

FIRST NORTHERN

Auxiliary Bridge Program Training Guide

Revision B – 2-15-2011 – Prepared by the First Northern Navigation Systems Team



UNITED STATES COAST GUARD AUXILIARY FIRST DISTRICT, NORTHERN REGION 2011

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The Auxiliary Bridge Program

The purpose of this document is to provide information to Auxiliary members regarding the observation and reporting of discrepancies on bridges under Coast Guard jurisdiction in First Northern. The main areas of functionality that are examined when observing a bridge are:

- Navigation lights
- Fendering system
- Channel obstructions
- Regulatory signs and tide clearance gauges
- Bridge signaling and operation

Until 1981, Coast Guard personnel annually inspected bridges over US navigable waters. In May of 1981 however, the Coast Guard discontinued its program of doing annual inspections of navigational lighting on bridges over navigable waters to reduce operating costs. While these periodic inspections were useful in achieving a high level of compliance with bridge laws, they were not required by law, and were expensive to perform. It was determined that an adequately high level of compliance could be achieved by enforcement procedures in response to reports or complaints of violations. The Coast Guard is now relying on mariner notification to discover discrepancies to bridge lights and fender systems as well as other hazardous bridge conditions.

Through a Memorandum of Understanding (*MOU*) between the Coast Guard and the C.G. Auxiliary, the Auxiliary renders important assistance to the Coast Guard's Bridge Administration Program to observe and report on discrepancies on US bridges. These reports allow the Coast Guard's bridge office in each District to order owners to make the needed repairs to keep their bridges in conformance with federal regulations.

The Auxiliary Bridge Program has two main parts:

1. Bridge Discrepancy Reporting:

These are reports of problems observed by any Auxiliarist, whether observed while out on patrol, during a day out fishing, or even while just passing a bridge while ashore.

2. Annual Bridge Survey Reporting:

Bridge Surveys are comprehensive reviews and reports on bridges performed by currently certified and qualified AV-Aids Verifiers, checking to see that the bridge meets the requirements of its Coast Guard permit.

Bridge Discrepancy Reporting

All Auxiliarists are encouraged to observe discrepancies on bridges that they pass, and report these discrepancies to the Coast Guard on-line using the on-line *Bridge Reporting System*, available at [www-uscgaan.com](http://www.uscgaan.com). These reports allow the Coast Guard Bridge Branch to notify the bridge owner to repair the discrepant equipment.

- Coxswains should keep copies of **NS-BP04 Bridge Field Worksheet** in their *navigation kit* for recording discrepancy observations in an orderly manner as they are viewed on scene at the bridge.
- Report discrepancies within 24 hours of the observation.

What to Report

The Coast Guard is only interested in bridge problems that affect marine navigation.

- Report your observations on bridge lighting, fenders systems and wales, bridge operations, and any obstructions in the channel.
- Don't report problems with the roadway, road signs, rail road tracks, or the bridge structure, nor any other bridge issues that don't affect marine navigation.

Historically, the largest number of bridge discrepancies reported have been:

- Extinguished lights
- Damaged fender systems
- Improper lights & signs
- Obstructions in the channel (debris, hanging cables, damaged fenders)
- Improper operation by the owner/bridge tender:
 - Not responding to radio calls
 - Delaying opening of the draw
 - Not adhering to 33CFR117b special rules.

Remember a picture speaks a thousand words. In fact, photos are considered direct evidence of any problem when they are correctly labeled. Federal agencies, such as the Bridge Branch, needs evidence of discrepancies from a credible source in order to take action. Other than for extinguished lights, always include photographs of each discrepancy with your Bridge Report. Digital photographs should be labeled by their bridge number and formal Bridge Name. A brief narrative as to the purpose of each photograph should be included in the Comments section of your bridge report.

Bridge Surveys

An annual **Bridge Survey Report** is a detailed review of bridge lights, signs, fenders, gauges and any prior discrepancy reports which identify whether the bridge is in compliance with their Coast Guard bridge permit. Bridge Surveys are requested to be performed annually on each Class 1, 2 and 3 bridge located in First Northern.

Since a proper bridge survey must view the bridge lights after dark, as well as the fender system at low tide during daylight hours, a proper bridge survey normally takes at least two visits to the bridge (daytime and nighttime) to be done properly.

More on photographs:

All Bridge Surveys, as well as all discrepancy reports for other than extinguished lamps require the inclusion of photographs of the bridge, and detailed photographs of any problems found. This will not only provide quality control to the program, but it will greatly enhance the information being forwarded to the C.G. Bridge Office. As such, a camera (preferably a digital camera) is a required tool for Aids Verifiers who conduct Bridge Surveys, and for members reporting discrepancies.

While digital photos are preferred, paper photographs are also acceptable. Due to security concerns around some bridges, Aids Verifiers who are doing Bridge Surveys should be in uniform when talking pictures of any bridge.

Great photographs of discrepancies are only as good as their trail of evidence. Number each photograph with the formal Bridge Number or Bridge name. Identify multiple photos for the same bridge as a., b., c., etc. Always identify each photo on your report as to what discrepancy it is documenting. Make the job of

reviewing your report as easy as possible for the Bridge Branch and you will achieve amazing results getting reported problems fixed quickly.

Two Broad Classifications of Bridges

For the purpose of describing bridge regulations, all bridges fall into two main categories:

- **Fixed Bridges** – bridges that are not capable of moving or opening, and,
- **Draw Bridges** – bridges that can move or open to allow vessels to transit. This category includes bascule bridges, swing bridges, vertical lift bridges, pontoon bridges and retractable bridges.

Bridge Lighting

Credible discrepancy reports require that observers to have a basic knowledge of some requirements governing bridge lighting and bridge lighting recommendations. The federal regulations governing bridge lighting can be found in 33CFR, Part 118. The sections below are excerpts from this document.

- **Lighting during bridge construction.** The district commander, having jurisdiction over the area in which the bridge is being built, will prescribe lights including temporary lights and other signals to be displayed for the protection of navigation. When the construction of a bridge is completed, permanent lights and other signals approved by the district commander for the completed bridge shall be displayed.
- Periods of operation generally requires that lights be displayed from sunset to sunrise and at other times when the visibility is less than one mile. Operators shall not be required to exhibit prescribed lights during seasons when vessels are unable to navigate in the vicinity of the bridge.
- Lights required by the regulations shall be of sufficient candlepower as to be visible against the background lighting at a distance of at least 2,000 yards on 90 percent of the nights of the year. They are located as prescribed, with colors and arcs of visibility as specified.

Fixed Bridges

- Each fixed bridge span over a navigable channel is lighted so that the **center** of the navigable channel under each span is marked by a **range of two green lights**. The **margin of each channel** is marked by a red light provided that, when a margin of a channel is limited by a pier, only the pier lights prescribed shall mark that channel margin. The green lights show through a horizontal arc of 360°; and are mounted just below the outermost center edge of the bridge span structure. Each red light shall show through a horizontal arc of 180°. Red lights are to be securely mounted just below the outermost edge of the bridge span structure to show 90° on either side of the bridge on a line parallel to the axis of the channel (i.e., the light points toward approaching vessels).
- **Pier lights** are used when the navigable channel extends from pier to pier or when piers are located within the navigable channel. The end of each such pier is lighted with a red light, showing through a horizontal arc of 180°. This light is fastened at the end of the pier as low as practicable (but not lower than 2 feet above navigable high water) to show

90° on either side of a line parallel to the axis of the channel (i.e., pointed toward approaching vessels).

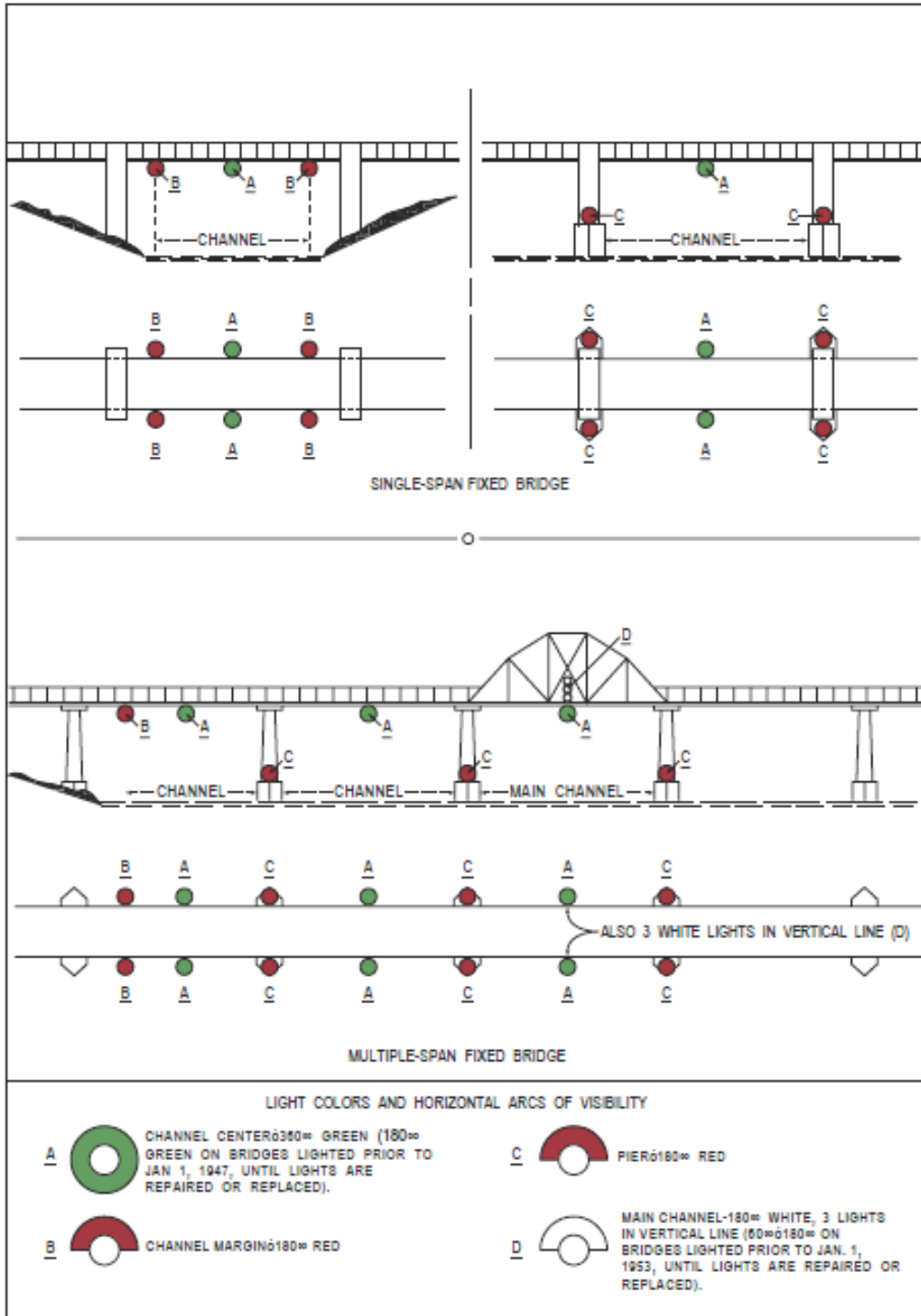
- The main channel of fixed bridges having two or more spans over a navigable channel shall have additional markings over the main channel span. This span will be marked with a set of ***three white lights arranged in a vertical line*** directly above the green light marking the main channel span. Each white light will show through a horizontal arc of 180°, and is to be mounted so that 1/2 of the horizontal arc shows on either side of a line parallel to the axis of the channel. These three white lights are mounted on the bridge structure and spaced as nearly to 15 feet apart vertically as the structure of the bridge permits, with a minimum spacing of 7 feet. The lowest white light in the line of three lights is placed not less than 10 nor more than 15 feet above each green light on the main channel span.

The exhibit on page 6 shows the proper lighting configurations for Fixed Bridges.



