



December 6, 2019

KDP II, LLC
c/o Walker Gressette Freeman & Linton, LLC
P.O. Box 22167
Charleston, SC 29401

RE: Docket No. 18-ALJ-07-0047-CC, "Captain Sams Spit", TMS Nos. 207-05-00-001 and 207-05-00-0011, Kiawah Island, SC

Dear Mr. Walker and Mr. Gressette:

The above-referenced case has been remanded to the S.C. Department of Health & Environmental Control (the Department) for a determination of new beachfront jurisdictional lines under S.C. Code Ann. § 48-39-280. The determination is to be made following receipt of supplemental information provided by the Petitioner. This supplemental information was received by the Department on June 5, 2019 and September 26, 2019 and is summarized below. The Department's responses are also provided below, following each point raised by the Petitioner. This Petitioner has preserved an appeal pursuant to S.C. Code Ann. § 48-39-285(b) of the baseline only and therefore, the Department does not have authority to change the legislature's mandatory establishment of the setback line pursuant to the Beachfront Management Reform Act.

Petitioner's Assertion #1: The demarcation between the Standard Zone and the Unstabilized Inlet Zone should be adjusted to a point west of Monument 2615 thereby including most of the Property within the Standard Zone. To support this assertion, the Petitioner provided beach profile elevation data and a digital terrain model, both from a July 2016 inlet relocation monitoring report produced by Coastal Science & Engineering, and an aerial photo of Captain Sams Spit from March 2018.

Department's Response #1: The area adjacent to Captain Sams Inlet beginning at Monument 2625 and extending to the inlet is classified as an unstabilized inlet zone. "An inlet erosion zone is a segment of shoreline along or adjacent to tidal inlets which is influenced directly by the inlet and its associated shoals." S.C. Code Ann. § 48-39-270(7). The unstabilized inlet zone designation in this area has been in place since the S.C. Beachfront Management Act became law in 1988. These zone designations are established in S.C. Code Ann. Regs. 30-21 (Figure 1). The Department is not charged with reassessing the shoreline zone classifications when it is reviewing the baseline and setback lines pursuant to S.C. Code Ann. § 48-39-280. In the late 1980s, when the Department was establishing zone classifications, it reviewed two documents provided by Coastal Science & Engineering, Inc. (1988¹ and 1989²), which

