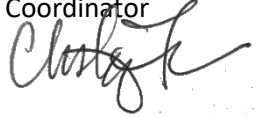




MEMORANDUM FOR: FILE

FROM: Christy Fellas, DWH Environmental Compliance Coordinator
NOAA Restoration Center, Southeast Region 

DATE: July 10, 2019

SUBJECT: No Additional ESA or EFH Consultation Needed for Design Refinements
to the Big Island Living Shoreline Component, Phase IV Early
Restoration, Mississippi

Based on my review of project materials including design updates (see attached) and in coordination with representatives from NOAA's Protected Resource Division and Habitat Conservation Division in the South East Regional Office, the NOAA Restoration Center determined that design updates do not require re-initiation of consultation with NOAA.

The inner breakwater is likely to be built with a pre-fabricated wave attenuation device. While the device has openings on the side, it also has a sufficient opening on the top and therefore is not likely to entrap any protected species (see attachment for drawings).

Project elements have been refined within the previously considered action area and will not result in any discernible changes to the effects of the project to designated Essential Fish Habitat or species protected under the Endangered Species Act. The EFH and ESA consultations were concluded in 2015 and 2016 and can be found in the DWH administrative record. All BMPs and minimization measures in these consultations remain in effect for implementation.

Restoring Living Shorelines and Reefs in Mississippi Estuaries

Big Island Living Shoreline Component

June 26, 2019

Memo to: Christy Fellas, NOAA Restoration Center, Deepwater Horizon NRDA Program
Erin Chandler, Environmental Compliance Coordinator, Deepwater Horizon Gulf Restoration Office, USFWS
David Felder, Mississippi Field Office, USFWS

The Restoring Living Shorelines and Reefs in Mississippi Estuaries project includes the restoration of secondary productivity through the placement of intertidal and subtidal reefs and the use of living shoreline techniques to reduce shoreline erosion. The project was proposed, evaluated and selected in the *Deepwater Horizon Oil Spill: Final Phase IV Early Restoration Plan and Environmental Assessments* (DOI 2015) referred to hereafter as the Phase IV RP/EA. As the designated Mississippi State Trustee under the Oil Pollution Act, the Mississippi Department of Environmental Quality (MDEQ) is responsible for implementing this project. Eight components were originally identified in the RP/EA as part of the project; three have been eliminated and five components are now in the permitting phase. The project goal is to restore secondary productivity and reduce shoreline erosion.

ESA consultations for the Big Island Living Shoreline were previously coordinated with NOAA NMFS (SER-2015-16961) and USFWS (2015-I-793) in 2015 and 2016. EFH consultations were coordinated with NOAA NMFS in 2015. Geotechnical and bathymetric studies and subsequent engineering design has been conducted for the project.

The project is moving into the permitting phase, and a pre-application meeting will soon be scheduled with the USACE, MDMR and your agency representatives. The following is provided as a brief summary of the relevant refinements to the project design since your agency's review. For the purposes of your review, Table 1 summarizes the engineering design and compares the current design to the data previously presented in the 2015 and 2016 Final Biological Evaluations. The Conceptual Project Design that was analyzed in the 2015 Biological Evaluation is shown in Figure 1 and the design analyzed in the 2016 Biological Evaluation is shown in Figure 2. The project location area is depicted in Figure 3, and the design developed in the Final Basis of Design Report is depicted in Figures 4-7. The current design includes the

construction of two breakwaters instead of one: an outer breakwater constructed of riprap with crest elevation at mean higher high water to reduce wave energy, and an inner breakwater constructed of riprap, Wave Attenuation Devices (WADs), OysterBreaks or other comparable engineered structures/materials as approved by the permitting agencies, with a crest elevation at mean lower low water to provide additional wave attenuation and to maximize secondary productivity benefits. Please note that the latest design does not affect the total project footprint (3.5 acres) or the project location, and has eliminated the flotation channels originally proposed in the 2015 consultation.

We do not anticipate that the current design refinements would change your EFH and ESA findings, and are requesting confirmation by email that your agency's project concurrence remains in effect.