DEPARTMENT OF HOMELAND SECURITY
 UNITED STATES COAST GUARD
 BRIDGE ADMINISTRATION DIVISION

MINIMUM LIGHTING FOR FIXED BRIDGES
 33 CFR 118.65



Lights on Swing Bridges

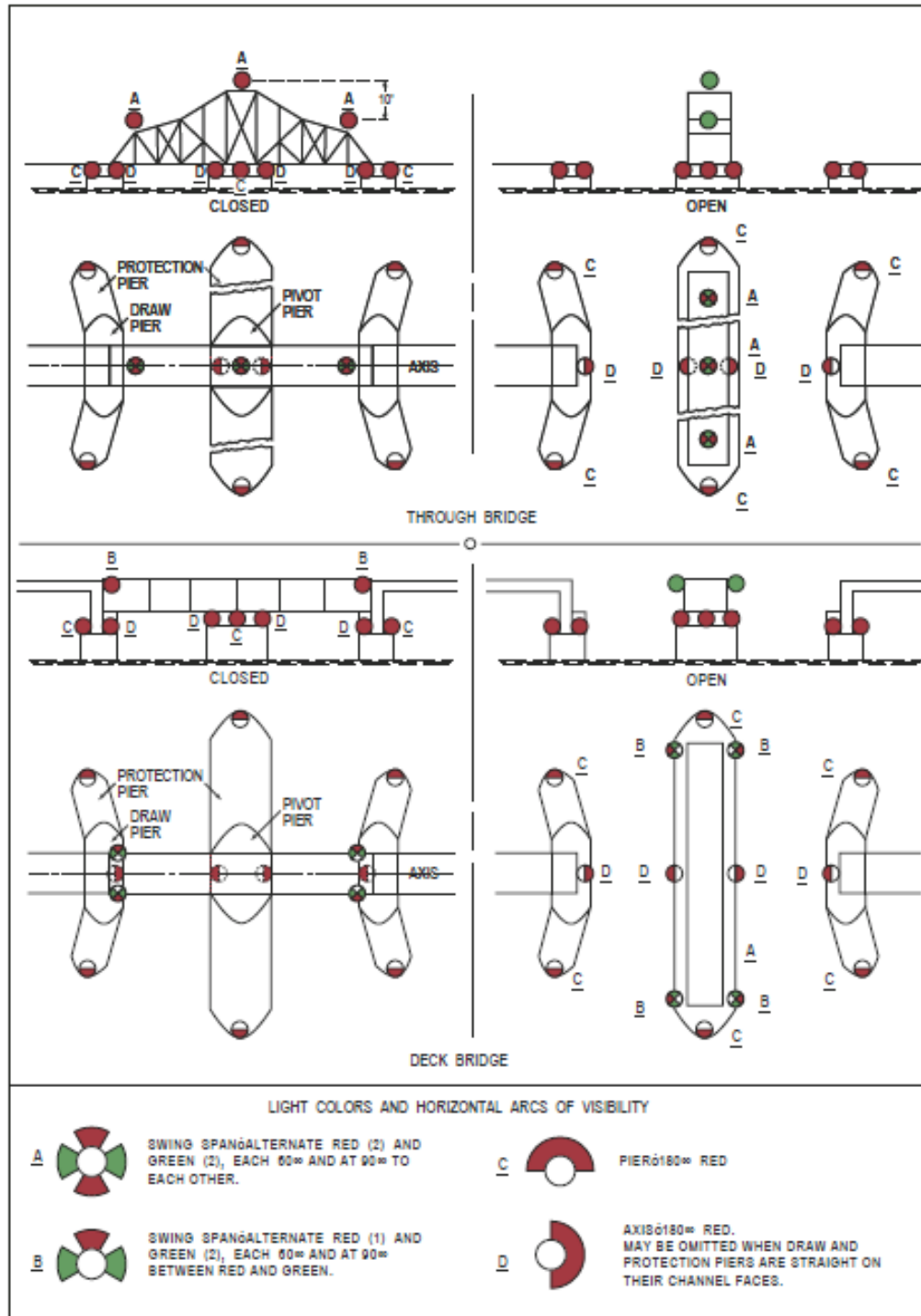
- Each swing span of every through swing bridge is lighted with three lanterns so that when viewed from an approaching vessel, the swing span, when closed, displays three red lights on top of the span structure, one at each end of the span on the same level and one at the center of the span not less than 10 feet above the other two lights. When open for navigation display three green lights on top of the span structure in a line parallel to and directly above the long axis of the span, one at each end of the span on the same level, and one at the center of the span not less than 10 feet above the other two lights. Each lantern shows through alternate red and green horizontal arcs of 60° each, the axis of adjacent arcs are 90° from each other; each light is mounted with the axis of the green arcs parallel to the long axis of the swing span.
- **Swing span lights** on deck and half-through bridges have each swing span of every deck half-through, girder, or similar type swing bridge, lighted with four lanterns so that when viewed from an approaching vessel the swing span (when closed) displays one red light at each end, and, when open to navigation, displays two green lights from each end. Each lantern shows through one red and two green horizontal arcs of 60° each, the axis of each green arc is 90° from the axis of the red arc; each light is mounted at the floor level of the span with the axis of the red light normal to the long axis of the swing span and so that the red light is visible from an approaching vessel when the span is closed.
- **Pier Lights** on every swing bridge are lighted so that each end of the piers adjacent to the navigable channel (draw piers) or each end of their protection piers, (draw pier protection piers) and each end of the piers protecting the pivot pier (pivot protection pier) is marked by a red light. Each of these lights show through a horizontal arc of 180° and is mounted as low as practicable below the floor level of the swing span to show 90° on either side of a line parallel to the axis of the channel so as to be visible from an approaching vessel.
- **Axis lights** on every swing bridge are lighted so that the intersection of the bridge axis with each side of the pivot pier and the channel side of each draw pier which has a protection pier, is marked by a red light provided that, if the draw and draw protection piers are straight along their channel faces, these lights are not required. Each such light shows through a horizontal arc of 180°, and is mounted on the navigable channel face of the pier as low as practicable below the floor level of the swing span to show 90° either side of a line normal to the axis of the navigable channel so as to be visible from an approaching vessel.

The exhibit on page 8 shows the proper lighting configurations for a double-opening Swing Bridges.



DEPARTMENT OF HOMELAND SECURITY
 UNITED STATES COAST GUARD
 BRIDGE ADMINISTRATION DIVISION

MINIMUM LIGHTING FOR DOUBLE-OPENING SWING BRIDGES
 33 CFR 118.70



Lights on Single-Opening Retractable Drawbridges

Folding, pontoon and similar type single-opening drawbridges are lighted with two lanterns so that when viewed from an approaching vessel the draw span, when closed, displays two red lights, one at each end of the span, and when open to navigation displays two green lights, one at each end of the span. Each lantern shows alternate red and green horizontal arcs of 60° each, the axis of adjacent arcs is located 90° from each other; each lantern is mounted 15 feet above the roadway with the axis of the green arcs parallel to the long axis of the swing span.

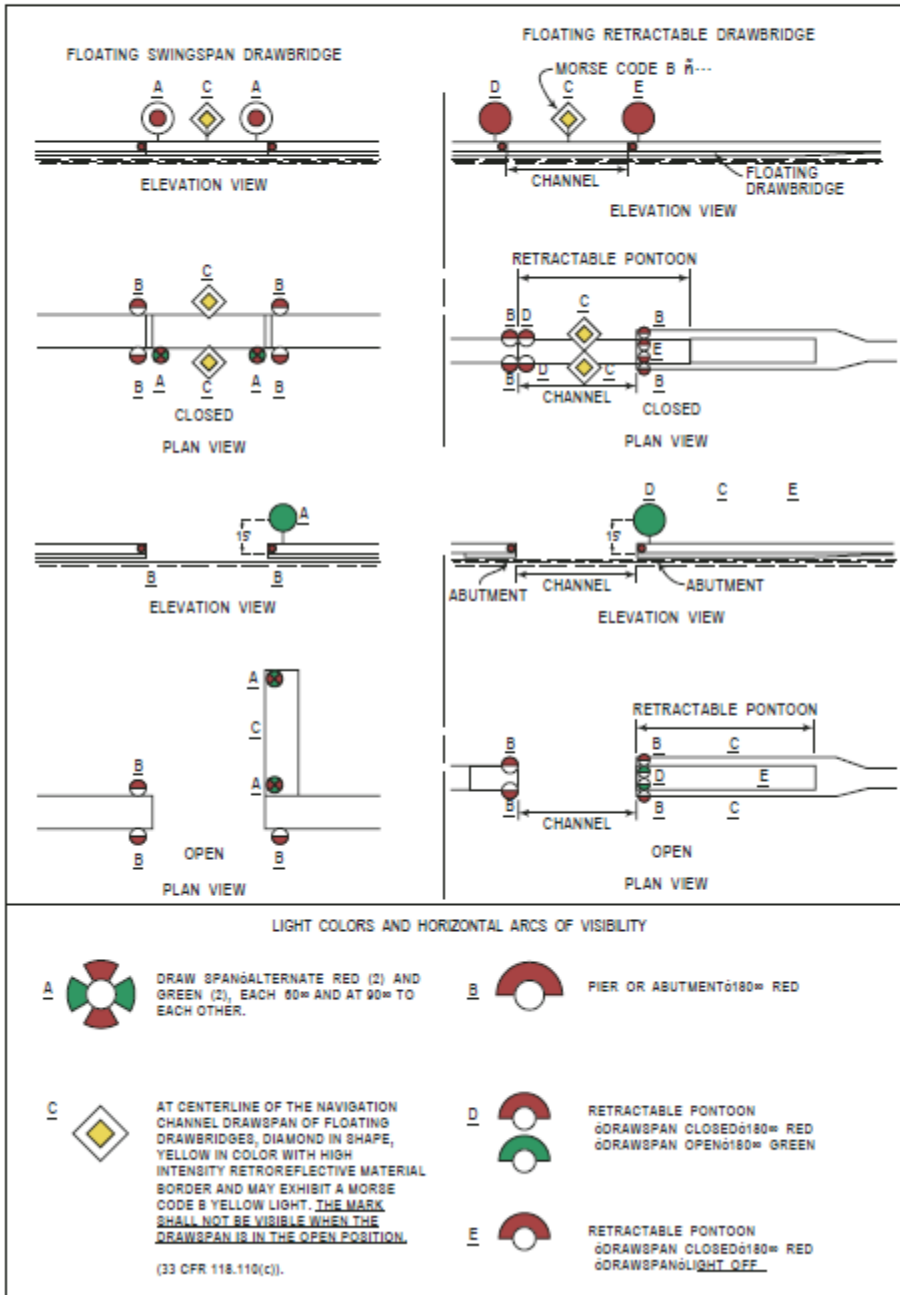
Pier or abutment lights; Every swing bridge is lighted so that lights are mounted at the end of each pier, abutment or fixed portion of the bridge adjacent to the navigable channel through the draw, or each end of the protection piers for such piers, abutments, or fixed portion of the bridge is marked by a red light. Each red light shows through an arc of 180° , and is mounted on the pier, abutment or fixed portion of the bridge, as low as practicable to show 90° on either side of a line parallel to the axis of the Channel so as to be visible from an approaching vessel.

The exhibit on page **10** shows the proper lighting configurations for a single-opening Swing Bridge.



DEPARTMENT OF HOMELAND SECURITY
 UNITED STATES COAST GUARD
 BRIDGE ADMINISTRATION DIVISION

MINIMUM LIGHTING FOR SINGLE-OPENING DRAWBRIDGES
 33 CFR 118.75



Lights on Bascule Bridges

Each lift span of every bascule bridge is lighted so that the free end of the span will be marked on each side by a green light which shows only when the span is fully open and by a red light which shows for all other positions of the lift span. Each red and each green light shows through a horizontal arc of 180° . The lighting apparatus is securely mounted to the side of the span so that the light will show equally on either side of a line parallel to the axis of the channels, so that they are visible from an approaching vessel.

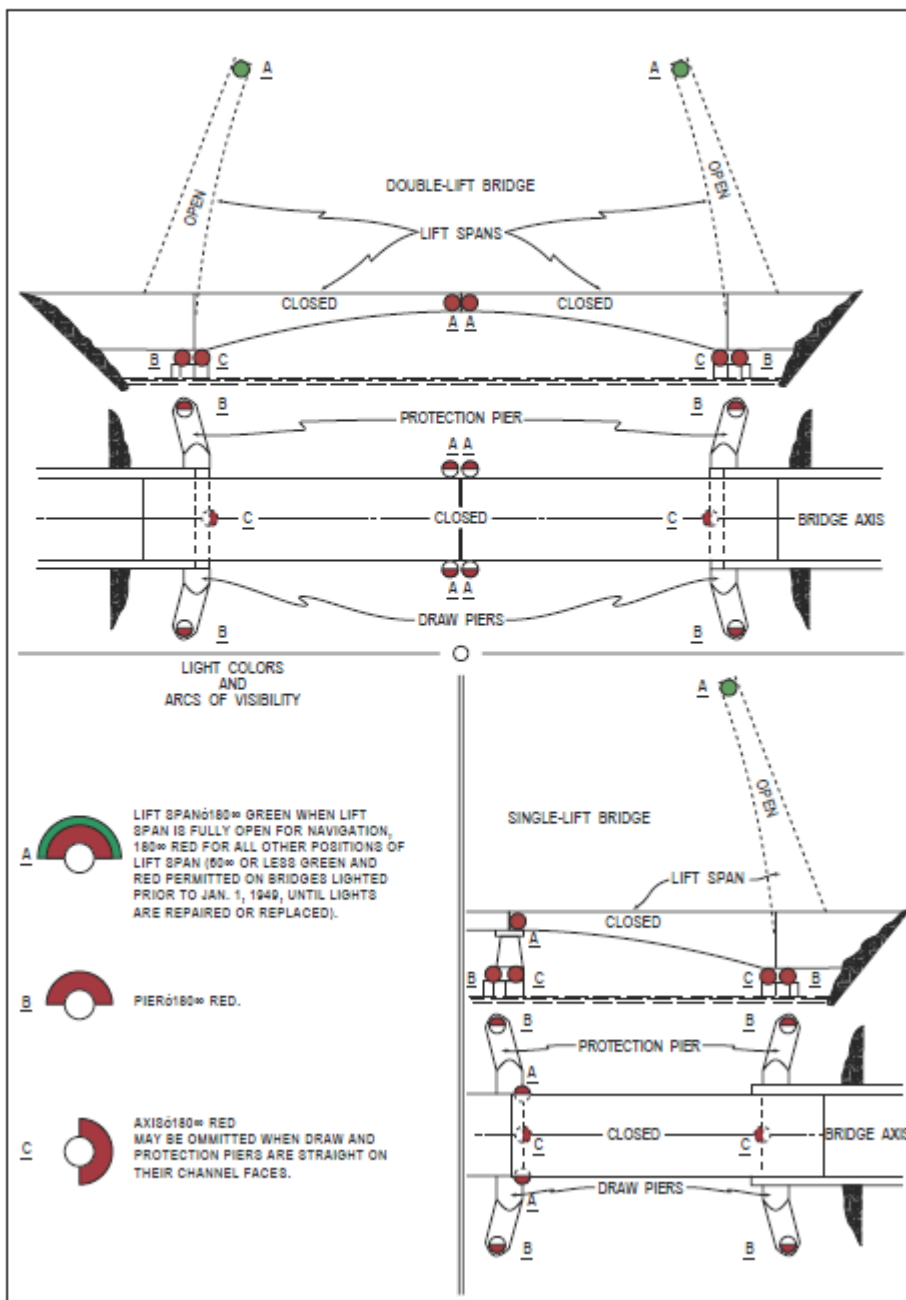
- The outermost side of each outer span of every bascule bridge with parallel multiple lifts are lighted as prescribed for individual spans; the lights are controlled so that the green lights will be displayed only when all spans are open for navigation. The inner sides of each outer lift span and both sides of each inner lift span of such bascule bridge shall be lighted by red lights for all positions of the lift span. These lights shall have the same arcs of illumination and shall be mounted as described in the preceding paragraph.
- **Pier lights.** Every bascule bridge is lighted so that both ends of every pier, or protection pier where provided, in or adjacent to the navigable channels under the lift span or spans, is marked by a red light. Each of these red lights show through a horizontal arc of 180° , and is mounted as low as practicable on the end of the pier, or protection pier, to show 90° either side of a line parallel to the axis of the navigable channel so as to be visible from an approaching vessel.
- **Axis lights.** Every bascule bridge which has at least one pier provided with a protection pier is lighted so that the intersection of the long axis of the lift span with the channel side of each pier, or protection pier, is marked by a red light. However, if all such piers and protection piers are straight along their channel faces, these lights are not required. Each such red light shows through a horizontal arc of 180 degrees and is mounted on the navigable channel face of the pier as low as practicable to show 90 degrees on either side of a line normal to the axis of the navigable channel so as to be visible from an approaching vessel.

The exhibit on page 12 shows the proper lighting configurations for a bascule Bridge.



DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD
BRIDGE ADMINISTRATION DIVISION

MINIMUM LIGHTING FOR BASCULE BRIDGES
33 CFR 118.80



Lights on Vertical Lift Bridges.

The vertical lift span of every vertical lift bridge is lighted so that the center of the navigable channel under the span is marked by a range of two green lights when the vertical lift span is open for navigation, and by one red light on each side for all other positions of the lift span. The green lights show through a horizontal arc of 360° ; they are securely mounted just below the outermost edge of the bridge span structure so as to be visible from an approaching vessel. Each red light shows through a horizontal arc of 180° , and is securely mounted just below the outermost edge of the lift span to show 90° on either side of the line parallel to the axis of the channel so that only one such light is visible from an approaching vessel.

