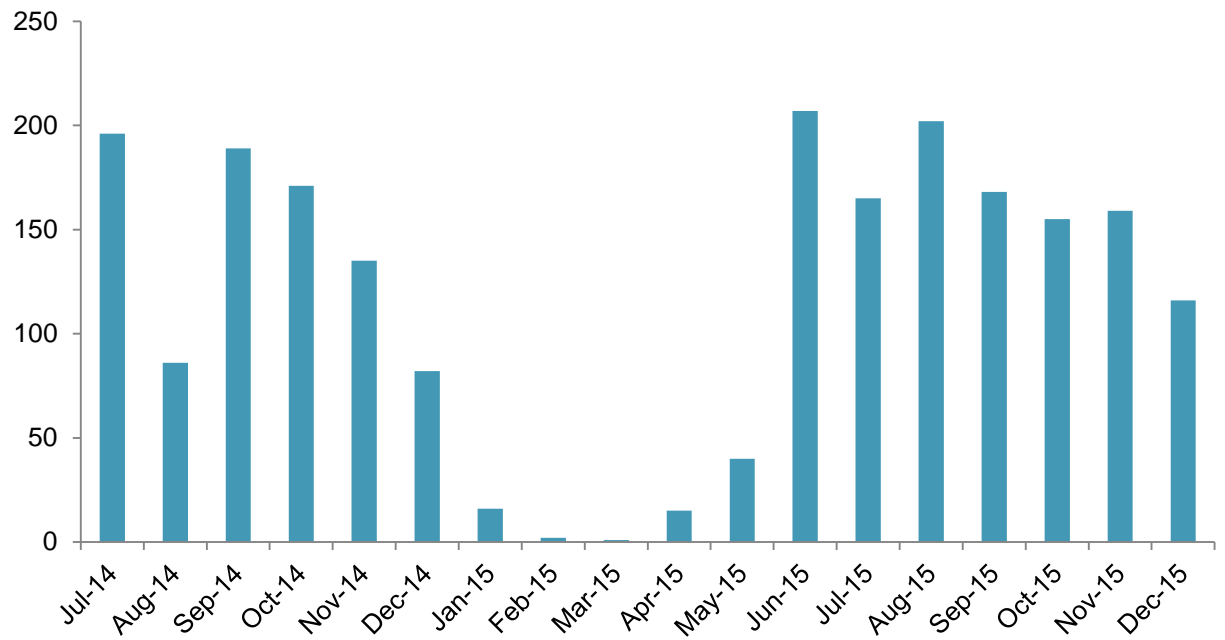
Shrimp boats use a double-rig system that consists of two outrigger booms mounted on the port and starboard side of the mast. The length of outriggers can vary based on the size of the shrimp boat. The outriggers are typically in the upright position when not in use but can operate at an angle of 20 to 30 degrees from the horizontal (Jonsson 1967).



**Figure 4-1. Number of Bridge Openings by Vessel Type**

Source: SCDOT July 2014-December 2015 Bridge Opening Logs

As shown in Figure 4-2, the waterway is most active during the Spring, Summer, and Fall months. The number of bridge openings greatly reduces between January and March.



**Figure 4-2. Opening Frequency by Month**

Source: SCDOT July 2014-December 2015 Bridge Opening Logs

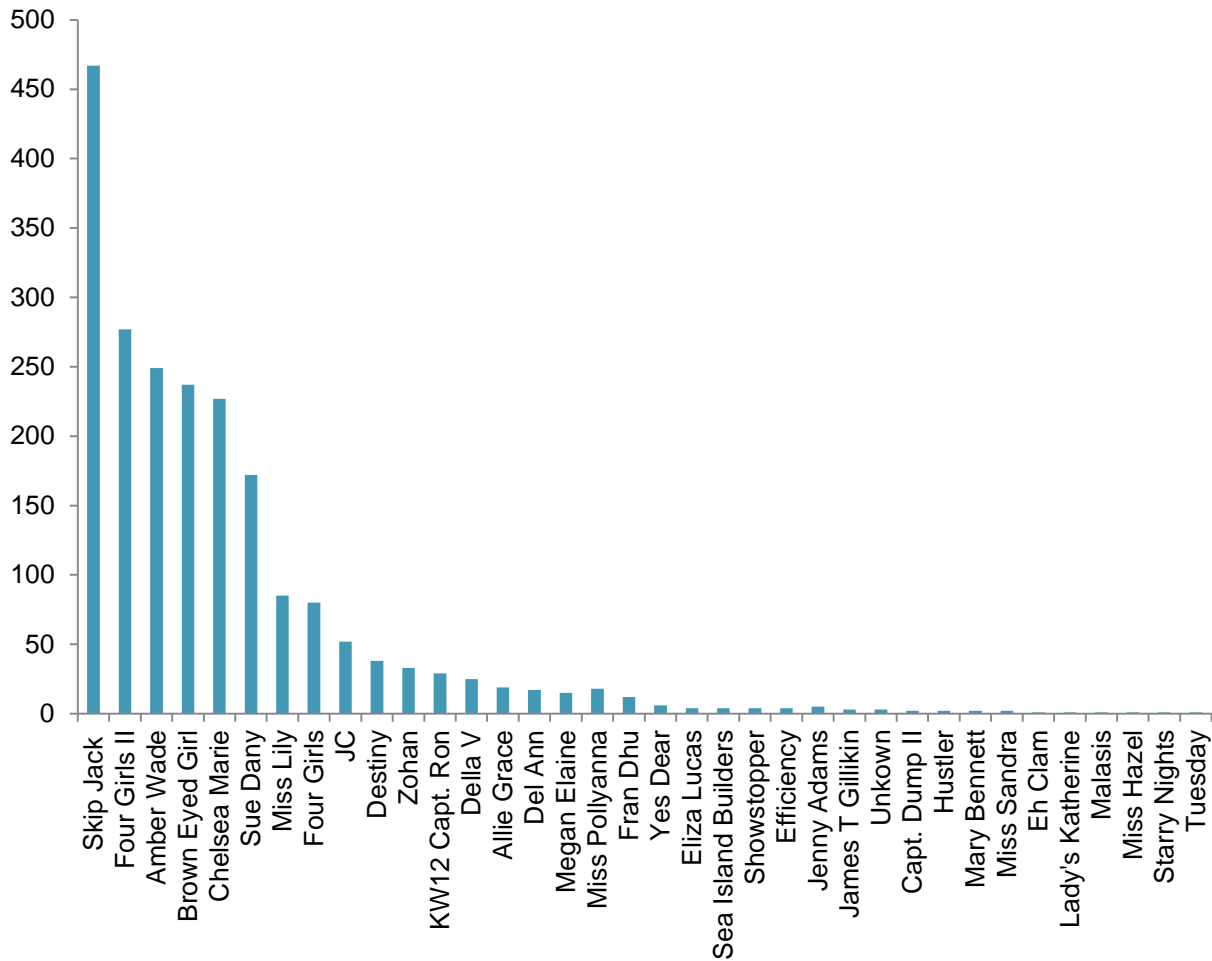
Table 4-1 provides a summary of vessels that required opening of the Harbor River bridge and are registered with the USCG.

**Table 4-1. USCG Registered Vessels**

Vessel	Port	Owner	Type of Vessel
<i>Brown Eyed Girl</i>	Port Royal, SC	George Brown	Shrimp Boat
<i>Della V</i>	Port Royal, SC	Sandavoll Shrimp Company <i>No Longer Operating</i>	Shrimp Boat
<i>Destiny</i>	Frogmore, SC	David N Gay	Shrimp Boat
<i>Efficiency</i>	Fripp Island, SC	Previous Owner: The Rodney R Hinton Revocable Trust	Yacht
<i>Eh Clam</i>	Mcclellanville, SC	Eh Clam Boat Inc	Shrimp Boat
<i>Eliza Lucas</i>	Mcclellanville, SC	R L Morrison & Sons Inc	Tug/Barge
<i>Four Girls II</i>	St. Helena, SC	Robert Pope	Shrimp Boat
<i>Fran Dhu</i>	Thunderbolt, GA	Unknown	Shrimp Boat
<i>Hustler</i>	Frogmore, SC	John Payne	Shrimp Boat
<i>Jenny Adam</i>	St. Helena, SC	B&R Fisheries	Shrimp Boat
<i>KW12 Capt Ron</i>	Savannah, GA	Unknown	Tug
<i>Mary Bennett</i>	Savannah, GA	Biblia	Tug
<i>Megan Elaine</i>	Beaufort, SC	St. Helena Seafood LLC	Shrimp Boat
<i>Miss Hazel</i>	Frogmore, SC	Previous Owner: Jessie L Mallory	Shrimp Boat
<i>Miss Lily</i>	Frogmore, SC	William T Smith Jr.	Shrimp Boat
<i>Miss Pollyanna</i>	Lady's Island, SC	Robert N Graves Sr.	Shrimp Boat
<i>Miss Sandra</i>	St Marys, GA	S&D Seafood Inc	Shrimp Boat
<i>Skip Jack</i>	Ridgeland, SC	Previous Owner: James Lynch II	Shrimp Boat
<i>Starry Nights</i>	Dataw Island, SC	Catherine J Jacobs	Yacht
<i>Yes Dear</i>	Beaufort, SC	R Milledge Morris	Yacht

Source: Vessels documented in SCDOT Bridge Opening Logs between July 2014 and December 2015.

Figure 4-3 shows the number of bridge openings by named vessel. Shrimp boats comprise the largest percentage of vessels requiring a bridge opening. The four shrimp boats with the greatest number of bridge openings include the *Skip Jack*, *Amber Wade*, *Four Girls II*, and *Brown Eyed Girl*, all of which are docked at Gay Fish Company on Ward Creek.



**Figure 4-3. Number of Bridge Openings by Vessel**

Source: SCDOT July 2014-December 2015 Bridge Opening Logs



Figure 4-4. Maritime Facilities



## 4.1 Commercial

### 4.1.1 Gay Fish Company

Gay Fish Company is located at 1928 Sea Island Pkwy on St. Helena Island, SC. Gay Fish Company operates docks on Ward Creek approximately 2 river miles from the Harbor River Bridge. Telephone interviews were conducted on September 29, 2015 and November 12, 2015 with Mr. Charles Gay, owner of Gay Fish Company (Appendix D).

Shrimp boats are the primary vessel docked at Gay Fish Company. The shrimp boats travel down Ward Creek to the Harbor River, then cross through the US 21 bridge to the St. Helena Sound. The vessels include *Amber Wade*, *Skip Jack*, *Sue Dany*, *Four Girls II*, *Brown Eyed Girl*, and *Miss Lily*. *Four Girls* burned and was replaced by *Four Girls II*.

As shown in Table 4-2, *Four Girls II* is the tallest shrimp boat at Gay Fish Company, with a height varying between 60 and 75 feet above water line depending upon sources. *Amber Wade* and *Brown Eyed Girl* have a height of 60 to 65 feet above water with the outriggers up. *Miss Lily* is approximately 50 feet above water with the outriggers up. *Skip Jack* and *Sue Dany* are the smallest shrimp boats. Other shrimp boats may use the docks seasonally.

**Table 4-2. Required Vertical Clearance for Shrimp Boats at Gay Fish Company**

Vessel	Required Vertical Clearance (Approximate)	Source
<i>Amber Wade</i>	60'	Telephone Interview
<i>Brown Eyed Girl</i>	60' – 65'	Telephone Interview, Vessel Navigation Survey Report
<i>Four Girls II</i>	60' – 75'	Telephone Interview, Vessel Navigation Survey Report, Vessel Questionnaire
<i>Sue Dany</i>	20' – 25'	Telephone Interview, Vessel Navigation Survey Report
<i>Miss Lily</i>	50'	Telephone Interview
<i>Skip Jack</i>	25'	Telephone Interview, Vessel Navigation Survey Report

### 4.1.2 Dopson Seafood

Dopson Seafood is located at 34 Hallmark Road on St. Helena Island, SC. A telephone interview was conducted on November 16, 2015 with Mr. Craig Dopson, owner of Dopson Seafood (Appendix D). Dopson Seafood operates docks on Village Creek approximately 8 river miles from the Harbor River bridge. One shrimp boat, the *Hustler*, is docked at Dopson Seafood year round. Based on the vessel questionnaire and telephone interview, the *Hustler* is 85 feet high from the waterline with the outriggers up (Table 4-3). A follow-up telephone interview was conducted with the *Hustler's* owner, Mr. John Payne, on November 16, 2015, who indicated that the vessel has 50 foot outriggers that are anchored to the boat 10 feet above the water surface. Mr. Payne indicated that the outriggers may be dropped 30-degrees to travel under 65-foot Intracoastal Waterway bridges.



Four other shrimp boats, including the *Polly Anna*, *Megan Elaine*, *Miss Hazel*, and *Jenny Adam*, use Dopson Seafood dock during the spring. The shrimp boats use the Harbor River bridge during bad weather to travel behind Fripp and Hunting Island, instead of traveling offshore.

**Table 4-3. Required Vertical Clearance for Shrimp Boats at Dopson Seafood**

Vessel	Required Vertical Clearance (Approximate)	Source
<i>Hustler</i>	60'	Telephone Interviews, Vessel Questionnaire
<i>Polly Anna</i>	60'	Vessel Navigation Survey Report
<i>Megan Elaine</i>	Unknown	
<i>Miss Hazel</i>	Unknown	
<i>Jenny Adam</i>	50'	Telephone Interview, Vessel Navigation Survey Report

#### 4.1.3 Other Shrimp Boats

Two individual shrimp boats also responded to the vessel survey questionnaire. The *Eh Clam* and *Destiny* shrimp boats are registered with the USCG. The *Eh Clam* requires **65 foot vertical clearance** and the *Destiny* requires **50 foot vertical clearance**.

#### 4.1.4 R. L. Morrison & Sons, Inc

R. L. Morrison & Sons, Inc. is a family owned marine construction company that has been in business since 1921. They are located in McClellanville, Charleston County, SC on the Intracoastal Waterway. R.L. Morrison & Sons, Inc. provides heavy marine construction on projects between North Carolina and Georgia. They specialize in the construction and repair of fixed piers, docks, fender systems, bulkheads, boat ramps, revetments, groins and rock jetties for beach erosion, marinas and powerline crossings (R.L. Morrison & Sons 2015). The company also occasionally provides transport for equipment or mobile homes on the Intracoastal Waterway.

R.L. Morrison & Sons operates the *Eliza Lucas* tug boat. A telephone interview was conducted on November 5, 2015 with R.L. Morrisons and Sons regarding the characteristics of the tug boat Eliza Lucas and its associated barge (Appendix D). This information was used to support the Design Vessel Collision Analysis (Section 6.3).

#### 4.1.5 Sea Island Dock Builders

Sea Island Dock Builders is a South Carolina Marine Contractor located on St. Helena Island. Construction projects include residential and community docks, boardwalks, bulkheads and seawalls, and pile driving (Sea Island Dock Builders 2015).

A telephone interview was conducted on November 5, 2015 with Sea Island Dock Builders regarding the characteristics of their tug boat and its associated barge (Appendix D). This information was used to support the Design Vessel Collision Analysis (Section 6.3).

## 4.2 Recreational

### 4.2.1 Residential Dock Owners

Thirty-five residential dock owners responded to the questionnaire. As shown in Table 4-4, 16 of the respondents operate vessels in the Harbor River. Eight of the respondents operate a vessel that requires greater than the existing 15-foot clearance at high tide. The maximum vertical clearance requested by residential dock owners is 36 feet.

**Table 4-4. Vessel Usage and Requested Clearances for Residential Dock Owners**

	Responses
Does Not Own a Boat	14
Owns Boat, Does Not Use Harbor River	3
Recreational Vessel (Kayak, Canoe, Jon Boat)	2
Owns Boat, Provided Vertical Clearance	16
Minimum Clearance	8 feet
Maximum Clearance	36 feet
Average Clearance	17 feet

### 4.2.2 Fripp Island Yacht Club

The Fripp Island Yacht Club is a social organization that promotes cruising, fishing, boating skills, and safe boating (Fripp Island Yacht Club, 2015). The Yacht Club hosts events including overnight boat trips and boat parades. In response to the vessel questionnaire, the Fripp Island Yacht Club indicated that a **20 foot vertical clearance** would allow for clear passage for their members.

### 4.2.3 Fripp Island Marina

The Fripp Island Marina is a full-service facility with 65 wet slips and 120 dry slips for long-term storage (Fripp Island Marina, 2015). The marina is located on Old House Creek on the western side of Fripp Island, approximately 8 river miles from Harbor River bridge. They provide fuel, dockage, power, water, short- and long-term storage, haul-out, mechanical, maintenance, boat ramp launch, fishing charters, and boat rentals (Fripp Island Marina, 2015). Fripp Island Marina indicated a need for **55 foot vertical clearance** in response to the vessel survey questionnaire.

### 4.2.4 Fripp Island Sea Rescue

Fripp Island Sea Rescue is an all-volunteer organization based on Fripp Island, South Carolina. Their primary missions are to help boaters in distress and to conduct search and rescue missions to support and assist the Beaufort County Sheriff's Office, South Carolina Department of Natural Resources, USCG, and state and Federal law enforcement agencies (Fripp Island Sea Rescue 2015). Cliff Spann, a resident of Fripp Island and representative of Fripp Island Sea Rescue, indicated in a Public Information Meeting comment form and telephone conversation (Appendix D) that shrimp boats are

the primary large boats using the Harbor River. Mr. Spann suggested that a tall bridge was not necessary because of a declining local shrimping industry.

#### 4.2.5 Beaufort County Boat Landing at Butcher's Road

The Butcher's Island Boat Landing is owned and operated by Beaufort County. The boat landing is located at 10 Butcher's Road on Ward Creek, a tributary to Harbor River. The landing accommodates 20 unpaved parking spaces and is recommended for small boats only because of Ward Creek's shallow depth (Beaufort County 2015).

#### 4.2.6 Russ Point Boat Landing

Public boat access is available at the south end of Hunting Island State Park where the Russ Point Boat Landing provides access to Harbor River and Fripp Inlet.

#### 4.2.7 Beaufort County Blueways

Portions of Harbor River south of the existing US 21 bridge are designated and mapped as blueways by the South Carolina Department of Natural Resources (SCDNR). Blueways are water trails for paddle craft, such as kayaks or canoes. Harbor River to the north of the existing bridge and Ward Creek are designated as proposed blueways in the Beaufort County Trails and Blueways Master Plan (Beaufort County 2010).

### 4.3 Future Waterway Usage

This navigational study also considers how the proposed bridge would affect future waterway usage. The following section provides information about land use zoning along the Harbor River.

#### 4.3.1 Land Use

The study area crosses the Harbor River, as well as extensive tidal salt marsh wetlands. US 21 is a rural arterial route within the study area, traversing undeveloped, light residential, and light commercial portions of Beaufort County. No industrial land uses were identified along the Harbor River on St. Helena Island, Harbor Island, Fripp Island, and Hunting Island (Beaufort County GIS).

Beaufort County's Comprehensive Plan (2010) provides a vision for future land use and growth management policies within the County. There is a low potential for growth and development within the project study area because of the extensive tidal wetlands, floodplains, and zoning designations. St. Helena Island, Harbor Island, Fripp Island, and Hunting Island are located outside of the Growth Boundary for Northern Beaufort County (Beaufort County 2010).

Harbor Island and Fripp Island are zoned for existing planned unit development and designated in the County's land use maps as Neighborhood Mixed-use. Beaufort County (2010) does not envision these neighborhood residential areas expanding beyond their current boundaries. Beaufort County's Open Land Trust maintains conservation easements on the tidal marsh surrounding Harbor Key within the project study area.

Hunting Island State Park, located approximately 0.8 mile from the eastern end of the project area, is designated as Preserved land.

St. Helena Island, located at the western edge of the project study area, is both zoned and designated as Rural. Beaufort County has also designated St. Helena Island as part of a Cultural Protection Overlay, because of its traditional cultural landscape, rural characteristics, and notable concentration of Gullah culture (Beaufort County, 2010). The Overlay extends to US 21 causeway located west of the existing swing span bridge. Development of gated communities, golf courses, and/or resort properties is discouraged or prohibited within the Overlay. The proposed US 21 bridge would not include additional travel lanes; the project's purpose is to correct the bridge's structural and functional deficiencies. The project would not encourage commercial or industrial development on St. Helena Island because of the existing zoning and overlay restrictions. Therefore, the project is compatible with the Rural land use and Cultural Protection Overlay.

#### 4.3.2 Commercial Shrimping Facilities

Gay Fish Company and Dopson Seafood are located on properties zoned by Beaufort County as "Rural" and within Commercial Fishing Village Overlays. Beaufort County has designated areas within the Commercial Fishing Village Overlay to recognize the cultural contributions of the seafood industry. Goals of the Commercial Fishing Village Overlay include providing for the maintenance and enhancement of the commercial seafood industry and supporting traditional uses, preserving existing and potential commercial fishing areas, and reducing conflicts between the seafood industry and residential developments (Beaufort County 2014). Permitted uses within the Commercial Fishing Village Overlay include marine retail or service establishments, restaurants, marine-related educational facilities, commercial docks, fish houses, boat charters, and boat landings. Conditional and Special Uses include marine storage and repair facilities, ice houses, large wholesale fish houses, fuel storage facilities, marine construction facilities, and jellyfish processing facilities. Specific uses and limitations can be found in Beaufort County Community Development Code (Beaufort County 2014).

The Gay Fish Company property on US 21 is currently for sale. If the property were sold, it would likely be used to support maritime activities because of its location on Ward Creek. Potential land uses would also have to be compatible with the property's Rural zoning designation and the Beaufort County Commercial Fishing Village Overlay.

The owners of Dopson Seafood are retiring and selling their business. However, the current owner indicated that the business has been purchased by another shrimping company and will continue to be used in its current capacity.

#### 4.3.3 Waterway Improvement Projects

No waterway improvement or dredging projects have been identified within the Harbor River.

## 5 Navigation Safety and Waterway Considerations

### 5.1 Waterway Safety Incidents

The USCG and the SCDOT do not have documentation of any allisions at the existing US 21 bridge over Harbor River. A telephone interview was conducted on January 13, 2016 with Mr. Cliff Spann who volunteers for the Fripp Island Sea Rescue organization (Appendix D). Mr. Spann indicated that Fripp Island Sea Rescue has responded to boating incidents in St. Helena Sound, north of the US 21 bridge, and in Harbor River, south of US 21 bridge. Incidents include, among others, boaters running aground in shallow areas, mud flats, or oyster beds between Harbor River and the Story River. Fewer incidents have occurred in recent years after the USCG installed four buoys at “Amen Corner” to alert boaters to shallow areas.

## 6 Recommendations

### 6.1 Horizontal Clearance

The proposed minimum horizontal clearance for the main navigational opening should be 90 feet between fenders. The minimum width between bridge piers at the main navigational opening should be 120 feet. This width would allow shrimp boats that exceed the vertical clearance to lower their outriggers enough to pass underneath the bridge.

### 6.2 Vertical Clearance

The vertical clearance of the proposed fixed span bridge should be a minimum of 65 feet from the Mean High Water datum to meet the needs of mariners in the area. This also accommodates the mast height of a wider range of commercial shrimp boats that frequently use the waterway. The location of maximum vertical clearance on the proposed bridge will occur within the current navigation channel to provide for continuous navigation during construction.

### 6.3 Design Vessel for Collision Analysis

A vessel collision analysis should be performed on the replacement structure in accordance with Section 3.14 of American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications, 6<sup>th</sup> Edition and AASHTO Vessel Collision Design of Highway Bridges, 2<sup>nd</sup> Edition. The analysis should, as a minimum, take into consideration the following two collision events:

- Event 1 – Drifting empty barge impacting vulnerable bridge elements
- Event 2 – Ship & Barge tow impacting vulnerable bridge elements while in transit

Based on the typical tug/barge traffic in the area as collected in the Vessel Study, a vessel with the following minimum characteristics is recommended as the design vessel. Minimum characteristics should be defined as characteristics which create the most critical force effects on the bridge substructure.

The design Barge should be a single Small Deck Barge (45 feet x 120 feet) with an empty displacement of 250 tons. The Draft when empty should be 2 feet. The Barge when loaded should have a maximum displacement tonnage of 400 tons. The Draft when loaded should be 3.5 feet. Other Barge characteristics should include an assumed head-log height of 2 feet, a depth of 8 feet and a bow rake length of 14 feet.

For Collision Event 2, the ship should be defined as a Towboat (24 feet x 70 feet) with a gross displacement tonnage of 100 tons. The Draft should be 7.5 feet. The speed of the combined Towboat and Barge under power should be a maximum of 10 knots, not including tide induced water velocity.

Approximately 1300 feet of the replacement structure will span within the deep draft waterway, which provides enough draft for the design vessel. The minimum vertical clearance provided at the edges of the deep draft waterway should be in excess of 45 feet. At this height, the only superstructure impact forces would be derived from mast collisions of smaller vessels and are therefore negligible.


Design for intentional vessel collision should not be required in accordance with Security Considerations in Section 3.14.16 of AASHTO LRFD Bridge Design Specifications. While the proposed bridge would provide the only vehicle access to Harbor, Hunting, and Fripp Islands, security concerns are mitigated by the project's location within a rural area with seasonal populations. US 21 is also not part of the Strategic Highway Network and the project area is not located on or near a military base.