Table 1. Big Island Living Shoreline-Design Refinements post ESA and EFH consultation

Project Element	Parameters	2015 BE	2016 BE	Current Design	
				Outer breakwater	Inner breakwater
Breakwater	Length	Up to 5,011 linear feet of breakwater and 5,060 linear feet of temporary flotation channel	Up to 5,011 linear feet of breakwater	5,200 feet	2,800 feet
	Base Width	30 ft.	30 ft.	Approximately 30 ft. depending on contour	Approximately 20 ft. depending on contour
	Crest width	Not specified	Not specified	4 ft.	4 ft.
	Footprint	3.5 acres	3.5 acres	3 acres	0.5 acres
	Construction materials	Approved manufactured and/or natural materials	Approved manufactured and/or natural materials	Riprap	OysterBreaks, WADS; riprap or other comparable engineered structures/materials as approved by the permitting agencies
	Volume of materials	11,275 cubic yards	11,275 cubic yards	Approx. 9,500 cubic yards	Approx.1,900 cubic yards
	Substrate	Unconsolidated soft bottom and mud	Unconsolidated soft bottom and mud	Unconsolidated soft bottom and mud	Unconsolidated soft bottom and mud
	Water depth	0 – 6 feet MLLW	No greater than 15 feet MLLW	-2.5 to -3.5 MLLW	-1.5 to -2.5 MLLW

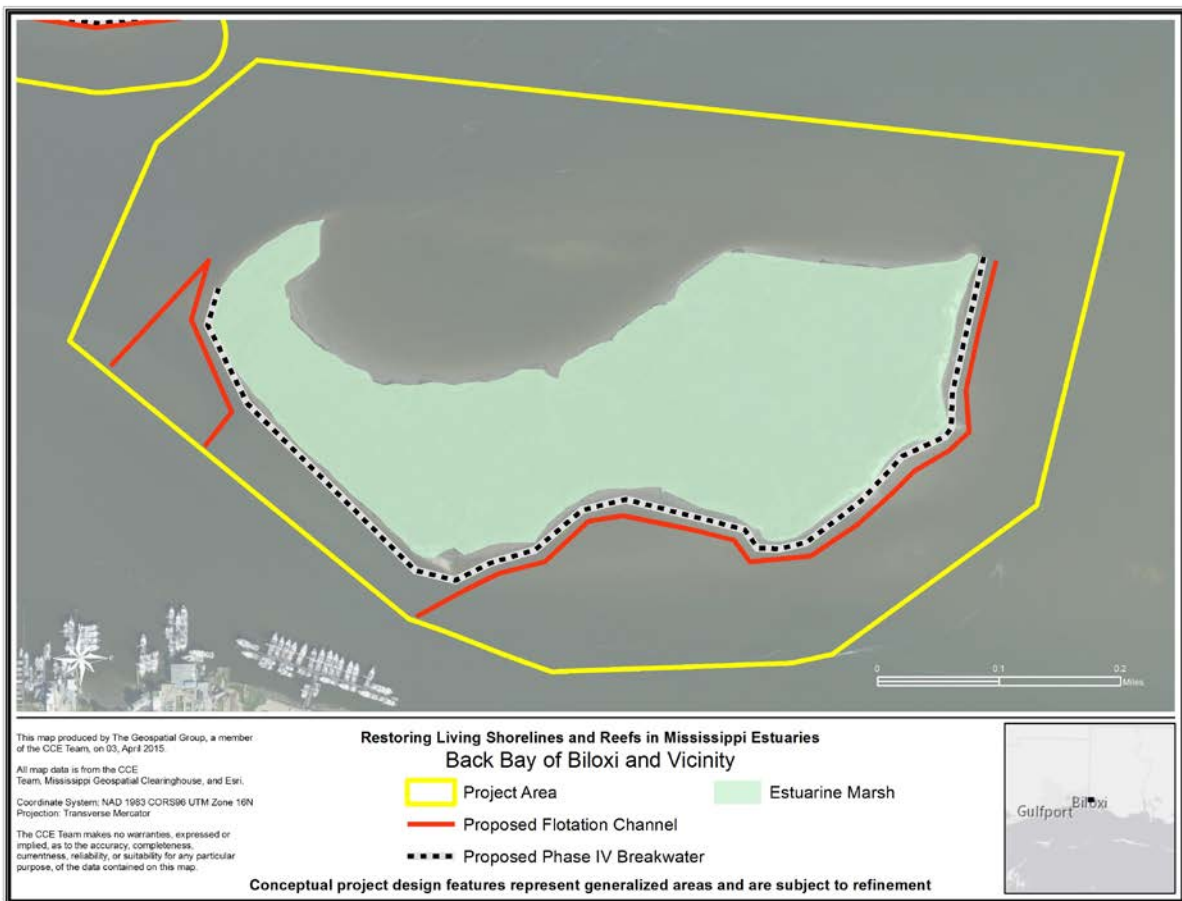


Figure 1: Conceptual project design proposed in the 2015 Final Biological Evaluation, Proposed Big Island Living Shoreline



