

# **HDD Wire Guided Waterway Crossing ATON Plan**

## **Monongahela River (S121)**

### *Mariner East Phase 2 Pipeline Project*

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PROPOSED ATON SIGNAGE

**Sunoco Pipeline, L.P. HDD Wire Guided Waterway Crossing ATON Plan**  
**Mariner East Phase 2 Pipeline Project**  
*November 14, 2016*

## **1.0 INTRODUCTION**

Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project (Project or PPP) that would expand existing pipeline systems to provide natural gas liquid (NGL) transportation. The Project involves the installation of two parallel pipelines within an approximately 306.8-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania to SPLP's Marcus Hook facility in Delaware County, Pennsylvania with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline will be installed within the ROW from Houston to Marcus Hook (306.8 miles) and a second, 16-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, Pennsylvania to the Marcus Hook facility, paralleling the initial line for approximately 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system.

As part of the work, several water crossings are required. Horizontal directional drilling (HDD) is proposed to install the pipeline segments underneath the waterways being crossed. To direct the drilling a 4 – 6 gauge (direct current) or 10 -14 gauge (alternating current) coated wire is placed at ground surface (beneath the water surface). The wire conducts an electrical current producing a magnetic field that the drill steering tube can reference to direct the position of the drill bit as it drills a boring under the ground surface.

The primary purpose of this ATON plan is to insure the safety of recreational boaters who may attempt to travel through or near an area impacted by this construction project. The waterway crossing has been determined to have a potential impact on recreational boating by the Pennsylvania Fish and Boat Commission (PFBC). As required for potentially impacted waterways, this Aid to Navigation (ATON) Plan has been prepared to address the specific equipment to be used in the waterway during the drilling, restrictions placed on boating during the conduct of the work, and navigational aids to be used to communicate hazards and restrictions to boating during the conduct of the work.

## **2.0 PROJECT SPECIFIC FEATURES**

The following sections outline specific features of the waterway crossing for the Monongahela River (S121).

### **2.1 WATERWAY CROSSING LOCATION**

The waterway of concern for this crossing is the Monongahela River (stream identification S121) a perennial drainage located in Allegheny County near the township of Courtney. The latitude and longitude of the crossing, respectively, are 40.229963, -79.970864. The river width being crossed is approximately 782 feet. Figure 1 presents a site location map of the waterway crossing and surrounding area. Figures 2 and 3 present a close up of a quadrangle map and an aerial photograph of the crossing for the two pipelines.

### **2.2 SCOPE OF WORK**

Signs and buoys, as required for the crossing, will be setup as described in Section 2.4 of this plan. A permit application for floating structures referred to as PFBC-277 "Application to Install Floating Structure(s) or Private Aids to Navigation" will be submitted at least 60 days prior to the installation of such item. The waterway was identified by the PFBC as a

shared jurisdictional waterway with the U.S. Coast Guard (USCG) and will require the acquisition of a USCG PATON permit or waiver prior to commencing work.

Prior to drilling underneath the waterway the wire guidance system is setup from the HDD staging areas on either side of the waterway. The procedure for installing the wire guidance system will include the following:

- Wire spools will be delivered to the site at the HDD entry side. Several smaller coils may be used and spliced together in the field to create the loop.
- The wire will be hand laid on top of the ground and stream bed and spliced together along the HDD path using a small crew of workers. Splices that will end up in the waterway will be made on land prior to installing the cable or in the work boat as the cable is being placed in the waterway. A small boat will be used to lay the cable across the waterway. At this time no special anchoring is anticipated to be required. If the cable needs to be anchored small weights (5 pounds) will be placed on the cable to immobilize it.
- The centerline wire is surveyed by a surveyor in a small boat using typical hand held field survey equipment to verify its position. Small floating buoys may be attached to the wire to aid in the surveying of its location.
- After the HDD is complete, the wires will be removed from the waterway by utilizing the work boat.

One HDD will be constructed at this location. To accommodate the drill, a centerline wire will be run directly over the intended boring location. A return loop will be laid in the water and offset from the centerline wire by approximately 40 feet. Two wires will be in the water at any one time for the drill location. Figures 2 and 3 present the wire locations.

Passage of recreational boaters will be accommodated during the drilling operation. During initial placement, repositioning of the centerline and loop wires, and removal of the wires, passage in the river may be temporarily and briefly impacted. However, a safe channel for recreational traffic will be provided to direct traffic away from the active work zone.