- ***Pier lights.*** Every vertical lift bridge is lighted so that each end of every pier in or adjacent to navigable channels under the lift span, or each end of every protection pier when provided, is marked by a red light. Each such light shows through a horizontal arc of 180° , and is mounted as low as practicable on the end of the pier, or the protection pier, to show 90° on either side of a line parallel to the axis of the navigable channel so as to be visible from an approaching vessel.
- ***Axis lights.*** Every lift bridge which has at least one pier provided with a protection pier is lighted so that the intersection of the lift span axis with the channel side of each pier adjacent to the navigable channel is marked by a red light; provided, that if every such pier, or protection pier, is straight along its channel face, these lights are not required. Each such light shows through a horizontal arc of 180° , and is mounted on the navigable channel face of the pier as low as practicable to show 90° on either side of a line normal to the axis of the navigable channel so as to be visible from an approaching vessel.
- ***Lights on sheer booms, isolated piers, and obstructions*** not part of the bridge or bridge approach structure show a white or green light if kept on the left of vessels approaching from seaward, and show a white or red light if kept on the right of vessels approaching from seaward.

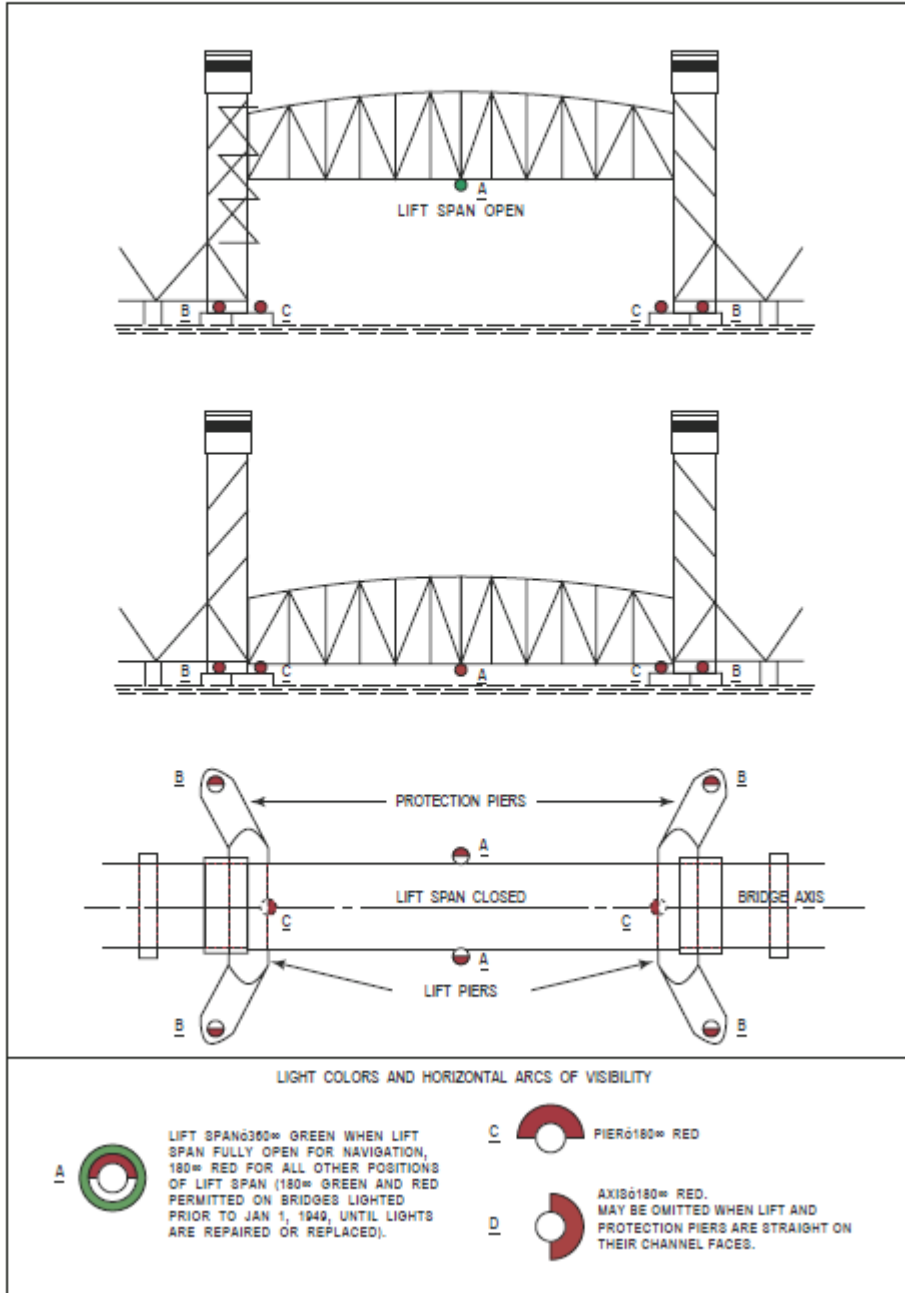
For rivers the same rule applies, white or green lights are shown from the right descending bank; white or red lights to be shown from the left descending bank. The color of the light and its characteristics (fixed, flashing, occulting, etc.) as determined by the district commander, and is shown on charts.

The exhibit on page **14** shows the proper lighting configurations for a vertical lift bridge.



DEPARTMENT OF HOMELAND SECURITY
 UNITED STATES COAST GUARD
 BRIDGE ADMINISTRATION DIVISION

MINIMUM LIGHTING FOR VERTICAL LIFT BRIDGES
 33 CFR 118.85

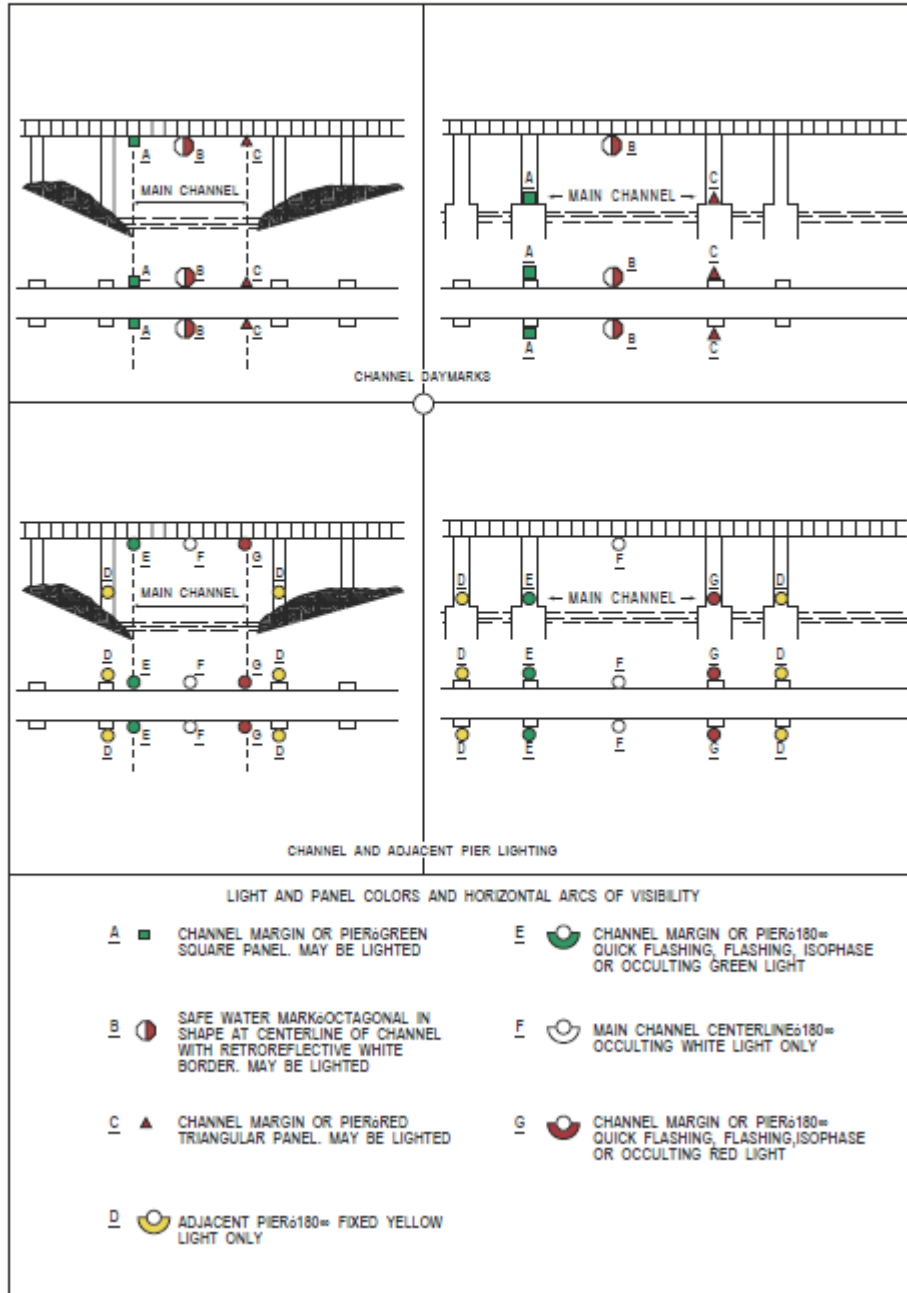


Day Marks and Lateral Lighting on Bridges

Some bridges are required to have lateral markings, that is, red and green marking similar to color marking on lateral buoys, that is intended to show the mariner which channel to pass through.



DEPARTMENT OF HOMELAND SECURITY
 UNITED STATES COAST GUARD
 BRIDGE ADMINISTRATION DIVISION
 DAYMARKS AND LATERAL LIGHTING ON BRIDGES
 33 CFR 118.110



Reporting Bridge Lighting Systems Discrepancies

When reporting discrepancies observed on a bridge, it is important to fully and accurately describe the problem, so that someone reading the report can get the correct understanding of what the actual problem is. Avoid words such as “*left*” and “*right*” since they are ambiguous and their perspective changes with the observer’s position. Terms like “*upstream west side*” or “*downstream north east*” are far more descriptive and clear.

Plan to observe all lighting discrepancies between legal sundown and legal sunup before filing a discrepancy report with the Coast Guard.

When reporting a problem with a light, always report the *type* of light and the *location* of the light (e.g., “the upstream west pier light”).

While some bridges will burn some of their lights during daylight hours, an observation made during daylight hours may not be used as the basis for filing a light discrepancy report unless it is clear that all of the lights on the bridge are turned on.

When reporting a light that is extinguished, identify the exact light or lights as follows:

"Red channel margin light on the downstream east side is extinguished, or "West and top swing span lights on upstream side are extinguished."

When a light or lights are not functioning as required in order to indicate whether the bridge span is open or closed, report them as:

"Lift span center light on the downstream side does not shift from red to green when the span is in the fully raised position", or "Swing bridge center light does not shift from red to green when the span swings to the fully open position. Green sector of upstream light appears to be shielded or painted out."

When a light or lights are extinguished or otherwise damaged due to vandalism, identify them as:

"Lens on west pier light on downstream side is showing white light instead of red light because the lens is missing."

Fender System Problems

Fender system problems can pose a hazard to vessels. Any problem with the fenders that could allow a vessel to make contact with concrete or metal, or causes obstructions to stick out into the channel should be reported as a discrepancy. This includes severely deteriorated fenders that no longer protects the bridge properly. Include photographs of all fender discrepancies.

Fender problems that should be reported include:

- Steel plates or protruding steel bolts that can puncture vessels and cause sparking that can cause fires.
- Bolts and washers should be countersunk or placed behind the fender wales.

- Steel plates and corner plates must have suitable cover must be placed over the steel to prevent metal-to-metal contact between the vessel and fender during transit of the navigable channel.
- Debris trapped by the fender system that protrudes into the channel.
- Broken fenders that no longer protect the bridge.
- Broken fenders that protrudes into the channel.
- Severely deteriorated fendering due to age, allision or fire.

Observing Fender Problems:

Vertical versus horizontal sheathing and wales – The placement and spacing of sheathing and wales is important because improper or inadequate arrangement of wales can contribute to an accident as much as no fender at all. Wales are the horizontal components of the fender system. It is important that the wales sufficiently cover the full range of the tide to prevent vessels from riding over the fender or catching its gunwale on the bottom of the lower wale. Similarly if the wales are too far apart, a vessel listing or rolling a little can hang up on the fender and damage the fender and/or the vessel itself.

Debris collection - If the fender system lends itself to debris collection, submerged and surface hazards can exist that the mariner may or may not see until it is too late to avoid them.

Protrusion of dolphins on the side of fender - The side or face of a fender system should not have any protrusions or dolphins because these are areas where the forward rake of a barge or the bow of a vessel can hang up.

Nose and pier dolphins and pier protection cells may be used as an additional measure of protection to bridge piers where adequate horizontal clearance is available and where there is little possibility of contact with the pier except when a vessel loses steering control. Dolphins or pier protection cells are used to supplement fenders and satisfy various waterway requirements such as ice protection, supporting of lights and communications platforms.

Here are some particular fender problems to watch for:

- ***Fender Strength*** - inadequate versus adequate; dilapidated versus repaired; machinery unprotected versus protected; swing bridge ends unprotected versus protected; not designed for type of vessels using the bridge; fender not high enough; and bascule leaves overhanging fender.
- ***Cables hanging below bridge structure.***
- ***Nets and scaffolding*** hanging below bridge structure.
- ***Pier protection cells, planks or coatings missing, steel sheathing protruding, cell damaged.***
- ***Pile dolphin clusters*** broken off, leaning into channel, debris protruding from cluster, or top of clusters wrapped with other than wire cable.
- ***Ladders, platforms, rails or other steel objects protruding into channel***

Reporting Bridge Fender System Discrepancies

When reporting fender discrepancies observed on a bridge, it is important to fully and accurately describe the problem. Words like “left” and “right” should be avoided, while terms like “upstream west side” or “downstream north east” are far more descriptive and unambiguous.

All fender discrepancy reports must be accompanied by a photograph that clearly shows the discrepancy when the report is filed.

Conducting the Bridge Survey

Unlike Bridge Discrepancies that can be reported by any member, Bridge Surveys are performed by currently certified and qualified Aids Verifiers.

Bridge surveys are only done when specifically requested by the Bridge Branch. Only Aids Verifiers may conduct a bridge survey. In First Northern, the Bridge Branch has requested annual bridge surveys on each Class 1, 3 and 3 bridge throughout the District.

While the bridge survey program is constrained to the assignment to duty requirement specified above, any Auxiliarist, who spots a discrepancy on a bridge at any time, is encouraged to report the problem.

A bridge survey requires at a minimum, two separate visits to a bridge. One must be during daylight hours near low tide when the clearance gauges and fender system can be seen, and one should be at night when the bridge lights can be checked.

The following sections describe the information needed on a Bridge Survey report.

Bridge Reporting System

Select the bridge from the Bridge Database screen located at www.uscgauxnh.org/bridges. The exhibit on page 20 shows this screen. You must have an Auxiliary E-directory to log on to the Bridge Reporting System.