Figure 2: Conceptual project design proposed in the 2016 Final Biological Evaluation

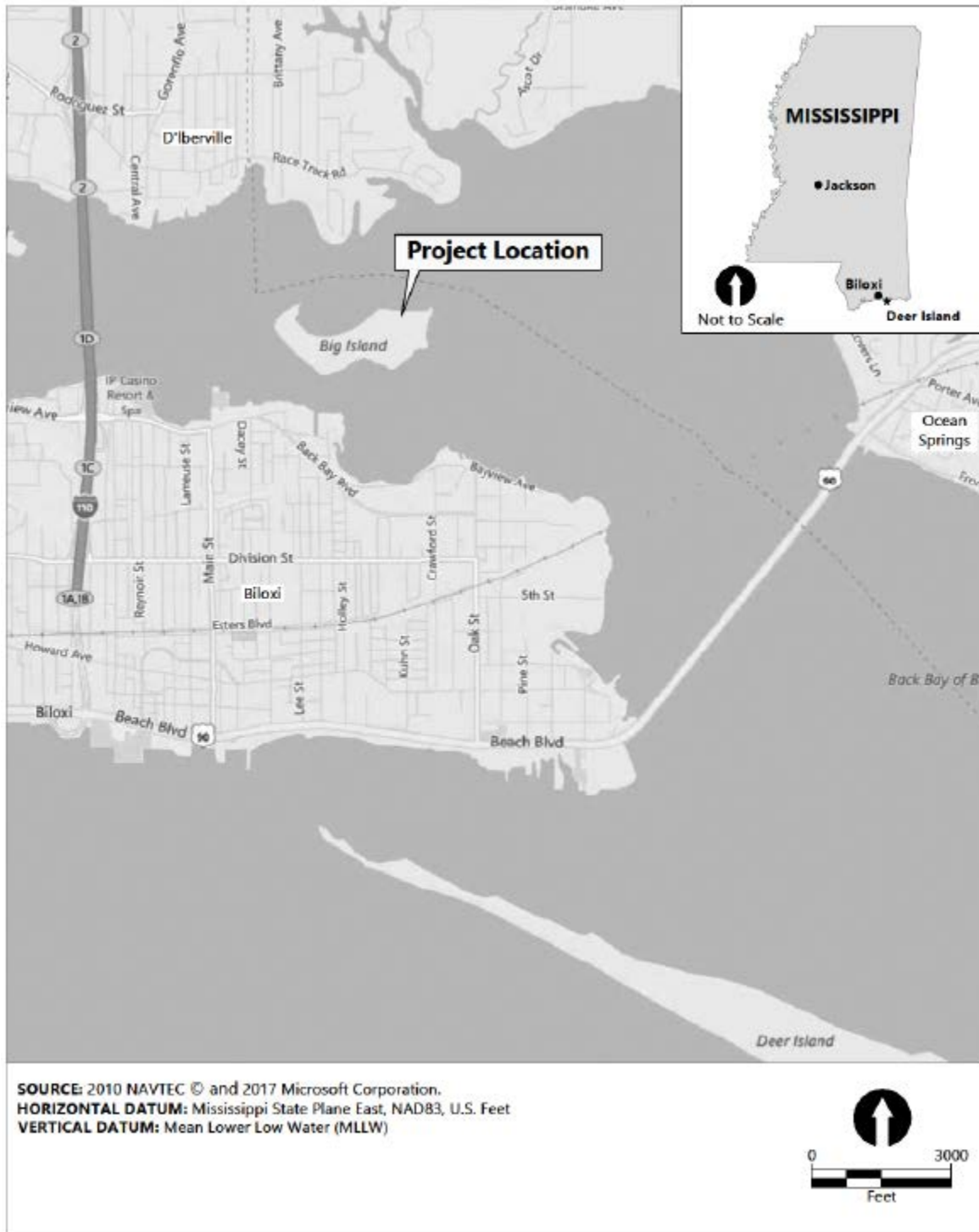