### **2.3 ESTIMATED DATES OF CONSTRUCTION**

The work is anticipated to begin during January 2017. The approximate dates of the work at this location will be sent to the PFBC when it is more clearly known.

### **2.4 DESCRIPTION OF ATON PLAN**

The Monongahela River appears to be utilized by both by motorized and non-powered craft and is 782 feet in width along the centerline of the pipeline crossing. Based on this, land based signs in combination with buoys are proposed for the crossing. The signs will include the following:

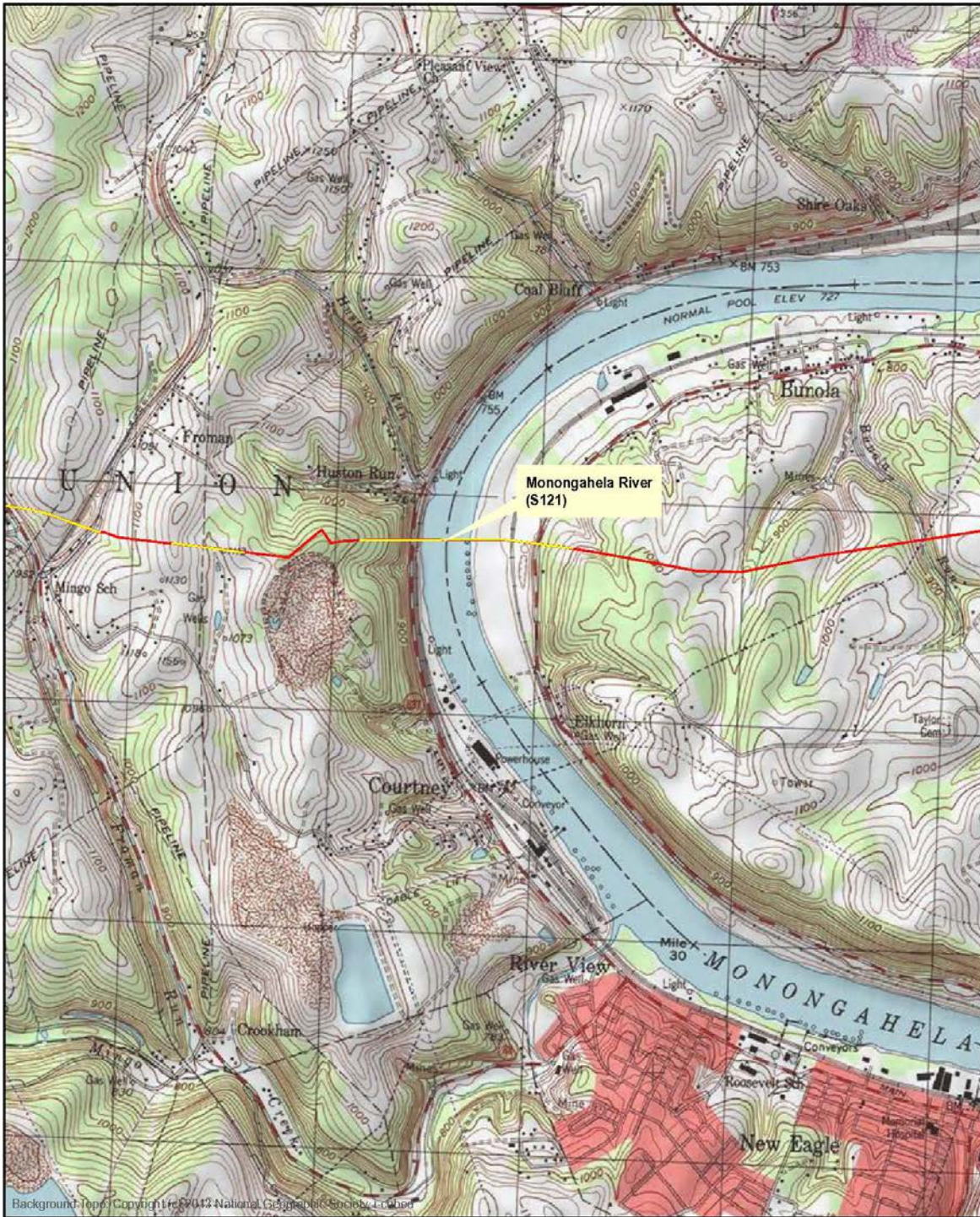
- Four construction warning signs, two of each located on each river bank at least 200 feet above and below the work zone, respectively;
- Two construction warning buoys, two of each located at least 400 feet above and below the work zone, respectively, to the side of the main channel near the center of the river; and

- Two safe channel marker buoys located 200 feet above and below the work zone, respectively, to be positioned above the work zone in the safe channel location. Once the cables are set and drilling has commenced the safe channel marker buoys will be removed from the waterway until the cables require repositioning or removal.