Orientation – reference the exhibit on page 20.

Top Center

- Select Division. Enter the Division where the bridge is located in this field.
- Exclude Class 4 Bridges. Click on YES to show only the active bridges that are scheduled for annual survey.
- Filter. Click on “No Filter.”

The system will provide a list of the active bridges in the Division you selected.

Top Left

- Quick search. Enter the name of the bridge or waterway and click on the icon. The system will locate the bridge for you.
- Back. Click on “Back” to return to the previous screen.

- **Log Off.** Click on “Log Off” to log off the system.
- **Submit 7030.** Click on “Submit 7030” to go to the AUXDATA 7030 Activity Report screen. The system pre-fills many of the fields the data for you from the E-Directory and it looks up the E-Mail addresses of your FSO-IS and your SO-IS for you. This report only handles Bridge submissions.

Top Right

- **Key.** The “Action Keys” are explained.
 - **Magnifying Glass** – indicates the Detail Report.
 - **Large X** – identifies the Discrepancy Report.
 - **Crossed Tools** – provides a means to report correction of previously reported discrepancies.
 - **Check mark** – indicates the Annual Survey Report. Note that you cannot report discrepancies on this report.
 - **Two Gears** – is used to make correction to specification on a bridge.

Bridge Listing

- All the bridges in the selected division are shown, sorted by waterway and by the mile on the waterway where the bridge is located.
- Bridges, that are highlighted in light red, indicate that a previously reported discrepancy is pending on the bridge. Pre-review the results of previous surveys that have been done, especially if discrepancies are still open. Check and report the status of each open discrepancy. A special update screen is provided to close out discrepancies.
- **Last Action** – shows when the last activity that was recorded on the bridge. The type of action appears in parentheses.

Quick Search:

U.S. COAST GUARD AUXILIARY

District 1 Northern Region
Aids to Navigation Team - Bridge Database

Select Division: 05

Exclude Class 4 Bridges? Yes No

Filter: Discrepancies? Flagged? Not Checked? No Filter

[Review Pending Actions](#) [Review Pending Updates](#)
[List Action History](#) [Add a New Bridge](#)

Key:

= Show details
 = Discrepancy
 = Annual survey
 = Update
 = Flag

Div.	No.	Waterway	Location	State	Class	Bridge Name	Last Action	Action
05	140	BELLE ISLE INLET-01	WINTHROP / EAST BOSTON - EAST BOSTON	MA	3	SARATOGA STREET BRIDGE (BELLE ISLE INLET BRIDGE)	FRANK J LARKIN 8/19/2010 (Updated)	
05	180	BOSTON HARBOR/MA	BOSTON HARBOR	MA	2	MOON ISLAND / LONG ISLAND BRIDGE (LONG ISLAND BRIDGE) Discrepancies Reported on This Bridge.	FRANK J LARKIN 7/18/2010 (Discrepancy)	
05	285	CHARLES RIVER/MA-01	BOSTON - CHARLESTOWN	MA	2	NORTH WASHINGTON STREET BRIDGE (CHARLESTOWN BRIDGE)	FRANK J LARKIN 7/27/2010 (Survey)	
05	286	CHARLES RIVER/MA-02	BOSTON - CHARLESTOWN	MA	2	CHARLES RIVER DAM BRIDGE	FRANK J LARKIN 7/27/2010 (Survey)	

- Click on the key to the right-hand side of the bridge listing to select the type of report from the icons appearing there. The selected report will appear on the screen.

There are five screens provided on the Bridge Reporting System:

1. Bridge Detail Screen:

- a. The screen key is the Magnifying Glass icon.
- b. Only used to view or print information about the bridge.
- c. There is no update capability with this screen.
- d. This screen shows the complete history of the activity performed on the bridge.

2. Bridge Discrepancy Report Screen:

- a. The screen key is the large “X.”
- b. Use this screen to report discrepancies observed on the bridge.
- c. This is the only screen where discrepancies may be reported.
- d. You can submit a new discrepancy report even if there's an existing discrepancy.
- e. ***Be patient and only hit the submit button once.*** Wait for the system to respond. Otherwise, you can add two discrepancy reports for the same problem to the bridge record.

3. Bridge Annual Survey Report.

- a. The screen key is the “***large check mark.***”
- b. Use this screen to report annual surveys.
- c. If you observe a discrepancy while performing an Annual Survey, submit a ***Bridge Discrepancy Report.***

4. Bridge Characteristic Modification Report.

- a. The screen key is the “***two gears***” icon.
- b. Use this screen to request modification of the specifications of the bridge.
- c. The process of changing the data about a bridge is a separate task from reporting the condition (Watching properly, Discrepancy, or Discrepancy Resolved.)

5. Report Resolution of a Discrepancy Screen.

- a. The screen key is the “***crossed tools***” icon. This option only appear when a previous discrepancy has been reported for the bridge.
- b. Use this screen for reporting resolution(s) of a previously reported bridge discrepancy.
- c. You can submit a new discrepancy report (“X” icon) even if there's an existing discrepancy. Each one will display in a new row on the Resolution Report, and you can pick which discrepancy or discrepancies are now resolved.

(1) BRIDGE DETAIL DISPLAY – Magnifying Glass Icon.

District 1 Northern Region
Aids to Navigation Team - Bridge Detail Display

[Instructions](#)

JOHN J. BEADES BRIDGE

DISCREPANCIES REPORTED ON THIS BRIDGE

Physical Characteristics of this bridge

[Back](#)

You are logged on as **FRANK J LARKIN**
[Log Off](#)

Bridge No: **455**

Waterway: **DORCHESTER BAY BASIN**

Local Name: **WILLIAM T MORRISSEY BOULEVARD BRIDGE**

Location: **DORCHESTER (BOSTON)**

Location2:

Date when completed: **2003** Auxiliary District: **05**

Bridge Type: **BASCULE** Miles above mouth: **0**

Bridge Class: **3** Use: **HWY**

Latitude: **42-18-13.440N** Longitude: **071-02-51.112W**

Charted Vert. Clearance (m): **12 m** Charted Horizontal Clearance: **65 ft.**

Fender System? **Yes** Weles? **Yes**

Fog Signal? **No** Lights? **Yes**

Pier Lights: **4** Axis Lights: **0**

State: **MA** Owner: **MDC**

Regulatory Signs? **Yes** Horn or Siren? **No**

Center Channel Lights: **0** Margin of Channel Lights: **0**


Moveable Span Lights: **4** Preferred Channel Lights: **0**

Federal Regulations and special notes about this bridge (The regulations can be found in 33CFR117):

§117.597 Dorchester Bay. (619) The draw of the William T. Morrissey Boulevard Bridge, mile 0.0, at Boston, shall operate as follows: (620) (a) From 7:30 a.m. to 9 a.m. and 4:30 p.m. to 6 p.m., Monday through Friday, except holidays, the draw need not open for the passage of vessel traffic. (621) (b) The draw shall open on signal from April 18 through May 31, from 8 a.m. through midnight, except as provided in paragraph (a) of this section. From midnight through 8 a.m. at least an eight-hour advance notice is required for bridge openings. (622) (c) The draw shall open on signal at all times from June 1 through September 30, except as provided in paragraph (a) of this section. (623) (d) The draw shall open on signal from October 1 through October 14, 8 a.m. through midnight, except as provided in paragraph (a) of this section. From midnight through 8 a.m. at least an eight-hour advance notice is required for bridge openings. (624) (e) The draw shall open on signal from October 15 through April 15, after at least a 24 hours notice is given, except as provided in paragraph (a) of this section.

Marine Facilities located above this bridge:


Dorchester Yacht Club with over 225 boat slips and 25 moorings. This is a private club that sells ice and gasoline to the general public.



Action History for this bridge				
Action Date	#	Type	Name	Action Description
7/17/2010 7:39:00 PM	831	Discrepancy	FRANK J LARKIN	Fender structure leaning into channel. Clearance Gauges illegible. A large section of the protective pier on the Boston Side toward the sea has broken loose and is projecting into the navigable channel. The is especially problematic at half tide and deeper. The clearance gauges are broken and unreadable due to marine growth. The center of channel lights did not turn green when the bridge was fully open. All other lights were watching properly. There are two white strobe lights fitted just

- This screen shows all of the specifications for the bridge selected. The lighting and safety equipment on the bridge appear on this report.
- Every bridge record should show a photo of the bridge. Submit bridge photos to the DSO-NS. Mark each bridge photo with the bridge number and bridge name as listed in the Bridge Reporting System.
- The square box beside the longitude field is a link to Google maps. Click on this box to view a satellite view or map for the bridge based on the Lat/Long on file for the bridge.

Longitude: **070-58-47.900W**



GOOGLE SATELLITE VIEW

- This Detail Display shows the Federal Regulations associated with the bridge.
- This Detail Display shows a list of marine facilities located upstream of the bridge.
- At the bottom of the screen, the complete survey and discrepancy report history is listed.

(2) BRIDGE DISCREPANCY REPORT – Large X icon

Date Reported		Discrepancy	
7/17/2010 7:39:00 PM		Fender structure leaning into channel. Clearance Gauges illegible. A large section of the protective pier on the Boston Side toward the sea has broken loose and is projecting into the navigable channel. This is especially problematic at half tide and deeper. The clearance gauges are broken and unreadable due to marine growth. The center of channel lights did not turn green when the bridge was fully open. All other lights were watching properly. There are two white strobe lights fitted just above the center of channel lights on the inland side of the bridge. These lights were operating earlier today. It appears they operate at extraordinary high water when the bridge clearance is less than the published clearance.	

Review the above discrepancies before submitting another!

Physical Characteristics of this bridge					
Bridge No:	455				
Waterway:	DORCHESTER BAY BASIN				
Local Name:	WILLIAM T MORRISSEY BOULEVARD BRIDGE				
Location1:	DORCHESTER (BOSTON)				
Location2:					
Date when completed:	2003	Auxiliary Division:	05		
Bridge Type:	BASCULE				
Miles above mouth:	0				
Bridge Class:	3	Use:	HWY		
Latitude:	42-18-13.440N	Longitude:	071-02-51.112W		
Charted Vert. Clearance (MHW):	12 ft.	Charted Horizontal Clearance:	65 ft.		
State:	MA		Owner:	MDC	
Fender System?	Yes	Regulatory Signs?	Yes	Horn or Bitten?	No
Fog Signal?	No	Lights?	Yes	Center Channel Lights:	0
Pier Lights:	4	Aux Lights:	0	Margin of Channel Lights:	0
		Mooring Open Lights:	4	Preferred Channel Lights:	0

Federal Regulations and special notes about this bridge (The regulations can be found in 33CFR117):

§117.597 Dorchester Bay. (b19) The draw of the William T. Morrissey Boulevard Bridge, mile 0.0, at Boston, shall operate as follows: (b20) (a) From 7:30 a.m. to 9 a.m. and 4:30 p.m. to 6 p.m., Monday through Friday, except holidays, the draw need not open for the passage of vessel traffic. (b21) (b) The draw shall open on signal from April 16 through May 31, from 8 a.m. through midnight, except as provided in paragraph (a) of this section. From midnight through 8 a.m. at least an eight-hour advance notice is required for bridge openings. (b22) (c) The draw shall open on signal at all times from June 1 through September 30, except as provided in paragraph (a) of this section. (b23) (d) The draw shall open on signal from October 1 through October 14, 8 a.m. through midnight, except as provided in paragraph (a) of this section. From midnight through 8 a.m. at least an eight-hour advance notice is required for bridge openings. (b24) (e) The draw shall open on signal from October 15 through April 15, after at least a 24-hour notice is given, except as provided in paragraph (a) of this section.

- Check whether the waterway referenced on the Bridge Report is correct. If the bridge is at a waterway junction, show the adjoining waterway's name.
- Each bridge lists its location on the waterway, starting at the mouth or start of the waterway toward seaward. Is this mileage reference correct? Indicate miles above mouth if known.
- Check whether the towns listed on either side of the bridge is correct.
- If you can verify the owner of the bridge, check this against what the Coast Pilot says, and report any differences. Many times, especially for railroad bridges, the owner changes. Report all ownership changes.
- Each bridge will be categorized as one of four classes:
 - Class 1 are bridges that span waters used by ocean going ships. The **Tobin Bridge** in Boston Harbor and the **Cape Cod Canal bridges** are Class 1 bridges.
 - Class 2 are bridges that have ferry and other commercial traffic, but no ocean going ships. The **Long Island Bridge** and the **Fore River Bridge** are designated as Class 2.
 - Class 3 are bridges that have recreational traffic, but not ferries or ocean going ships. The **Morrissey Blvd. Bridge** is an example of a Class 3 bridge.
 - Class 4 are bridges spanning waters only used by row boats or small outboard powered boats and where no marine facilities are located upstream are classified

as a Class 4 bridge. Almost all Class 4 bridges are fixed bridges or de-commissioned draw bridges over small creeks. ***Do not report on these bridges unless specifically requested by the Bridge Branch.***

- Review the bridge's class on the survey screen in accordance with the descriptions above. If you disagree with the classification that has already been made for a bridge, that's OK – just note that in the comments section, along with your reason why you think it should be re-classified.

Components of a Light Survey

Complete a light survey each time that you check a bridge. Always check lights at night to see that they are working properly. Although, some bridges are always lighted.

Check and report the number of each type of light that is observed on the bridge.

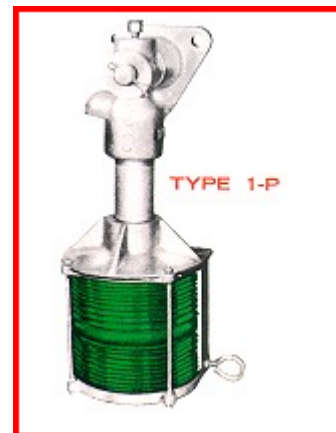
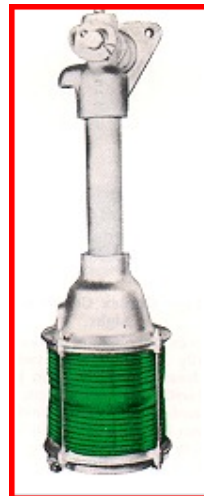
Count the lights on both sides of the bridge.

- Indicate whether the lights are correctly placed on the bridge.
- Indicate whether the lights are the proper color.
- Indicate whether the lights are visible for one nautical mile.



Center Channel Lights

- Marks the center of the navigable channel on both the upstream and downstream sides of the bridge. Commonly are found on Fixed Bridges.
- Should appear as a pair 360-degree green range-lights affixed beneath the span or lip of the bridge.