## 7 References

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<http://www.seaislanddockbuilders.com/>
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# A

## USCG Bridge Project Questionnaire

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DEPARTMENT OF HOMELAND SECURITY Commander (dpb)  
 U.S. COAST GUARD Seventh Coast Guard District  
 Form D7-1103 (Rev. 4-10)

909 S.E. 1<sup>st</sup> Avenue, Ste 432  
 Miami, FL 33131-3050  
 (305) 415-6740

## BRIDGE PROJECT QUESTIONNAIRE

The Coast Guard must determine whether or not a Bridge Permit is required for your project. By providing full and accurate information on this form, you will assist in our decision making process. Errors or misstatements may require redesigning of your bridge, and may subject you to civil penalty sanctions. If you have any questions regarding this form, do not hesitate to contact the Bridge Administration Branch at the letterhead address or phone number. Regarding the site of your proposed bridge, please provide the following information:

### NAVIGATION DATA:

1. Name of waterway: Harbor River
    - 1a. At proposed site, mileage along waterway measured from mouth or confluence 0.88 miles from St. Helena Sound
    - 1b. Waterway is a tributary of St. Helena Sound at mile 1.9 from the Atlantic Ocean.
  2. Geographical Location: US Highway 21, St. Helena Island, Beaufort County, SC  
 (Road Number, City, County, State)
  3. Township, section and range, if applicable: St. Helena Island
  4. Is the waterway tidally influenced at proposed bridge site? Yes Range of tide? 6.1 feet  
 (Mean Range of Tide)
  5. Depth and width of waterway at proposed bridge site:
 

	Depth	Width
At Mean High Tide (6.30')	<u>34.5 ft</u>	<u>1,835 ft</u>
At Mean Low Tide (0.21')	<u>28.5 ft</u>	<u>1,415 ft</u>
- Based on NAVD88 at Station 8668146 and bathymetric survey prepared by GEL Engineering LLC.
6. Check the type(s) of present vessel traffic on the waterway:  
 Canoe/Kayak X Rowboat      Small Motorboat X Cabin Cruiser X  
 Houseboat      Pontoon Boat      Sailboat      Tug and tow X Other Shrimp boats
  - 6a. Provide the vertical clearance required for the largest vessel using the waterway To be determined by vessel survey.
  - 6b. Provide a photograph of each type vessel using the waterway. See attached representative photographs.
  7. Are these waterways used to transport interstate or foreign commerce? Yes      No X

7a. Are these waters susceptible to use in their natural condition, or by reasonable improvement, as a means to support interstate or foreign commerce? Yes \_\_\_\_\_ No X

7b. To your knowledge, are there any planned waterway improvements to permit larger vessels to navigate? No. If so, what are they? \_\_\_\_\_

8. Are there any natural or manmade obstructions, bridges, dams, weirs, etc. downstream or upstream? Yes X No \_\_\_\_\_

8a. If yes, provide upstream/downstream location with relation to the proposed bridge. An SCE&G powerline is located approximately 120 feet upstream (south of the existing bridge) of the centerline of US 21 on the Harbor River bridge. The powerlines are elevated approximately 110 feet over the waterway. The Harbor River channel narrows upstream, connecting to the Story River via a narrow channel at 6 foot depth. The fixed bridge on the Story River (between Hunting Island and Fripp Island) has vertical clearance of 15 feet. There are no obstructions downstream of the Harbor River bridge. Harbor River connects to the St. Helena Sound and is approximately 1.9 miles from the Atlantic Ocean.

8b. If the obstruction(s) are bridges, provide vertical clearance at mean high water and mean low water and horizontal clearance normal to axis of the waterway. Story River Bridge Vertical Clearance: MHW 15 ft MLW 21 ft Horizontal clearance 60 feet

8c. Provide a photograph of the bridge(s) from the waterway showing channel spans. See attached representative photographs.

9. Will the proposed structure replace an existing bridge? Yes

9a. Provide permit number and issuing agencies of permits for the bridge(s) to be replaced. Federal Highway Administration and South Carolina Department of Transportation; No permits issued at this time.

9b. Provide the vertical clearance above mean high water and mean low water and the horizontal clearance normal to axis of waterway. Vertical Clearance: MHW 15 ft MLW 21 ft Horizontal Clearance 60 feet

9c. Provide a photograph of the to-be-replaced bridge from the waterway, showing the channel span(s). See attached representative photographs.

10. List the names and addresses of persons whose property adjoins the bridge right of way.

COUNTY OF BEAUFORT  
C/O GARY KUBIC, BEAUFORT COUNTY ADMINISTRATOR  
100 RIBAUT RD  
BEAUFORT SC 29902  
TMS#: R300 019 000 0008 0000  
TMS#: R300 020 00B 0031 0000

HARBOR ISLAND OWNERS ASSOCIATION  
C/O DON WOELKE

1 HARBOR DRIVE  
ST HELENA ISLAND SC 29920-5016  
TMS#: R300 020 00A 0119 0000

HARBOUR KEY COMMUNITY ASSOCIATION  
2123 SEA ISLAND PKWY  
HARBOR ISLAND SC 29920  
TMS#: R300 020 00C 0154 0000

11. List names and addresses/location of marinas, marine repair facilities, public boat ramps, private piers/docks along waterway within ½ mile of site.

The SCDOT prepared a database (attached) of marinas, commercial vessels, marine construction companies, and private piers/docks within 3 miles of the US 21 Bridge over Harbor River. Questionnaires were distributed to this mailing database on October 5, 2015. Responses were due within 30 days, or by November 5, 2015. The responses are evaluated in the Navigation Study.

12. Attach a location map and plans for the proposed bridge; show the vertical clearances above mean high water and mean low water and the horizontal clearance normal to axis of the waterway.

A Location Map is included as Figure 1-1 in the Navigation Study. The SCDOT is considering five alternative alignments for the proposed bridge (see Figure 1-5 in the Navigation Study). The proposed vertical clearance is 65 feet above mean high water and 71 feet above mean low water. The horizontal clearance is expected to be 90 feet between fenders and 120 feet between piers.

13. Attach three (3) photographs taken at the proposed bridge site: one looking upstream, one looking downstream, and one looking along the alignment centerline across the bridge site.

See attached representative photographs.

DATE: \_\_\_\_\_ Print Name and Agency: \_\_\_\_\_

Signature: \_\_\_\_\_

ATTACHMENTS: Vessel Survey Database  
Representative Photographs

	FirstName	MiddleName	LastName	Suffix	Organization	Address1	City	State	ZIP	NAVSTUDY	
1	William	H	Gay			1928 Sea Island Pkwy	St Helena Island	SC	29920	Commercial	Registered Shrimp Boat
2					Wards Creek LLC	1929 Sea Island Pkwy	St Helena Island	SC	29920	Commercial	Registered Shrimp Boat
3	Cliff		Spann			332 Ocean Point Dr	Fripp Island	SC	29920	Commercial	Fripp Island Sea Rescue
4	George		Brown			166 Seaside Rd	St Helena Island	SC	29920	Commercial	Registered Shrimp Boat
5					Sandavoll Shrimp Company	63 Beautiful Ct	Martinsburg	WV	25404	Commercial	Registered Shrimp Boat
6	David	N	Gay			208 Nimmer Ct	Ridgeland	SC	29936	Commercial	Registered Shrimp Boat
7					Eh Clam Boat Inc	PO Box 66	McClellanville	SC	29458	Commercial	Registered Shrimp Boat
8					R L Morrison & Sons Inc	PO Box 579	McClellanville	SC	29458	Commercial	Marine Construction
9	Robert		Pope			15 Charlie Holmes Ln	St Helena	SC	29920	Commercial	Registered Shrimp Boat
10	John		Payne			PO Box 164	Beaufort	SC	29901	Commercial	Registered Shrimp Boat
11					St Helena Seafood LLC	PO Box 293	St Helena Island	SC	29920	Commercial	Registered Shrimp Boat
12	William	T	Smith	Jr		16 Bent Oak Rd	Beaufort	SC	29907	Commercial	Registered Shrimp Boat
13	Robert	N	Graves	Sr		40 Wallace Rd	Beaufort	SC	29907	Commercial	Registered Shrimp Boat
14					S&D Seafood Inc	1260 Point Peter Rd	St Marys	GA	31558	Commercial	Registered Shrimp Boat
15					Dopson Seafood	34 Hallmark Rd	St Helena	SC	29920	Commercial	Seafood Company
16					Sea Island Dock Builders	77 Ashton Drive	St Helena	SC	29920	Commercial	Marine Construction
17					Fripp Island Marina	875 Bonito Dr	St Helena Island	SC	29920	Marina	
18					Marina Village of Fripp LLC	2119 Sea Island Pkwy	Harbor Island	SC	29920	Marina	
19	c/o Michael		Beach		Fripp Island Yacht Club	114 Sand Piper Run	Fripp Island	SC	29920	Marina	
20	Kate		Hines		Fripp Island POA	225 Tarpoon Blvd	Fripp Island	SC	29920	Marina	
21	Robert & Sally		Atherton			387 Fripp Point Rd	St Helena Island	SC	29920	Residential	
22	Michael & Deborah		Martin			PO BOX 1568	St Helena Island	SC	29920	Residential	
23	Michael & Fleetwood		Farrell			375 Frupp Point Rd	St Helena Island	SC	29920	Residential	
24	George & Myrtis		White			103 W Cedar Rd	St Helena Island	SC	29920-9706	Residential	
25	Lon	C	Fleming	III		2944 Horseshoe Rd	Lowndesville	SC	29659	Residential	
26					Dana W & David Foppe, Terry W Alderman	370 Fripp Point Rd	St Helena Island	SC	29920	Residential	
27					Larry V & Amy R Lang, Katherine Canavan	366 Fripp Point Rd	St Helena Island	SC	29920	Residential	
28	Graciano & Eileen		Tarrago			356 Fripp Point Rd	St Helena Island	SC	29920	Residential	
29	Michael		McGlannan			7910 SW 154 Terrace	Miami	FL	33157	Residential	
30	Anthony & Geraldine		Luppino			360 Fripp Point Rd	St Helena Island	SC	29920-3434	Residential	
31	Gail Howell &		Eugene Santos			242 Overhill Dr	Walterboro	SC	29488	Residential	
32	Patricia Randolph &		Jo Howell			6 Tuscarora Ave	Beaufort	SC	29907	Residential	
33	Mary	W	Everitt			6 Summerville Lane	Augusta	GA	30909	Residential	
34	Mark & Beverly		Heles			18 Saltwind Dr	St Helena Island	SC	29920	Residential	
35	Gary Hook &		Sherelyn Liles			4218 Blossom St	Columbia	SC	29205	Residential	
36	David & Celeste		Brown			53 Oakland Dr	St Helena Island	SC	29920	Residential	
37	Mark & Lee Ann		Spadoni			11 Dockside Ln	St Helena Island	SC	29920	Residential	
38					Thomas Clark Family Living Trust	13963 Sweetbriar Ln	Novelty	OH	44072	Residential	
39	Ronald & Christine		Varg			95 Mattis Dr	St Helena Island	SC	29920	Residential	
40	David		Johnson			PO BOX 728	St Helena Island	SC	29920	Residential	
41	Jack	J	Watts	II		PO BOX 1781	Beaufort	SC	29901	Residential	
42	Jeffrey & Amy		Faucette			513 Audubon Dr	Spartanburg	SC	29302	Residential	
43	Robin		Morrison			25 Coffin Blf	St Helena Island	SC	29920	Residential	
44	Samuel & Brenda		Leming			15 Dockside Ln	St Helena Island	SC	29920	Residential	
45	Scott	Simmons	Omari			1050 Fieldwood Ln	Winston Salem	NC	27106	Residential	
46	Theodore & Ruth		Mamunes			PO BOX 485	St Helena Island	SC	29920-0485	Residential	
47	Richard & Sandra		Shearouse			PO BOX 1030	St Helena Island	SC	29920	Residential	

	FirstName	MiddleName	LastName	Suffix	Organization	Address1	City	State	ZIP	NAVSTUDY	
48					Village Creek Landing Dock Association	PO BOX 1923	Greenville	SC	29602	Residential	
49	Woodrow & Josephine		Strock	Jr		23 Coffin Blf	St Helena Island	SC	29920	Residential	
50	Andrew & Joanne		Seward			803 Coachman Dr	Waxhaw	NC	28173	Residential	
51	Robert Kintz &		Heather Doray			32 Overcrest Ln	St Helena Island	SC	29920	Residential	
52	Wayne & Sonja		Ott			210 Sheran Rd	Cope	SC	29038	Residential	
53	Charles Herson &		Janet Zeman			2935 NE 58TH Ave	Portland	OR	97213	Residential	
54					Palmetto State Bank	PO BOX 219	Beaufort	SC	29901	Residential	
55	Dwight	C	Moody			5200 Downing Creek Dr	Charlotte	NC	28269-0363	Residential	
56					Barbara J Bailey LTD	96 Lost Island Rd	Ladys Island	SC	29907-1612	Residential	
57	Charles & Nila		Wicker			51 Coffin Point Rd	St Helena Island	SC	29920	Residential	
58	James & Sylvia		McCort			PO BOX 1428	Fort Ashley	WV	26719	Residential	
59	Warren & Mary Elizabeth		White			5236 Masonboro Harbour Dr W	Wilmington	NC	28409-4156	Residential	
60	Larry & Amy		Lang			366 Fripp Point Rd	St Helena Island	SC	29920	Residential	
61	Joe Underwood &		Rose Luppino			360 Fripp Point Rd	St Helena Island	SC	29920	Residential	
62	Michael	F	McGlannan			7910 S W 154 Terrace	Miami	FL	33157	Residential	
63	Donald Gregory &		Elaine Yount			340 Fripp Point Rd	St Helena Island	SC	29920-3434	Residential	
64	Linton & Marisa		Arnsdorff			PO BOX 567	Beaufort	SC	29901	Residential	
65	David & Kathryn		Menger			1611 Tavelle Plantation Dr.	North Augusta	SC	29841	Residential	
66	John	J	Walsh	Jr		5306 Fern Park Ct	Norcross	GA	30092	Residential	
67	Lex E & Kimberly		Elkins	II		7 Dockside Ln	St Helena Island	SC	29920	Residential	
68	Robert & Cynthia		Group			49 INGLEWOOD CIR	St Helena Island	SC	29920	Residential	
69	Michael	Scott	Gay			20 JOHN FOSTINE LN	St Helena Island	SC	29920	Residential	
70	Britt & Terri		Tooley			636 COMMONWEALTH RD	Mt Pleasant	SC	29468	Residential	
71	William & Janet		Emblly			151 MCTEER DR	St Helena Island	SC	29920	Residential	
72	Christopher & Teresa		Kirk			33 COFFIN BLF	St Helena Island	SC	29920-3407	Residential	
73	Richard & Wendy		Pollitzer	III		1308 NEWCASTLE ST	Beaufort	SC	29902	Residential	
74	Robin	F	Scherer			242 E SEA PINES DR	St Helena Island	SC	29920	Residential	
75	John	W	Lovell			PO BOX 35941	Tucson	AZ	85740	Residential	
76	C/O Glenn		Evans		Evans Construction	83 Inglewood Cir	St Helena Island	SC	29920	Residential	
77					WPD Holdings LLC	6477 Bridgewood Rd	Columbia	SC	29206	Residential	
78	Mary	E	St John			2719 Boundary St	Beaufort	SC	29906	Residential	
79	Tommy	Stevens	Gay			PO BOX 1798	Beaufort	SC	29901	Residential	
80	Richard	A	Jones	Jr		PO BOX 1923	Greenville	SC	29602	Residential	
81	Chester	W	Spears	Jr		209 Fripp Point Rd	St Helena Island	SC	29920	Residential	
82	Wyatt Pringle &		Glenn Carothers			PO BOX 1635	Bluffton	SC	29910	Residential	
83					Hubert Living Trust	478 Coleman Loop	Hardeeville	SC	29927	Residential	
84	Richard & Tabitha		Sprouse			616 Old Iron Works Rd	Spartanburg	SC	29302	Residential	
85	Richard	D	Neill			131 Sea Pines Dr	St Helena Island	SC	29920	Residential	
86	Michael & Cynthia		Gay			20 John and Fostine Lane	St Helena Island	SC	29920	Residential	
87	Robert & Hilda		Upton			1929 Sea Island Pkwy	St Helena Island	SC	29920-9737	Residential	
88	James & Lynda		Ware			249 Sea Pines Dr	St Helena Island	SC	29920	Residential	
89	Richard & Dalia		Sak			30 Little Horse Island Dr	St Helena Island	SC	29920	Residential	
90	Gary	W	Strom			134 Harbour Key Dr	St Helena Island	SC	29920	Residential	
91	David	Ralph	Strom			PO BOX 561	Beaufort	SC	29901-0561	Residential	
92	Nell	B	Longno			5831 Salem Dr	Columbia	SC	29203	Residential	
93	Joseph Lukowski &		Patsy Greene			1310 Mt Zion Church Rd	Iron Station	NC	28080	Residential	
94	James & Stacey		Anderson			1785 Riverside Rd	Roswell	GA	30076-3314	Residential	

	FirstName	MiddleName	LastName	Suffix	Organization	Address1	City	State	ZIP	NAVSTUDY	
95	David & Nancy		Vista			29 Harbor River Dr	St Helena Island	SC	29920	Residential	
96	Marshall & Kelly		Bunton			83 Nathan Pope Rd	St Helena Island	SC	29920	Residential	
97	Patricia	Ann	Snow			13 Harbor River Dr	St Helena Island	SC	29920	Residential	
98	Gloria		Long Owens			46 View Point Cir	St Helena Island	SC	29920	Residential	
99	Jerome		Porter			50 View Point Cir	St Helena Island	SC	29920	Residential	
100	Marion	H	Vickers			3471 Old Union Point Rd	Union Point	GA	30669	Residential	
101	Robert & Jane		Peeples Living Trust			2521 Upper Pawpaw Rd	Marshall	NC	28753	Residential	
102	John & Karen		Wellborn	Jr		116 Horse Island Dr	St Helena Island	SC	29920	Residential	
103	Patric		Long			60 View Point Cir	St Helena Island	SC	29920	Residential	
104	JR		Achurch Living Trust			42 View Point Cir	St Helena Island	SC	29920	Residential	
105	Donald & Hattie		Monson			751 Willie Wilson Rd	Eastover	SC	29044	Residential	
106	Wayne		Jernigan			520 Boyce Rd	Charlotte	NC	28211	Residential	
107	Leon & Judy		Chastain			2123 Clark Rd	Little Mountain	SC	29075	Residential	
108	Randall & Stephany		Davis			1129 Brodie Rd	Leesville	SC	29070	Residential	
109	Raymond & Diane		Benedict			74 Krattinger Ct	West Milford	NJ	7480	Residential	
110	Mary & Bonnie		Kamoroff			40 Harbor River Dr	St Helena Island	SC	29920	Residential	
111	Jeffery		Holmes	Jr		21 Ed and Grant Dr	St Helena Island	SC	29920	Residential	
112	Clarence & Sheila		Hankinson	Jr		125 Coffin Point Rd	St Helena Island	SC	29920	Residential	
113	Robert		Guthrie			69 Inglewood Cir	St Helena Island	SC	29920	Residential	
114	Jo Ann		Moore Revocable Trust			17 Coffin Blf	St Helena Island	SC	29920	Residential	
115					Fifth Third Bank Suc Trustee	PO BOX 13519	Arlington	TX	76094	Residential	
116	Barrett	T	Boulware			PO BOX 293	St Helena Island	SC	29920	Residential	
117	Steven	A	Pekarsky			PO BOX 1569	St Helena Island	SC	29920-1569	Residential	
118					Johnson Creek Camp LLC	125 Sunset Blvd	Beaufort	SC	29907	Residential	
119					Coffin Pt Homeowners Association	15 Orchard Rd	St Helena Island	SC	29920-3600	Residential	
120	Catherine	J	Jacobs			702 Island Circle E	St Helena Island	SC	29920	Residential	
121					R Milledge Morris	36 Shorts Landing Rd	Beaufort	SC	29907	Residential	





## US 21 Bridge Replacement over Harbor River (Project ID: P026862)



Photograph 1 – Existing US 21 Bridge over Harbor River, facing east.



Photograph 2 – To-be-replaced bridge from the waterway, showing the channel spans. Facing south (upstream). Note SCE&G powerlines.





## US 21 Bridge Replacement over Harbor River (Project ID: P026862)



Photograph 3 – Harbor River, facing south (upstream). Note SCE&G powerlines.



Photograph 4 – Harbor River, facing west. Photograph shows Harbor River downstream of bridge toward St. Helena Sound.





## US 21 Bridge Replacement over Harbor River (Project ID: P026862)



Photograph 5 – Existing bridge alignment, facing west. Photograph Source: Google Earth.



Photograph 6 – Shrimp boat "Brown Eyed Girl" at Gay Fish Company



**US 21 Bridge Replacement over Harbor River (Project ID: P026862)**

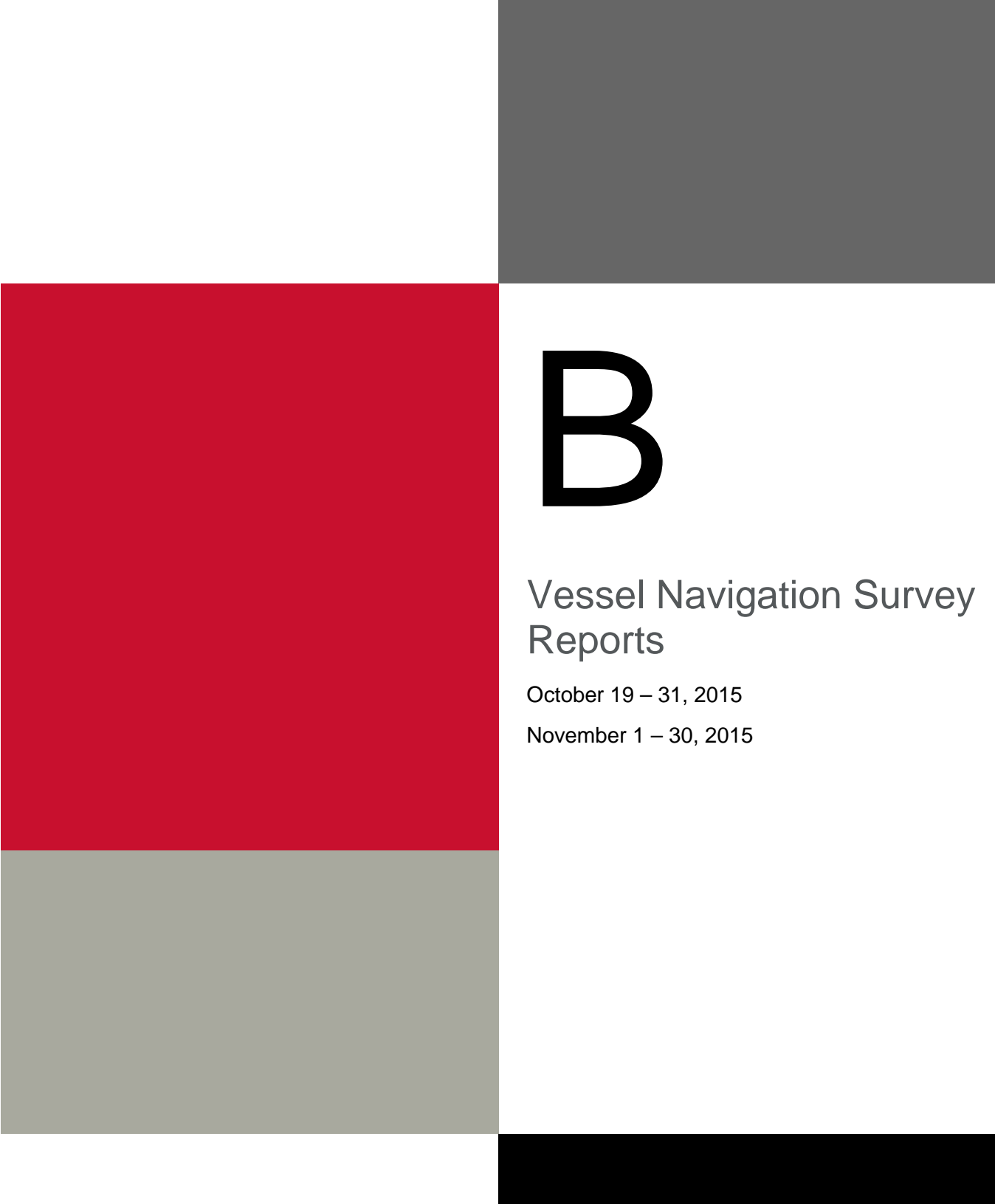


Photograph 7 – Shrimp boat “Sue Dany” passing through opened swing span. Facing west. Tug and barge in place conducting maintenance on existing bridge.



Photograph 8—Existing bridge over Fripp Island Inlet and Story River, between Hunting Island and Fripp Island. Facing southwest (upstream).





# B

## Vessel Navigation Survey Reports

October 19 – 31, 2015

November 1 – 30, 2015

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***VESSEL NAVIGATION SURVEY  
REPORT***

***US-21 Replacement Bridge Over  
Harbor River  
Beaufort County, South Carolina***

***October 19 through October 31***

***For***



***By***



**Geotechnical / Environmental / Materials  
3112 Devine Street  
Columbia, South Carolina 29205  
Tel. (803) 254-4540 • Fax. (803) 254-4542**

**November 18, 2015  
F&ME Project No.: G5396.00**



November 18, 2015

Mr. Michael Darby, P.E.  
Transportation Project Manager  
HDR, Inc.  
3955 Faber Place Drive, Suite 300  
North Charleston, SC 29405

Re: Video Documentation and Survey of Vessels at Harbor River Bridge  
US-21 Replacement Bridge Over Harbor River  
Beaufort County, South Carolina  
F&ME Project No.: G5396.00

Mr. Darby:

F&ME Consultants, Inc. (F&ME) is pleased to submit herein the results from the video documentation and vessel survey for the month of October, 2015, for the above referenced project. This report contains the following:

- An overview of the requirements and implementation of the video survey program;
- A summary of target vessels identified using the SCDOT Drawbridge Report Forms cataloging time of event occurrence, vessel type, vessel photograph, and estimated vessel dimensions based on video scaling / proportioning using AutoCAD software tools;
- SCDOT Drawbridge Report Forms.