Figure 3: Current Big Island Project Location

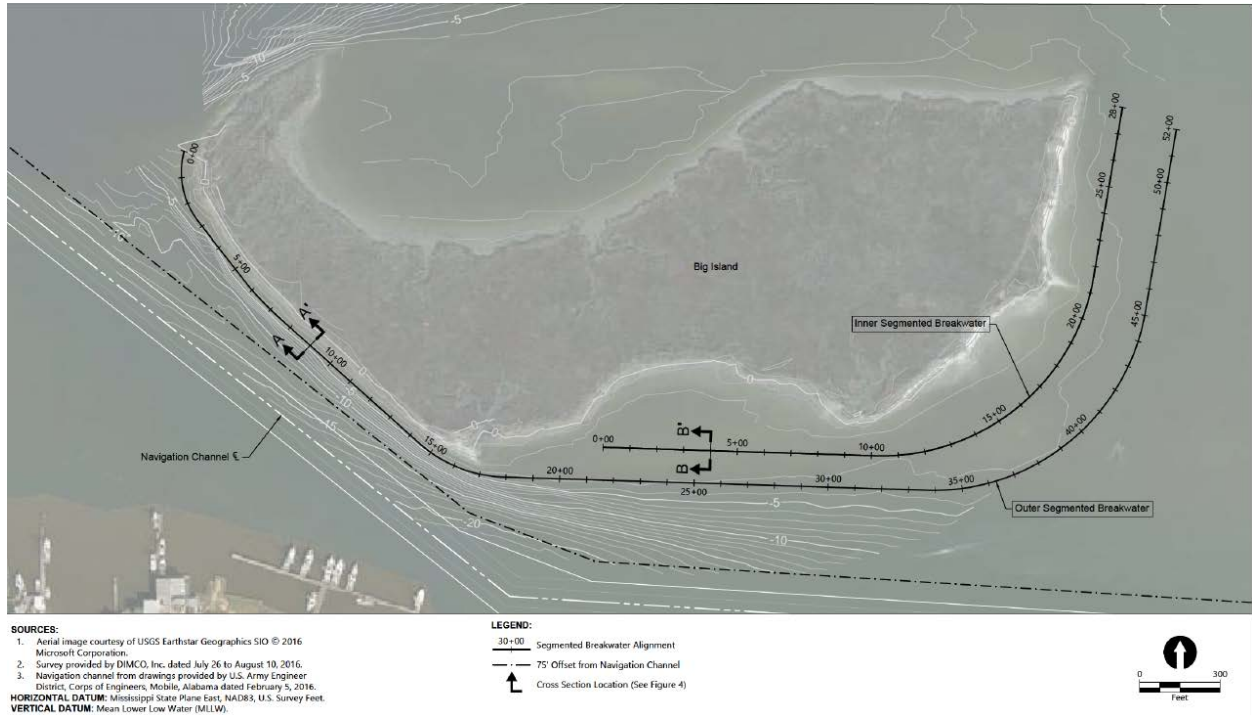
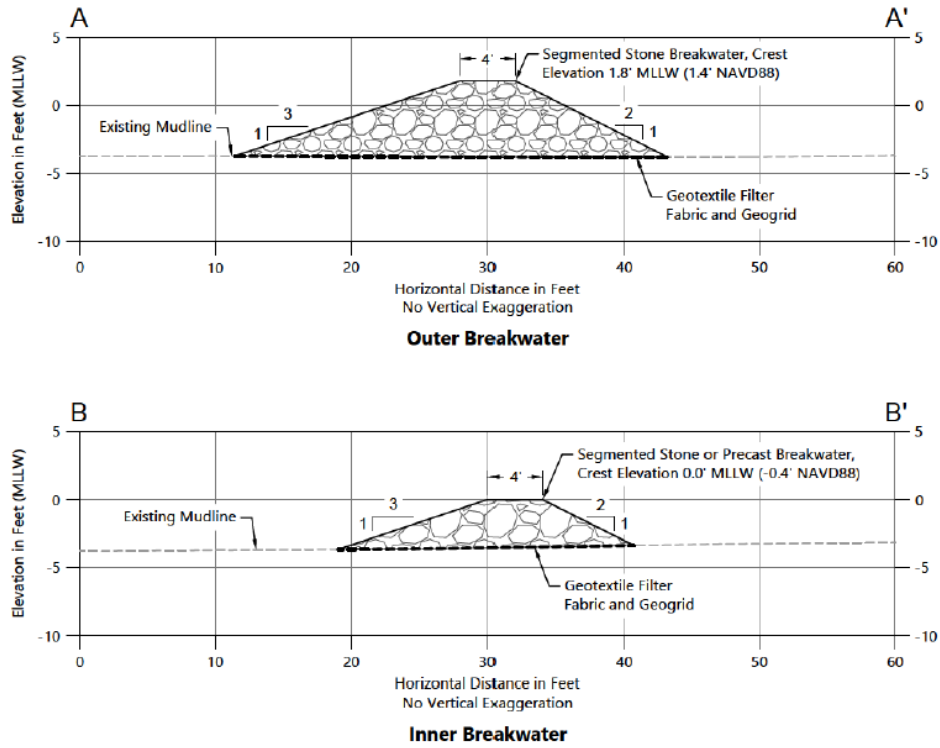