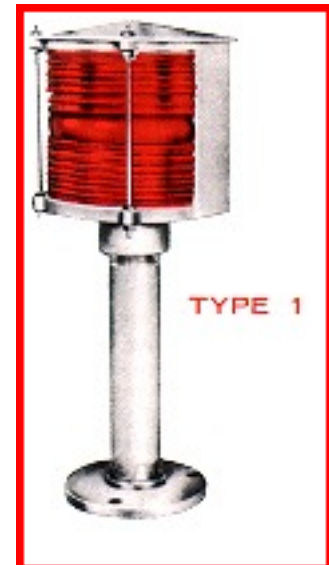
Margin of Channel Lights – Lift Span Lights

- Mark the limits (edges) of the navigable channel on one or both sides of the bridge.
- Will only be present if the navigable channel does not extend completely over to the bridge pier at the side of the channel.
- Should be 180-degree red lights that shows facing into the flow of traffic as you approach the bridge in the navigable channel.
- Are hung just below the lip of the span to mark the level of low steel.



Pier Lights

- Used to mark piers attached to the bridge
- Should be 180-degree red lights fixed to the piers. Lights show forward toward the flow of traffic as you approach the bridge in the navigable channel.



Axis Lights

- Mark any turn in a pier line that is attached to a bridge. Often used to mark the centerline of the bridge across the channel of a vertical lift or swing bridge.
- Should be 180-degree red lights fixed to the piers. Lights always show inward across the navigable channel.

Moveable Span Lights

- Found on draw, swing, retractable, lift, and bascule bridges in a combination lantern in various configurations of red and green light fixtures.
- Shows red when the bridge span is closed or moving, and shows green when the bridge span is opened.



Preferred Channel Lights

- Commonly found on bridges with multiple navigable channels.
- Three white lights fixed above the center channel lights are used to indicate the preferred channel.

LIGHT DISCREPANCY SECTION (From the Bridge Discrepancy Screen)

Enter Discrepancies with Lights (leave blank if lights all OK)					
	No. of Lights	Lights not correctly placed?	Lights not of proper color?	Lights not visible for 1 NM?	Lights Extinguished? (Describe below)
Center Channel Lights	0				
Margin of Channel Lights	0				
Pier Lights	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Axis Lights	0				
Lift / Movable Span Lights	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preferred Channel Lights	0				

Enter Discrepancy Details:

- The lighted specified for the bridge will show data check boxes for use as part of the Light Survey.
- Check each box that conforms to your observations of the lights on the bridge. Each items checked will be reported as a discrepancy to the Coast Guard. Identify the location of the discrepant lights in the Comments section of the report.
- Add or delete lights from the bridge's specification by submitting a ***Bridge Update Report***.

Components of a Fender Survey

Below is the “Discrepancy Detail” section from the Discrepancy reporting screen of the Bridge Report System.

Enter Discrepancy Details:

Problems with FENDER SYSTEM on this bridge?

FIRE DAMAGE? NATURAL DETERIORATION? ALLISION?

STEEL MEMBERS (if present)? DEBRIS WEDGED IN OR BEHIND THE FENDER SYSTEM? PROTRUDING PLATES INTO CHANNEL?

STRUCTURE IS LEANING IN NAVIGABLE CHANNEL? PILES ARE LEANING MORE THAN 15°?

ANGLES PROTRUDING BEYOND FACE? CABLE ON DOLPHIN UNRAVELLING?

Problems with WALES on this bridge?

FIRE DAMAGE? NATURAL DETERIORATION? EXPOSED BOLTS? METAL CORNER PLATES?

Problems with CLEARANCE GAUGES on this bridge?

MISSING? NOT LEGIBLE?

Problems with REGULATORY SIGNS on this bridge?

MISSING? NOT READABLE? DONT MATCH FED REGS?

Bridge hardware protruding into channel?

PIPES? LADDERS? PLATFORMS?

Anything hanging below lip of span?

CABLE? LADDER? PLATFORM?

Discrepancy Narrative (enter additional comments here)

- *Complete a full survey of the bridge’s fender system and wales every time that you check a bridge.*
- Whatever discrepancy that you check will appear as a discrepancy to the Coast Guard.
- Below is information that will help you make intelligent decisions regarding fender systems.

Wales.

- Must be in good repair.
- No sharp metal or bolts should protrude into channel or be exposed on corners.
- No metal corners.

Protective Piers.

- Must be wrapped with steel cable.
- Nothing should project into the channel from these protective piers.

Obstructions in the channel(s).

- Nothing may be hanging below the lip of bridge’s span. Check the LNM for authorizations for deviation from this rule during periods of repair and reconstruction.
- Sanity check the depth of water in the navigable channel under the bridge and in both approach channels.

- Nothing should stick out of the sides of the wales and piers into the channel.

Signs

- Check the Signs on the bridge each time that you survey a bridge. Also check the Coast Pilot or 33 CFR, Part 117b to see if signs are required. If there are any special regulations listed for that bridge in the Coast Pilot, a sign with those regulations is required to be posted on both sides of the bridge.
- When the “*Federal Regulations & Special Notes*” section found on the on-line “*Bridge Detail Report*” does not list the text that is in the Coast Pilot, submit a *Bridge Characteristic Modification Report*. This allows the future AVs to have the benefit of this information. Always check that the narrative is correct, especially each time that a new edition is published.
- Normally found on bridges that open to pass maritime traffic.
- Regulatory Signs must be readable and be located on both the upstream and downstream sides of the bridge.
- When a bridge opening requires a phone call to the bridge tender, check that the phone number appears on the bridge’s sign. Call the phone number and validate that it works, but never request an opening as a test. See the section on handling contacts from Bridge Authorities and Owners.

Clearance Gauges on Drawbridges.



- Should be mounted at the right side of the bridge as you face the bridge in the main navigable channel.
- Should be located on both the upstream and downstream sides of the bridge.
- Not required and usually not found on Fixed Bridges (only required if listed in Coast Pilot or in 33 CFR Part 117b.)
- Should be readable for a one-half mile distance – 1,000 yards.
- Must be readable down to the low water mark. Always check at low water.

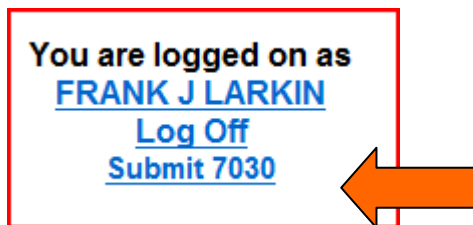
Comments

- Any problems that were noted in earlier sections (e.g., light or fender survey problems), should be described here. Enough detail should be given to paint a verbal picture of what the problem found was, and where it was located. Use full sentences – short three word comments are usually not very useful!

ON-LINE AUXDATA BRIDGE ACTIVITY REPORTING IS AVAILABLE ON THE BRIDGE REPORTING SYSTEM

The Bridge Reporting System is now designed for on-line generation of a Bridge Report to the Coast Guard and an on-line AUXDATA 7030 Report to your SO-IS.

- After you prepare your Bridge Report, click on the “Submit 7030” at the top left hand side of your screen.



- The 7030 Screen will appear. Fill or change the data. Note that the system looks up your FSO-IS, SO-IS and your E-mail address from your E-directory record along with your personal information. You will not have to enter that data. The system does it for you.

District 1 Northern Region
Aids to Navigation Team
7030 Submission

7030 Form Data	
Date of Mission:	12 JAN 2011
Time Start: *	00:01 (format: 16:01)
Time End: *	00:07 (format: 16:07)
Bridge Discrepancies:	2
Bridges Watching Property:	3
ANT:	ANT Boston
Location:	Boston Harbor
Trainee ID:	
Trainee Name:	
Remarks:	
Log Number:	11-001
Send 7030 to:	
<input checked="" type="checkbox"/> FSO-IS:	MARILYN BERG
<input checked="" type="checkbox"/> SO-IS:	DEBRA HIBERT
<input checked="" type="checkbox"/> Self:	frankjlarkin@verizon.net
<input type="button" value="Submit 7030 Form Now"/>	

- When you perform bridge activity as part of an official patrol, your time underway is handled by the POMS report submitted by the OPFAC owner or the Coxswain. Do not change the Time Start and Time End that is pre-set on the screen. Otherwise, take full credit for your time underway by entering your start and end time in HH:MM format.
- As the report originator, you will be entered as the Lead on this report.
- If you are performing an AV Mentor function, you may enter one AVC trainee on your report.
- Below is a sample copy of the report that is sent to the IS Staff officer that the System selects for you. Send a copy to yourself for your records.

```

From: frankjlarkin@verizon.net
To: frankjlarkin@verizon.net
CC: ""
Subj: USCG Aux 7030 Submission From FRANK J LARKIN

Submitted by: FRANK J LARKIN
Division-Flotilla: 10-07
Resource Type: Unit/Individual
OPCON: 01-41949
Time & Mission: 12 .... Jan 2011
+----+-----+
|TIME|MISSION|
+----+-----+
|0001|32    |
+----+-----+
|0007|FINISH |
+----+-----+
Location: Boston Harbor
Elapsed Time: 0.1

ATON Information
Bridge Discrepancies: 2
Bridges Watching Properly: 3
Crew Assignments:
+-----+-----+-----+
|ID      |NAME                |      |
+-----+-----+-----+
|1143884|LARKIN, F          |LEAD  |
+-----+-----+-----+

REMARKS:
Report Date: 12JAN2011
Log number: 11-001

```

- AVs may report both “Bridges Watching Properly” and “Bridge Discrepancies” when reporting bridge activity.

NOTE: Do not submit one bridge at a time. Summarize your bridge activity and submit one summary 7030 report each day.

Recognition of the Navigation Systems Division and the Aids to Navigation / Chart Updating program by the Coast Guard and the Auxiliary depends on annual and periodic reports of the support activity that is performed by Auxiliarists in support of the Coast Guard. The success and funding of the Aids to Navigation Program relies on your AUXDATA input data. When you fail to report aid to navigation patrol and NS activity missions to AUXDATA, you are actually hurting our Navigation Systems program.

(3) BRIDGE ANNUAL SURVEY REPORT


District 1 Northern Region
 Aids to Navigation Team - Bridge Annual Survey Report

SARATOGA STREET BRIDGE

[Back](#)

You are logged on as **FRANK J LARKIN**
[Log Off](#)

Report Annual Bridge Survey:

Bridge No: 140			
Waterway: BELLE ISLE INLET-01			
Local Name: BELLE ISLE INLET BRIDGE			
Location1: WINTHROP / EAST BOSTON			
Location2: EAST BOSTON			
Date when completed: 1956	Auxiliary Division: 05		
Bridge Type: FIXED	Miles above mouth: 0.1		
Bridge Class: 3	Use: HWY		
Latitude: 042-22-27.500N	Longitude: 070-01-39.300W		
Charted Vert. Clearance MHW: 5 ft.	Charted Horizontal Clearance: 25 ft.		
Boat Lift System? No	Wales? No	State: MA	Owner: STATE OF MA
Top Signal? No	Lights? No	Regulatory Signs? No	Horn or Biren? No

Reporting Information (REQUIRED)

Reporting Member: FRANK J LARKIN	Telephone: 978-263-3023	E-Mail Address: frankjarkin@verizon.net
Date of Obs.: 02/02/2011	Time: 1246 (HHMM)	Division: 10
Bridge Survey Results: Bridge is watching properly		

Annual Bridge Survey Reporting Instructions

DO NOT use this form to submit Bridge discrepancy reports or requests for database changes.
 Use this form only for annual bridge check reports with no discrepancies found.
 Routine bridge checks (except one annual report) need not be submitted here.
 Submit all bridge and ATON activity as Mission 32 on a 7030 Report.

Click here to submit your report


- Use the Bridge Annual Survey Report to report an annual survey on a bridge. Do not report discrepancies on this report.
- If you observe a discrepancy while performing an Annual Survey Report, you just submit a Discrepancy Report. It is **not** necessary to also report an Annual Survey Report.

(4) BRIDGE CHARACTERISTIC MODIFICATION REQUEST – Crossed Tools Icon

You are logged on as [FRANK J LARKIN](#) [Log Off](#)


JOHN J. BEADES BRIDGE

Update Physical Characteristics of this bridge:

Bridge No: 455			
Waterway: DORCHESTER BAY BASIN			
Local Name: WILLIAM T MORRISSEY BOU			
Location: DORCHESTER (BOSTON)			
Location2:			
Date completed: 2003	Auxiliary Division: 05		
Bridge Type: BASCULI	Miles above mouth: 0		
Bridge Class: 3	Use: HWY		
Latitude: 42-18-13.440N	Longitude: 071-02-51.112W		
Charted Vert. Clearance: 12	Charted Horiz. Clearance: 65	State: MA	Owner: MDC
Tender System? <input checked="" type="radio"/> YES <input type="radio"/> NO	Waives? <input checked="" type="radio"/> YES <input type="radio"/> NO	Regulatory Signs? <input checked="" type="radio"/> YES <input type="radio"/> NO	Horn or Siren? <input type="radio"/> YES <input checked="" type="radio"/> NO
Log Signal? <input type="radio"/> YES <input checked="" type="radio"/> NO	Clearance Gauges? <input checked="" type="radio"/> YES <input type="radio"/> NO	Margin of Channel Lights: 0	Pier Lights: 4
Lights? <input checked="" type="radio"/> YES <input type="radio"/> NO	Center Channel Lights: 0	Moveable Span Lights: 4	Preferred Channel Lights: 0
Axis Lights: 0			
Federal Regulations and special notes about this bridge (The regulations can be found in 33CFR117):			
<p>§117.597 <i>Dorchester Bay.</i> (619) The draw of the William T. Morrissey Boulevard Bridge, mile 0.0, at Boston, shall operate as follows: (620) (a) From 7:30 a.m. to 9 a.m. and 4:30 p.m. to 6 p.m.,</p>			
Marine Facilities located above this bridge: <input checked="" type="radio"/> YES <input type="radio"/> NO			
<p>Dorchester Yacht Club with over 225 boat slips and 25 moorings. This is a private club that sells ice and gasoline to the general public.</p>			
Sources and notes to document the accuracy of this information:			

- Use this *Bridge Characteristic Modification Request* to suggest changes to a bridge's specification.
- This is the sole purpose of this report. No other activity is possible with the Modification Report.

(5) BRIDGE DISCREPANCY RESOLUTION REPORT



U.S. COAST GUARD AUXILIARY
District 1 Northern Region
Aids to Navigation Team - Bridge Discrepancy Resolution Report

You are logged in as [FRANK J LARSON](#)
[Back](#)
[Help](#)


MOON ISLAND / LONG ISLAND BRIDGE

[Home](#)

Physical Characteristics of this bridge

Bridge No: 180
Owner: MASSACHUSETTS
Location: LONG ISLAND BRIDGE
Location: MASSACHUSETTS
Date when completed: 1950
Bridge Type: HIGHWAY
Bridge Class: 2
Latitude: 42-18-43.900N
Channel Clearance Aft: 51 ft.
Permit Assent: No
Reg Signal: No
Per Lights: 4

Auxiliary Division: 08
Miles above town: 0
Use: HIGHWAY
Longitude: 070-56-47.300W
Channel Horizontal Clearance: 150 ft.
Tidegate: No
Light: Yes
Aid Lights: 0



State: MA
Regulator Agency: No
General Channel Light: 2
Mileage Sign Light: 0

Owner: CITY OF BOSTON
Report Branch: No
Marginal Channel Light: 4
Predefined Channel Light: 0

Notes/Regulations and special rules apply to this bridge. The regulations can be found in [33CFR171](#).