This report will typically contain one full month of video documentation and vessel information. Due to schedule and mobilization, the video documentation for this report begins on October 19, 2015 and ends on October 31, 2015. All subsequent report should be a full month of reporting.


We appreciate the continuing opportunity to work with you as a member of this project team. Please notify us if there are any questions.

Sincerely,

**F&ME**



Alex M. Abernethy  
Geotechnical Staff Professional



Jason P. Stewart, P.E.  
Project Engineer

Attachments



## TABLE OF CONTENTS

I.	OVERVIEW .....	3
II.	FIELDWORK SUMMARY .....	4
III.	LIMITATIONS .....	5

## APPENDIX

A.	LOCATION PLANS
	Figure 1: Site Location Plan
	Figure 2: Site Plan Overview
B.	SURVEY DATA DETAILS
C.	VESSEL SURVEY DATA SHEETS
	Outline for Process of Video Data Reduction and Reporting
	Vessel Survey Summary Table
	Vessel Survey Data Sheets
D.	SCDOT DRAWBRIDGE REPORT FORMS

## I. OVERVIEW

The South Carolina Department of Transportation (SCDOT) intends to make improvements to the existing Sea Island Parkway (US-21) in the vicinity of the crossing over the Harbor River. The improvements include modifications to the existing causeway and replace the existing swing bridge. A Site Location Plan is presented as Figure 1 in Appendix A of this report. The Department intends to implement these improvements via the Design Build Method.

As part of the Design Build performance criteria for the proposed replacement bridge, SCDOT is required to develop the minimum vertical clearance and required low chord for the new fixed span. To assist in the development of this performance criteria for the proposed replacement bridge, vessel design criteria needs to be selected / developed based on currently available vessel records and actual vessel traffic observed / documented to navigate the current bridge crossing. As part of the vessel data acquisition process, SCDOT has developed vessel survey requirements outlining the process for the collection of real-time vessel traffic data at the location of the current bridge to supplement vessel design data gathered by other means. The target vessel defined by this program includes all vessels of sufficient size or operation means to require the opening of the existing Harbor River swing span to navigate the channel at the crossing of US-21.

HDR has been selected by SCDOT to help prepare the design build package for the project. F&ME is working as a subconsultant to HDR to provide video documentation and characteristics of all target vessels of sufficient size to require movement of the swing-span portion of the bridge in order to cross US-21. Based on SCDOT requirements, F&ME has developed a program to obtain continuous video documentation of the Harbor River swing span, compare video documentation obtained with target vessel records developed by SCDOT onsite personnel, and develop a summary report of target vessels identified including vessel characteristics requested by SCDOT. The program will last twelve (12) months starting in October, 2015.

Generally, video documentation is obtained by continuous video data acquisition using a remotely-accessible, stationary, all-weather, self-contained camera rigidly mounted to the steel catwalk system located on the fixed portion of the western approach to the swing bridge. In addition to continuous video sampling performed by F&ME, SCDOT onsite staff document the occurrence of each target vessel by obtaining digital photographs of the vessel's passage through the bridge opening and recording the date, time, and vessel ID number (registration number). Information documented by SCDOT is consolidated in Drawbridge Report Forms and electronic photographs which are turned over to F&ME personnel monthly during the reporting period. F&ME uses the date and time data recorded in the Drawbridge Report Forms to search the continuous video data obtained to isolate the occurrence of each target vessel. The video data is compared with the photographic data to confirm each target vessel occurrence. Upon confirmation of each target vessel, video data is processed using AutoCAD software tools calibrated by field measurements to estimate the approximate vessel height, as well as the estimated waterline elevation at the time of crossing. Data for each target vessel occurrence is

consolidated into a Vessel Data Sheet. After processing all applicable target vessels included in the month's Drawbridge Report Forms, the Vessel Data Sheets are consolidated in a Vessel Survey Summary Sheet or table. Finally, the processed data is developed into a monthly report and transmitted to HDR for review and distribution.

Refer to Appendix C for a more detailed explanation about the data compilation and process.

## **II. FIELD WORK SUMMARY**

The following is a summary of significant work items during the reporting period. Because this reporting period includes project initiation and mobilization, the reported activities occur in advance of the reporting period.

### MAY 2015:

F&ME made with contact with SCDOT very soon after the receipt of the Notice to Proceed. Mr. Kevin Turner and Mr. Robert Clark both were contacted and discussions were had about an appropriate mounting location for the camera system and the proper contact and procedure to follow to set up a meeting onsite for final location determination.

### AUGUST 12, 2015:

F&ME met with John Bergman from HDR and a representative from Earthcam to discuss the details about the installation of the camera system. Specifics were discussed during this meeting to include but not limited to the following:

- Location of camera support pole;
- Location of camera control box, battery backup and data storage unit;
- Camera support pole mounting details;
- Power source and conductor routing from the camera control box to the approved power source;
- Protocol to communicate with the onsite swing bridge operator to get monthly photos and bridge documents;
- Schedule of installation and who needs to be onsite from SCDOT during installation.

In addition to the items detailed Mr. Bergman requested that the system be converted from solar power (initially ordered and onsite) to 120 volt AC with battery backup. This was requested to minimize mounting space and the wind load on the catwalk system that would be associated with the solar panels. F&ME made the necessary arrangements to convert the system as requested.

OCTOBER 12, 2015:

Once F&ME received the revised equipment, the remote all weather camera system was installed. F&ME and the installation team, including electricians and camera technicians, were on site for the install. The equipment installed consisted of an EarthCam SecurityCam Lite 12VDC camera system with an All Weather 4G Wireless Data Modem with Antenna in order to provide wireless monitoring of the existing US21 swing bridge over Harbor River. Additionally, F&ME provided the SCDOT swing bridge operator with a Sony Alpha a6000 digital camera in order to provide accompanying photos of each vessel as it passes through the bridge.

OCTOBER 29, 2015:

A vertical scale was needed to approximate vessel heights seen in the video documentation. The existing swing span on the bridge was used to develop this scale because due to the fact that it always seen in the video footage and the dimensions of the structure were fixed. Datum points were chosen on the bridge that could be seen during vessel passage, some along the travel way surface and some on the crest of the bridge truss. F&ME requested that HDR provide elevations and coordinates at the locations on October 16, 2015. The field portion of the survey took place in late October, 2015 and F&ME received the survey data on November 2, 2015. A detail showing these locations is included herein as Figure 3 (Survey Data Reference) in Appendix B of this report.

NOVEMBER 5, 2015:

Received data from onsite SCDOT personnel. Received Drawbridge Report Forms and digital photos dated October 19, 2015 through October 31, 2015.

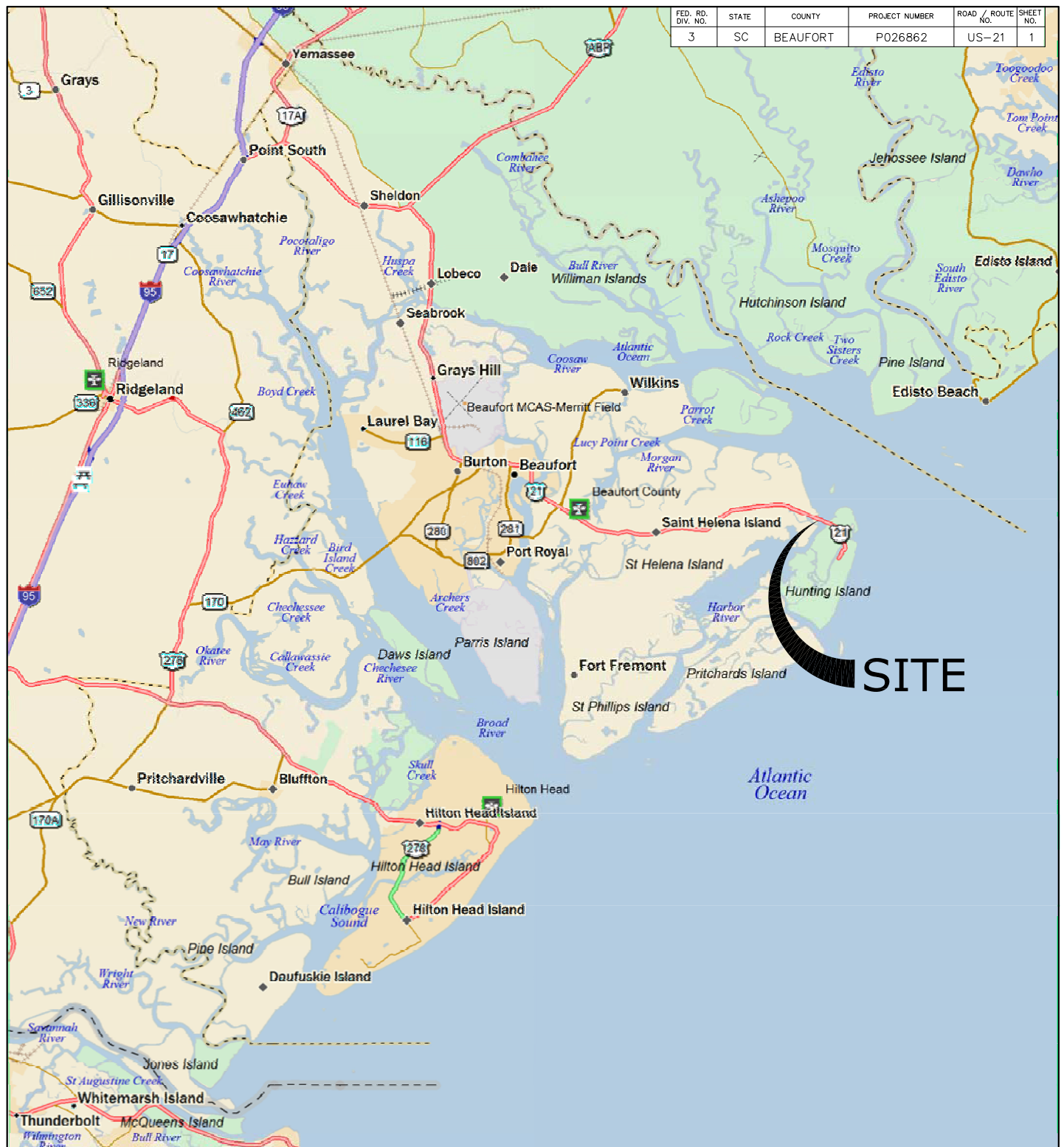
### III. LIMITATIONS

1. All information provided within this report is based on visual interpretation of video data. Visual interpretation is subject to bias of the interpreter and can be affected pixilation, weather, relative contrast of the vessel components with respect to the background, time of day, lighting conditions, etc..
2. All survey information was provided by HDR at requested locations on the bridge structure. This data was developed using normal survey practices and is anticipated to be acceptable for purposes required by this study. Interpretation of these points to develop the vertical scale used to measure vessel height is limited by the visual interpretation of these points in the video.
3. Approximate Vessel Water Line Elevations do not correlate well with the local tidal charts. Local wave action and related water displacement may skew the observed vessel water line.
4. Based on the uncertainties identified in this Limitation Section, measurement of vessel height summarized within this report should be considered within plus or minus five (5) feet, pending a larger data pool. Other means and methods may be available to improve the accuracy of the interpretation.

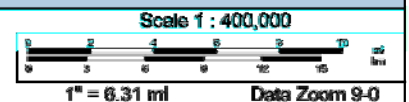
5. Recorded time for target vessel occurrence documented in SCDOT Drawbridge Report Form is not synchronized with video camera time. The times reported on Vessel Survey Data Sheets are based on video camera time.

# **APPENDIX A**

## **Location Plans**



FED. RD. DIV. NO.	STATE	COUNTY	PROJECT NUMBER	ROAD / ROUTE NO.	SHEET NO.
3	SC	BEAUFORT	P026862	US-21	1



**F&ME**  
CONSULTANTS

3112 Devine Street | Columbia, SC 29205  
P 803.254.4540 | F 803.254.4542  
www.fmeol.com

Geotechnical • Environmental • Materials

US-21 (SEA ISLAND PKWY)  
BRIDGE REPLACEMENT OVER HARBOR RIVER

FIGURE 1 - SITE PLAN

SHEET 1 OF 1

4				
3				
2				
1				
REV. NO.	BY	DATE	DESCRIPTION OF REVISION	
TOPO.		DATE		
DWG.	CTC	DATE 9/15/2014	GROUP -	
R/W		DATE		



# FIGURE 2: SITE PLAN OVERVIEW





# **APPENDIX B**

## **Survey Data Details**

# FIGURE 3: SURVEY DATA REFERENCE

## PLAN VIEW SURVEY DATA



POINT	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE
BD1	208217.9273	2168816.6006	21.45	32.4043421	80.4530627
BD2	208200.7762	2168809.1238	21.40	32.4042951	80.4530872
BD3	208192.481	2168853.8633	21.51	32.4042716	80.4529424
BD4	208159.1502	2168936.1815	21.53	32.4041788	80.4526763
BD5	208153.8327	2168975.4199	21.43	32.4041637	80.4525492
BD6	208135.9096	2168968.0402	21.43	32.4041145	80.4525734
BM1	208177.272	2168892.6291	48.72	32.4042293	80.452817

## PROFILE VIEW SURVEY DATA



ALL SURVEY INFORMATION OBTAINED BY CHE SURVEYING, AND PROVIDED BY HDR. INC.

# **APPENDIX C**

## **Outline for Process of Video Data Reduction & Reporting**

### **Vessel Survey Summary Table**

### **Vessel Survey Data Sheets**

## PROCESS FOR VIDEO DATA REDUCTIONS AND REPORTING

The video system continuously monitors the activity within the vessel navigation study area. This video footage is available for real-time viewing through an online interface. The footage is recorded in 30-minute intervals that coincide with their corresponding video times. F&ME travels to the site at regular intervals to download the stored video data, pick up the photos taken by the swing bridge operators, and take pictures of the SCDOT Drawbridge Report Forms. The video data is stored on an external hard drive and taken to F&ME headquarters in Columbia for processing. This process includes the following:

- SCDOT Drawbridge Report forms are reviewed to catalog each date and time corresponding to a swing bridge opening event for a target vessel.
- The video data is reviewed at the time corresponding to each swing bridge opening event, and a snapshot image of the target vessel is obtained.
- The snapshot image is imported into an AutoCAD drawing template, aligned, and processed using AutoCAD software tools and field calibrated data. The following vessel characteristics are visually estimated using the software:
  - *Approximate Vessel Water Line Elevation:* This is the location at which the vessel is first seen above the water line. This data may be subject to interpretation of the snapshot image.
  - *Approximate Top of Vessel Elevation:* This is the location that defines the highest point on the vessel (mast, antennae, etc.). This data may be subject to interpretation of the snapshot image.
  - *Approximate Difference in Vessel Height and Vessel Water Line:* This is the resulting difference between the highest point on the vessel and the vessel water line elevation.
  - *Approximate Vessel Height Above/Below Datum "A":* This is an approximate distance above or below the crest of the truss of the bridge to the height of the vessel.
- The Vessel Survey Data Sheet is populated with the vessel data and estimated measurements.
- Information from Vessel Survey Data Sheets are consolidated into a Vessel Survey Summary Sheet.
- Once a month this information is compiled into a report and submitted to HDR for review and distribution.

SCDOT Project ID P026862  
**US-21 Replacement Bridge over Harbor River**  
Vessel Survey Summary Sheet

Date	Time	Vessel Name	Bridge Staff Picture	Approximate Vessel Water Line Elevation	Approximate Top of Vessel Elevation	Approximate Difference in Vessel	Approximate Vessel Height Above/Below Datum "A"
10/19/2015	5:31	Four Girls	No	±5' M.S.L.	± 55' M.S.L.	± 60'	± 5' Above
	5:34	Brown Eyed Girl	No	±5' M.S.L.	±55' M.S.L.	± 60'	± 5' Above
	8:25	Brown Eyed Girl	No	±8' M.S.L.	±55' M.S.L.	± 65'	± 5' Above
	12:29	Four Girls	No	±0' M.S.L.	±70' M.S.L.	± 70'	± 20' Above
	14:50	Polly Anna	No	±-1' M.S.L.	±60' M.S.L.	± 60'	± 10' Above
10/20/2015	6:30	Four Girls	No	±5' M.S.L.	±45' M.S.L.	± 50'	± 5' Below
	7:14	Skip Jack	No	±6' M.S.L.	±20' M.S.L.	± 25'	± 30' Below
	7:42	Chelsea Marie	No	±2' M.S.L.	±15' M.S.L.	± 15'	± 35' Below
	8:14	Sue Dany	No	±6' M.S.L.	±15' M.S.L.	± 20'	± 35' Below
	9:14	Chelsea Marie	No	±6' M.S.L.	±10' M.S.L.	± 20'	± 40' Below
	11:05	Skip Jack	No	±-3' M.S.L.	±15' M.S.L.	± 20'	± 35' Below
	12:02	Sue Dany	No	±-3' M.S.L.	±20' M.S.L.	± 25'	± 30' Below
10/21/2015	6:34	Four Girls	No	±5' M.S.L.	±55' M.S.L.	± 60'	± 5' Above
	7:11	Skip Jack	No	±6' M.S.L.	±20' M.S.L.	± 25'	± 25' Below
	7:11	Sue Dany	No	±2' M.S.L.	±20' M.S.L.	± 20'	± 30' Below
	7:22	Chelsea Marie	No	±5' M.S.L.	±15' M.S.L.	± 20'	± 35' Below
	9:17	Chelsea Marie	No	±9' M.S.L.	±10' M.S.L.	± 20'	± 40' Below
	11:27	Sue Dany	No	±4' M.S.L.	±15' M.S.L.	± 20'	± 35' Below
	12:25	Skip Jack	No	±-1' M.S.L.	±25' M.S.L.	± 25'	± 25' Below
	13:06	Four Girls	No	±-1' M.S.L.	±65' M.S.L.	± 65'	± 15' Above
10/22/2015	5:45	Brown Eyed Girl	No	±-3' M.S.L.	±60' M.S.L.	± 60'	± 10' Above
	6:15	Sue Dany	No	±1' M.S.L.	±25' M.S.L.	± 25'	± 25' Below
	6:25	Four Girls II	No	±-4' M.S.L.	±55' M.S.L.	± 60'	± 5' Above
	7:18	Skip Jack	No	±5' M.S.L.	±25' M.S.L.	± 25'	± 25' Below
	11:27	Brown Eyed Girl	No	±-7' M.S.L.	±60' M.S.L.	± 60'	± 5' Above
	12:00	Skip Jack	No	±5' M.S.L.	±20' M.S.L.	± 25'	± 25' Below
	12:00	Four Girls II	No	±-4' M.S.L.	±65' M.S.L.	± 70'	± 15' Above
	13:59	Sue Dany	No	±-3' M.S.L.	±20' M.S.L.	± 25'	± 30' Below
10/24/2015	6:05	Brown Eyed Girl	No	±1' M.S.L.	±60' M.S.L.	± 60'	± 10' Above
	7:37	Sue Dany	No	±-1' M.S.L.	±20' M.S.L.	± 20'	± 30' Below
	10:47	Chelsea Marie	No	±2' M.S.L.	±20' M.S.L.	± 20'	± 30' Below
	12:07	Chelsea Marie	No	±5' M.S.L.	±15' M.S.L.	± 20'	± 35' Below
	12:20	Sue Dany	No	±-7' M.S.L.	±15' M.S.L.	± 20'	± 35' Below
10/24/2015	16:21	Brown Eyed Girl	No	±-1' M.S.L.	±60' M.S.L.	± 60'	± 10' Above
10/25/2015	7:54	Chelsea Marie	No	±0' M.S.L.	±20' M.S.L.	± 20'	± 30' Below
	7:55	Sue Dany	No	±1' M.S.L.	±25' M.S.L.	± 25'	± 25' Below
	9:25	Chelsea Marie	No	±-1' M.S.L.	±20' M.S.L.	± 20'	± 30' Below
	12:20	Chelsea Marie	No	±-8' M.S.L.	±10' M.S.L.	± 20'	± 40' Below
	13:07	Sue Dany	No	±-7' M.S.L.	±15' M.S.L.	± 20'	± 35' Below
	13:53	Chelsea Marie	No	±-6' M.S.L.	±15' M.S.L.	± 20'	± 35' Below

SCDOT Project ID P026862  
**US-21 Replacement Bridge over Harbor River**  
Vessel Survey Summary Sheet

Date	Time	Vessel Name	Bridge Staff Picture	Approximate Vessel Water Line Elevation	Approximate Top of Vessel Elevation	Approximate Difference in Vessel Height and Vessel	Approximate Vessel Height Above/Below Datum "A"
10/26/2015	5:46	Brown Eyed Girl	No	±1' M.S.L.	±65' M.S.L.	± 65'	± 15' Above
10/26/2015	6:28	Four Girls II	No	±-3' M.S.L.	±65' M.S.L.	± 65'	± 15' Above
	8:30	Brown Eyed Girl	No	±0' M.S.L.	±65' M.S.L.	± 65'	± 15' Above
	11:24	Four Girls II	No	±-5' M.S.L.	±65' M.S.L.	± 70'	± 15' Above
	16:54	Jenny Adams	No	±2' M.S.L.	±50' M.S.L.	± 50'	± 0' Above
10/27/2015	14:16	Skip Jack	No	±-7' M.S.L.	±20' M.S.L.	± 30'	± 30' Below
	16:53	Skip Jack	No	±-5' M.S.L.	±20' M.S.L.	± 30'	± 30' Below
10/29/2015	6:04	Brown Eyed Girl	No	±-6' M.S.L.	±60' M.S.L.	± 65'	± 10' Above
	14:48	Skip Jack	No	±-6' M.S.L.	±20' M.S.L.	± 25'	± 30' Below
	17:56	Brown Eyed Girl	Yes	±-7' M.S.L.	±55' M.S.L.	± 65'	± 5' Above
	18:27	Skip Jack	Yes	±1' M.S.L.	±30' M.S.L.	± 30'	± 20' Below
10/30/2015	7:03	Four Girls II	No	±-7' M.S.L.	±60' M.S.L.	± 65'	± 10' Above
	10:25	Chelsea Marie	No	±1' M.S.L.	±20' M.S.L.	± 20'	± 30' Below
	12:45	Chelsea Marie	No	±5' M.S.L.	±25' M.S.L.	± 20'	± 25' Below
	14:34	Four Girls II	No	±-5' M.S.L.	±65' M.S.L.	± 70'	± 15' Above
	15:17	Skip Jack	No	±-6' M.S.L.	±20' M.S.L.	± 25'	± 30' Below
	16:15	Chelsea Marie	No	±2' M.S.L.	±20' M.S.L.	± 20'	± 30' Below
	18:10	Chelsea Marie	Yes	±-7' M.S.L.	±15' M.S.L.	± 20'	± 30' Below
	18:10	Skip Jack	Yes	±-4' M.S.L.	±20' M.S.L.	± 25'	± 30' Below
10/31/2015	7:28	Sue Dany	No	±-5' M.S.L.	±20' M.S.L.	± 25'	± 30' Below
	16:11	Sue Dany	No	±-5' M.S.L.	±20' M.S.L.	± 25'	± 30' Below



10-19-2015 05:31

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 5'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 55'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 60'$ APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A": $\pm 5'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-19-2015 05:34

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 5'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 55'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 60'$ APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A": $\pm 5'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-19-2015 08:25

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: BROWN EYED GIRL

VESSEL ID\*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-8' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±5'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-19-2015 12:29

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: FOUR GIRLS

VESSEL ID\*: N/A

BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±0' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±70' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±70'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":  
±20'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-19-2015 14:50

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±60'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±10'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-20-2015 06:30

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: FOUR GIRLS

VESSEL ID\*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±45' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±50'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±5'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-20-2015 07:14

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-20-2015 07:42

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-20-2015 08:14

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 6'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 15'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 35'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-20-2015 09:14

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 6'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 10'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 40'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-20-2015 11:05

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 3'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 15'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 35'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-20-2015 12:02

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-21-2015 06:34

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: FOUR GIRLS II

VESSEL ID\*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±60'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±5'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-21-2015 07:11

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 6'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 20'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 25'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 25'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-21-2015 07:11

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-21-2015 07:22

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 5'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 15'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 35'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-21-2015 09:17

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±9' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±10' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±40'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-21-2015 11:27

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-21-2015 12:25

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-21-2015 13:06

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 1'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 65'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 65'$ APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A": $\pm 15'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-22-2015 05:45

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 3'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 60'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 60'$ APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A": $\pm 10'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-22-2015 06:15

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: SUE DANY

VESSEL ID\*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES 1 AND 2 IN APPENDIX B.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES 1 AND 2 IN APPENDIX B.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-22-2015 06:25

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 4'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 55'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 60'$ APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A": $\pm 5'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-22-2015 07:18

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-22-2015 11:27

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 7'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 55'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 60'$ APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A": $\pm 5'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-22-2015 12:00