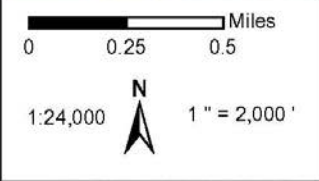
Figures 2 and 3 present the location of the signage, buoys and work boat for the project. The work boat(s) will primarily be trasversing the river over the cable locations with the exception of the placement of the buoys. The buoys will be standard nine foot inland regulatory buoys. The buoys will be white in color with and include standard symbols identifying the nature of the message in orange, with the message in black lettering. No channel or lighted buoys are proposed. The Appendix presents the proposed signage and buoy details.

## FIGURES






Background: Topo Copyright © 2012 National Geographic Society, Limited



**Legend**

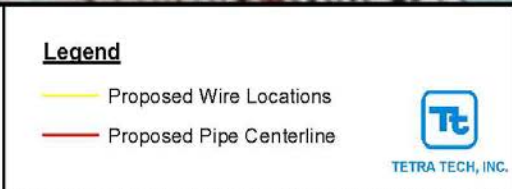
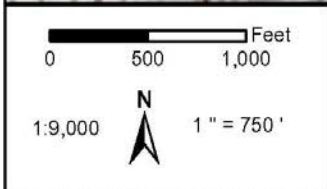
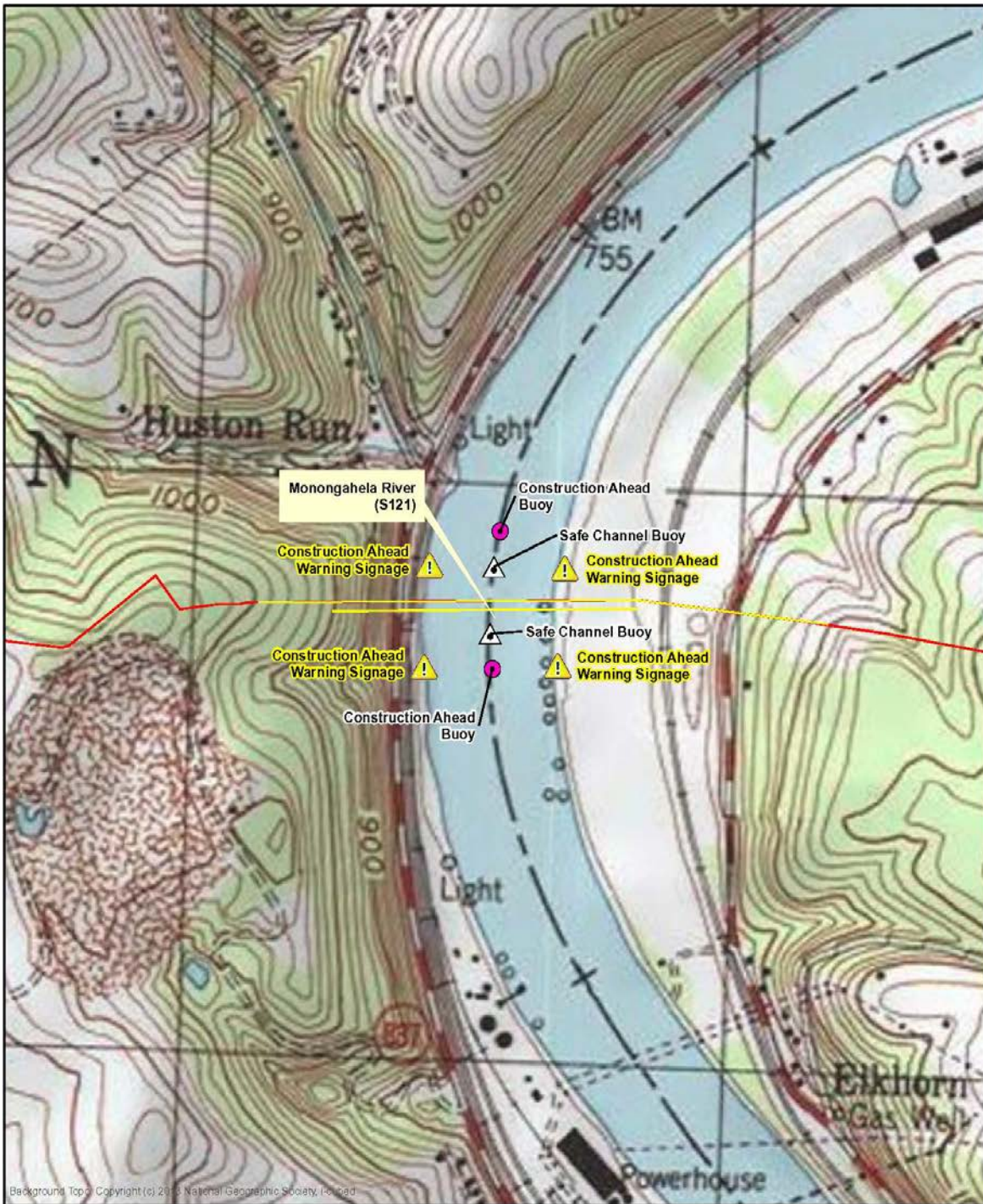
- Proposed HDD Segment
- Proposed Pipe Centerline