Marine Facilities located along the bridge:
Western Way passage under the bridge makes it one of the most used bridges in Boston Harbor for commercial VMTA ferries and recreational boat traffic.

Original Discrepancy	Resolution Narrative
<p>Per Light: Out of phase. The per light on the Long Island, County side is out of phase and the per light on the Moon Island, Boston side is also out of phase.</p> <p>Reporting Member: FRANK J LARSON Date of Obs.: 2/4/2011</p> <p style="font-size: x-small;">Telephone: 617-265-3322 Time: 1645 (2010M)</p>	<div style="border: 1px solid gray; height: 40px; width: 100%;"></div> <p style="font-size: x-small; text-align: right;">Email Address: frankj@wilton.net Division: 10 Profile: 07</p> <p style="text-align: center; font-size: x-small;">Submit Discrepancy Resolution Report</p>
<p>Per Light: Out of phase. Center channel lights and the margin channel lights were not working properly. Three of the four per lights were out of phase. Will dispatch another OPFAC to check these lights at night.</p> <p>Reporting Member: FRANK J LARSON Date of Obs.: 2/4/2011</p> <p style="font-size: x-small;">Telephone: 617-265-3322 Time: 1645 (2010M)</p>	<div style="border: 1px solid gray; height: 40px; width: 100%;"></div> <p style="font-size: x-small; text-align: right;">Email Address: frankj@wilton.net Division: 10 Profile: 07</p> <p style="text-align: center; font-size: x-small;">Submit Discrepancy Resolution Report</p>

Bridge discrepancy resolution reports should be filed within 24 hours of the observation. Enter a time narrative describing the observation that all former discrepancies are now resolved. Any observed lighting discrepancies must be observed at the right location, and the time of observation must be entered.

Internet | Protected Mode: On

- The key for this screen is the crossed tools icon.
- Pre-reported discrepancies are listed individually on this report.
- You can remove each individual discrepancy one at a time.
- If you observe additional discrepancies, report them using the (2) Bridge Discrepancy Report.
- Review each previously reported discrepancy (Pre-existing problems) from the list on this report before adding additional discrepancy reports.
- Each time you confirm the correction of the discrepancy, it is reported to the Bridge Branch as corrected.
- This screen appears on the key option check blocks only when a pre-reported discrepancy exists on the bridge.

33 CODE OF FEDERAL REGULATIONS – BRIDGES

Keep a copy of these regulations aboard your OPFAC. The **bold** print indicates information of particular interest to the USCG Auxiliary Bridge Surveying Mission.

The intent of Congress in the enactment of the bridge statutes was to retain exclusive jurisdiction for such matters where the structures are built in and over navigable waters of the United States. The statutes are intended to maintain freedom of navigation on these waters and prevent the impairment of these waters as navigable streams.

It is the duty and responsibility of the Coast Guard, under authority delegated to the Commandant, to preserve the public right of navigation. Bridges are considered as obstructions to navigation and are permitted only as long as they serve the needs of land transportation

While the public right of navigation is paramount to land transportation, it is not absolute and may be diminished to benefit land transportation, provided the reasonable needs of navigation are not impaired. Federal approval for the construction, maintenance, and operation of bridges must consider the impact on the human environment as well as the freedom of navigation.

It is for this reason that most of the bridge questions and matters received from the public for the bridge to open for taller vessels rather than building a bridge high enough for these vessels to pass unimpeded underneath a span. Coordination and consultation with agencies and individuals who have stake in all such matters is desired at the earliest possible time whenever any bridge modification and constructions are contemplated.

Federal authorization of moveable span bridges does not constitute permission to further restrict or obstruct navigation. It simply authorized meeting the needs of navigation in a way that usually provides lower construction costs but required interruptions to land traffic and continuing operation costs that are not usually associated with a fixed bridge.

Since 1967, federal responsibility for the location, construction, operation, modification, and removal of bridges over navigable waters has been assigned to the United States Coast Guard. Regulations concerning these matters are contained in Subchapter J of Title 33, Code of Federal Regulations.

Part 114 – General

Part 115 – Bridge Locations and Clearances.

Part 116 – Alteration of Obstruction Bridges.

Part 117 – Drawbridge Regulations.

Part 118 – Lighting of Bridges.

These regulations have the force of law. While information in this guide is derived from or supplements of regulations, the reader is cautioned that this guide is general in nature and discusses material that is subject to change. When any problems or concerns come to your attention, they should be reported to the District Bridge Branch for clarification.

The General Accounting Office—GAO—has, on several occasions, stated that increased attention is needed to insure that bridges do not create navigational hazards. Often, the only way

that the District Bridge Staff can become aware of a bridge problem or violation is through reports from the Auxiliary.

Due to budget cuts over the years, regular annual inspection reports for bridges were eliminated. Today inspections and reports are made by exception or when a discrepancy is observed. **Therefore, the Auxiliary is encouraged to report bridge discrepancies in a timely manner.**

Much of the bridge administration functions are performed by the Bridge Staff in New York. These include navigability determinations, permit review, issuance or denial, construction and repair approvals and issuance of supporting documents, approving temporary or permanent changes to moveable span bridge operating regulations, approval of lighting plans, management of bridge civil penalty program, investigation and modification of obstructive bridges, and removal of abandoned bridges where necessary.

Under the bridge acts, the Coast Guard has the authority to approve the clearances required for navigation through and under bridges. It is understood that this authority extends to and may be exercised in connection with the construction, alteration, operation, maintenance, and removal of bridges, and includes the power to authorize the temporary restriction of passage through or under a bridge by the use of false work, piling, floating equipment, closure of draws, or any works or activities which temporarily reduce the navigational clearance and design flood flows, including closure of any or all spans of the bridge.

In addition, under the Ports and Waterways Safety Act of 1972, the Coast Guard through the **COTP/MSOs** exercise broad powers in waterways to control vessel traffic in areas determined to be especially hazardous, and to establish safety zones or other measures for limited controls or conditional access and activity when necessary to prevent damage to or the destruction or loss of any vessel, bridge, or other structure. In this regard, it is necessary for the Bridge Branch to work closely with individual Safety Officers as concerns are identified, and to ensure that the Bridge Branch's construction condition letters reflect any special COTP/MSO concerns and requirements. The establishment and enforcement of any safety zones remain the responsibility of the local COTP/MSO. However, it should be noted that often a contract will request the Coast Guard to implement a safety zone as a means of minimizing their expense or to provide additional control. All requests for such a safety zone in conjunction with bridge construction should be discussed with the Bridge Branch.

In order to enhance marine safety and foster timely notification of moveable span problems, mariners and bridge owners have been advised to report the problems to the nearest Coast Guard MSO, Group, or Station Operation Center by radio or telephone where possible. This action will expedite corrective action and will document and commence investigation of complaints. It may also initiate a non-scheduled Safety Broadcast to Mariners.

Definitions

Drawbridge or moveable span are general terms, which includes the bascule, swing, vertical lift, rolling lift, retractable, and other types of bridges that are intended to be opened for the passage of waterway traffic.

Closed means that a drawbridge or moveable span bridge is in the position where it can be crossed by land traffic but blocks vessels that require the draw to open for passage.

Drawbridge Regulations

Signals

Vessels and moveable span bridges may use either sound or visual signals to communicate with each other. In addition, if both are so equipped, radiotelephone communications may be used. Radiotelephone and sound signals are the recommended methods for signaling.

Sound signals are made by whistle, horn, megaphone, hailer, or other device capable of producing the prescribed signals.

A **prolonged blast** is 4 to 6 seconds in duration.

A **short blast** is about one second in duration.

Visual signals are made by flags or lights.

Mariners and bridge owners are reminded that the ability to hear sound signals can be affected by wind velocity, direction, and weather conditions. This means that all parties must remain alert for approaching and transiting boating traffic.

Vessel Signals:

Each vessel is required to request an opening of a draw, or passage through an already opened draw, by:

- Sounding one prolonged blast followed (within three seconds) by one short blast; or
- Vertically raising and lowering a white flag; or
- Vertically raising and lowering a white flag, amber, or green light.
- Radiotelephone communications with bridges so equipped.
- Be aware that sound signals may differ when two or three bridges are in close proximity on a waterway.

During scheduled closure periods, a vessel, for which the moveable span is required to open (**e.g. a public vessel of the U.S. or a vessel in distress**), identifies its special status and requests the draw opening by sounding five or more short blasts in rapid succession. There is no

corresponding visual signal for this situation. Vessels, which use this signal, are legally liable for civil penalties. When radio contact has been made with a bridge, a Coast Guard vessel on other than routine patrol (*blue light operations*) should advise the draw tender that this is a priority or demand opening. Any failure to grant such a request should be promptly reported to the Bridge Branch and consideration is given to preparing a report of violation.

Bridge Signals:

If the draw cannot be opened immediately, the bridge must respond within thirty seconds to any of the above vessel signals with:

- One prolonged blast followed by one short blast; or
- A red flag or red light swung back and forth horizontally in full sight of the vessel; or
- A fixed or flashing red light or lights.
- Radiotelephone response.

These signals must be repeated until acknowledged in some manner by the requesting vessel.

A bridge should not be closed on an approaching vessel. *However, mariners must always transit a bridge with caution and be alert for such an operation just in case the vessel has not been seen or that the signals were misunderstood.*

NOTE – The signals used to control vehicle traffic across a bridge roadway are not part of this process and should not be reported.

Signaling an Open Bridge:

33 CFR 117.21 – Each vessel is required to signal. If not acknowledged in ten seconds, a vessel may proceed with caution.

Requirements

A Drawbridge must:

1. Open promptly and fully for vessel passage upon request except when special regulations are listed in Subpart B of 33 CFR 117.
 - Bridges authorized to operate under special regulations are required to post signs on both sides of the bridge which are of sufficient size and be so located as to be easily read at any time by approaching vessels.
 - The regulation signs must summarize the regulations, and if advance notice is required to open the draw, the signs shall state the name, address, and telephone number of the person(s) to be notified. 33 CFR 117.56
 - Failure of the bridge owner to comply with the regulations makes them liable to a civil penalty of \$1,000 per violation per day.
 - A civil penalty of \$1,000 may be assessed against the owner, operator, or tender of a drawbridge for refusing to open the draw or for unreasonably delaying the opening.

A \$1,000 civil penalty may be assessed against a vessel owner or operator for unnecessarily requesting a drawbridge opening.

Criminal penalties of not more than \$2,000 nor less than \$1,000 fine or imprisonment for up to one year are authorized for persons convicted of willfully failing or refusing to cause the opening of a drawbridge.

Mariners aware of a drawbridge not properly manned, posted, or lighted are requested to notify, in writing, the Commander (OBR).

When the Coast Guard receives a report of a delay or bridge problem, a chronological Bridge Report should be filled out listing the information reported. *Accuracy of information cannot be over-emphasized.*

This report and subsequent information supporting investigations of regulation violations are included.

Violation reports are prepared by the local commands and are forwarded to the Bridge Branch for review and disposition.

2. Install and operate a radiotelephone when specifically requested or required by the Coast Guard. **33 CFR 117.23**
 - Bridges equipped with radiotelephones are required to post signs indicating both the calling and working frequencies. Signals can be written or illustrated on standard telephone signs.
 - Radiotelephone communications may be used and are encouraged to enhance safe navigation and to minimize delays to both marine and vehicular traffic.
 - However, if the radiotelephone contact cannot be initiated or maintained, sound or visual signals shall be used.
3. Be staffed with the necessary draw tenders for safe and prompt opening of the draw. **33 CFR 117.7(b) (1)**
4. Be operated at sufficient intervals to insure their satisfactory operation. **33 CFR 117.7 (b) (3).**
5. Properly acknowledge vessel signals for bridge opening. **33 CFR 117-15**
6. Take all reasonable measures to have the draw closed for the passage of an emergency vehicle if informed by a reliable source that such vehicle is due to cross the draw. **33 CFR 117.31**
7. Promptly acknowledge repair and maintenance work affecting the operation of the draw. **33 CFR 117.35**
8. Display approved, legible clearance gauges. **33 CFR 117.47**

A drawbridge may:

1. Close during periods of natural disasters or civil disorder declared by an appropriate authority with coordination and concurrence of the Coast Guard. The point of contact for approval is the Bridge Branch. **33 CFR 117.33**
2. Deviate from normal procedures when required for scheduled repair or maintenance work if authorized by the Coast Guard. *Thirty days advance notice is normally required. Authorized closures are published in the Weekly Notice to Mariners. The Bridge Branch prepares the notices.*
3. When a bridge is rendered inoperable because of damage to the structure or for vital unscheduled repairs, notice is given immediately to the Coast Guard Group / MSO / COTP. Repairs are to be performed on a 24 hour, 7-day weekly basis in order to return the draw to operation as soon as possible.

Closures of this nature are reported by Broadcast Notice to Mariners issued by the receiving unit or appropriate command in the reporting chain.
4. The Coast Guard authorizes bridge closures for reasons of Public Health or Safety, or for functions such as parades, races, and regattas. *Thirty-day advanced notice is normally required. The point of contact in all cases is the Bridge Branch, 33 CFR 117.37*
5. Request authority to remain closed and untended due to infrequent vessel use. The point of contact is the Bridge Branch, **33 CFR 117.39.**
6. Be maintained in the fully opened position with draw tender service discontinued if the Coast Guard District Commander is notified in advance. The point of contact is the Bridge Branch. **33 CFR 117.41.**

The bridge owner is still required to maintain all lights and fender systems.
7. By special regulations, be authorized to not open for vessels during certain times to facilitate vehicular traffic. Such request are evaluated and processed by the Bridge Branch.
8. Open for vessels during periods that the regulations say that the bridge need not open. No advanced approval is required.

Bridge Construction Warning Markers

During construction or major repair of bridges, the vertical and horizontal clearances of bridges normally have to be reduced to facilitate the installation of scaffolding, nets, etc. Information regarding these reductions is published in the Coast Guard District Local Notice to Mariners.

All bridge information and notices appear in a special section of these weekly publication. Additional warning markers are often located at a bridge construction or repair site.

Hurricanes

Federal regulation authorizes drawbridges to remain closed during a natural disaster such as a hurricane unless the Coast Guard specifically directs otherwise. The regulations do not permit closing in anticipation of a disaster without prior Coast Guard approval.

Authorities desiring to temporarily cease or restrict drawbridge openings to facilitate evacuation of land traffic before the arrival of a hurricane must obtain authorization from the Commander (OBR). Call between 0730 and 1600, Monday through Friday. At all other times, call the Coast Guard Duty Officer.