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: SKIP JACK

VESSEL ID\*: 938873

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-22-2015 12:00

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 4'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 65'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 70'$ APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A": $\pm 15'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-22-2015 13:59

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-24-2015 06:05

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±60'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±10'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-24-2015 07:37

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 1'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 20'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 30'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-24-2015 10:47

APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±2' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":  
±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-24-2015 12:07

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: CHELSEA MARIE

VESSEL ID\*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-24-2015 12:20

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 7'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 15'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 35'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-24-2015 16:21

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 1'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 60'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 60'$ APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A": $\pm 10'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-25-2015 07:54

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: CHELSEA MARIE

VESSEL ID\*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±0' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-25-2015 07:55

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±1' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":  
±25'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-25-2015 09:25

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: CHELSEA MARIE

VESSEL ID\*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-25-2015 12:20

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±8' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±10' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±40'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-25-2015 13:07

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 7'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 15'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 35'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-25-2015 13:53

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 6'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 15'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 35'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-26-2015 05:46

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±1' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":  
±15'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-26-2015 06:28

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-26-2015 08:30

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: BROWN EYED GIRL

VESSEL ID\*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±0' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-26-2015 11:24

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 5'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 65'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 70'$ APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A": $\pm 15'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-26-2015 16:54

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)



VESSEL NAME\*: JENNY ADAMS

VESSEL ID\*: N/A

## BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±2' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±50' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±50'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":  
±0'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-27-2015 14:16

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: SKIP JACK

VESSEL ID\*: 983873

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±30'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-27-2015 16:53

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: SKIP JACK

VESSEL ID\*: 983873

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±30'

APPROXIMATE VESSEL HEIGHT BELOWDATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-29-2015 06:04

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTURE

NO PICTURE AVAILABLE

APPROXIMATE VESSEL WATER LINEELEVATION: $\pm 6'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 60'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 65'$ APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A": $\pm 10'$ 

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES 1 AND 2 IN APPENDIX B.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES 1 AND 2 IN APPENDIX B.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-29-2015 14:48

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: SKIP JACK

VESSEL ID\*: 983873

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-29-2015 17:56

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)**BRIDGE STAFF PICTURE**

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±7' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":  
±5'



DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-29-2015 18:27

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±1' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±30' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±30'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":  
±20'



DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-30-2015 07:03

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

VESSEL NAME\*: FOUR GIRLS II

VESSEL ID\*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±10'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-30-2015 10:25

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±1' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":  
±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES 1 AND 2 IN APPENDIX B.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES 1 AND 2 IN APPENDIX B.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-30-2015 12:45

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±5' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":  
±25'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-30-2015 14:34

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 5'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 65'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 70'$ APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A": $\pm 15'$ 

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-30-2015 15:17

APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES 1 AND 2 IN APPENDIX B.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES 1 AND 2 IN APPENDIX B.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-30-2015 16:15

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-30-2015 18:10

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±7' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":  
±30'



DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-30-2015 18:10

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±4' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":  
±30'



DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



10-31-2015 07:28

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

10-31-2015 16:11

APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE AVAILABLE

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM OCTOBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

# **APPENDIX D**

## **SCDOT Drawbridge Report Forms**

DRAWBRIDGE REPORT

Bridge Harbor

District No. 6 County of Beaufort Route US-21 River Harbor River Month October Year 2015

Day	Hour		Name	Vessel		Description	Tow If Any, Describe	Operator on Duty
	Open	Close		Home Port				
17	OFF	4 <sup>00</sup> pm	-	-	-	-	-	Jensen <del>Blaker</del>
17	ON	4 <sup>00</sup> pm	-	-	-	-	-	Harold Carter
18	OFF	12 <sup>00</sup> am	-	-	-	-	-	Harold Carter
18	ON	12 <sup>00</sup> am	-	-	-	-	-	M. Benluch
18	OFF	7 <sup>00</sup> am	-	-	-	-	-	M. Benluch
18	ON	7 <sup>00</sup> am	-	-	-	-	-	Jensen <del>Blaker</del>
18	OFF	4 <sup>00</sup> pm	-	-	-	-	-	Jensen <del>Blaker</del>
18	ON	4 <sup>00</sup> pm	-	-	-	-	-	Harold Carter
19	OFF	12 <sup>00</sup> am	-	-	-	-	-	Harold Carter
19	ON	12 <sup>00</sup> am	-	-	-	-	-	M. Benluch
19	OFF	5 <sup>30</sup> am	FOUR GIRLS	St Helena	Shrimp	Shrimp	None	M. Benluch N 94
19	ON	5 <sup>30</sup> am	BROWN EYED GIRL	St Helena	Shrimp	Shrimp	None	M. Benluch N 95
19	OFF	8 <sup>00</sup> am	-	-	-	-	-	M. Benluch
19	ON	8 <sup>00</sup> am	-	-	-	-	-	Jensen <del>Blaker</del>
19	OFF	8 <sup>29</sup> am	Brown Eyed Girl	St Helena Is, SC	Shrimp	Shrimp	None	Jensen <del>Blaker</del> S 9m
19	ON	12 <sup>13</sup> pm	Four Girls II	St Helena Is, SC	Shrimp	Shrimp	None	Jensen <del>Blaker</del> S 94

SCDOT Project ID P026862

Times Bridge opened during month \_\_\_\_\_ Meter reading end of month \_\_\_\_\_ (Signature) \_\_\_\_\_ Supt \_\_\_\_\_

The Bridge Operator will underscore heavily the name of any boat carrying unnecessary appurtenances.

and the number of restricted boats passing under bridge without requiring opening.



DRAWBRIDGE REPORT

Sheet 14

District No. le County of Beaufort Bridge Harbor River Harbor River Month October Year 2015

Day	Hour		Name	Vessel		Description	Tow If Any, Describe	Operator on Duty
	Open	Close		Home Port				
19	2 <sup>31</sup> pm	2 <sup>53</sup> pm	Polly Anna	Lady's Isl. SC		Shrimp	None	Jessie Blakes 98
19	OFF	4 <sup>00</sup> pm						Jessie Blakes
19	ON	4 <sup>00</sup> pm						Harold Carter
20	OFF	12 <sup>00</sup> am						Harold Carter
20	ON	12 <sup>00</sup> am						M. Bendish
20	6 <sup>30</sup> am	6 <sup>35</sup> am	FOUR GIRLS	St. Helena		Shrimp	None	M. Bendish N 99
20	7 <sup>11</sup> am	7 <sup>14</sup> am	SKIP JACK	St. Helena		Shrimp	None	M. Bendish N 100
20	7 <sup>43</sup> am	7 <sup>48</sup> am	Chelsea Marie	St. Helena		Shrimp	None	M. Bendish N 101
20	OFF	8 <sup>00</sup> am						M. Bendish
20	ON	8 <sup>00</sup> am						MD Johnston
20	8 <sup>13</sup> am	8 <sup>19</sup> am	SUE DANY	St. Helena IS SC		Shrimp	None	MD Johnston (ND) 102
20	9 <sup>12</sup> am	9 <sup>18</sup> am	Chelsea Marie	St. Helena IS SC		Shrimp	None	MD Johnston (S) 103
20	11 <sup>04</sup> am	11 <sup>10</sup> am	SKIP JACK	St. Helena IS SC		Shrimp	None	MD Johnston (S) 104
20	12 <sup>01</sup> pm	12 <sup>07</sup> pm	SUE DANY	St. Helena IS SC		Shrimp	None	MD Johnston (S) 105
20	3 <sup>06</sup> pm	3 <sup>14</sup> pm	FOUR GIRLS	St. Helena IS SC		Shrimp	None	MD Johnston (S) 106
20	OFF	4 <sup>00</sup> pm						MD Johnston

Supt.

(Signature)

Meter reading end of month

Times Bridge opened during month

97

The Bridge Operator will underscore heavily the name of any boat carrying unnecessary appurtenances.

The number of boats passing under bridge without requiring opening.

DRAWBRIDGE REPORT

District No. 6 County of Beaufort Bridge Harbor Route US-21 River Harbor River Month October Year 2015

SCDOT Project ID P026862

Day	Hour		Name	Vessel		Description	Tow If Any, Describe	Operator on Duty
	Open	Close		Home Port				
20	ON	4 <sup>00</sup> AM	—	—	—	—	—	Harold Carter
21	OFF	12 <sup>00</sup> AM	—	—	—	—	—	Harold Carter
21	ON	12 <sup>00</sup> AM	—	—	—	—	—	<del>Harold Carter</del>
21	6 <sup>33</sup> AM	4 <sup>39</sup> AM	Four Girls II	St. Helena Is SC	Shrimp	None	(u) 107	<del>Harold Carter</del>
21	7 <sup>11</sup> AM	—	Skip Jacks	St. Helena Is SC	Shrimp	None	(u) 108	<del>Harold Carter</del>
21	7 <sup>22</sup> AM	7 <sup>17</sup> AM	Sue Vany	St. Helena Is SC	Shrimp	None	(u) 109	<del>Harold Carter</del>
21	7 <sup>22</sup> AM	7 <sup>28</sup> AM	Chelsea Marie	St. Helena Is SC	Shrimp	None	(u) 110	<del>Harold Carter</del>
21	OFF	8 <sup>00</sup> AM	—	—	—	—	—	<del>Harold Carter</del>
21	ON	8 <sup>00</sup> AM	—	—	—	—	—	<del>Harold Carter</del>
21	9 <sup>08</sup> AM	9 <sup>24</sup> AM	Chelsea Marie	St. Helena Is SC	Shrimp	None	(S) - 111	<del>Harold Carter</del>
21	11 <sup>26</sup> AM	11 <sup>32</sup> AM	Sue Dany	St. Helena Is SC	Shrimp	None	(S) - 112	<del>Harold Carter</del>
21	12 <sup>24</sup> PM	12 <sup>30</sup> PM	Skip Jack	St. Helena Is SC	Shrimp	None	(S) - 113	<del>Harold Carter</del>
21	1 <sup>04</sup> PM	1 <sup>19</sup> PM	Four Girls	St. Helena Is SC	Shrimp	None	(S) - 114	<del>Harold Carter</del>
21	OFF	6 <sup>00</sup> PM	—	—	—	—	—	<del>Harold Carter</del>
21	ON	4 <sup>00</sup> PM	—	—	—	—	—	Harold Carter
21	OFF	12 <sup>00</sup> AM	—	—	—	—	—	Harold Carter

Times Bridge opened during month \_\_\_\_\_ Meter reading end of month \_\_\_\_\_ (Signature) \_\_\_\_\_ Supt. \_\_\_\_\_

DRAWBRIDGE REPORT

Bridge Harbor

District No. 6 County of Beaufort Route US-21 River Harbor River Month October Year 2015

Day	Hour		Name	Vessel		Description	Tow If Any, Describe	Operator on Duty
	Open	Close		Home	Port			
22	ON	1200	—	—	—	—	—	—
22	5 <sup>44</sup> AM	5 <sup>50</sup> AM	Brown Eyed Girl	St. Helena Is, SC	—	Shrimp	None	—
22	6 <sup>13</sup> AM	6 <sup>14</sup> AM	Sue Vany	St. Helena Is, SC	—	Shrimp	None	—
22	6 <sup>24</sup> AM	6 <sup>31</sup> AM	Four Girls II	St. Helena Is, SC	—	Shrimp	None	—
22	7 <sup>19</sup> AM	7 <sup>43</sup> AM	Skip Jack	St. Helena Is, SC	—	Shrimp	None	—
22	OFF	8 <sup>00</sup> AM	—	—	—	—	—	—
22	ON	8 <sup>00</sup> AM	—	—	—	—	—	—
22	11 <sup>26</sup> AM	11 <sup>32</sup> AM	Brown Eyed Girl	St. Helena Is, SC	—	Shrimp	None	—
22	11 <sup>59</sup> AM	12 <sup>05</sup> PM	Skip Jack	St. Helena Is, SC	—	Shrimp	None	—
22	12 <sup>35</sup> PM	12 <sup>40</sup> PM	Four Girls II	St. Helena Is, SC	—	Shrimp	None	—
22	1 <sup>58</sup> PM	2 <sup>04</sup> PM	Suedany	St. Helena Is, SC	—	Shrimp	None	—
22	OFF	4 <sup>00</sup> PM	—	—	—	—	—	—
22	ON	4 <sup>00</sup> PM	—	—	—	—	—	—
22	OFF	12 <sup>00</sup> AM	—	—	—	—	—	—
22	ON	12 <sup>00</sup> AM	—	—	—	—	—	—
22	OFF	8 <sup>00</sup> AM	—	—	—	—	—	—

Times Bridge opened during month \_\_\_\_\_ Meter reading end of month \_\_\_\_\_ (Signature) \_\_\_\_\_ Supt \_\_\_\_\_

The Bridge Operator will underscore heavily the name of any boat carrying unnecessary appurtenances.

and it is a number of registered boats passing under bridge without requiring opening.

DRAWBRIDGE REPORT

District No. 6 County of Beaufort Bridge Harbor River Harbor River Month October Year 2015

Day	Hour		Name	Vessel		Description	Tow If Any, Describe	Operator on Duty
	Open	Close		Home Port				
23	ON	8:00 8 AM	—	—	—	—	—	MD Johnson
23	OFF	4:00 4 PM	—	—	—	—	—	MD Johnson
23	ON	1:00 1 PM	—	—	—	—	—	Demond Jackson
23	OFF	12:00 12 PM	—	—	—	—	—	Demond Jackson
24	ON	12:00 12 AM	—	—	—	—	—	Demond Jackson
24	6:04 6 AM	10:00 10 AM	Brown Eyed Girl	St. Helena Is SC	Shrimp	None	None	MD Johnson (W) 123
24	7:38 7 AM	7:44 7 AM	Sue Dany	St. Helena Is SC	Shrimp	None	None	MD Johnson (W) 124
24	8:00 8 AM	OFF	—	—	—	—	—	MD Johnson
24	8:00 8 AM	ON	—	—	—	—	—	MD Johnson (W) 125
24	10:52 10 AM	10:52 10 AM	CHelsea MARIE	St. Helena Is SC	Shrimp	None	None	MD Johnson (S) 126
24	12:04 12 PM	12:04 12 PM	CHelsea MARIE	St. Helena Is SC	Shrimp	None	None	MD Johnson (S) 127
24	12:08 12 PM	12:08 12 PM	SUE DANY	St. Helena Is SC	Shrimp	None	None	MD Johnson
24	OFF	4:00 4 PM	—	—	—	—	—	Demond Jackson
24	ON	4:00 4 PM	—	—	—	—	—	Demond Jackson
24	20 4:20 PM	4:20 4 PM	Brown Eyed Girl	St. Helena Is SC	Shrimp	None	None	Demond Jackson 128(S)
24	OFF	12:00 12 AM	—	—	—	—	—	Demond Jackson

Times Bridge opened during month \_\_\_\_\_ Meter reading end of month \_\_\_\_\_ (Signature) \_\_\_\_\_ Supt. \_\_\_\_\_

The Bridge Operator will underscore heavily the name of any boat carrying unnecessary appurtenances.  
The Bridge Operator will underscore heavily the name of any boat carrying unnecessary appurtenances.



DRAWBRIDGE REPORT

Sheet 18

District No. 6 County of Beaufort Route US-21 Bridge Harbor River Harbor River Month October Year 2015

Day	Hour		Name	Vessel		Description	Tow If Any, Describe	Operator on Duty
	Open	Close		Home Port				
25	ON	12:00 AM	-	-	-	-	-	M. Beaulieu
25	OFF	8:00	-	-	-	-	-	M. Beaulieu
25	ON	8:00	-	-	-	-	-	Jessie Blaken S
25	7:53 AM		Chelsea Marie	St. Helena Is, SC	Shrimp	None	None	Jessie Blaken N 129
25		8:01 AM	Suedany	St. Helena Is, SC	Shrimp	None	None	Jessie Blaken N 130
25	9:24 AM	9:38 AM	Chelsea Marie	St. Helena Is, SC	Shrimp	None	None	Jessie Blaken S 131
25	12:19 PM	12:25 PM	Chelsea Marie	St. Helena Is, SC	Shrimp	None	None	Jessie Blaken N 132
25	1:05 PM	1:12 PM	Suedany	St. Helena Is, SC	Shrimp	None	None	Jessie Blaken S 133
25	1:52 PM	1:58 PM	Chelsea Marie	St. Helena Is, SC	Shrimp	None	None	Jessie Blaken S 134
25	OFF	4:00 PM	-	-	-	-	-	Jessie Blaken
25	ON	4:00 PM	-	-	-	-	-	Harold Carter
26	OFF	12:00 AM	-	-	-	-	-	Harold Carter
26	ON	12:00 AM	-	-	-	-	-	M. Beaulieu
26	5:44 AM	5:49 AM	BROWN EYES CRUISE	St. Helena	Shrimp	None	None	M. Beaulieu N 135
26	6:27 AM	6:32 AM	FOUR GIRLS	St. Helena	Shrimp	None	None	M. Beaulieu N 136
26	OFF	8:00 AM	-	-	-	-	-	M. Beaulieu

Times Bridge opened during month \_\_\_\_\_ Meter reading end of month \_\_\_\_\_ (Signature) \_\_\_\_\_ Supt. \_\_\_\_\_

The Bridge Operator will underscore heavily the name of any boat carrying unnecessary appurtenances.

and the number of restricted boats passing under bridge without requiring opening.

## DRAWBRIDGE REPORT

Sheet 19Bridge HarborDistrict No. 6 County of Beaufort Route US-21 River Harbor River Month October Year 2015

Day	Hour		Name	Vessel		Description	Tow If Any, Describe	Operator on Duty
	Open	Close		Home Port				
26	ON	8 <sup>00</sup>	-	-	-	-	-	Jessie Parker
26	8 <sup>28</sup>	8 <sup>35</sup>	Brown Eyed Girl	St. Helena Is. SC	Shrimp	None	None	Jessie Parker S 137
26	11 <sup>20</sup>	11 <sup>31</sup>	Four Girls II	St. Helena Is. SC	Shrimp	None	None	Jessie Parker S 138
26	OFF	4 <sup>00</sup>	-	-	-	-	-	Jessie Parker
26	ON	4 <sup>00</sup>	-	-	-	-	-	Harold Carter
26	4 <sup>52</sup>	4 <sup>52</sup>	Jenny Adams	St. Helena Is. SC	Shrimp	None	None	Harold Carter 139
27	OFF	12 <sup>00</sup>	-	-	-	-	-	Harold Carter
27	ON	12 <sup>00</sup>	-	-	-	-	-	M. Benlah
27	OFF	8 <sup>00</sup>	-	-	-	-	-	M. Benlah
27	ON	8 <sup>00</sup>	-	-	-	-	-	Jessie Parker
27	2 <sup>14</sup>	2 <sup>21</sup>	Skip Jack	St. Helena Is. SC	Shrimp	None	None	Jessie Parker H 14
27	OFF	4 <sup>00</sup>	-	-	-	-	-	Jessie Parker
27	ON	4 <sup>00</sup>	-	-	-	-	-	Harold Carter
27	4 <sup>58</sup>	4 <sup>58</sup>	Skip Jack	St. Helena Is. SC	Shrimp	None	None	Harold Carter 141
28	OFF	12 <sup>00</sup>	-	-	-	-	-	Harold Carter
28	ON	12 <sup>00</sup>	-	-	-	-	-	Harold Carter

(Signature)

Meter reading end of month

Times Bridge opened during month

Supt

130

The Bridge Operator will underscore heavily the name of any boat carrying unnecessary appurtenances.

The number of motorized boats passing under bridge without requiring opening.

DRAWBRIDGE REPORT

Sheet 20

District No. Le County of Beaufort Bridge Harbor Route US-21 River Harbor River Month October Year 2015

SCDOT Project ID P026862

Day	Hour		Name	Vessel		Description	Tow If Any, Describe	Operator on Duty
	Open	Close		Home Port				
28	OFF	8:00 AM	—	—	—	—	—	<del>Demond Jackson</del>
28	ON	8:00 AM	—	—	—	—	—	Demond Jackson
28	OFF	4:00 PM	—	—	—	—	—	Demond Jackson
28	ON	4:00 PM	—	—	—	—	—	Demond Jackson
28	OFF	12:00 AM	—	—	—	—	—	Demond Jackson
28	ON	12:00 AM	—	—	—	—	—	Demond Jackson
28	OFF	6:00 AM	Brown Eyed Girl	St. Helena Is. SC	Shrimp	None	—	Demond Jackson (N) 142
28	OFF	8:00 AM	—	—	—	—	—	Demond Jackson
28	ON	8:00 AM	—	—	—	—	—	Demond Jackson
28	OFF	11:20 AM	MAINT.	Survey	—	—	—	Demond Jackson
28	OFF	11:58 AM	MAINT.	Survey	—	—	—	Demond Jackson
28	OFF	2:47 PM	SKIP JACK	ST. HELENA IS. SC	SHRIMP	NONE	—	Demond Jackson (N) 143
28	OFF	4:00 PM	—	—	—	—	—	Demond Jackson
28	ON	4:00 PM	—	—	—	—	—	Demond Jackson
28	OFF	6:00 PM	Brown Eyed Girl	St. Helena Is. SC	Shrimp	none	—	Demond Jackson 144 S
28	OFF	6:30 PM	SKIP JACK	St. Helena Is. SC	Shrimp	none	—	Demond Jackson 145 S

Times Bridge opened during month \_\_\_\_\_ Meter reading end of month \_\_\_\_\_ (Signature) \_\_\_\_\_ Supt. \_\_\_\_\_

141

The Bridge Operator will underscore heavily the name of any boat carrying unnecessary appurtenances.

and the number of restricted boats passing under bridge without requiring opening.

DRAWBRIDGE REPORT

District No. 6 County of Beaufort Bridge Harbor River Harbor River Month October Year 2015

Day	Hour		Name	Vessel		Description	Tow If Any, Describe	Operator on Duty
	Open	Close		Home Port				
29	Off	12:00 AM	—	—	—	—	—	Demand Jackson
30	On	12:00 AM	—	—	—	—	—	Demand Jackson
30	7:03 AM	7:09 AM	Four Girls II	St. Helena Is. SC	Shrimp	None	None	Demand Jackson
30	Off	8:00 AM	—	—	—	—	—	Demand Jackson
30	On	8:00 AM	—	—	—	—	—	Demand Jackson
30	10:24 AM	10:30 AM	Chelsea Marie	St. Helena Is. SC	Shrimp	None	None	Demand Jackson
30	12:44 PM	12:50 PM	Chelsea Marie	St. Helena Is. SC	Shrimp	None	None	Demand Jackson
30	2:30 PM	2:36 PM	Four Girls II	St. Helena Is. SC	Shrimp	None	None	Demand Jackson
30	3:14 PM	3:20 PM	Skip Jack	St. Helena Is. SC	Shrimp	None	None	Demand Jackson
30	Off	4:00 PM	—	—	—	—	—	Demand Jackson
30	On	4:00 PM	—	—	—	—	—	Demand Jackson
30	4:16 PM	4:21 PM	Chelsea Marie	St. Helena Is. SC	Shrimp	None	None	Demand Jackson
30	6:10 PM	6:17 PM	Skip Jack	St. Helena Is. SC	Shrimp	None	None	Demand Jackson
30	Off	12:00 AM	—	—	—	—	—	Demand Jackson
31	On	12:00 AM	—	—	—	—	—	Demand Jackson

Times Bridge opened during month \_\_\_\_\_ Meter reading end of month \_\_\_\_\_ (Signature) \_\_\_\_\_ Supt \_\_\_\_\_



Day	Hour		Name	Vessel		Description	Tow If Any, Describe	Operator on Duty
	Open	Close		Home Port				
31	7 <sup>29</sup> AM	7 <sup>34</sup> AM	SUE DANNY	FROGMORE SC	SHRIMP	NONE	M. Bendah N 154	
31	OFF	8 <sup>00</sup> AM	-	-	-	-	M. Bendah	
31	ON	8 <sup>00</sup> AM	-	-	-	-	Jesse Blanton	
31	OFF	12 <sup>30</sup>	-	-	-	-	Jesse Blanton	
31	ON	12 <sup>30</sup>	-	-	-	-	M. Blanton	
31	OFF	4 <sup>00</sup> PM	-	-	-	-	M. Johnson	
31	ON	4 <sup>00</sup> PM	-	-	-	-	Harold Carter	
31	4 <sup>08</sup> PM	4 <sup>16</sup> PM	Sue Dany	Frogmore SC	Shrimp	NONE	Harold Carter (S) 155	

Times Bridge opened during month \_\_\_\_\_ Meter reading end of month \_\_\_\_\_ (Signature) \_\_\_\_\_ Supt. \_\_\_\_\_

The Bridge Operator will underscore heavily the name of any boat carrying unnecessary appurtenances.

Does not allow a woman to have a wedding without it requiring a wedding

***VESSEL NAVIGATION SURVEY  
REPORT***

***US-21 Replacement Bridge Over  
Harbor River  
Beaufort County, South Carolina***

***November 2015***

***For***



***By***



**Geotechnical / Environmental / Materials  
3112 Devine Street  
Columbia, South Carolina 29205  
Tel. (803) 254-4540 • Fax. (803) 254-4542**

**December 22, 2015  
F&ME Project No.: G5396.00**



December 22, 2015

Mr. Michael Darby, P.E.  
Transportation Project Manager  
HDR, Inc.  
3955 Faber Place Drive, Suite 300  
North Charleston, SC 29405

Re: Video Documentation and Survey of Vessels at Harbor River Bridge  
US-21 Replacement Bridge Over Harbor River  
Beaufort County, South Carolina  
F&ME Project No.: G5396.00

Mr. Darby:

F&ME Consultants, Inc. (F&ME) is pleased to submit herein the results from the video documentation and vessel survey for the month of November, 2015, for the above referenced project. This report contains the following:

- An overview of the requirements and implementation of the video survey program;
- A summary of target vessels identified using the SCDOT Drawbridge Report Forms cataloging time of event occurrence, vessel type, vessel photograph, and estimated vessel dimensions based on video scaling / proportioning using AutoCAD software tools;
- SCDOT Drawbridge Report Forms.