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**FIGURE 1**  
**MONONGAHELA RIVER (S121)**  
 ATON Plan  
 Sunoco Mariner East Phase 2

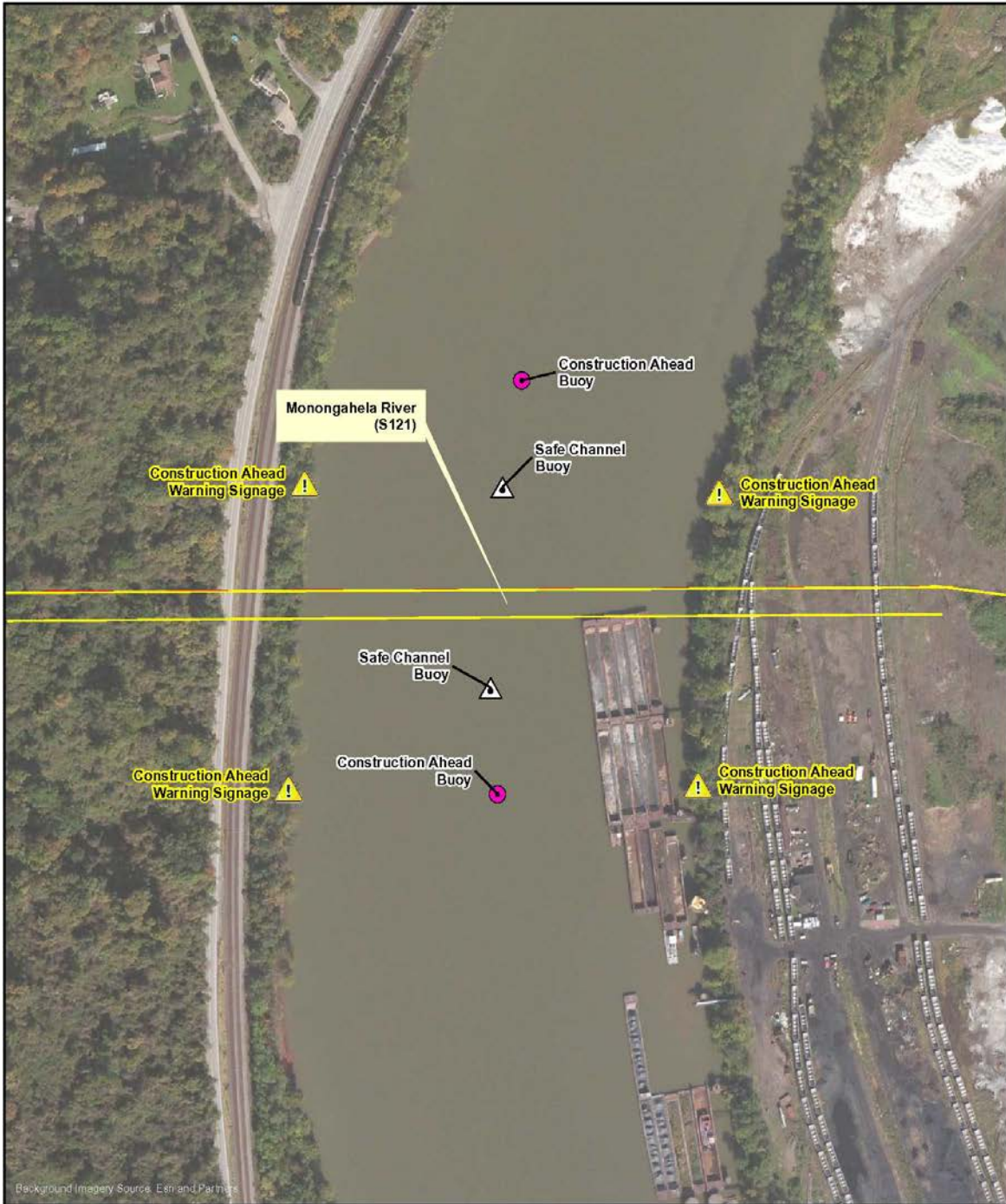




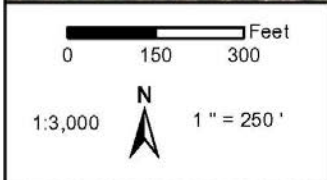
**FIGURE 2**  
**MONONGAHELA RIVER**  
**(S121)**

ATON Plan  
Sunoco Mariner East Phase 2





Background Imagery Source: Esri and Partners



**Legend**

— Proposed Wire Locations



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**FIGURE 3**  
**MONONGAHELA RIVER**  
**(S121)**

ATON Plan  