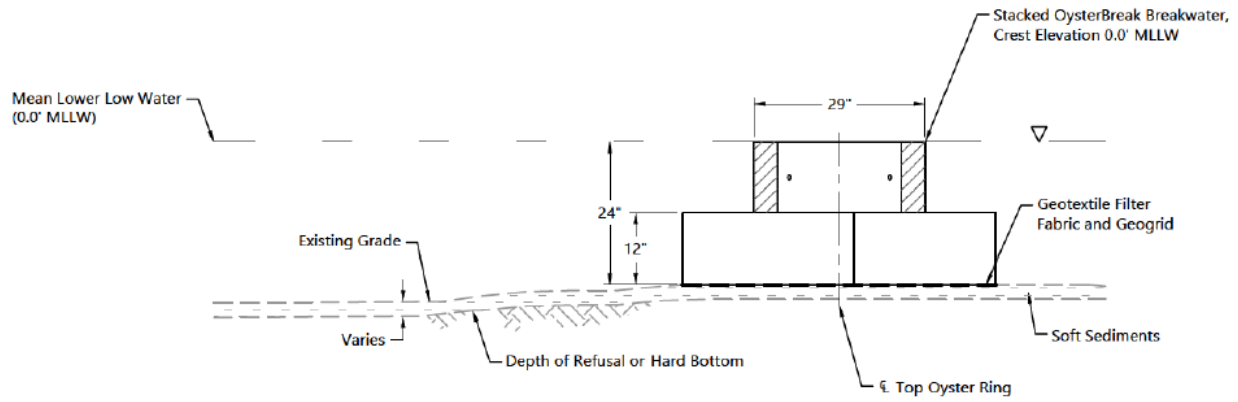
Figure 4: Current Design Big Island Living Shoreline in Plan View



NOTES:

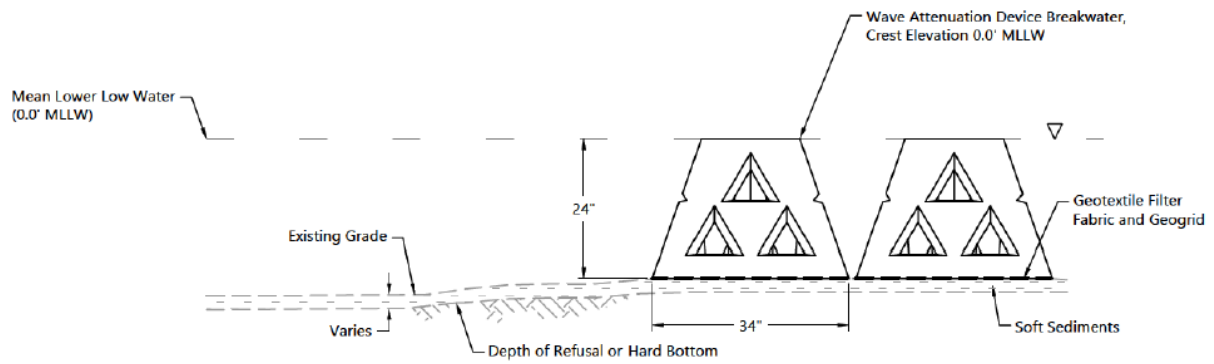
1. Inner breakwater to be constructed at bed elevations between -1.5 and -2.5 feet MLLW.
2. Outer breakwater to be constructed at bed elevations between -2.5 and -3.5 feet MLLW.