We appreciate the continuing opportunity to work with you as a member of this project team. Please notify us if there are any questions.

Sincerely,

**F&ME**

A handwritten signature in black ink, appearing to read 'Alex M. Abernethy'.

Alex M. Abernethy  
Geotechnical Staff Professional

A handwritten signature in black ink, appearing to read 'Jeff Klinar'.

Jeff Klinar, P.E.  
Project Engineer

Attachments

## TABLE OF CONTENTS

I.	INTRODUCTION .....	3
II.	FIELDWORK SUMMARY .....	4
III.	LIMITATIONS .....	5

## APPENDIX

- A. LOCATION PLANS
  - Figure 1: Site Location Plan
  - Figure 2: Site Plan Overview
- B. SURVEY DATA DETAILS
- C. VESSEL SURVEY DATA SHEETS
- D. SCDOT DRAWBRIDGE REPORT FORMS



## I. OVERVIEW

The South Carolina Department of Transportation (SCDOT) intends to make improvements to the existing Sea Island Parkway (US-21) in the vicinity of the crossing over the Harbor River. The improvements include modifications to the existing causeway and replace the existing swing bridge. A Site Location Plan is presented as Figure 1 in Appendix A of this report. The Department intends to implement these improvements via the Design Build Method.

As part of the Design Build performance criteria for the proposed replacement bridge, SCDOT is required to develop the minimum vertical clearance and required low chord for the new fixed span. To assist in the development of this performance criteria for the proposed replacement bridge, vessel design criteria needs to be selected / developed based on currently available vessel records and actual vessel traffic observed / documented to navigate the current bridge crossing. As part of the vessel data acquisition process, SCDOT has developed vessel survey requirements outlining the process for the collection of real-time vessel traffic data at the location of the current bridge to supplement vessel design data gathered by other means. The target vessel defined by this program includes all vessels of sufficient size or operation means to require the opening of the existing Harbor River swing span to navigate the channel at the crossing of US-21.

HDR has been selected by SCDOT to help prepare the design build package for the project. F&ME is working as a subconsultant to HDR to provide video documentation and characteristics of all target vessels of sufficient size to require movement of the swing-span portion of the bridge in order to cross US-21. Based on SCDOT requirements, F&ME has developed a program to obtain continuous video documentation of the Harbor River swing span, compare video documentation obtained with target vessel records developed by SCDOT onsite personnel, and develop a summary report of target vessels identified including vessel characteristics requested by SCDOT. The program will last twelve (12) months starting in October, 2015.

Generally, video documentation is obtained by continuous video data acquisition using a remotely-accessible, stationary, all-weather, self-contained camera rigidly mounted to the steel catwalk system located on the fixed portion of the western approach to the swing bridge. In addition to continuous video sampling performed by F&ME, SCDOT onsite staff document the occurrence of each target vessel by obtaining digital photographs of the vessel's passage through the bridge opening and recording the date, time, and vessel ID number (registration number). Information documented by SCDOT is consolidated in Drawbridge Report Forms and electronic photographs which are turned over to F&ME personnel monthly during the reporting period. F&ME uses the date and time data recorded in the Drawbridge Report Forms to search the continuous video data obtained to isolate the occurrence of each target vessel. The video data is compared with the photographic data to confirm each target vessel occurrence. Upon confirmation of each target vessel, video data is processed using AutoCAD software tools calibrated by field measurements to estimate the approximate vessel height, as well as the estimated waterline elevation at the time of crossing. Data for each target vessel occurrence is

consolidated into a Vessel Data Sheet. After processing all applicable target vessels included in the month's Drawbridge Report Forms, the Vessel Data Sheets are consolidated in a Vessel Survey Summary Sheet or table. Finally, the processed data is developed into a monthly report and transmitted to HDR for review and distribution.

Refer to Appendix C for a more detailed explanation about the data compilation and process.

## **II. FIELD WORK SUMMARY**

The following is a summary of significant work items during the reporting period. Refer to the prior report for additional information.

### NOVEMBER 11, 2015:

Received data from onsite SCDOT personnel. Received Drawbridge Report Forms and digital photos dated November 1, 2015 through November 9, 2015.

### NOVEMBER 12, 2015:

Received data from onsite SCDOT personnel. Received Drawbridge Report Forms and digital photos dated November 10, 2015 through November 11, 2015.

### NOVEMBER 20, 2015:

Received data from onsite SCDOT personnel. Received Drawbridge Report Forms and digital photos dated November 12, 2015 through November 19, 2015.

### NOVEMBER 25, 2015:

Received data from onsite SCDOT personnel. Received Drawbridge Report Forms and digital photos dated November 19, 2015 through November 25, 2015.

### DECEMBER 3, 2015:

Received data from onsite SCDOT personnel. Received Drawbridge Report Forms and digital photos dated November 25, 2015 through November 30, 2015.

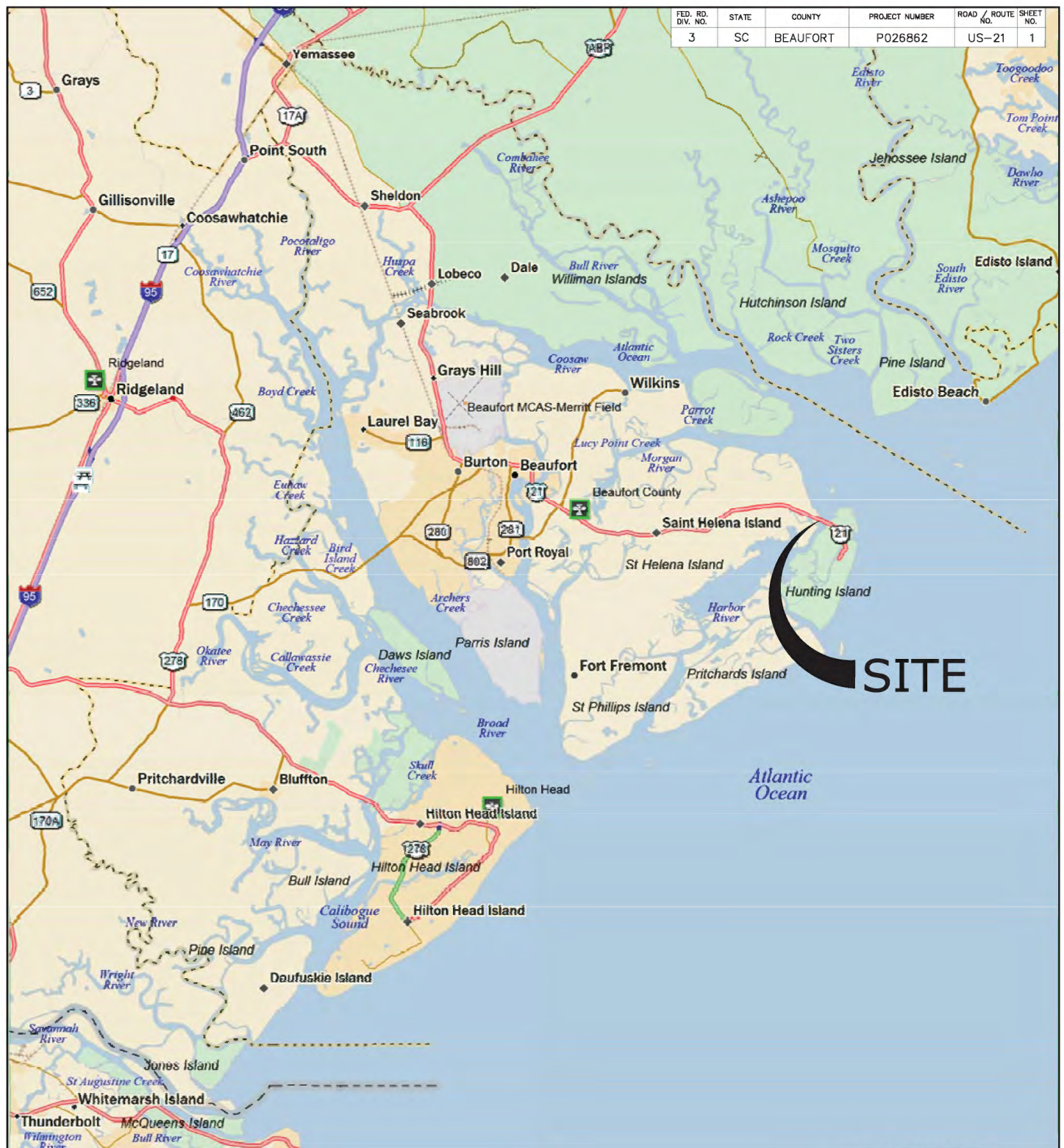
### III. LIMITATIONS

1. All information provided within this report is based on visual interpretation of video data. Visual interpretation is subject to bias of the interpreter and can be affected by pixilation, weather, relative contrast of the vessel components with respect to the background, time of day, lighting conditions, etc..
2. All survey information was provided by HDR at requested locations on the bridge structure. This data was developed using normal survey practices and is anticipated to be acceptable for purposes required by this study. Interpretation of these points to develop the vertical scale used to measure vessel height is limited by the visual interpretation of these points in the video.
3. Approximate Vessel Water Line Elevations do not correlate well with the local tidal charts. Local wave action and related water displacement may skew the observed vessel water line.
4. Based on the uncertainties identified in this Limitation Section, measurement of vessel height summarized within this report should be considered within plus or minus five (5) feet, pending a larger data pool. Other means and methods may be available to improve the accuracy of the interpretation.
5. Recorded time for target vessel occurrence documented in SCDOT Drawbridge Report Form is not synchronized with video camera time. The times reported on Vessel Survey Data Sheets are based on video camera time.
6. F&ME will continue to look into alternative options to reduce the data in order to further improve the geometric accuracy of our method.

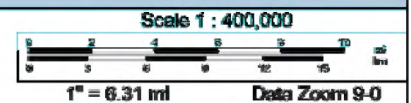
# **APPENDIX A**

## **Location Plans**





FED. RD. DIV. NO.	STATE	COUNTY	PROJECT NUMBER	ROAD / ROUTE NO.	SHEET NO.
3	SC	BEAUFORT	P026862	US-21	1



**F&ME**  
CONSULTANTS

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Geotechnical • Environmental • Materials

US-21 (SEA ISLAND PKWY)  
BRIDGE REPLACEMENT OVER HARBOR RIVER

FIGURE 1 - SITE PLAN

SHEET 1 OF 1

4				
3				
2				
1				
REV. NO.	BY	DATE	DESCRIPTION OF REVISION	
TOPO.		DATE		
DWG.	CTC	DATE 9/15/2014	GROUP --	
R/W		DATE		



# **APPENDIX B**

## **Survey Data Details**



# FIGURE 3: SURVEY DATA REFERENCE

## PLAN VIEW SURVEY DATA



POINT	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE
BD1	208217.9273	2168816.6006	21.45	32.4043421	80.4530627
BD2	208200.7762	2168809.1238	21.40	32.4042951	80.4530872
BD3	208192.481	2168853.8633	21.51	32.4042716	80.4529424
BD4	208159.1502	2168936.1815	21.53	32.4041788	80.4526763
BD5	208153.8327	2168975.4199	21.43	32.4041637	80.4525492
BD6	208135.9096	2168968.0402	21.43	32.4041145	80.4525734
BM1	208177.272	2168892.6291	48.72	32.4042293	80.452817

## PROFILE VIEW SURVEY DATA



ALL SURVEY INFORMATION OBTAINED BY CHE SURVEYING, AND PROVIDED BY HDR. INC.

# **APPENDIX C**

## **Outline for Process of Video Data Reduction & Reporting**

### **Vessel Survey Summary Table**

### **Vessel Survey Data Sheets**



## PROCESS FOR VIDEO DATA REDUCTIONS AND REPORTING

The video system continuously monitors the activity within the vessel navigation study area. This video footage is available for real-time viewing through an online interface. The footage is recorded in 30-minute intervals that coincide with their corresponding video times. F&ME travels to the site at regular intervals to download the stored video data, pick up the photos taken by the swing bridge operators, and take pictures of the SCDOT Drawbridge Report Forms. The video data is stored on an external hard drive and taken to F&ME headquarters in Columbia for processing. This process includes the following:

- SCDOT Drawbridge Report forms are reviewed to catalog each date and time corresponding to a swing bridge opening event for a target vessel.
- The video data is reviewed at the time corresponding to each swing bridge opening event, and a snapshot image of the target vessel is obtained.
- The snapshot image is imported into an AutoCAD drawing template, aligned, and processed using AutoCAD software tools and field calibrated data. The following vessel characteristics are visually estimated using the software:
  - *Approximate Vessel Water Line Elevation:* This is the location at which the vessel is first seen above the water line. This data may be subject to interpretation of the snapshot image.
  - *Approximate Top of Vessel Elevation:* This is the location that defines the highest point on the vessel (mast, antennae, etc.). This data may be subject to interpretation of the snapshot image.
  - *Approximate Difference in Vessel Height and Vessel Water Line:* This is the resulting difference between the highest point on the vessel and the vessel water line elevation.
  - *Approximate Vessel Height Above/Below Datum "A":* This is an approximate distance above or below the crest of the truss of the bridge to the height of the vessel.
- The Vessel Survey Data Sheet is populated with the vessel data and estimated measurements.
- Information from Vessel Survey Data Sheets are consolidated into a Vessel Survey Summary Sheet.
- Once a month this information is compiled into a report and submitted to HDR for review and distribution.

**US-21 Replacement Bridge over Harbor River**

## Vessel Survey Summary Sheet

Date	Time	Vessel Name	Vessel Survey Data Sheet No.	Bridge Staff Picture	Approximate Vessel Water Line Elevation	Approximate Top of Vessel Elevation	Approximate Difference in Vessel Height and Vessel Water Line	Approximate Vessel Height Above/Below Datum "A"
11/1/2015	7:22	Sue Dany	15-11-001	No	± -5' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	7:46	Chelsea Marie	15-11-002	No	± -3' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	7:47	Amber Waves	15-11-003	No	± -5' M.S.L.	± 70' M.S.L.	± 75'	± 20' Above
	9:25	Chelsea Marie	15-11-004	No	± -1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	12:28	Amber Waves	15-11-005	No	± 0' M.S.L.	± 75' M.S.L.	± 75'	± 25' Above
	12:38	Sue Dany	15-11-006	No	± 0' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
11/2/2015	5:36	Four Girls II	15-11-007	No	± -7' M.S.L.	± 50' M.S.L.	± 55'	± 0' Above
	6:09	Brown Eyed Girl	15-11-008	No	± -7' M.S.L.	± 50' M.S.L.	± 55'	± 0' Above
	6:35	Skip Jack	15-11-009	No	± -6' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
	7:16	Sue Dany	15-11-010	No	± -5' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	8:13	Amber Waves	15-11-011	No	± 3' M.S.L.	± 60' M.S.L.	± 55'	± 10' Above
	9:03	Chelsea Marie	15-11-012	No	± -4' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	10:51	Sue Dany	15-11-013	No	± -1' M.S.L.	± 25' M.S.L.	± 25'	± 25' Below
	10:51	Skip Jack	15-11-014	No	± -1' M.S.L.	± 25' M.S.L.	± 25'	± 25' Below
	12:30	Four Girls II	15-11-015	No	± -1' M.S.L.	± 65' M.S.L.	± 65'	± 15' Above
	13:35	Amber Waves	15-11-016	No	± -1' M.S.L.	± 75' M.S.L.	± 75'	± 25' Above
	14:06	Brown Eyed Girl	15-11-017	No	± -2' M.S.L.	± 60' M.S.L.	± 60'	± 10' Above
11/3/2015	5:29	Four Girls II	15-11-018	No	± -4' M.S.L.	± 55' M.S.L.	± 60'	± 5' Above
	5:51	Brown Eyed Girl	15-11-019	No	± -6' M.S.L.	± 55' M.S.L.	± 60'	± 5' Above
	6:55	Chelsea Marie	15-11-020	No	± -6' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	8:08	Sue Dany	15-11-021	No	± -5' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	10:44	Sue Dany	15-11-022	No	± 4' M.S.L.	± 25' M.S.L.	± 20'	± 25' Below
	11:00	Chelsea Marie	15-11-023	No	± 4' M.S.L.	± 25' M.S.L.	± 20'	± 25' Below
	12:26	Four Girls II	15-11-024	No	± 6' M.S.L.	± 60' M.S.L.	± 55'	± 10' Above
	14:01	Brown Eyed Girl	15-11-025	No	± -1' M.S.L.	± 60' M.S.L.	± 60'	± 10' Above
11/4/2015	6:44	Skip Jack	15-11-026	No	± -6' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
	8:03	Sue Dany	15-11-027	No	± -6' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
	10:17	Skip Jack	15-11-028	No	± -5' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
	11:26	Sue Dany	15-11-029	No	± -5' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
	12:57	Chelsea Marie	15-11-030	No	± -1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
11/5/2015	6:28	Four Girls II	15-11-031	No	± -4' M.S.L.	± 65' M.S.L.	± 70'	± 15' Above
	6:28	Chelsea Marie	15-11-032	No	± -4' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	7:05	Skip Jack	15-11-033	No	± -3' M.S.L.	± 25' M.S.L.	± 30'	± 25' Below
	8:31	Sue Dany	15-11-034	No	± -5' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	10:39	Skip Jack	15-11-035	No	± -6' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
	11:09	Chelsea Marie	15-11-036	No	± -5' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	11:42	Sue Dany	15-11-037	No	± -3' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below

**US-21 Replacement Bridge over Harbor River**

## Vessel Survey Summary Sheet

Date	Time	Vessel Name	Vessel Survey Data Sheet No.	Bridge Staff Picture	Approximate Vessel Water Line Elevation	Approximate Top of Vessel Elevation	Approximate Difference in Vessel Height and Vessel Water Line	Approximate Vessel Height Above/Below Datum "A"
11/5/2015	12:14	Four Girls II	15-11-038	No	± -2' M.S.L.	± 65' M.S.L.	± 65'	± 15' Above
11/6/2015	6:29	Skip Jack	15-11-039	No	± 1' M.S.L.	± 25' M.S.L.	± 25'	± 25' Below
	6:33	Chelsea Marie	15-11-040	No	± 5' M.S.L.	± 25' M.S.L.	± 20'	± 25' Below
	6:33	Sue Dany	15-11-041	No	± -2' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	10:42	Sue Dany	15-11-042	No	± -6' M.S.L.	± 15 ' M.S.L.	± 20 '	± 35' Below
	10:43	Skip Jack	15-11-043	No	± -6' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
	11:24	Chelsea Marie	15-11-044	No	± -5' M.S.L.	± 15 ' M.S.L.	± 20 '	± 35' Below
11/7/2015	6:42	Chelsea Marie	15-11-045	No	± -1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	12:07	Chelsea Marie	15-11-046	No	± -5' M.S.L.	± 15 ' M.S.L.	± 20 '	± 35' Below
11/9/2015	11:49	Skip Jack	15-11-047	No	± -4' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
	14:38	Skip Jack	15-11-048	No	± -4' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
11/10/2015	6:09	Brown Eyed Girl	15-11-049	No	± -1' M.S.L.	± 60' M.S.L.	± 60'	± 10' Above
	6:28	Four Girls II	15-11-050	No	± -2' M.S.L.	± 65' M.S.L.	± 65'	± 15' Above
	7:39	Skip Jack	15-11-051	No	± 1' M.S.L.	± 25' M.S.L.	± 25'	± 25' Below
	8:08	Captain Ron Tug	15-11-052	No	± 1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	11:55	Sue Dany	15-11-053	No	± 1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	12:10	Skip Jack	15-11-054	No	± 0' M.S.L.	± 15 ' M.S.L.	± 15'	± 35' Below
	13:13	Chelsea Marie	15-11-055	No	± 1' M.S.L.	± 15 ' M.S.L.	± 15'	± 35' Below
	14:36	Chelsea Marie	15-11-056	No	± 1' M.S.L.	± 15 ' M.S.L.	± 15'	± 35' Below
	15:10	Skip Jack	15-11-057	No	± 1' M.S.L.	± 25' M.S.L.	± 25'	± 25' Below
	16:02	Four Girls II	15-11-058	No	± 3' M.S.L.	± 55' M.S.L.	± 60'	± 5' Above
	16:32	Brown Eyed Girl	15-11-059	No	± 4' M.S.L.	± 55' M.S.L.	± 60'	± 5' Above
	16:42	Captain Ron Tug	15-11-060	No	± -3' M.S.L.	± 15 ' M.S.L.	± 20 '	± 35' Below
11/11/2015	5:57	Brown Eyed Girl	15-11-061	No	± -1' M.S.L.	± 60' M.S.L.	± 60'	± 10' Above
	6:28	Four Girls II	15-11-062	No	± -1' M.S.L.	± 65' M.S.L.	± 65'	± 15' Above
	6:29	Chelsea Marie	15-11-063	No	± -1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	7:45	Captain Ron Tug	15-11-064	No	± -5' M.S.L.	± 15 ' M.S.L.	± 20 '	± 35' Below
	8:39	Chelsea Marie	15-11-065	No	± 6' M.S.L.	± 15 ' M.S.L.	± 10'	± 35' Below
	11:42	Four Girls II	15-11-066	No	± 2' M.S.L.	± 55' M.S.L.	± 55'	± 5' Above
	11:55	Skip Jack	15-11-067	No	± 2' M.S.L.	± 25' M.S.L.	± 25'	± 25' Below
	12:51	Sue Dany	15-11-068	No	± 1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	16:11	Skip Jack	15-11-069	Yes	± 2' M.S.L.	± 25' M.S.L.	± 25'	± 25' Below
	16:11	Sue Dany	15-11-070	Yes	± 3' M.S.L.	± 25' M.S.L.	± 20'	± 25' Below
	16:42	Brown Eyed Girl	15-11-071	Yes	± 3' M.S.L.	± 50' M.S.L.	± 45'	± 0' Above

**US-21 Replacement Bridge over Harbor River**

## Vessel Survey Summary Sheet

Date	Time	Vessel Name	Vessel Survey Data Sheet No.	Bridge Staff Picture	Approximate Vessel Water Line Elevation	Approximate Top of Vessel Elevation	Approximate Difference in Vessel Height and Vessel Water Line	Approximate Vessel Height Above/Below Datum "A"
11/12/2015	5:26	Brown Eyed Girl	15-11-072	No	± -1' M.S.L.	± 60' M.S.L.	± 60'	± 10' Above
	6:22	Sue Dany	15-11-073	No	± -1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	6:30	Four Girls II	15-11-074	No	± -3' M.S.L.	± 65' M.S.L.	± 70'	± 15' Above
	6:34	Chelsea Marie	15-11-075	No	± -1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	7:58	Captain Ron Tug	15-11-076	No	± -2' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	10:50	Sue Dany	15-11-077	No	± 4' M.S.L.	± 20' M.S.L.	± 15'	± 30' Below
	11:52	Four Girls II	15-11-078	No	± 4' M.S.L.	± 55' M.S.L.	± 50'	± 5' Above
	12:06	Chelsea Marie	15-11-079	No	± 4' M.S.L.	± 20' M.S.L.	± 15'	± 30' Below
	12:39	Skip Jack	15-11-080	No	± 4' M.S.L.	± 20' M.S.L.	± 15'	± 30' Below
	12:42	Brown Eyed Girl	15-11-081	Yes	± 2' M.S.L.	± 50' M.S.L.	± 50'	± 0' Above
11/13/2015	16:16	Skip Jack	15-11-082	No	± 2' M.S.L.	± 25' M.S.L.	± 25'	± 25' Below
	6:17	Chelsea Marie	15-11-083	No	± -1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	6:29	Four Girls II	15-11-084	No	± -2' M.S.L.	± 65' M.S.L.	± 65'	± 15' Above
	7:07	Sue Dany	15-11-085	No	± -1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	7:59	Captain Ron Tug	15-11-086	No	± -3' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
	11:19	Sue Dany	15-11-087	No	± 4' M.S.L.	± 20' M.S.L.	± 15'	± 30' Below
	11:34	Four Girls II	15-11-088	No	± 4' M.S.L.	± 55' M.S.L.	± 50'	± 5' Above
11/14/2015	15:48	Chelsea Marie	15-11-089	No	± -7' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	13:15	Chelsea Marie	15-11-090	No	± -3' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	16:33	Chelsea Marie	15-11-091	No	± -7' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
11/16/2015	5:32	Brown Eyed Girl	15-11-092	No	± -8' M.S.L.	± 55' M.S.L.	± 65'	± 5' Above
	6:29	Four Girls II	15-11-093	No	± -6' M.S.L.	± 60' M.S.L.	± 65'	± 10' Above
	9:13	Captain Ron Tug	15-11-094	No	± -3' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	12:07	Brown Eyed Girl	15-11-095	No	± 6' M.S.L.	± 50' M.S.L.	± 45'	± 0' Above
	13:08	Four Girls II	15-11-096	No	± 5' M.S.L.	± 60' M.S.L.	± 55'	± 10' Above
11/17/2015	6:02	Brown Eyed Girl	15-11-097	No	± -8' M.S.L.	± 55' M.S.L.	± 65'	± 5' Above
	6:20	Sue Dany	15-11-098	No	± -5' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	6:35	Four Girls II	15-11-099	No	± -6' M.S.L.	± 60' M.S.L.	± 65'	± 10' Above
	9:24	Skip Jack	15-11-100	No	± -2' M.S.L.	± 25' M.S.L.	± 25'	± 25' Below
	10:06	Captain Ron Tug	15-11-101	No	± -2' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	12:00	Four Girls II	15-11-102	No	± 7' M.S.L.	± 60' M.S.L.	± 55'	± 10' Above
	12:00	Brown Eyed Girl	15-11-103	No	± 7' M.S.L.	± 50' M.S.L.	± 45'	± 0' Above