 Sunoco Mariner East Phase 2

# **APPENDIX**

## **Proposed ATON Signage**

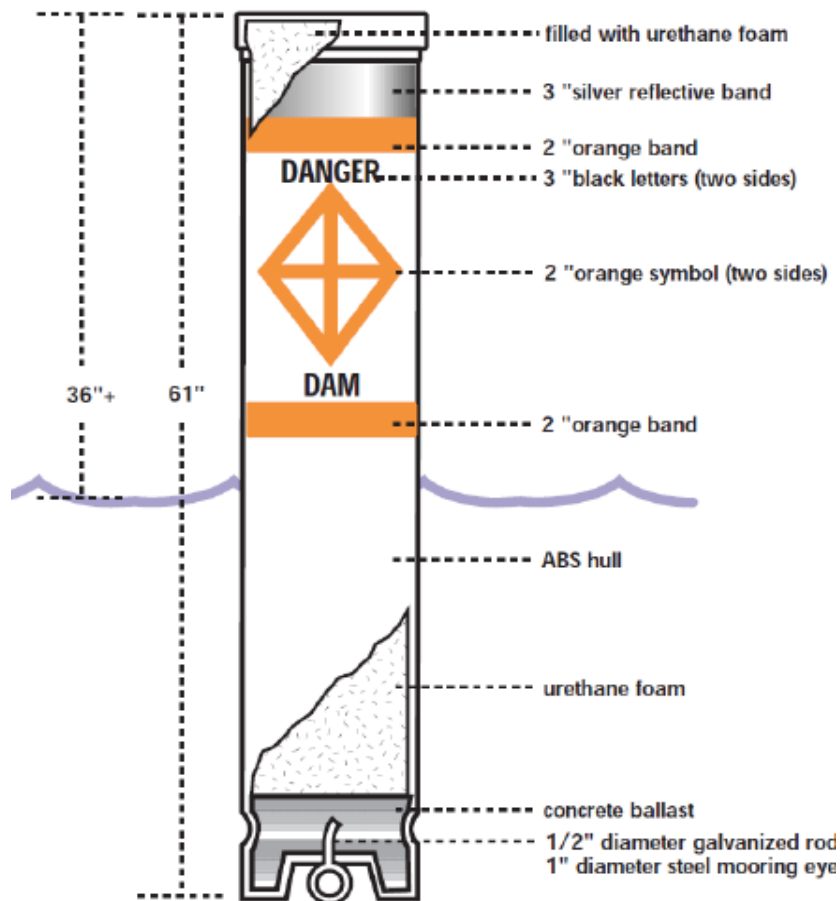
|





**CHANNEL LEFT**

Channel informational marking for buoy located above work area during cable installation, repositioning, and removal. Directional arrow will reflect current channel preference. Drawing is excerpted from PFBC ATON Guidance Document.



Buoy typical excerpted from PFBC ATON Guidance Document. Buoy markings will be "Warning – Construction Area Ahead Use Extreme Caution" or similar.