Figure 5: Current Design Big Island Living Shoreline (Inner breakwater riprap option) in Profile View



Typical Section OysterBreak Breakwater Option
Not to Scale

Figure 6: Current Design Big Island Living Shoreline (Inner breakwater OysterBreak option) in Profile View

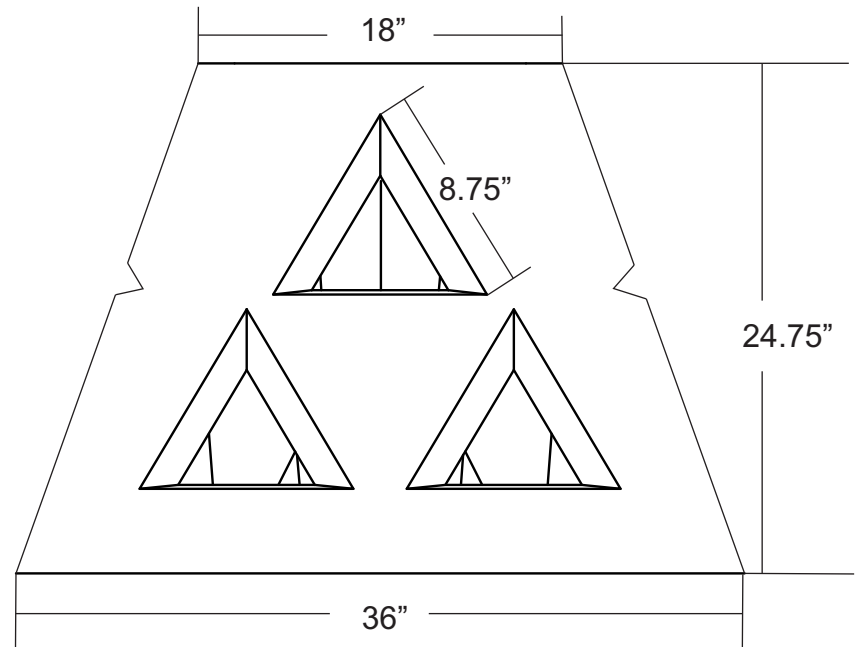
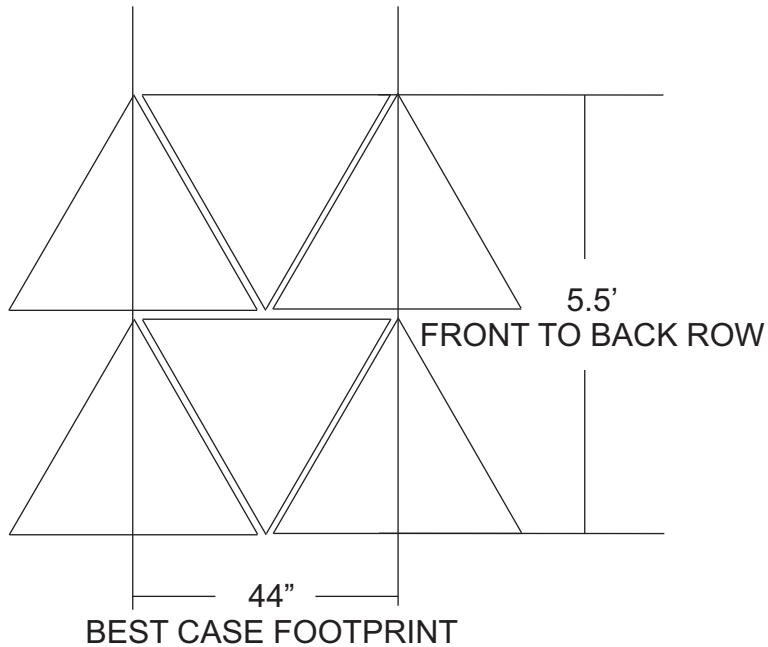
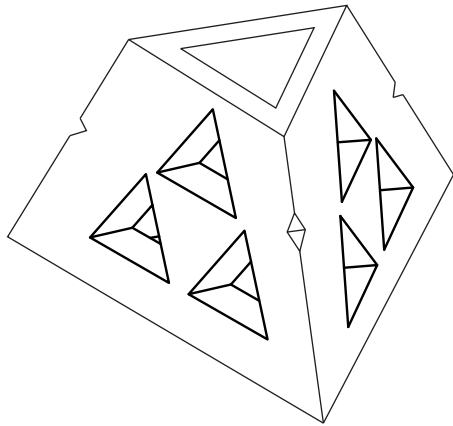


Typical Section Wave Attenuation Device Breakwater
Not to Scale

Figure 7: Current Design Big Island Living Shoreline (Inner breakwater WAD option) in Profile View

References: DOI (Department of the Interior), 2015. *Deepwater Horizon Oil Spill: Final Phase IV Early Restoration Plan and Environmental Assessments*. September 2015.

**2 FOOT TALL 3 FOOT BASE
4 INCHES THICK ~ 400 POUNDS**



**FOOTPRINT IS 4 WADS EVERY
4.0' LF WITH PLACEMENT FOR ESTIMATION**


Living Shoreline Solutions Inc.