**US-21 Replacement Bridge over Harbor River**

## Vessel Survey Summary Sheet

Date	Time	Vessel Name	Vessel Survey Data Sheet No.	Bridge Staff Picture	Approximate Vessel Water Line Elevation	Approximate Top of Vessel Elevation	Approximate Difference in Vessel Height and Vessel Water Line	Approximate Vessel Height Above/Below Datum "A"
11/18/2015	7:03	Sue Dany	15-11-104	No	± -6' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	7:15	Chelsea Marie	15-11-105	No	± -6' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	10:27	Sue Dany	15-11-106	No	± 5' M.S.L.	± 25' M.S.L.	± 20'	± 25' Below
	12:03	Chelsea Marie	15-11-107	No	± 6' M.S.L.	± 25' M.S.L.	± 20'	± 25' Below
	16:25	Captain Ron Tug	15-11-108	No	± -3' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
11/19/2015	6:59	Chelsea Marie	15-11-109	No	± -7' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	7:23	Sue Dany	15-11-110	No	± -6' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	10:48	Chelsea Marie	15-11-111	No	± 4' M.S.L.	± 20' M.S.L.	± 15'	± 30' Below
	11:56	Sue Dany	15-11-112	No	± 5' M.S.L.	± 20' M.S.L.	± 15'	± 30' Below
	14:30	Chelsea Marie	15-11-113	No	± 7' M.S.L.	± 25' M.S.L.	± 20'	± 25' Below
	16:27	Captain Ron Tug	15-11-114	No	± -2' M.S.L.	± 15' M.S.L.	± 15'	± 35' Below
	17:02	Chelsea Marie	15-11-115	Yes	± -3' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
11/20/2015	6:27	Four Girls II	15-11-116	No	± -5' M.S.L.	± 65' M.S.L.	± 70'	± 15' Above
	7:02	Skip Jack	15-11-117	No	± -5' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
	7:03	Chelsea Marie	15-11-118	No	± 3' M.S.L.	± 20' M.S.L.	± 15'	± 30' Below
	9:48	Chelsea Marie	15-11-119	No	± 1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	10:53	Skip Jack	15-11-120	No	± 1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	11:36	Four Girls II	15-11-121	No	± 4' M.S.L.	± 55' M.S.L.	± 50'	± 5' Above
	14:12	Captain Ron Tug	15-11-122	No	± -1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
11/21/2015	6:34	Skip Jack	15-11-123	No	± -3' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
	9:28	Chelsea Marie	15-11-124	No	± -6' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	11:04	Chelsea Marie	15-11-125	No	± -6' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	11:39	Skip Jack	15-11-126	No	± -5' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
11/22/2015	8:51	Sue Dany	15-11-127	No	± -3' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
	9:02	Sue Dany	15-11-128	No	± -5' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	11:09	Chelsea Marie	15-11-129	No	± -5' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	12:37	Jenny Adams	15-11-130	No	± 3' M.S.L.	± 45' M.S.L.	± 40'	± 5' Below
	14:08	Chelsea Marie	15-11-131	No	± -2' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
11/23/2015	6:26	Four Girls II	15-11-132	No	± -1' M.S.L.	± 65' M.S.L.	± 65'	± 15' Above
	11:50	Chelsea Marie	15-11-133	No	± -8' M.S.L.	± 10' M.S.L.	± 20'	± 40' Below
	12:43	Four Girls II	15-11-134	No	± -8' M.S.L.	± 60' M.S.L.	± 70'	± 10' Above
	13:50	Chelsea Marie	15-11-135	No	± -8' M.S.L.	± 10' M.S.L.	± 20'	± 40' Below



**US-21 Replacement Bridge over Harbor River**

## Vessel Survey Summary Sheet

Date	Time	Vessel Name	Vessel Survey Data Sheet No.	Bridge Staff Picture	Approximate Vessel Water Line Elevation	Approximate Top of Vessel Elevation	Approximate Difference in Vessel Height and Vessel Water Line	Approximate Vessel Height Above/Below Datum "A"
11/24/2015	6:35	Four Girls II	15-11-136	No	± 3' M.S.L.	± 70' M.S.L.	± 70'	± 20' Above
	10:19	Four Girls II	15-11-137	No	± 3' M.S.L.	± 55' M.S.L.	± 50'	± 5' Above
	11:23	Skip Jack	15-11-138	No	± 1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	11:31	Chelsea Marie	15-11-139	No	± 0' M.S.L.	± 15' M.S.L.	± 15'	± 35' Below
	14:08	Chelsea Marie	15-11-140	No	± 0' M.S.L.	± 15' M.S.L.	± 15'	± 35' Below
	15:05	Skip Jack	15-11-141	No	± 3' M.S.L.	± 25' M.S.L.	± 20'	± 25' Below
11/25/2015	6:33	Four Girls II	15-11-142	No	± 0' M.S.L.	± 70' M.S.L.	± 70'	± 20' Above
	10:25	Four Girls II	15-11-143	No	± -1' M.S.L.	± 65' M.S.L.	± 65'	± 15' Above
11/27/2015	6:31	Four Girls II	15-11-144	No	± -2' M.S.L.	± 65' M.S.L.	± 65'	± 15' Above
	12:19	Four Girls II	15-11-145	No	± -4' M.S.L.	± 65' M.S.L.	± 70'	± 15' Above
11/28/2015	9:52	Chelsea Marie	15-11-146	No	± 2' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	11:06	Chelsea Marie	15-11-147	No	± 0' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
	14:07	Skip Jack	15-11-148	No	± -4' M.S.L.	± 20' M.S.L.	± 25'	± 30' Below
11/28/2015	17:11	Skip Jack	15-11-149	No	± -7' M.S.L.	± 20' M.S.L.	± 30'	± 30' Below
11/29/2015	8:23	Chelsea Marie	15-11-150	No	± -3' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	11:47	Chelsea Marie	15-11-151	No	± -1' M.S.L.	± 20' M.S.L.	± 20'	± 30' Below
11/30/2015	6:09	Skip Jack	15-11-152	No	± -7' M.S.L.	± 20' M.S.L.	± 30'	± 30' Below
	6:35	Four Girls II	15-11-153	No	± -6' M.S.L.	± 60' M.S.L.	± 65'	± 10' Above
	9:13	Captain Ron Tug	15-11-154	No	± -5' M.S.L.	± 15' M.S.L.	± 20'	± 35' Below
	10:03	Chelsea Marie	15-11-155	No	± 7' M.S.L.	± 20' M.S.L.	± 15'	± 30' Below
	11:06	Skip Jack	15-11-156	No	± 7' M.S.L.	± 25' M.S.L.	± 20'	± 25' Below
	11:40	Chelsea Marie	15-11-157	No	± 6' M.S.L.	± 20' M.S.L.	± 15'	± 30' Below
	12:29	Four Girls II	15-11-158	No	± 6' M.S.L.	± 60' M.S.L.	± 55'	± 10' Above

VESSEL SURVEY DATA SHEET NO.: 15-11-001APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

		120
		110
		100
		90
		80
		70
		60
		50 DATUM "A"
		40
		30
		20 DATUM "B"
		10
		0
		-10
		-20
		-30
		-40
		-50
		-60
		-70
		-80
		-90
		-100
		-110
		-120
		-130
		-140

DATE: 11-01-2015	TIME: 07:22
VESSEL NAME*: SUE DANY	VESSEL ID*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-003APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±70' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±75'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±20'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-002APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-004APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)

		120
		110
		100
		90
		80
		70
		60
		50 DATUM "A"
		40
		30
		20 DATUM "B"
		10
		0
		-10
		-20
		-30
		-40
		-50
		-60
		-70
		-80
		-90
		-100
		-110
		-120
		-130
		-140

DATE: 11-01-2015	TIME: 09:25
VESSEL NAME*: CHELSEA MARIE	VESSEL ID*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-005APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±0' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±75' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±75'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

**VESSEL SURVEY DATA SHEET NO.: 15-11-006**APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±0' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOWDATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-007APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±50' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±55'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±0'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-008APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±50' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±55'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±0'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-009APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 6'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 20'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 25'$ APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A": $\pm 30'$ 

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-010APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-02-2015TIME: 07:16VESSEL NAME\*: SUE DANYVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-011APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±55'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-012APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-013APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-02-2015TIME: 10:51VESSEL NAME\*: SUE DANYVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-014APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-015APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-02-2015TIME: 12:30VESSEL NAME\*: FOUR GIRLS IIVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-016APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-02-2015TIME: 13:35VESSEL NAME\*: AMBER WAVESVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±75' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±75'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-017APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-02-2015TIME: 14:06VESSEL NAME\*: BROWN EYED GIRLVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±60'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-018APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±60'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±5'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-019APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±60'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±5'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-020APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-021APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

		120
		110
		100
		90
		80
		70
		60
		50 DATUM "A"
		40
		30
		20 DATUM "B"
		10
		0
		-10
		-20
		-30
		-40
		-50
		-60
		-70
		-80
		-90
		-100
		-110
		-120
		-130
		-140

DATE: 11-03-2015	TIME: 08:08
VESSEL NAME*: SUE DANY	VESSEL ID*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-022APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-03-2015TIME: 10:44VESSEL NAME\*: SUE DANYVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-023APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

	DATE: 11-03-2015	TIME: 11:00
	VESSEL NAME*: CHELSEA MARIE	VESSEL ID*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



**VESSEL SURVEY DATA SHEET NO.: 15-11-024**APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±55'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



**VESSEL SURVEY DATA SHEET NO.: 15-11-025**APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±60'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-026APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

		120
		110
		100
		90
		80
		70
		60
		50 DATUM "A"
		40
		30
		20 DATUM "B"
		10
		0
		-10
		-20
		-30
		-40
		-50
		-60
		-70
		-80
		-90
		-100
		-110
		-120
		-130
		-140

DATE: 11-04-2015	TIME: 06:44
VESSEL NAME*: SKIP JACK	VESSEL ID*: 983873

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-027APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-04-2015TIME: 08:03VESSEL NAME\*: SUE DANYVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-028APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-029APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-030APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-04-2015TIME: 12:57VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOWDATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-031APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 4'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 65'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 70'$ APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A": $\pm 15'$ 

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-032APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 4'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 15'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 35'$ 

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-033APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±30'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-034APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 5'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 15'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 35'$ 

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-035APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

**VESSEL SURVEY DATA SHEET NO.: 15-11-036**APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION: $\pm 5'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 15'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 35'$ 

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

**VESSEL SURVEY DATA SHEET NO.: 15-11-037**APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±-3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

**VESSEL SURVEY DATA SHEET NO.: 15-11-038**APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-05-2015TIME: 12:14VESSEL NAME\*: FOUR GIRLS IIVESSEL ID\*: N/A**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±-2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-039APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-040APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-041APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-042APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-06-2015TIME: 10:42VESSEL NAME\*: SUE DANYVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

**VESSEL SURVEY DATA SHEET NO.: 15-11-043**APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-06-2015TIME: 10:43VESSEL NAME\*: SKIP JACKVESSEL ID\*: 983873**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-044APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-06-2015TIME: 11:24VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-045APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-046APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

**VESSEL SURVEY DATA SHEET NO.: 15-11-047**APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-048APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-09-2015TIME: 14:38VESSEL NAME\*: SKIP JACKVESSEL ID\*: 983873BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-049APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-10-2015TIME: 06:09VESSEL NAME\*: BROWN EYED GIRLVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±60'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-050APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-051APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-052APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-053APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-054APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±0' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-055APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

		120
		110
		100
		90
		80
		70
		60
		50 DATUM "A"
		40
		30
		20 DATUM "B"
		10
		0
		-10
		-20
		-30
		-40
		-50
		-60
		-70
		-80
		-90
		-100
		-110
		-120
		-130
		-140

DATE: 11-10-2015	TIME: 13:13
VESSEL NAME*: CHELSEA MARIE	VESSEL ID*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-056APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-057APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-10-2015TIME: 15:10VESSEL NAME\*: SKIP JACKVESSEL ID\*: 983873BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-058APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±60'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±5'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-059APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±60'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±5'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



**VESSEL SURVEY DATA SHEET NO.: 15-11-060**APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±-3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-061APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±60'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-062APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-063APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-064APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-065APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±10'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-066APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-11-2015TIME: 11:42VESSEL NAME\*: FOUR GIRLS IIVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±55'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±5'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-067APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-11-2015TIME: 11:55VESSEL NAME\*: SKIP JACKVESSEL ID\*: 983873BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-068APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOWDATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-069APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±2' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":  
±25'



DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

**VESSEL SURVEY DATA SHEET NO.: 15-11-070**APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)**BRIDGE STAFF PICTURE**

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±3' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":  
±25'



DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-071APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±3' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±50' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±45'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":  
±0'



DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-072APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±60'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-073APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-074APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±70'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-075APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)

	DATE: 11-12-2015	TIME: 06:34
	VESSEL NAME*: CHELSEA MARIE	VESSEL ID*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-076APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-077APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-078APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-12-2015TIME: 11:52VESSEL NAME\*: FOUR GIRLS IIVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±50'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±5'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-079APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-12-2015TIME: 12:06VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-080APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-12-2015TIME: 12:39VESSEL NAME\*: SKIP JACKVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-081APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±2' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±50' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±50'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":  
±0'



DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-082APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOWDATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-083APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-13-2015TIME: 06:17VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-084APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-085APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-086APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

**VESSEL SURVEY DATA SHEET NO.: 15-11-087**APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-13-2015TIME: 11:19VESSEL NAME\*: SUE DANYVESSEL ID\*: N/A**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-088APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±50'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±5'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



**VESSEL SURVEY DATA SHEET NO.: 15-11-089**APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-13-2015TIME: 15:48VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/A**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-090APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-14-2015TIME: 13:15VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-091APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-14-2015TIME: 16:33VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-092APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±8' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±5'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-093APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-094APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 3'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 15'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 35'$ 

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-095APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-16-2015TIME: 12:07VESSEL NAME\*: BROWN EYED GIRLVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±50' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±45'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±0'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-096APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±55'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-097APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±8' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±5'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-098APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-099APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-100APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-101APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-17-2015TIME: 10:06VESSEL NAME\*: CAPTAIN RON TUGVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-102APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±55'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-103APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±50' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±45'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±0'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-104APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-18-2015TIME: 07:03VESSEL NAME\*: SUE DANYVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-105APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-18-2015TIME: 07:15VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

**VESSEL SURVEY DATA SHEET NO.: 15-11-106**APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-107APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

		120
		110
		100
		90
		80
		70
		60
		50 DATUM "A"
		40
		30
		20 DATUM "B"
		10
		0
		-10
		-20
		-30
		-40
		-50
		-60
		-70
		-80
		-90
		-100
		-110
		-120
		-130
		-140

DATE: 11-18-2015	TIME: 12:03
VESSEL NAME*: CHELSEA MARIE	VESSEL ID*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-108APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)

	DATE: 11-18-2015	TIME: 16:25
	VESSEL NAME*: CAPTAIN RON TUG	VESSEL ID*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-109APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-110APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-19-2015TIME: 07:23VESSEL NAME\*: SUE DANYVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 6'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 15'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 35'$ 

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-111APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

	DATE: 11-19-2015	TIME: 10:48
	VESSEL NAME*: CHELSEA MARIE	VESSEL ID*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-112APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-113APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-114APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-115APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'



DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-116APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±70'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-117APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-118APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-119APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-120APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-20-2015TIME: 10:53VESSEL NAME\*: SKIP JACKVESSEL ID\*: 983873BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-121APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-20-2015TIME: 11:36VESSEL NAME\*: FOUR GIRLS IIVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±50'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±5'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-122APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

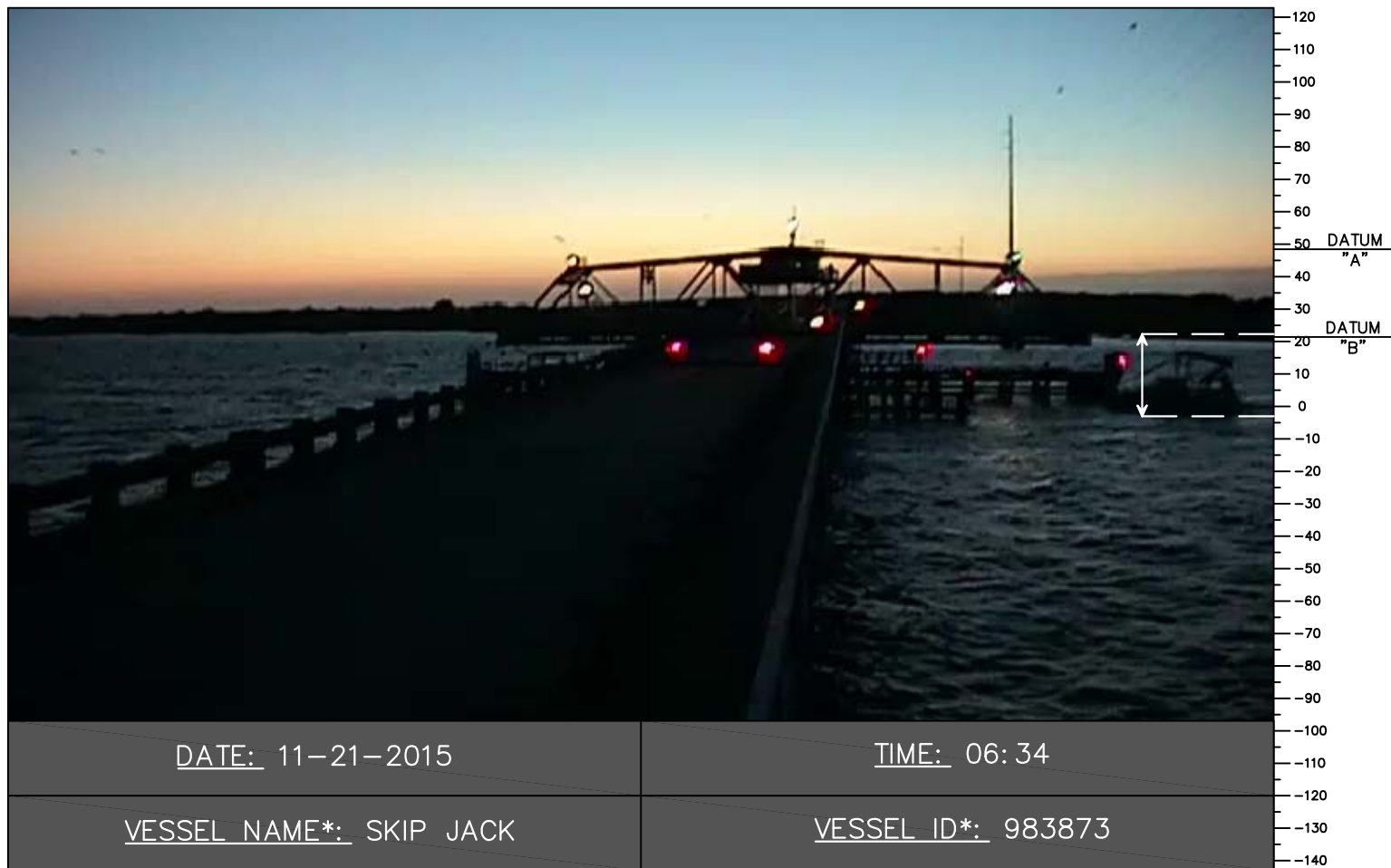
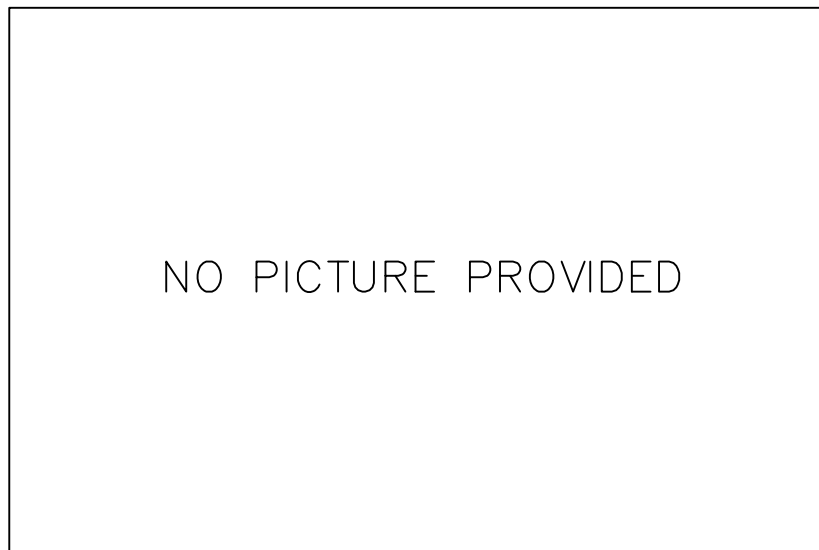
±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-123APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-124APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



**VESSEL SURVEY DATA SHEET NO.: 15-11-125**APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-21-2015TIME: 11:04VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/A**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-126APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-21-2015TIME: 11:39VESSEL NAME\*: SKIP JACKVESSEL ID\*: 983873BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-127APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

	DATE: 11-22-2015	TIME: 08:51
	VESSEL NAME*: SUE DANY	VESSEL ID*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

**VESSEL SURVEY DATA SHEET NO.: 15-11-128**APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-22-2015TIME: 09:02VESSEL NAME\*: SUE DANYVESSEL ID\*: N/A**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±-5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-129APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-22-2015TIME: 11:09VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-130APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-22-2015TIME: 12:37VESSEL NAME\*: JENNY ADAMSVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±45' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±40'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±5'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-131APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-132APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



**VESSEL SURVEY DATA SHEET NO.: 15-11-133**APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-23-2015TIME: 11:50VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/A**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±8' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±10' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±40'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-134APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 8'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 60'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 70'$ APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A": $\pm 10'$ 

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-135APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-23-2015TIME: 13:50VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±8' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±10' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±40'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-136APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±70' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±70'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±20'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-137APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-24-2015TIME: 10:19VESSEL NAME\*: FOUR GIRLS IIVESSEL ID\*: N/ABRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±55' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±50'

APPROXIMATE VESSEL HEIGHT ABOVEDATUM "A":

±5'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-138APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-139APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTURE

APPROXIMATE VESSEL WATER LINE  
ELEVATION:  
±0' M.S.L.

APPROXIMATE TOP OF VESSEL  
ELEVATION:  
±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:  
±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":  
±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



**VESSEL SURVEY DATA SHEET NO.: 15-11-140**APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)DATE: 11-24-2015TIME: 14:08VESSEL NAME\*: CHELSEA MARIEVESSEL ID\*: N/A**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±0' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-141APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±3' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-142APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±0' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±70' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±70'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±20'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-143APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-144APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-145APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±65' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±70'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±15'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-146APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±2' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-148APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-28-2015TIME: 14:07VESSEL NAME\*: SKIP JACKVESSEL ID\*: 983873BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±4' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±25'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-147APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±0' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-149APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±-7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±30'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-150APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION: $\pm 3'$  M.S.L.APPROXIMATE TOP OF VESSELELEVATION: $\pm 15'$  M.S.L.APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE: $\pm 20'$ APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A": $\pm 35'$ 

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-151APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±1' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-152APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±30'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-153APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±65'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-154APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±5' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±15' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±35'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-155APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

		120
		110
		100
		90
		80
		70
		60
		50 DATUM "A"
		40
		30
		20 DATUM "B"
		10
		0
		-10
		-20
		-30
		-40
		-50
		-60
		-70
		-80
		-90
		-100
		-110
		-120
		-130
		-140

DATE: 11-30-2015	TIME: 10:03
VESSEL NAME*: CHELSEA MARIE	VESSEL ID*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

VESSEL SURVEY DATA SHEET NO.: 15-11-156APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)DATE: 11-30-2015TIME: 11:06VESSEL NAME\*: SKIP JACKVESSEL ID\*: 983873BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±7' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±25' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±20'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±25'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)



VESSEL SURVEY DATA SHEET NO.: 15-11-157APPROXIMATE REFERENCE  
SCALE ELEVATION-M.S.L.  
(FEET)

		120
		110
		100
		90
		80
		70
		60
		50 DATUM "A"
		40
		30
		20 DATUM "B"
		10
		0
		-10
		-20
		-30
		-40
		-50
		-60
		-70
		-80
		-90
		-100
		-110
		-120
		-130
		-140

DATE: 11-30-2015	TIME: 11:40
VESSEL NAME*: CHELSEA MARIE	VESSEL ID*: N/A

BRIDGE STAFF PICTUREAPPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±20' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±15'

APPROXIMATE VESSEL HEIGHT BELOW  
DATUM "A":

±30'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. - LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. - LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

**VESSEL SURVEY DATA SHEET NO.: 15-11-158**APPROXIMATE REFERENCE  
SCALE ELEVATION—M.S.L.  
(FEET)**BRIDGE STAFF PICTURE**APPROXIMATE VESSEL WATER LINEELEVATION:

±6' M.S.L.