The duty officer will relay the request and furnish a response as quickly as possible.

Temporary bridge closures are approved on a case-by-case basis and only if the operation of the bridge impedes evacuation. Specific regulations may exist for certain bridges, which require opening on signal during periods of storm warning or alert.

High winds may make a drawbridge inoperable or subject to damage. Drawbridges are required to be capable of operation at normal ranges of wind, temperature, and weather conditions encountered in their location. Request to close drawbridges at specific wind speeds less than sixty knots/MPH to prevent damage will be considered by the Coast Guard.

Such requests should be accompanied with an engineering analysis showing the maximum wind that the bridge could be expected to experience without damage while in an opened position.

Closure of a bridge because of high winds should be reported to the Coast Guard immediately.

The Bridge owner is required to show the corrective action being taken to permit the bridge to operate at all normal conditions

Special Regulations

In the absence of specific regulations specifying otherwise, a drawbridge is required to open promptly on signal. Anyone may request that the Coast Guard establish regulations that would change the manner in which the draw is operated. Normally, these requests are initiated by the bridge owners, highway departments, waterway users, or other concerned organizations.

The Coast Guard will consider all requests received but requires that the originator coordinate with the bridge owners and thoroughly justify the request by providing evidence or data showing that the change is desirable or beneficial to one or more modes of traffic, or that traffic patterns have changed sufficiently to warrant such a change, and that the change is not unreasonably restrictive to marine traffic.

Normally, considerable statistical data is required to support a request for a change. Three years of bridge logs, two weeks vehicle traffic counts, and a site visit are included. However, mariners requests for less restrictive regulations are forwarded directly to the Bridge Branch and do not go to the bridge owner. The Coast Guard will contact the bridge owner as appropriate.

In considering requests for changes to drawbridge regulations, the Coast Guard attempts to ensure that such rules are in the public interest. The primary public interest considered is the assuring that bridges do not constitute or become unreasonable obstructions to waterway traffic. Regulations which will in any way limit the operation of the drawbridge to the detriment of waterway traffic will not be described unless there are clearly demonstrated offsetting benefits to land traffic across the bridge. When such is demonstrated and considered as reasonable to navigation, the Coast Guard will initiate a formal process to change the regulations. It should be noted that the Coast Guard Authorization Act of 1988 amended **33 CFR 499** by adding the following statement, *“Any rules and regulations made in pursuance of this section shall, to the extent practicable and feasible, provide for regularly scheduled openings of drawbridges*

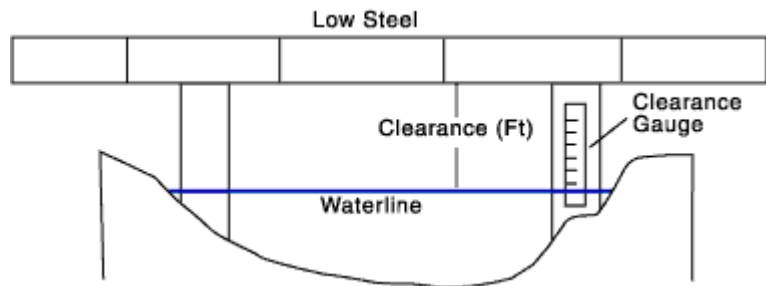
during seasons of the year, during times of the day, when scheduled openings would help reduce motor vehicle traffic delays and congestion on roads and highways linked by drawbridges.”

This indicates the increased concern placed on land traffic. However, the needs of navigation and the justification for restrictive operation still have to be clearly shown. This may mean that the Bridge Branch may have to do an economic analysis or prepare supporting environmental documentation.

A “**Notice of Proposed Rulemaking**” is published in the Federal Register, which formally advises the public of proposed changes, explains the reasons for the change, and invites public comment. To gather additional public comment, a similarly worded Public Notice is distributed to interested persons. After reviewing all comments, the Coast Guard can decide to issue the proposal as a final rule. Sometimes the rule may be slightly changed because of the comments received. The Coast Guard may also decide to revise or withdraw the proposal. Public hearings are held if necessary or appropriate. Notice of Final Rule making are published in the Federal Register and Local Notice to Mariners with a specified effective date.

Clearance Gauges

The bridge owner is required to provide clearance gauges on the upstream and downstream side of the bridge to advise mariners of the actual available vertical clearance from the water’s level to the low steel of the bridge.



This measurement is usually taken at the edge of the fender system.

This is the height at MHW that is reported on a nautical chart.

Bridges with a haunch (curved arch) provide additional clearance at the high points of the haunch and may have signs that identify this additional clearance.

Bridge clearance information, horizontal and vertical at high and low water, is published in the Coast Guard publication called, “Bridges Over Navigable Waters.”

Requirement for Knowledge of Vessel Height

All mariners, both power and sail, are responsible for knowing the actual vertical clearance of their vessels, and are responsible for checking the clearance gauges at movable bridges before requesting an opening.

A vessel’s required vertical clearance is measured from the waterline to the highest structural member excluding appurtenances unessential to navigation.

Lowering of Appurtances Unessential for Navigation 33CFR 117.11

No vessel or operator shall signal a drawbridge to open for any non-structural vessel appurtance which is not essential to navigation, or which is easily lowered. Whoever violates this rule shall be liable to civil penalty of not more than \$1,000. Appurtances considered not essential for navigation include but are not limited to:

- Radio antennas.
- Television antennas.
- LORAN antennas.
- Collapsible bimini tops.
- Booms.
- Flag masts.
- False stacks.
- Fishing outriggers.

Not included in this category are:

- Fixed flying bridges.
- Sailboat masts.
- Pile drive leads.
- RADARs

This regulation is designed to:

- Eliminate the majority of unnecessary openings.
- Reduce wear on the bridge.
- Provide improved road traffic flow in resort areas while conserving fuel.
- Reduce the possibility of vessel collisions while awaiting a bridge opening.

The Coast Guard, in response to a complaint from a bridge owner, will inspect any vessel in question. If it is found that the vessel could pass under the bridge or bridges in the closed position by lowering the appurtances unessential to navigation, the owner may be issued a letter of warning by the CG District, a civil penalty, or be given a reasonable time to make the necessary modifications to the vessel in question.

33 CFR - PART 118—BRIDGE LIGHTING AND OTHER SIGNALS

118.1.1 General Requirements

All persons owning or operating bridges over the navigable waters of the United States or any International bridge constructed after March 23, 1906, shall maintain the lights and other signals required by this part at their own expense.

118.1.2 Incorporation by reference.

This section requires that the signs and equipment used on the bridge must meet the standards and specifications as set up by the Federal Government. The Federal Register publishes a table, “**Material Approved for Incorporation by Reference.**” All approved material is on file at the Office of the Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, DC 20593-0001 and also at the U.S. Coast Guard Headquarters, Office of Bridge Administration, room 3500, 2100 Second Street, SW., Washington, DC 20593-0001.

118.5.1 Penalty for failure to maintain.

Any person required to maintain lights and other signals upon any bridge or abutment over or in the navigable waters of the United States who fails or refuses to maintain such lights or other signals, or to obey any of the lawful rules and regulations relating to the same is subject to a penalty as provided in 14 U.S.C. 85.

118-10 Interference or obstruction prohibited.

No person shall obstruct or interfere with any lights or signals maintained on accordance with the regulations prescribed in this part.

118.15 Penalty for interference or obstruction.

Any person violating the provision of 118.10 shall be deemed guilty of a misdemeanor and be subject to a fine not exceeding \$500 for each offense. *Each day during which such violation shall continue shall be considered a new offense.*

118.30 Obtaining information

Persons desiring information concerning the marking of bridges shall address their inquiry to the District Commander having jurisdiction over the area concerned, or to the Commandant.

118.25 Application procedure

Approval of lights and other required signals shall be obtained, prior to the construction, from the District Commander of the area in which the structure will be situated. Applications shall be by letter accompanied by duplicate sets of drawings showing: a) plan and elevation of the structure showing lights and signals proposed, and, b) small scale vicinity chart showing the proposed bridge and all other bridges within 1,000 feet above or below the proposed bridge.

118.30 Action by the Coast Guard

a) The District Commander receiving the application will review it and approve the lights and other signals proposed, or mark on the drawings, the lights or other signals required, and in the

case of lights, cite the applicable section of the chapter which prescribes the lights required for the particular type bridge.

b) Upon approval, one set of drawings will be returned to the applicant with the notation “navigational lights and/or other signals approved as shown,” date, name and title of the District Commander.

118.40 Modifications of requirements.

(a) *The District Commander may modify the requirement for the display of lights and other signals on any bridge when a change in local conditions warrants the modifications.*

(b) *The District Commander may exempt bridges over waterways with no significant nighttime navigation from lighting or other signal requirements in this part.*

(c) The District Commander may prescribe special lighting or other signals in specific cases when the lighting or other signals in this part may not provide adequately for the safe passage of vessels.

(d) *While a bridge is under construction, the District Commander prescribes temporary lights and other signals to be displayed for the protection of navigation.*

118.45 Lighting for the protection of aerial navigation.

The owner of a bridge which constitutes a hazard to aerial navigation should maintain, in addition to the lights prescribed in this part, such lights as may be prescribed by the Administrator, FAA - Federal Aviation Administration.

118.50 Inspection

Lights and other signals required or authorized under this part are subject to inspection at any time by Coast Guard personnel or authorized agents.

118.55 Periods of operation

(a) *Lights shall be displayed from sunset to sunrise and at other times when the visibility is less than a mile.*

(b) *Operators shall not be required to exhibit the prescribed lights during seasons when vessels are unable to navigate near the bridge.*

(c) The operation of signals other than lights shall be as prescribed by the District Commander. Each case shall be considered individually.

118.60 Characteristics of lights.

All lights required or authorized under this part must be:

- *Securely attached to the structure.*
- *Of sufficient candlepower as to be visible against the background lighting at a distance of at least 2,000 yards on 90% of the nights of the year.*
- Meet the requirements of this part.
- Lights must be fixed lights excepting as provided in 118.95. 118.10. and 118.150 of this part.

- *Colors specifications are not prescribed for bridge lights*, however, the chromaticity standards for navigation lights in 33 CFR Part 84—Annex I are recommended.

118.65 Lights on fixed bridges.

(a) Each fixed bridge span over a navigable channel shall be lighted:

- *So that the center of the navigable channel under each span will be marked by a range of two green lights.*
 - *The green lights shall each show a horizontal arc of 360 degrees.*
 - *The green lights shall be mounted just below the outermost edge of the bridge span structure so that it is visible from an approaching vessel.*
- *Each margin of each navigable channel will be marked with a red light, provided:*
 - That when a margin of a channel is limited by a pier, only those lights prescribed in paragraph (b).
 - Pier Lights of this section shall be required to mark such channel margin.
 - *Each red light shall show through a horizontal arc of 180 degrees.*
 - *Each red light shall be securely mounted just below the outermost edge of the bridge span structure to show 90 degrees on either side of a line parallel to the axis of the channel to be visible from an approaching vessel.*

Note: Until such time that major repairs to or replacements of existing fixed span navigation lights colored green are made, it is permitted that only one of these lights marking the centerline of the same channel under a span shall be visible to an approaching vessel. When major repairs to or replacement of such existing green lights are made, they shall conform to this paragraph.

(b) Pier Lights. When the navigable channel extends from pier to pier, or when piers are located within the navigable channel:

- *Each end of such piers shall be lighted with a red light.*
- *Each red light shall show through a horizontal arc of 180 degrees.*
- *Each red light shall be securely fastened at the end of the pier as low as practicable but not lower than two feet above navigable high water.*
- *Each red light will show 90 degrees on either side of a line parallel to the axis of the channel to be visible to an approaching vessel.*

c. Main Channel. When necessary, the District Commander may prescribe that fixed bridges having two or more spans over a navigable channel shall have the main channel span marked with:

- *A set of three white lights arranged in a vertical line directly above each green light on the main channel spans.*
- *Each white light shall show through a horizontal arc of 180 degrees.*
- *Shall be mounted so that one-half of the horizontal arcs will show on either side of a line parallel to the axis of the channel.*
- *Shall be securely mounted on the bridge structure and spaced as nearly fifteen feet apart as the structure will permit with a minimum spacing of seven feet.*
- *The lowest white light in the line of three lights shall be placed not less than ten or more than fifteen feet above each green light on the main channel span.*

118.70 Lights on swing bridges.

a. Swing span lights on through bridges.

Each swing span of every through swing bridge:

- *Shall be lighted with three lanterns,*
- *So that when viewed from an approaching vessel, the swing span when closed, will display three red lights on top of the span structure, one light at each end of the span at the same level and one light at the center of the span no less than ten feet above the other two lights.*
- *When open for navigation, will display three green lights on top of the span structure in a line parallel to and directly above the long axis of the span, one at each end of the span at the same level, and one at the center of the span no less than 10 feet above the other two lights.*
- *Each lantern shall show through alternate red and green arcs of sixty degrees, the axis of adjacent arcs to be 90 degrees from each other.*
- *Each lantern shall be securely mounted with the axis of the green lights arcs parallel to the long axis of the swing span.*

b. Swing span lights on deck and half through bridges.

Each swing span of every deck, half through girder, or similar type Swing Bridge shall be lighted with four lanterns:

- *When closed, when viewed from an approaching vessel, will display one red light at each end.*

- *When open, when viewed from an approaching vessel, will display one green light at each end.*
- *Each lantern will show through one red and two green horizontal arcs of sixty degrees each.*
- *The axis of each green arc shall be ninety degrees from the axis of the red arc.*
- *Each lantern shall be securely mounted at the floor level of the span as near to the side of the span as practicable with the axis of the red light normal to the long side axis of the swing span and so that the red light will be visible from an approaching vessel when the span is closed.*

c. Pier Lights.

Every swing bridge shall be lighted so that each end of the piers adjacent to the navigable channel (draw piers) or each end of their protection piers (draw pier protection piers) and each end of the piers protecting the pivot pier (pivot protection pier) will be marked with a red light.

- *Each of these red lights shall show through an arc of 180 degrees.*
- *Shall be mounted as low as practicable below the floor level of the swing span to show 90 degrees on either side of a line parallel to the axis of the channel to be visible from an approaching vessel.*

d. Axis lights.

Every swing bridge shall be lighted so that the intersection of the bridge axis with each side of the pivot pier and the channel side of each draw, which has a protection pier, will be marked by a red light.

- *Provided that, if the draw and draw protection piers are straight along their channel faces, axis lights shall not be required.*
- *Each axis light shall show through a horizontal arc of 180 degrees.*
- *Each axis light shall be mounted as low as practicable on the navigable channel face of the pier below the floor level of the swing span to show 90 degrees either side of a line normal to the axis of the navigable channel to be visible from an approaching vessel.*

e. Omission of lights.