APPROXIMATE TOP OF VESSELELEVATION:

±60' M.S.L.

APPROXIMATE DIFFERENCE IN VESSEL  
HEIGHT AND VESSEL WATER LINE:

±55'

APPROXIMATE VESSEL HEIGHT ABOVE  
DATUM "A":

±10'

NO PICTURE PROVIDED

DATUM "A": ELEVATION = 48.7' M.S.L. — LOCATION IS ON TOP OF BRIDGE STRUCTURE AT THE PEAK HEIGHT OF THE BRIDGE. SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

DATUM "B": ELEVATION = 21.5' M.S.L. — LOCATION IS ON THE BRIDGE DECK (RIDING SURFACE). SURVEY INFORMATION AT THIS LOCATION PROVIDED BY HRD, INC. REFER TO FIGURES IN APPENDIX B FOR SURVEY LOCATION DETAILS.

\*INFORMATION OBTAINED FROM NOVEMBER 2015 SCDOT DRAWBRIDGE REPORT (FORM 3079)

# **APPENDIX D**

## **SCDOT Drawbridge Report Forms**

BRIDGE NUMBER \_\_\_\_\_  
 REPORT FOR THE MONTH OF November 20 15  
 NAME OF BRIDGE Harbor River  
 DRAWBRIDGE SERVICES, INC.

STATE OF SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION  
**REPORT OF DRAWBRIDGE OPENINGS**

Form 3079 Rev.

DBS

DAY OF WEEK	DATE	DRAW OPENING NUMBER	TIME GATES DROP AM OR PM	TIME GATES OPEN AM OR PM	DIRECTION NORTH SOUTH	CONDITION OF WEATHER & RIVER	TYPE OF VESSEL PASSING THROUGH	NAME OR NUMBER OF VESSEL PASSING THROUGH	NAME OF TENDER IN CHARGE OF DRAW
Sunday	11/01	01	7:20 AM	7:26 AM	/	clear	shrimp	Suedany 01	James L Parker
Sunday	11/01	02	7:44 AM		/	clear	shrimp	Chelsea Marie 02	James L Parker
Sunday	11/01	02		7:50 AM	/	clear	shrimp	Amber Waves 03	James L Parker
Sunday	11/01	03	9:22 AM	9:28 AM	/	clear	shrimp	Chelsea Marie 04	James L Parker
Sunday	11/01	04	12:25 PM	12:32 PM	/	clear	shrimp	Amber Waves 05	James L Parker
Sunday	11/01	05	12:36 PM	12:43 PM	/	clear	shrimp	Suedany 06	James L Parker
Monday	11/02	06	5:36 AM	5:41 AM	/	clear	shrimp	FOUR GIRLS 07	M. Beulah
Monday	11/02	07	6:08 AM	6:13 AM	/	clear	SHRIMP	BROWN EYED GIRLS 08	M. Beulah
Monday	11/02	08	6:35 AM	6:40 AM	/	clear	SHRIMP	SKIP JACK 09	M. Beulah
Monday	11/02	09	7:16 AM	7:21 AM	/	clear	SHRIMP	SUE DANNY 10	M. Beulah
Monday	11/02	10	8:11 AM	8:17 AM	/	cloudy	shrimp	Amber Waves 11	James L Parker
Monday	11/02	11	9:01 AM	9:07 AM	/	cloudy	shrimp	Chelsea Marie 12	James L Parker
Monday	11/02	12	10:49 AM		/	cloudy	shrimp	Suedany 13	James L Parker
Monday	11/02	12		10:51 AM	/	cloudy	shrimp	Skip Jack 14	James L Parker
Monday	11/02	13	12:27 PM	12:35 PM	/	cloudy	shrimp	Four Girls II 15	James L Parker
Monday	11/02	14	1:31 PM	1:38 PM	/	cloudy	shrimp	Amber Waves 16	James L Parker
Monday	11/02	15	2:02 PM	2:10 PM	/	cloudy	shrimp	Brown Eyed Girl 17	James L Parker
Tues	11/03	16	5:30 AM	5:35 AM	/	cloudy	SHRIMP	FOUR GIRLS 18	M. Beulah
Tues	11/03	17	5:50 AM	5:55 AM	/	cloudy	SHRIMP	BROWN EYED GIRL 19	M. Beulah
Tues	11/03	18	7:00 AM	7:05 AM	/	cloudy	SHRIMP	CHELSEA MARIE 20	M. Beulah



BRIDGE NUMBER

REPORT FOR THE MONTH OF November 2015NAME OF BRIDGE Harbor River

DRAWBRIDGE SERVICES, INC.

STATE OF SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

## REPORT OF DRAWBRIDGE OPENINGS

Form 3079 Rev.

DBS

DAY OF WEEK	DATE	DRAW OPENING NUMBER	TIME GATES DROP AM OR PM	TIME GATES OPEN AM OR PM	DIRECTION NORTH SOUTH	CONDITION OF WEATHER & RIVER	TYPE OF VESSEL PASSING THROUGH	NAME OR NUMBER OF VESSEL PASSING THROUGH	NAME OF TENDER IN CHARGE OF DRAW
Tuesday	11/03	19	8:07 AM	8:12 AM	/	cloudy	shrimp	Suedany 21	Jessica Parker
Tuesday	11/03	20	10:42 AM	10:48 AM	/	cloudy	shrimp	Suedany 22	Jessica Parker
Tuesday	11/03	21	10:57 AM	11:03 AM	/	cloudy	shrimp	Chelsea Marie 23	Jessica Parker
Tuesday	11/03	22	12:24 PM	12:30 PM	/	Raining	shrimp	Four Girls II 24	Jessica Parker
Tuesday	11/03	23	1:59 PM	2:05 PM	/	Raining	shrimp	Brown Eyed Girl 25	Jessica Parker
WED	11/04	24	5:40 AM	5:45 AM	/	CLEAR	SHRIMP	CHELSEA MARIE 26	M. Beuland
WED	11/04	25	6:52 AM	6:57 AM	/	CLEAR	SHRIMP	SKIP JACK 27	M. Beuland
WED	11/04	26	8 <sup>01</sup> AM	8 <sup>07</sup> AM	/	CLEAR	SHRIMP	SUE DANY 28	M. Johnson
WED	11/04	27	10 <sup>14</sup> AM	10 <sup>20</sup> AM	X	CLEAR	SHRIMP	SKIP JACK 29	M. Johnson
WED	11/04	28	11 <sup>24</sup> AM	11 <sup>30</sup> AM	X	CLEAR	SHRIMP	SUE DANY 30	M. Johnson
WED	11/04	29	12 <sup>54</sup> PM	1 <sup>02</sup> PM	X	CLEAR	SHRIMP	CHELSEA MARIE 31	M. Johnson
Thurs	11/05	30	6:26	6:32	/	cloudy	shrimp	Four Girls II 32	Jessica Parker
Thurs	11/05	31	6:34	6:40	/	cloudy	shrimp	Chelsea Marie 33	Jessica Parker
Thurs	11/05	32	7:03	7:09	/	cloudy	shrimp	Skip Jack 34	Jessica Parker
THUR	11/05	33	8 <sup>30</sup> AM	8 <sup>36</sup> AM	/	Cloudy	SHRIMP	SUE DANY 35	M. Johnson
THUR	11/05	34	10 <sup>34</sup> AM	10 <sup>40</sup> AM	/	CLEAR	SHRIMP	SKIP JACK 36	M. Johnson
THUR	11/05	35	11 <sup>06</sup> AM	11 <sup>12</sup> AM	/	CLEAR	SHRIMP	CHELSEA MARIE 37	M. Johnson
THUR	11/05	36	11 <sup>34</sup> AM	11 <sup>45</sup> AM	/	CLEAR	SHRIMP	SUE DANY 38	M. Johnson
THUR	11/05	37	12 <sup>10</sup> PM	12 <sup>16</sup> PM	/	CLEAR	SHRIMP	FOUR GIRLS II 39	M. Johnson
Friday	11/06	38	6 <sup>30</sup> AM	/	/	Foggy	Shrimp	Sue Dany 40	S. Davidson

BRIDGE NUMBER

REPORT FOR THE MONTH OF November 20 15NAME OF BRIDGE Harbor River

DRAWBRIDGE SERVICES, INC.

STATE OF SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

## REPORT OF DRAWBRIDGE OPENINGS

Form 3079 Rev.

DBS

DAY OF WEEK	DATE	DRAW OPENING NUMBER	TIME GATES DROP AM OR PM	TIME GATES OPEN AM OR PM	DIRECTION		CONDITION OF WEATHER & RIVER	TYPE OF VESSEL PASSING THROUGH	NAME OR NUMBER OF VESSEL PASSING THROUGH	NAME OF TENDER IN CHARGE OF DRAW
					NORTH	SOUTH				
Friday	11/06	38	/	/	/		Foggy	Shrimp	Chelsea Marie 41	S. Davidson
Friday	11/06	38	/	6:37 am	/		Foggy	Shrimp	Brown Eye Girl 42	S. Davidson
FRI	11/06	39	10:48 AM	/		/	Foggy	Shrimp	SUE DANN 43	MD Johnson
FRI	11/06	39	/	10:56 AM		/	Foggy	SHRIMP	SKIP JACK 44	MD Johnson
FRI	11/06	40	11:20 AM	11:26 AM		/	CLEAR	SHRIMP	CHELSEA MARIE 45	MD Johnson
Sat	11/7	41	6:40 AM	6:46 AM	✓		Fog	shrimp	chelsea marie 46	J. Bryant
SAT	11/07	42	1:10 PM	1:16 PM		/	CLEAR	SHRIMP	CHELSEA MARIE 47	MD Johnson
Monday	11/09	43	9:33 am	9:43 am	-	-	-	-	TIC cancelled	L. B. Baker
Monday	11/09	44	11:44 am	11:51 am	/		Rain	Shrimp	Skip Jack 48	L. B. Baker
Monday	11/09	45	2:33 pm	2:39 pm	/		Rain	Shrimp	Skip Jack 49	L. B. Baker
Tuesday	11/10	46	6:00 am	6:05 PM	/		CLEAR	SHRIMP	BROWN EYED GIRL 50	M. Bunker
Tuesday	11/10	47	6:54 am	7:00 am	/		CLEAR	SHRIMP	Four Girls II 51	M. Bunker
Tuesday	11/10	48	7:43 am	7:48 am	/		CLEAR	SHRIMP	Skip Jack 52	M. Bunker
Tuesday	11/10	49	8:00 am	8:11 am	/		clear	Tug/Barge	Captain Ron Tig 53	Jessica Baker
Tuesday	11/10	50	11:52 am	11:57 am	/		clear	Shrimp	Sundary 54	Jessica Baker
Tuesday	11/10	51	12:06 pm	12:13 pm	/		clear	Shrimp	Skip Jack 55	Jessica Baker
Tuesday	11/10	52	1:11 PM	1:16 PM	/		clear	Shrimp	Chelsea Marie 56	Jessica Baker
Tuesday	11/10	53	2:32 pm	2:39 PM	/		clear	Shrimp	Chelsea Marie 57	Jessica Baker
Tuesday	11/10	54	3:07 PM	3:14 PM	/		clear	Shrimp	Skip Jack 58	Jessica Baker
Tuesday	11/10	55	3:59	4:05 PM	/		clear	Shrimp	Four Girls II 59	Jessica Baker

BRIDGE NUMBER

REPORT FOR THE MONTH OF November 20 2015NAME OF BRIDGE Harbor River

DRAWBRIDGE SERVICES, INC.

STATE OF SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

## REPORT OF DRAWBRIDGE OPENINGS

Form 3078 Rev.

DBS

DAY OF WEEK	DATE	DRAW OPENING NUMBER	TIME GATES DROP AM OR PM	TIME GATES OPEN AM OR PM	DIRECTION		CONDITION OF WEATHER & RIVER	TYPE OF VESSEL PASSING THROUGH	NAME OR NUMBER OF VESSEL PASSING THROUGH	NAME OF TENDER IN CHARGE OF DRAW
					NORTH	SOUTH				
Tuesday	11/10	56	4 <sup>29</sup> PM	4 <sup>36</sup> PM		/	Clear	Shrimp	Brown Eyed Girl 60	Harold Carter
Tuesday	11/10	57	4 <sup>40</sup> PM	4 <sup>46</sup> PM		/	Clear	Tug/Barg	Capt Ron Jug 61	Harold Carter
Wednes	11/11	58	5 <sup>54</sup> AM	6 <sup>01</sup> AM	/		Clear	Shrimp	Brown Eyed Girl 42	<del>Harold Carter</del>
Wednes	11/11	59	6 <sup>24</sup> AM	6 <sup>32</sup> AM	/		Clear	Shrimp	Four Girls II 73	<del>Harold Carter</del>
Wednes	11/11	59	6 <sup>24</sup> AM	6 <sup>32</sup> AM	/		Clear	Shrimp	Chelsea Marie 64	<del>Harold Carter</del>
Wednes	11/11	60	7 <sup>48</sup> AM	7 <sup>55</sup> AM	/		Clear	Tug/Barg	Capt Ron Jug 65	<del>Harold Carter</del>
(WED)	11/11	61	8 <sup>36</sup> AM	8 <sup>42</sup> AM		/	CLEAR	SHRIMP	CHELSEA MARIE - 66	McJohnson
WED	11/11	62	11 <sup>38</sup> AM	11 <sup>44</sup> AM		/	CLEAR	SHRIMP	FOUR GIRLS II 67	McJohnson
WED	11/11	63	11 <sup>53</sup> AM	11 <sup>59</sup> AM	/		CLEAR	SHRIMP	SKIP JACK 68	McJohnson
WED	11/11	64	12 <sup>50</sup> PM	12 <sup>56</sup> PM	/		CLEAR	SHRIMP	SUE DANY 69	McJohnson
Wed	11-11	65	4 <sup>10</sup> PM	4 <sup>16</sup> PM		/	Clear	Shrimp	SKIP JACK 70	Demond Jackson
Wed	11-11	65	4 <sup>10</sup> PM	4 <sup>16</sup> PM		/	Clear	Shrimp	Sue Dany 71	Demond Jackson
Wed	11-11	66	4 <sup>40</sup> PM	4 <sup>49</sup> PM		/	Clear	Shrimp	Brown Eyed Girl 72	Demond Jackson
Thur	11/12	67	5 <sup>24</sup> AM	5 <sup>31</sup> AM	/		Clear	Shrimp	Brown Eyed Girl 73	<del>Harold Carter</del>
Thur	11/12	68	6 <sup>21</sup> AM	6 <sup>26</sup> AM	/		Clear	Shrimp	Sue Dany 74	<del>Harold Carter</del>
Thur	11/12	69	6 <sup>38</sup> AM	6 <sup>37</sup> AM	/		Clear	Shrimp	Four Girls II 75	<del>Harold Carter</del>
Thur	11/12	69	6 <sup>28</sup> AM	6 <sup>37</sup> AM	/		Clear	Shrimp	Chelsea Marie 76	<del>Harold Carter</del>
Thur	11/12	70	7 <sup>53</sup> AM	8 <sup>02</sup> AM	/		Clear	Tug/Barg	Capt. Ron Jug 77	<del>Harold Carter</del>
THUR	11/12	71	10 <sup>06</sup> AM	10 <sup>12</sup> AM	/		CLEAR	SHRIMP	SUE DANY 78	McJohnson
THUR	11/12	72	11 <sup>50</sup> AM	11 <sup>56</sup> AM	/		CLEAR	SHRIMP	FOUR GIRLS II 79	McJohnson

BRIDGE NUMBER

REPORT FOR THE MONTH OF NOVEMBER 20 15NAME OF BRIDGE HARBOR RIVER

DRAWBRIDGE SERVICES, INC.

STATE OF SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION  
REPORT OF DRAWBRIDGE OPENINGS

Form 3076 Rev.

DBS

DAY OF WEEK	DATE	DRAW OPENING NUMBER	TIME GATES DROP AM OR PM	TIME GATES OPEN AM OR PM	DIRECTION		CONDITION OF WEATHER & RIVER	TYPE OF VESSEL PASSING THROUGH	NAME OR NUMBER OF VESSEL PASSING THROUGH	NAME OF TENDER IN CHARGE OF DRAW
					NORTH	SOUTH				
THUR	11/12	73	12 <sup>02</sup> PM	12 <sup>08</sup> PM		/	CLEAR	SHRIMP	CHLSEA MARIE 80	MD Johnson
THUR	11/12	74	12 <sup>30</sup> PM		/		CLEAR	SHRIMP	SKIP JACK 81	MD Johnson
THUR	11/12	↓		12 <sup>45</sup> PM		/	CLEAR	SHRIMP	BROWN EYED GIRL 82	MD Johnson
THUR	11/12	75	4 <sup>05</sup> PM	4 <sup>12</sup> PM		/	CLEAR	SHRIMP	SKIP JACK 83	Monroe Jackson
Friday	11/13	76	6 <sup>19</sup> AM	6 <sup>21</sup> AM	/		CLEAR	SHRIMP	Chelsea Marie 84	MD Johnson
Friday	11/13	77	6:27 AM	6:34 AM	/		CLEAR	SHRIMP	Four Girls II 85	MD Johnson
Friday	11/13	78	7:06 AM	7:12 AM	/		CLEAR	SHRIMP	Sue Tany 86	MD Johnson
FRI	11/13	79	7 <sup>56</sup> AM	8 <sup>04</sup> AM	/		CLEAR	TUG	CAPT. RON 87	MD Johnson
FRI	11/13	80	11 <sup>15</sup> AM	11 <sup>21</sup> AM	/		CLEAR	SHRIMP	SUE DANY 88	MD Johnson
FRI	11/13	81	11 <sup>30</sup> AM	11 <sup>36</sup> AM	/		CLEAR	SHRIMP	FOUR GIRLS II 89	MD Johnson
FRI	11/13	82	3 <sup>46</sup> PM	3 <sup>52</sup> PM	/		CLEAR	SHRIMP	CHLSEA MARIE 90	MD Johnson
Saturday	11-14	83	1:10 PM	1:18 PM	/		CLEAR	SHRIMP	Chelsea Marie 91	James Parker
Saturday	11-14	84	3:22 PM	3:27 PM	-	-	-	-	Test	James Parker
Saturday	11-14	85	4 <sup>09</sup> PM	4 <sup>36</sup> PM	/		CLEAR	SHRIMP	Chelsea Marie 92	Harold Carter
Mon	11/16	86	5:39 AM	5:44 AM	/		CLEAR	SHRIMP	BROWN EYED GIRL 93	M. Benbach
Mon	11/16	87	6:23 AM	6:28 AM	/		CLEAR	SHRIMP	FOUR GIRLS 94	M. Benbach
Monday	11/16	88	9:07 AM	9:21 AM	/		CLEAR	TUG	Capt Ron 95	James Parker
Monday	11/16	89	12:03 PM	12:10 PM	/		CLEAR	SHRIMP	Brown Eyed Girl 96	James Parker
Monday	11/16	90	1:04 PM	1:11 PM	/		CLEAR	SHRIMP	Four Girls II 97	James Parker
Tues	11/17	91	6:00 AM	6:05 AM	/		CLEAR	SHRIMP	BROWN EYED GIRL 98	M. Benbach



BRIDGE NUMBER \_\_\_\_\_  
 REPORT FOR THE MONTH OF NOVEMBER 20 15  
 NAME OF BRIDGE HARBOR RIVER  
 DRAWBRIDGE SERVICES, INC.

STATE OF SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION  
**REPORT OF DRAWBRIDGE OPENINGS**

Form 3079 Rev.

DBS

DAY OF WEEK	DATE	DRAW OPENING NUMBER	TIME GATES DROP AM OR PM	TIME GATES OPEN AM OR PM	DIRECTION		CONDITION OF WEATHER & RIVER	TYPE OF VESSEL PASSING THROUGH	NAME OR NUMBER OF VESSEL PASSING THROUGH	NAME OF TENDER IN CHARGE OF DRAW
					NORTH	SOUTH				
TUES	11/17	92	6:21 am	6:26 am	/		CLEAR	SHRIMP	SUE DANNY 99	m. Bensch
TUES	11/17	93	6:34 am	6:39 am	/		CLEAR	SHRIMP	FOUR GIRLS 100	m. Bensch
Tuesday	11/17	94	9:21 am	9:27 am	/		Clear	Shrimp	Ship Jack 101	Jennett Parker
Tuesday	11/17	95	10:01 am	10:14 am	/		clear	Tug/Barge	Capt. Ron 102	Jennett Parker
Tuesday	11/17	920	11:57 am		/		clear	Shrimp	Four Girls II 103	Jennett Parker
Tuesday	11/17	920		12:03 pm	/		clear	Shrimp	Brown Eyed Girl 104	Jennett Parker
Wed	11/18	97	7:02 am	7:07 am	/		Clear	Shrimp	Sue Danny 105	<del>Jennett Parker</del>
Wed	11/18	98	7:14 am	7:19 am	/		Clear	Shrimp	Chelsea Marie 106	<del>Jennett Parker</del>
WED	11/18	99	10 <sup>24</sup> am	10 <sup>30</sup> am	/		CLEAR	Shrimp	SUE DANNY 107	MB Johnson
WED	11/18	100	12 <sup>01</sup> pm	12 <sup>07</sup> pm	/		CLEAR	SHRIMP	CHELSEA MARIE 108	MB Johnson
Wed	11-18	101	4:22 pm	4:27 pm	/		Clear	Barge	Capt. Ron 108	Armond Jackson
Thurs	11-19	102	6:58 am	7:03 am	/		Clear	Shrimp	Chelsea Marie 110	<del>Jennett Parker</del>
Thurs	11-19	103	7:21 am	7:27 am	/		Clear	Shrimp	Sue Danny 111	<del>Jennett Parker</del>
THUR	11/19	104	10 <sup>46</sup> am	10 <sup>52</sup> am	/		Cloudy	SHRIMP	CHELSEA MARIE-112	MB Johnson
THUR	11/19	105	11 <sup>53</sup> am	11 <sup>59</sup> am	/		Cloudy	SHRIMP	SUE DANNY 113	MB Johnson
THUR	11/19	106	2 <sup>28</sup> pm	2 <sup>34</sup> pm	/		Cloudy	SHRIMP	CHELSEA MARIE 114	MB Johnson
Thur	11-19	107	4:25 pm	4:30 pm	/		Cloudy	Barge	Capt. Ron 115	Armond Jackson
Thur	11-19	108	5:00 pm	5:06 pm	/		Cloudy	Shrimp	Chelsea Marie 116	Armond Jackson
Fri	11/20	109	6:25 am	6:31 am	/		Clear	Shrimp	Four Girls II 117	<del>Jennett Parker</del>
Fri	11/20	110	7:00 am	7:06 am	/		Clear	Shrimp	Ship Jack 118	<del>Jennett Parker</del>

BRIDGE NUMBER

REPORT FOR THE MONTH OF November 2015NAME OF BRIDGE Harbor River

DRAWBRIDGE SERVICES, INC.

STATE OF SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

## REPORT OF DRAWBRIDGE OPENINGS

Form 3078 Rev.

DBS

DAY OF WEEK	DATE	DRAW OPENING NUMBER	TIME GATES DROP AM OR PM	TIME GATES OPEN AM OR PM	DIRECTION		CONDITION OF WEATHER & RIVER	TYPE OF VESSEL PASSING THROUGH	NAME OR NUMBER OF VESSEL PASSING THROUGH	NAME OF TENDER IN CHARGE OF DRAW
					NORTH	SOUTH				
Friday	11/20	110	7:00 AM	7:06 AM	/		Clear	Shrimp	Chelsea Marie 119	<del>MD Johnson</del>
FRI	11/20	111	9:44 AM	9:50 AM	/		CLEAR	SHRIMP	CHELSEA MARIE 120	MD Johnson
FRI	11/20	112	10:50 AM	10:56 AM	/		CLEAR	SHRIMP	SKIP JACK 121	MD Johnson
FRI	11/20	113	11:34 AM	11:40 AM	/		CLEAR	SHRIMP	FOUR GIRLS II 122	MD Johnson
FRI	11/20	114	2:09 PM	2:15 PM	/		CLEAR	TUG	CAPT RON 123	MD Johnson
Sat	11/21	115	6:31 AM	6:37 AM	/		Cloudy	Shrimp	Skip Jack 124	<del>MD Johnson</del>
SAT	11/21	116	9:26 AM	9:32 AM	/		CLEAR	SHRIMP	CHELSEA MARIE 125	MD Johnson
SAT	11/21	117	11:02 AM	11:08 AM	/		CLEAR	SHRIMP	CHELSEA MARIE 126	MD Johnson
SAT	11/21	118	11:36 AM	11:42 AM	/		CLEAR	SHRIMP	SKIP JACK 127	MD Johnson
Sunday	11/22	119	8:47 AM	8:55 AM	/		clear/windy	Shrimp	Suedany 128	Jessica Banta
Sunday	11/22	120	8:57 AM	9:04 AM	/		clear/windy	Shrimp	Suedany 129	Jessica Banta
Sunday	11/22	121	11:05 AM	11:12 AM	/		clear/windy	Shrimp	Chelsea Marie 130	Jessica Banta
Sunday	11/22	122	12:34 PM	12:40 PM	/		clear/windy	Shrimp	Jenny Adams 131	Jessica Banta
Sunday	11/22	123	2:05 PM	2:11 PM	/		clear/windy	Shrimp	Chelsea Marie 132	Jessica Banta
mon.	11/23	124	6:32 AM	6:37 AM	/		WINDY	SHRIMP	FOUR GIRLS 133	M. Banta
Monday	11/23	125	11:47 AM	11:54 AM	/		Windy	Shrimp	Chelsea Marie 134	Jessica Banta
Monday	11/23	126	12:40 PM	12:47 PM	/		Windy	Shrimp	Four Girls II 135	Jessica Banta
Monday	11/23	127	1:47 PM	1:54 PM	/		Windy	Shrimp	Chelsea Marie 136	Jessica Banta
Tuesday	11/24	128	5:32 AM	5:39 AM	/		Windy	Shrimp	Four Girls II 137	Jessica Banta
Tuesday	11/24	129	10:11 AM	10:22 AM	/		Windy	Shrimp	Four Girls II 138	Jessica Banta

BRIDGE NUMBER

REPORT FOR THE MONTH OF November 2015NAME OF BRIDGE Harbor River

DRAWBRIDGE SERVICES, INC.

STATE OF SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

## REPORT OF DRAWBRIDGE OPENINGS

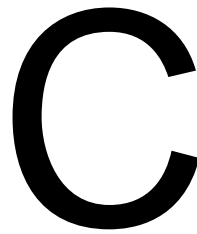
Form 3079 Rev.

DBS

DAY OF WEEK	DATE	DRAW OPENING NUMBER	TIME GATES DROP AM OR PM	TIME GATES OPEN AM OR PM	DIRECTION		CONDITION OF WEATHER & RIVER	TYPE OF VESSEL PASSING THROUGH	NAME OR NUMBER OF VESSEL PASSING THROUGH	NAME OF TENDER IN CHARGE OF DRAW
					NORTH	SOUTH				
Tuesday	11/24	130	11:20 am	11:27 am	/		Windy	Shrimp	Skip Jack 139	David B. Pelt
Tuesday	11/24	131	11:29 am	11:34 am	/		Windy	Shrimp	Chelsea Marie 140	David B. Pelt
Tuesday	11/24	132	2:05 pm	2:11 pm	/		Windy	Shrimp	Chelsea Marie 141	David B. Pelt
Tuesday	11/24	133	3:02 pm	3:08 pm	/		Windy	Shrimp	Skip Jack 142	David B. Pelt
Wednesday	11/25	134	6:31 am	6:38 am	/		Windy	Shrimp	4 Girls II 143	<del>David B. Pelt</del>
(WEI)	11/25	135	10 <sup>51</sup> AM	10 <sup>57</sup> AM	/		CLEAR	SHRIMP	FOUR GIRLS II 144	W.D. Johnson
Fri	11/27	136	6:28 am	6:35 am	/		Windy/Clear	Shrimp	4 Girls II 145	<del>David B. Pelt</del>
FRI	11/27	137	12 <sup>14</sup> PM	12 <sup>20</sup> PM	/		CLEAR	SHRIMP	FOUR GIRLS II 146	W.D. Johnson
Sat	11/28	137	9:48 am	9:55 am	/		Sunny/Clear	Shrimp	Chelsea Marie 147	<del>David B. Pelt</del>
Sat	11/28	138	11:01 AM	11:08 AM	/		Sunny/Clear	Shrimp	Chelsea Marie 148	<del>David B. Pelt</del>
Sat	11/28	139	2:02 PM	2:09 PM	/		Sunny/Clear	Shrimp	Skip Jack 149	Harold Carter
Sat	11/28	140	5:07 PM	5:14 PM	/		Sunny/Clear	Shrimp	Skip Jack 150	Harold Carter
Sun	11/29	141	8:20 am	8:25 am	/		CLEAR	Shrimp	Chelsea Marie 151	M. Beulah
Sun	11/29	142	11:46 am	11:51 am	/		clear	Shrimp	Chelsea Marie 152	M. Beulah
mon	11/30	143	6:00 am	6:05 am	/		CLEAR	Shrimp	Skip Jack 153	M. Beulah
mon	11/30	144	6:32 am	6:37 am	/		CLEAR	Shrimp	Four Girls 154	M. Beulah
MON	11/30	145	9 <sup>08</sup> AM	9 <sup>20</sup> AM	/		CLEAR	TUG	CAPT RON 155	W.D. Johnson
MON	11/30	146	10 <sup>00</sup> AM	10 <sup>10</sup> AM	/		CLEAR	SHRIMP	CHELSEA MARIE 156	W.D. Johnson
MON	11/30	147	11 <sup>00</sup> AM	11 <sup>10</sup> AM	/		CLEAR	SHRIMP	SKIP JACK 157	W.D. Johnson
MON	11/30	148	11 <sup>33</sup> AM	11 <sup>44</sup> AM	/		CLEAR	SHRIMP	CHELSEA MARIE 158	W.D. Johnson





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## Vessel Survey Questionnaires

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**US Route 21 over the Harbor River Bridge Replacement  
Navigational Evaluation  
Questionnaire for Commercial Facilities**

As part of the United States Coast Guard's (USCG) permitting process for the replacement of the US Route 21 (Sea Island Parkway) Bridge over the Harbor River, you are receiving this Navigational Evaluation questionnaire to assess your navigational needs for this crossing. Please answer the questions below that pertain to you and return by **November 5, 2015** in the self-addressed, stamped envelope. Or, scan and email [RedfearnWT@scdot.org](mailto:RedfearnWT@scdot.org). If you have questions, contact Mr. Redfearn at (803) 737-1430.

**Commercial Facilities:**

1. For vessels in your fleet requiring passage under US Route 21 at the Harbor River, please specify the vertical height required: \_\_\_\_\_ ft. N/A\_\_\_\_\_
2. Are you in the process of expanding your vessel fleet? Yes\_\_\_\_No\_\_\_\_\_.
3. If yes, and the expansion is for passage along the Harbor River under US Route 21, please specify the vertical height required: \_\_\_\_\_ft. N/A\_\_\_\_\_
4. Please detail in other specific navigational concerns you may have regarding the vertical clearance at this crossing:

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## **US Route 21 over the Harbor River Bridge Replacement Navigational Evaluation Questionnaire for Marinas**

As part of the United States Coast Guard's (USCG) permitting process for the replacement of the US Route 21 (Sea Island Parkway) Bridge over the Harbor River, you are receiving this Navigational Evaluation questionnaire to assess your navigational needs for this crossing. Please answer the questions below that pertain to you and return by **November 5, 2015** in the self-addressed, stamped envelope. Or, scan and email [RedfearnWT@scdot.org](mailto:RedfearnWT@scdot.org). If you have questions, contact Mr. Redfearn at (803) 737-1430.

### **Marinas:**

1. For vessels you are currently storing/mooring that may require passage under US Route 21 at the Harbor River, please specify the vertical height required: \_\_\_\_\_ ft.  
N/A\_\_\_\_\_
2. How many vessels that you currently store/moor require this height? \_\_\_\_\_
3. For vessel owners that are in the process of negotiating an agreement with your facility, and require passage along the Harbor River under US Route 21, please specify the vertical height required: \_\_\_\_\_ ft.
4. Please detail in other specific navigational concerns you may have regarding the vertical clearance at this crossing:

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**US Route 21 over the Harbor River Bridge Replacement  
Navigational Evaluation  
Questionnaire for Residential Dock Owners**

As part of the United States Coast Guard's (USCG) permitting process for the replacement of the US Route 21 (Sea Island Parkway) Bridge over the Harbor River, you are receiving this Navigational Evaluation questionnaire to assess your navigational needs for this crossing. Please answer the questions below that pertain to you and return by **November 5, 2015** in the self-addressed, stamped envelope. Or, scan and email [RedfearnWT@scdot.org](mailto:RedfearnWT@scdot.org). If you have questions, contact Mr. Redfearn at (803) 737-1430.

**Residential Dock Owners:**

1. Do you currently own a boat(s)? Yes \_\_\_\_\_ No \_\_\_\_\_
2. If yes, Registration Number(s) \_\_\_\_\_
3. Where is your boat currently moored/docked? \_\_\_\_\_
4. If no, are you in the process of purchasing a boat? Yes \_\_\_\_\_ No \_\_\_\_\_
5. If you own a boat or are in the process of purchasing a boat, for passage along the Harbor River under US Route 21, please specify the vertical height required: \_\_\_\_\_ ft. N/A  
\_\_\_\_\_

6. Please detail in other specific navigational concerns you may have regarding the vertical clearance at this crossing:

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# D

Telephone Records

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# Telephone Record

Project:	SCDOT US 21 Bridge Replacement over Harbor River	
Subject:	Navigational Study	
Date:	Wednesday, January 13, 2016	
Call From:	Blair Wade, HDR	
Call To:	Cliff Spann, Fripp Island Sea Rescue	Phone #: 843-838-9275

I asked whether Fripp Island Sea Rescue has responded to boating incidents within the Harbor River. Mr. Spann stated that they have responded to boating incidents in St. Helena Sound, north of bridge, and in Harbor River, south of bridge, where it runs into the Story River. Incidents include boaters run aground, run out of gas or the motor dies, boaters lost in tidal creeks, and emergency situations. Many incidents involve tourists who do not understand the area's large tides and mud flats or the buoy systems. He indicated that fewer incidents have occurred in recent years. Fripp Island Sea Rescue worked with the US Coast Guard to install 4 buoys at "Amen Corner" to alert boaters to shallow areas. The buoys have helped improve the number of incidents.

I asked about how boaters navigation between Harbor Island and Fripp Island. Mr. Spann indicated that about ½ mile to ¾ mile south of the US 21 bridge, the Harbor River gets real shallow. As boaters proceed south, there are large mud flats and oyster beds on each side. Locals know "Amen Corner" as a narrow channel between the Harbor River and Story River. The channel is 50 to 60 feet wide and very shallow at low tide (4 to 5 feet). Large boats have difficulty coming through Amen Corner. Mr. Spann only knows of one sailor going through Amen Creek, but he is an expert sailor.

Mr. Spann indicated that it is very rare for sailboats or large boats to use Amen Corner. Most large boats go to Port Royal Sound and Station Creek to get behind Fripp Island. Large boats at Fripp Island Marina normally follow Old House Creek, turn north into Story River, follow Story River south to Trenchard Inlet, turn right into Trenchard Inlet, then left to Station Creek to get to Port Royal Sound. Or a boat traveling directly to the ocean would turn left into Trenchard Inlet and follow next to Bull Point/Capers Island to ocean.

Mr. Spann indicated that he spoke with the US Coast Guard representative at the Public Information Meeting in September. He stated that the only need for a tall bridge is for shrimp boats. The only shrimpers that navigate the Harbor River are those that dock at Gay Seafood on Ward Creek. Gay Seafood has been for sale for 3 to 4 years and would not likely be used as shrimp dock.

# Telephone Record

Project:	SCDOT US 21 Bridge Replacement over Harbor River	
Subject:	Navigational Study	
Date:	Monday, November 16, 2015	
Call From:	Blair Wade, HDR	
Call To:	Craig Dopson, Dopson Seafood	Phone #: (843) 812-7977

Spoke with Craig Dopson of Dopson Seafood on 11/16/2015

Mr. Dopson expressed a need for 85 foot clearance in response to the vessel questionnaire. Asked Mr. Dopson about which boat at his docks would require an 85 foot clearance. Mr. Dopson indicated that the Hustler is the only boat docked at Dopson Seafood year round. This boat requires an 85 foot clearance from the waterline to the top of the outriggers. Other shrimp boats dock at Dopson Seafood during the Spring, including the Jenny Adam, Pollyanna, Megan Elaine, and Miss Hazel. These boats are smaller than the Hustler.

Mr. Dopson indicated that the Hustler may have problems traveling under a 65-foot bridge. Other boats that have used the Harbor River in the past include Bridget Denis and Gulfstream III from North Carolina, and the Palmetto Pride. Mr. Dopson indicated that his boats are docked in Village Creek and only use the Harbor River during bad weather, when boats try to avoid traveling offshore.

# Telephone Record

Project:	SCDOT US 21 Bridge Replacement over Harbor River	
Subject:	Navigational Study	
Date:	Thursday, November 12, 2015	
Call From:	Blair Wade, HDR	
Call To:	Charles Gay, Gay Seafood Company	Phone #: (843) 838-2763

Spoke with Charles Gay of Gay Seafood Company on 11/12/2015

Asked Mr. Gay which boats are typically docked at Gay Seafood Company. Shrimp boats include Amber Wade, Skip Jack, Sue Dany, Four Girls II, Brown Eyed Girl, and Miss Lily. The largest boats are Amber Wade and Four Girls II; both are approximately 60 feet tall with the outriggers up and about 30 feet wide. The Brown Eyed Girl and Miss Lily are approximately 50 to 55 feet tall with the outriggers up. The Skip Jack and Sue Dany are much smaller shrimp boats.

Mr. Gay stated that the Harbor River was the former Intracoastal Waterway before it was rerouted by the City of Beaufort. He is not aware of any dredging projects in the river.

Mr. Gay indicated that the Seafood Company property is for sale. Beaufort County expressed interest in protecting the property as a shrimping dock. If the property were to sell, he expects it would continue to be used for shrimping docks or as a marina.

# Telephone Record

Project:	SCDOT US 21 Bridge Replacement over Harbor River	
Subject:	Navigational Study	
Date:	Tuesday, September 29, 2015	
Call From:	Benjamin Burdette, HDR	
Call To:	Charles Gay, Gay Seafood Company	Phone #:(843) 838-2763

Spoke with Charles Gay of Gay Seafood Company at 10:58 am on 09/29/2015

Discussed boat names, figuring out which were duplicate names with misspellings, which were owned by his company, and what docks they call in the area so that surveys could potentially reach all concerned parties. He said that Amber Wade was the tallest of the shrimp boats, between 60 and 70 feet with the outriggers up. Skip Jack is owned by his brother and is a much smaller boat, also the most common one going under the bridge. The main docking area is His dock, Dobsen's Seafood on Fripp, and Fripp Island Marina. Transient commercial shrimpers will come down from McClellanville, SC.



# Telephone Record

Project:	SCDOT US 21 Bridge Replacement over Harbor River	
Subject:	Navigational Study	
Date:	Monday, November 16, 2015	
Call From:	Michael Darby, HDR	
Call To:	John Payne, Owner/Captain – Hustler shrimp boat	Phone #: 843-812-1156

I spoke with John Payne, owner and captain of the Hustler shrimp boat. Based on a previous conversation Blair Wade had with Craig Dobson of Dobson Seafood, the Hustler docks at his facility and occasionally has to use the Harbor River Bridge. Based on opening logs, the Hustler has used the crossing two times in the past year and a half. Mr. Dobson stated that the bridge vertical clearance needs to be 85' because of the height of the Hustler, and we wanted to talk with Mr. Payne to verify the height of his boat and if 85' was warranted.

Mr. Payne stated that his outriggers are 50' tall and are set roughly 10' above the water, thus making the height of his boat 60'. He feels that a 65' vertical clearance for the structure will be more than sufficient. He mentioned that he has had to cross under the McTeer bridge during high tide before and he lowered his outriggers around 30 degrees to make it through, and that this was not a problem to do.

# Telephone Record

Project:	SCDOT US 21 Bridge Replacement over Harbor River	
Subject:	Navigational Study / Collision Vessel Determination	
Date:	Wednesday, November 04, 2015	
Call From:	Brad Carter, HDR	
Call To:	Biblia, Inc	Phone #:912-232-7342

The tender log for the Harbor River Bridge indicated the Mary Bennett Tug pushing a barge passed the bridge on September 28<sup>th</sup> as shown below.

28	11 <sup>31</sup> am	11 <sup>39</sup> am	Mary Bennett	Savannah, Ga	Tug	Barge/Tug	Louisa Williams S 157
28	12 <sup>05</sup> pm	12 <sup>12</sup> pm	Mary Bennett	Savannah, Ga	Tug	None	Louisa Williams N 157

The Mary Bennett is owned and operated by Biblia, Inc out of Savannah, GA. I spoke with their representative, Louisa Williams, and got the following information:

- The spec. sheet for the Mary Bennett can be found online (see attached).
- They were pushing a material barge for TIC\_Kiewit (The Industrial Company, a division of Kiewit Corporation).
- She did not know what the Displacement Tonnage was for the Mary Bennett.
- I was directed to call Patrick Gillespie who works for TIC\_Kiewit for further information on the barge they used.
- She stated the barge was likely around 120'x50'.

**TUG MARY BENNETT**  
**1500 HP**  
**70' OFFSHORE TUG**

**LENGTH OVERALL** ..... 70'  
**BEAM**..... 24'  
**DEPTH**.....10.5'  
**LIGHT DRAFT**.....7.5'  
**MAXIMUM DRAFT**.....8.5'

**CAPACITIES:**

**FUEL OIL**..... 18,000 USG  
**LUBE OIL**..... 450 USG  
**POTABLE WATER**..... 1,800 USG  
**WASH WATER**..... 3,000 USG

**ACCOMMODATIONS:**

**BERTHS**..... SIX  
**GALLEY**..... ELECTRIC  
**A/C HEAT** ..... CENTRAL  
**MSD**..... SELF CONTAINED

**MACHINERY:**

**MAIN ENGINES**..... SF240TA  
 1500 HP  
 1800 RPM  
**GEARS**..... ZF3200/5:1  
**PROPS**..... 4 BLADE S/S 64"x46"  
**GENERATORS (2)**..... 40 KW 4-71  
**STEERING**..... ELEC/HYDR  
 2 STATIONS

**ELECTRONICS:**

**CALL SIGN**..... WCY7008  
**FATHOMETER**..... FURUNO  
**LORAN C**..... FURUNO  
**GPS**..... SITEX  
**RADAR**..... FURUNO  
**LOUDHAILER**..... STANDARD  
**VHF (2)**..... STANDARD

**TOWING GEAR:**

**WINCH**..... SMATCO 44D  
**MAIN TOW LINE**..... 2000' x 1.25"  
**SHOCK LINE**..... 300' x 8"  
**NAV LIGHTS**..... AUTO POWER  
**BRIDLES/SHACKLES**..... ASSORTED

**SPECIAL EQUIPMENT:**

**OXY/ACET**  
**FUEL TRANSFER**  
**EXTERNAL AIR START**

**SAFETY/LIFESAVING EQUIPMENT:**

**ZODIAK SIX (6) MAN LIFE RAFT**  
**FOUR (4) LIFE JACKETS**  
**ONE (1) EPIRB**  
**ONE (1) MIRCUM FIRE MONITOR/ALARM**  
**ONE (1) FIRST AID KITS**  
**ONE (1) 16 LB CO2 EXTINGUISHERS**

**FOUR (4) SURVIVAL SUITS**  
**ONE (1) 10 LB DRY CHEM EXTIN.**  
**ONE (1) 20 LB DRY CHEM EXTIN.**  
**ONE (1) FLAIR KIT**  
**TWO (2) 30 LB DRY CHEM EXTIN.**  
**ONE (1) 5 LB CO2 EXINGUISHER**

**PERFORMANCE:**

**SPEED**..... 10 KNOTS LITE  
**FUEL CONSUMPTION**..... 1200 GPD  
**BOLLARD PULL**..... 15.5 TONS

**REGISTRATION:**

**FLAG**..... US  
**HOME PORT**..... SAV GA  
**OFFICIAL NO**..... 588765  
**BUILT**..... 1977  
**TONNAGE**..... 99 GRT 79 NET

**OWNERSHIP:**

**BIBLIA, INC.**  
**P.O. DRAWER 788**  
**SAVANNAH, GA 31402**

**PHONE:** 912-232-7342  
**FAX:** 912-232-2717  
**EMAIL:** [bibliainc@aol.com](mailto:bibliainc@aol.com)

## Telephone Record

Project:	SCDOT US 21 Bridge Replacement over Harbor River	
Subject:	Navigational Study / Collision Vessel Determination	
Date:	Wednesday, November 04, 2015	
Call From:	Brad Carter, HDR	
Call To:	Patrick Gillespie, TIC Kiewit	Phone #:912-429-5173

I was directed to contact Patrick by Louisa Williams of Biblia, Inc to ascertain characteristics of the barge that was pushed by the tug Mary Bennett through the Harbor River bridge on September 28<sup>th</sup>.

Patrick offered the following information on the barge:

- Dimensions are 120' x 30'
- Bow Rake is 9'
- Height is 9'
- Draft is 2'
- Patrick asked that I send him an email with additional questions. Email was sent 11-4-15 @ 11:38am.



**Carter, Brad**

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**From:** Carter, Brad  
**Sent:** Wednesday, November 04, 2015 11:38 AM  
**To:** Patrick.Gillespie@TICUS.com  
**Subject:** Barge Vessel characteristics Harbor River Bridge  
**Attachments:** Vessel Collision Design Of Hwy Bridges 39.pdf; Pages from SC41  
RFP\_For\_Industry\_Review\_Final.pdf

Hey Patrick. Thanks for taking the time to speak with me today. As a recap, I'm with HDR Engineering and we're working with the SCDOT on the preliminary design package for replacement of the Harbor River bridge in Beaufort. Part of that process is determining a collision vessel to be used when the bridge piers are designed down the road. To determine that vessel, we do a survey of past, present and projected future tug/barge traffic in the area Here's a few of the Barge characteristics that I'm trying to pin down:

Length  
Width  
Depth  
Empty Displacement  
Draft when Empty  
Loaded Displacement  
Draft when Loaded  
Head Log Height  
Bow Rake

Also, I attached an example document that all this info would go into and a page from the design manual for the collision forces as examples. Any info you can provide is helpful.

Thanks!

Brad Carter, PE  
Bridge Engineer

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**Carter, Brad**

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**From:** Patrick.Gillespie@ticus.com  
**Sent:** Friday, November 06, 2015 11:42 AM  
**To:** Carter, Brad  
**Subject:** RE: Barge Vessel characteristics Harbor River Bridge

Brad,

Here are some of the characteristics of the KW-11 barge at Harbor River:

Length: 120'  
Width: 32'  
Depth: 8'  
Empty Displacement: 163 TONS  
Draft when Empty: 1'-6"  
Loaded Displacement: 210 TONS  
Draft when Loaded  
Head Log Height: 18"  
Bow Rake: 13'-4"

I hope this can be of some use.



**Patrick Gillespie**  
Engineer

**TIC – Marine & Heavy Civil District**  
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# Telephone Record

Project: SCDOT US 21 Bridge Replacement over Harbor River

Subject: Navigational Study / Collision Vessel Determination

Date: Thursday, November 05, 2015

Call From: Brad Carter, HDR

Call To: RL Morrison and Sons, Eliza Lucas owner

Phone #:843-887-3261

The tender log for the Harbor River Bridge indicated the Eliza Lucas Tug pushing a barge passed the bridge several times in August of 2015 as shown below:

03	6 <sup>00</sup> AM	6 <sup>10</sup> AM	Eliza Lucas		Tug	1 Barge	Michael Morrison CS -13
10	5 <sup>46</sup> AM	5 <sup>52</sup> AM	Eliza Lucas	McClellenville, SC	Tug	Barge	James Paul N 128
12	12 <sup>12</sup> PM		Eliza Lucas	McClellenville, SC	Tug	Barge	James Paul S 128
18	1051 AM		Eliza Lucas	McClellenville, SC	Tug	Barge	Armond Jackson 112N

This tug is operated out of McClellenville, SC. I spoke with owner Michael Morrison and got the following information:

- Barge characteristics are:
  - o 120' X 45'
  - o Depth= 7"
  - o Usually hauling crane that is around 150 tons
  - o Estimated total weight to be 500,000 lbs loaded
  - o Draft is 3.5' at stern
  - o Draft is 2.5' at bow
  - o Head Log height is 18" to 20"
- Tug is less than 600 HP
  - o 47.5' X 18'
  - o Depth = 7.7'
  - o GRT = 51 tons
  - o NRT = 35 tons
  - o Speed = 4 to 7 knots
  - o Draft is 6.5'

# Telephone Record

Project:	SCDOT US 21 Bridge Replacement over Harbor River		
Subject:	Navigational Study / Collision Vessel Determination		
Date:	Thursday, November 05, 2015		
Call From:	Brad Carter, HDR		
Call To:	Sea Island Dock Builders	Phone #:843-575-6686	

The tender log for the Harbor River Bridge indicated the Sea Island Dock Builder Tug pushing a barge passed the bridge several times in June and July of 2015 as shown below.

30	5 <sup>54</sup> pm	6 <sup>06</sup> pm	Sea Island Dock Builders	St. Helena Is, SC		barge	42509 207
01	6 <sup>08</sup> am	6 <sup>14</sup> pm	Sea Island Dock Builders	St. Helena Is, SC	Tug	1 Barge	Harold Carter S
09	6 <sup>05</sup> am	6 <sup>12</sup> pm	SEA Island Dock	ST. HELENA SC	Tug	1 BARGE	M. Anderson (N) 81
28	6 <sup>15</sup> am	6 <sup>22</sup> am	Sea Island Dock	St. Helena			m. Bend 2 148

This tug is operated out of St. Helena Island, SC. I spoke with their representative and got the following information:

- Barge characteristics are:
  - o 50' x 30'
  - o Height = 4'
  - o Estimated weight to be 150,000 lbs loaded
  - o Draft is 1.5'
  - o Rake is 6'
- Tug is less than 600 HP