Where the navigable channel passes on only one side of a pivot pier of any swing span, the District Commander may authorize the omissions of lighting of the unused channel.

118.75 Lights on single-opening drawbridges.

a. Bridges in this class.

Bridges of the folding, pontoon, and similar type single opening drawbridges are included in this class.

b. Draw span lights.

Each draw span of every single opening drawbridge shall be lighted with two lanterns so that when viewed from an approaching vessel, the draw span:

- *When closed, bridge will display two red lights, one at each end of the span.*
- *When open, to navigation will display two green lights, one at each end of the span.*
- *Each lantern shall show alternate red and green horizontal arcs of 60 degrees each, the axis of adjacent arcs to be located 90 degrees from each other.*
- *Each lantern shall be securely mounted 15 feet above the roadway with the axis of the green arcs parallel to the long axis of the swing span.*

c. Pier or abutment lights.

Every swing bridge shall be lighted so that the end of the pier, abutment, or fixed portion of the bridge adjacent to the navigable channel through the draw, or each end of the protection piers for such piers, abutments, or fixed portion of the bridge shall be marked with a red light.

- *Each red light shall show through an arc of 180 degrees.*
- *Each red light shall be securely mounted on the pier, abutment, or fixed portion of the bridge as low as practicable to show 90 degrees on either side of a line parallel to the axis of the channel so as to be visible from an approaching vessel.*

118.80 Lights on bascule bridges.

a. Lift span lights. (Moveable Span)

Each lift span of every bascule bridge shall be lighted so that the free end of the span will be marked on each side with a green light which show only when the span is fully open for the passage of a vessel and by a red light which shows for all other positions of the lift span.

- *Each red and each green light shall show through a horizontal arc of 180 degrees.*
- *The lighting apparatus shall be securely mounted to the side of the span so that the light will show equally on either side of a line parallel to the axis of the channel so that they will be visible from an approaching vessel.*

b. Multiple parallel lift span lights.

The outermost side of each outer span of every bascule bridge with parallels multiple lift spans shall be lighted as prescribed in paragraph (a) of this section.

- *These lights shall be controlled so that the green lights shall be displayed only when all spans are open for navigation. The inner sides of each outer lift span and both side of each inner lift span of such bascule bridge shall be lighted with red lights for all positions of the lift span.*
- *These lights shall have the same arcs of illumination and shall be mounted as described in paragraph (a) of this section.*

c. Pier Lights.

Every bascule bridge shall be lighted so that each end of every pier, or protection pier where provided, in or adjacent to the navigable channel under the lift span or spans will be marked with a red light.

- *Each red light shall show through a horizontal arc of 180 degrees.*
- *Each red light shall be securely mounted as low as practicable on the end of the pier, or protection pier, to show 90 degrees on either side of a line parallel to the axis of the navigable channel to be visible from an approaching vessel.*

d. Axis lights.

Every bascule bridge, which has at least one pier provided with a protection pier, shall be lighted so that the intersection of the long axis of the lift span with the channel side of each pier, or protection pier, will be marked with a red light.

- *If all such piers and protection piers are straight along their channel faces, these lights shall not be required.*
- *Each red light shall show through a horizontal arc of 180 degrees.*
- *Each red light shall be securely mounted on the navigable channel face of the pier as low as practicable to show 90 degrees on either side of a line normal to the axis of the navigable channel so that it is visible from an approaching vessel.*

118.85 Lights on vertical lift bridges.

a. Lift span lights.

- *The vertical lift span of every vertical lift bridge shall be lighted.*
- *So that the center of the navigable channel under the span will be marked by a range of two green lights when the vertical lift span is open for navigation.*
- *And, by one red light on each side for all other positions of the lift span.*
- *The green lights shall show through a horizontal arc of 360 degrees.*
- *The green lights shall be securely mounted jut below the outermost edge of the bridge span structure so as to be visible to show 90 degree on either side of the lift span of the line parallel to the axis of the channel so that only one such light will be visible from an approaching vessel.*

b. Pier lights.

Every vertical lift shall be lighted so that each end of every pier in or adjacent to navigable channels under the lift span, or each end of every protection pier when provided, will be marked by a red light.

- *Each light shall show through a horizontal arc of 180 degrees.*

- *Each light shall be securely mounted as low as practicable on the end of the pier, or the protection pier, to show a 90-degree on either side of a line parallel to the axis of the navigable channel to be visible from an approaching vessel.*

c. Axis lights.

Every lift bridge which has at least one pier provided with a protection pier shall be lighted so that the intersection of the lift span axis with the channel side of each pier adjacent to the navigable channel will be marked by a red light.

- *If every such pier, or protection pier, is straight along its channel face, these lights will not be required.*
- *Each light shall show through a horizontal arc of 180 degrees.*
- *Each light shall be securely mounted on the navigable channel face of the pier as low as practicable to show 90 degrees on either side of a line normal to the axis of the navigable channel to be visible from an approaching vessel.*

118.90 Bridges crossing channel obliquely—at an angle.

Bridges crossing a body of water at an angle, other than 90 degrees with the axis of the channel, shall be lighted in accordance with the regulations in this part with such modifications as are necessary in each particular case.

118.95 Lights on structures not part of a bridge or approach structure.

Lights on sheer booms, isolated piers, obstructions, and other structures not part of a bridge or approach structure must meet the requirements for aids to navigation in Subpart 66.01 of Part 66 of this chapter.

118.100 Retroreflective panels on bridge piers.

The District Commander may require or authorize the display of high intensity red or green retro reflective panels when the District Commander finds it necessary.

- a. To better identify a hazardous pier.
- b. To provide a backup for red pier lights, red channel margin lights, and green mid-channel lights, which are subject to vandalism or otherwise difficult to properly maintain.
 - If the District Commander determines that nominal nighttime visibility required is less than one-half mile, the panels must be at least six inches square.
 - If the visibility required is more than one-half mile, the panels must be at least 12 inches square.
- c. To mark bridge piers or channel sides on bridges not required to have bridge lighting.5
 - Lateral significant red triangles and green square retroreflective panels shall be used

- The panels shall be at least 36 square inches in area to provide a nominal nighttime visibility distance of at least one-half mile.

118.110 Daymarks and lateral lighting on bridges.

The District Commander may require or authorize the marking of the margins of navigation channels through bridges with U.S. aids to navigation system marks and lights installed on the superstructure or on channel piers

- The District Commander may also require or authorize the use of quick flashing, flashing, isophase or occulting red and green lights to mark the main channel.

If lateral system lights are required or authorized to mark the main navigation channels, fixed yellow lights shall be used to mark the adjacent piers and the centerline of the channel shall be marked with the standard lateral safe water mark and occulting white marks, instead of the lights prescribed in 118.65.

The District Commander may require or authorize the marking of the centerline of the navigational channel draw span of floating drawbridges with a special mark, diamond in shape, yellow in color and with high intensity retroreflective material border.

- The District Commander may require to authorize the mark to exhibit a flashing yellow light Morse Code “B” characteristic. The mark may not be visible when the draw span is in the open position.

118.200 RADAR reflectors and RACONS.

The District Commander may require or authorize the installation of radar reflectors and RACONS on bridge structures on bridge structures, stakes, or buoys.

- Radar reflectors are used to mark the locations of the edge of the navigational channel or bridge channel piers.
- RACONS are used to mark the centerline of the channel.
- *RACONS on bridges are normally authorized as a PATON – Private Aid to Navigation.*

118.130 Fog signals.

On the waterways where visibility is frequently reduced due to fog or other causes, the District Commander may require or authorize the installation of one or more fog signals to warn the navigation of the presence of the bridge.

- The fog signals must conform to the installation and sound frequencies provision to **Subpart 67.10 of part 67** of this chapter.
- If more than one fog signal is installed on a bridge or in the vicinity, their characteristic must be different to distinguish each signal.
- The fog signals must be directional to the fullest extent possible to minimize adverse impact on local residents.

- *Fog Signals on bridges are normally authorized as a PATON – Private Aid to Navigation.*

118.140 Painting bridge piers.

The District Commander may require painting the sides of bridge channel piers below the superstructure facing traffic white or yellow when they are significantly darkened by weathering or other causes so as to be poorly visible against a dark background.

118.150 Traveler platforms.

The District Commander may require under deck traveler platforms which may significantly reduce the vertical clearance when operated over navigational channels at night to be lighted with quick flashing red lights on each four lower corners.

118.160 Vertical clearance gauges.

When necessary for reasons of safety to navigation, the District Commander may require or authorize the installation of clearance gauges.

Except as specified in 117.47(b) of this chapter for certain drawbridges, clearance gauges must meet the requirements of this section.

Clearance gauges must indicate the vertical distance between “low steel” of the bridge’s channel span and the level of water, measured to the bottom of the footmarks, read from top to bottom.

- *Each gauge must be installed on the end of the right channel pier or pier protection structure facing approaching vessels and extend to a reasonable height above high water so as be meaningful to the viewer.*
- *Other or additional locations may be prescribed by the District Commander if particular conditions or circumstances warrant.*

Construction.

Each gauge must be permanently fixed to the bridge pier or pier protection structure and made of durable material of sufficient strength to provide resistance to weather, tide and current.

Gauges may be painted directly on the bridge channel pier or pier protection structure if the surface is suitable and had sufficient width to accommodate the foot marks (graduations) and numerals.

Numerals.

1. *Each gauge must be marked by black numerals and footmarks in a white background.*

- *Paint, if used, must be of good exterior quality, resistant to excessive chalking or bleeding.*
- *Manufactured numerals and background material may be used.*

2. *The size, type, and spacing of numerals must conform to the Standard Alphabets for Highway Signs and the following table. The nominal day visibility distance is the distance at which the clearance information needs to be ascertained by approaching vessel operators.*

- *The District Commander determines this distance for each bridge.*

<u>Visibility (ft.)</u>	<u>Height</u>	<u>Type Space</u>
<i>Less than 500</i>	<i>12</i>	<i>Ser C 2</i>
<i>700 to 750</i>	<i>18</i>	<i>Ser C 2</i>
<i>750 to 1,000</i>	<i>24</i>	<i>Ser D 5</i>
<i>1,000 to 2,000</i>	<i>30</i>	<i>Ser E 5</i>
<i>More than 2,000</i>	<i>36</i>	<i>Ser E 10</i>

3. *The length of the foot marks must be no less than the width of a single numeral used (except numerals 1 and 4), be the same thickness as the width of stroke of the numeral, and extend to the nearest margin of the white background.*

- *Footmarks must be spaced every foot for nominal day visibility of less than 500 feet.*
- *Footmarks must be spaced every foot for nominal day visibility of more than 500 feet but less than 1,000 feet.*
- *Footmarks must be spaced every five feet for nominal day visibility of more than 1,000 feet.*

4. *Intermediate footmarks may be used when more precise determination of actual clearance is necessary. Such intermediate footmarks must have a width of stroke one-half the width of the stroke required for the numeral and shall be three-quarters as long as the primary foot marks.*

5. *The horizontal distance between the numeral and nearest edge of the white background shall be no less than one-half the width of a single numeral (excepting numerals 1 and 4).*

6. *The minimum width of the white background shall be no less than three times the width of a single numeral (excepting numerals 1 and 4) plus the width of each additional numeral (when multiple numerals are used plus numeral spacing).*

e. Maintenance.

The owner or operator of the bridge shall maintain each gauge in good repair and legible condition. The bridge owner or operator is responsible for the accuracy of the gauge and shall re-measure the vertical distance of the numerals and footmarks below the “low steel” of the bridge whenever the gauge is repainted or the structure is repaired.

Section 85 – Aids to Maritime Navigation; penalty.

“The Secretary shall prescribe and enforce necessary and reasonable rules and necessary, for the protection of marine navigation, relative to the establishment, maintenance and operation of lights and other signals on fixed and floating structures in or over waters subject to the jurisdiction of the United States. Any owner or operator of such a structure, excluding an agency of the United States, who violates any of the rules or regulations prescribed hereunder,

commits a misdemeanor and shall be punished, upon conviction thereof, by a fine not exceeding \$100 for each day which such violation continue.

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Handling direct contacts from Bridge Authorities or Bridge Owners.

The best course of action for handling any correspondence or conversation from a bridge owner is to direct the information to the DSO-NS 013 at once who will forward a copy of the owner's correspondence(e-mails) to the Coast Guard Bridge Branch as soon as it is received. This can be handled in a few different ways:

1. Forward any e-mails directly to the DSO-NS 013.
2. Document conversations as a discrepancy report on the Bridge Reporting System. Include the name of the contact in the report and the number where they can be reached by the Bridge Branch. This report will be screened by the DSO-NS 013 who will insure that the proper Coast Guard person is notified. Your report puts an alert message on the DSO's computer.
3. If an emergency situation exists, contact the local Coast Guard Station and advise them of the problem. Speak to the OD. Always follow up with an on-line discrepancy report on the Bridge Reporting System. Include the contact information for the owner or authority and the date and time, and name of the person contacted when the report was given to the Coast Guard.

As AVs, we act as a local conduit for information concerning local bridges in order to keep the Bridge Branch informed of any problems. We have no direct way of knowing whether the Bridge Branch is aware of the problem so we must always make the report.

Unless we are specifically directed by the bridge branch, once reported, we should stand back and let them handle the situation. It is also correct to pass on additional information that we learn about the bridge. It is the Bridge Branch's option to use this information.

Never allow a bridge owner to think that the Auxiliary is the controlling office. We are only local observers of the bridge working at the discretion of the Coast Guard Bridge Branch. Once the Auxiliary makes a report or provides a progress report, it is the Bridge Branch's responsibility to follow up.

The Auxiliary may keep the Bridge Branch staff alerted for any local newspaper article, local correspondence, or periodic construction reports and/or photos concerning bridges to keep the Bridge Branch informed of any progress or changes.

It is usually not a problem with asking the bridge tender a question during normal bridge surveys. However, you should never leave the impression that you are the Coast Guard.

The Auxiliary is only authorized to survey the bridge lights, regulation signs, clearance gauges and identify and report any problems associated with protective structure(s) and wales. **As Auxiliaries, we are not trained or qualified to assess the structure of the bridge supports and spans.**

As an Auxiliarist, do not speak to the Bridge Authorities or owners unless specifically requested to do so by the Bridge Branch. The Bridge Branch's staff must make the follow up

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with these organizations, not the Auxiliary. *We should never confuse this rule.* If Bridge Authorities or owners do contact us refer them to the Coast Guard Bridge Branch through the DSO-NS 013 as indicated above.

It is good practice, after a reasonable period of time, to perform another survey of the bridge's safety and protective equipment to determine whether any corrections have been made. If you observe the discrepancy is corrected, the new Bridge Reporting System has a way for reporting this correction information so that it removes the discrepancy message (red highlight) from the bridge's record. This report is always transmitted to the Bridge Branch. There is no need for contact with the bridge tender at this time. *Also, it is desirable to report either full or partial completions of a previously reported discrepancy.*