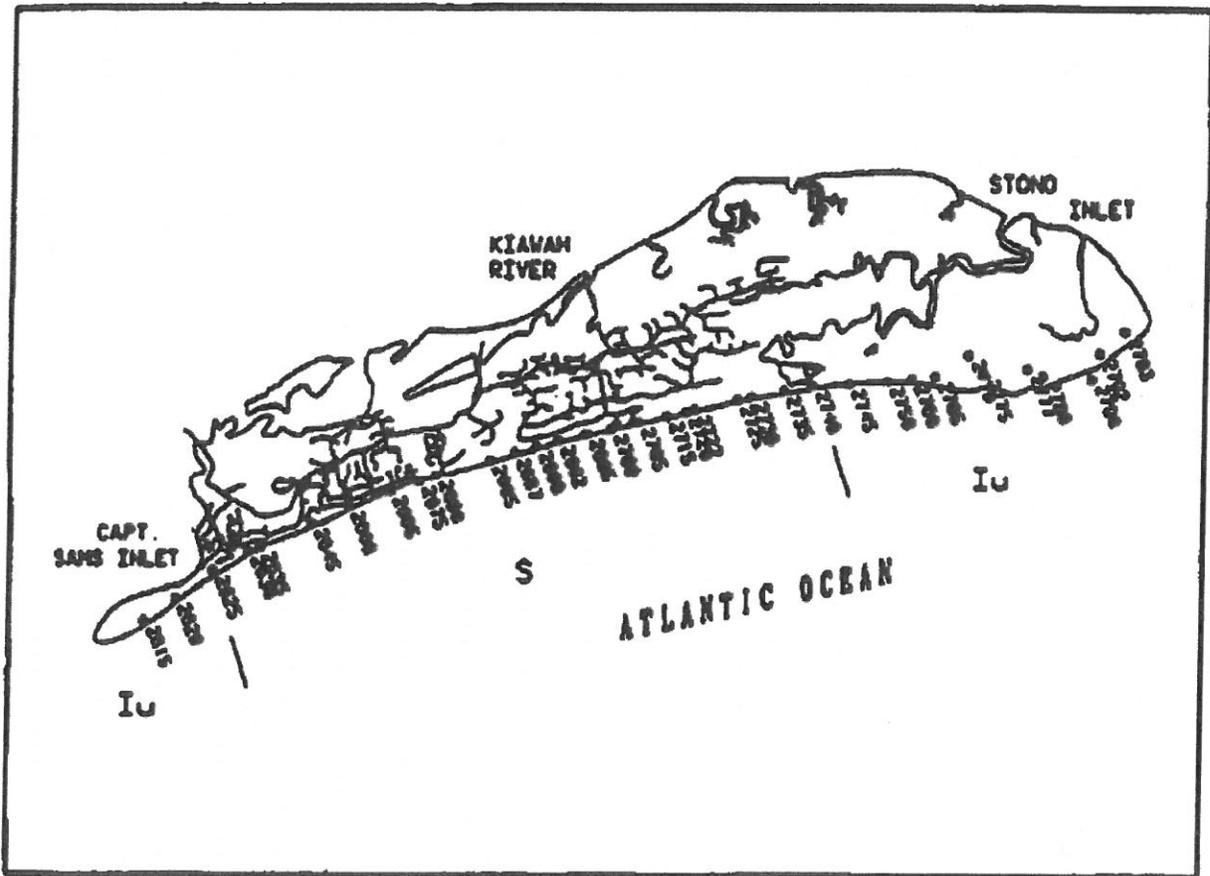
¹ Jones, Christopher P., David M. Scaturro, Timothy W. Kana, and William C. Eiser. June 1988. "Calculation of Interim Baselines and 40-Year Setback Lines." [CSE '87-88 R-16]. Coastal Science & Engineering, Inc., Columbia, SC.

² Jones, Christopher P. January 1989. "Summary of Proposed Revisions to Interim Baseline and Setback Line at Kiawah Island." [CSE '88-89 R-05]. Coastal Science & Engineering, Inc., Columbia, SC.

contained information related to the baseline and setback line on Kiawah Island. This information assisted the Department in the establishment of interim and final shoreline zone classifications and jurisdictional lines. Although, the Department does not reclassify beach zones during the line review process, for the purposes of this remand, the Department reviewed the underlying parameters associated with zone designation, and determined that the zones were still valid as described below.

***Kiawah Island
Charleston County***

Figure 17



**South Carolina beachfront jurisdictional lines approved - 7/21/89, 1/19/89
reference orthophotographs: #309 through 333
monument numbers refer to the SCCC beachfront monument network
notes:**

Figure 1. Beach zone designations for Kiawah Island from S.C. Code Ann. Regs. 30-21. 'Iu' designates unstabilized inlet zones, and 'S' designates standard zones.

The Department's position is that the shoreline adjacent to Captain Sams Inlet on Kiawah Island, from the mouth of the inlet to Monument 2625, continues to be influenced by Captain Sams Inlet. The zone designations were originally established based on historical shoreline positions and offshore bathymetry contours. Specifically, inlet erosion zones were designated where historic shorelines are not parallel to one another and where offshore contours are not parallel to the present shoreline.³ Analysis of historical shoreline positions and offshore bathymetry contours in 1988 led Coastal Science & Engineering to conclude that the unstabilized inlet zone adjacent to Captain Sams Inlet should extend from the mouth of the inlet to Monument 2625 (Figure 2).

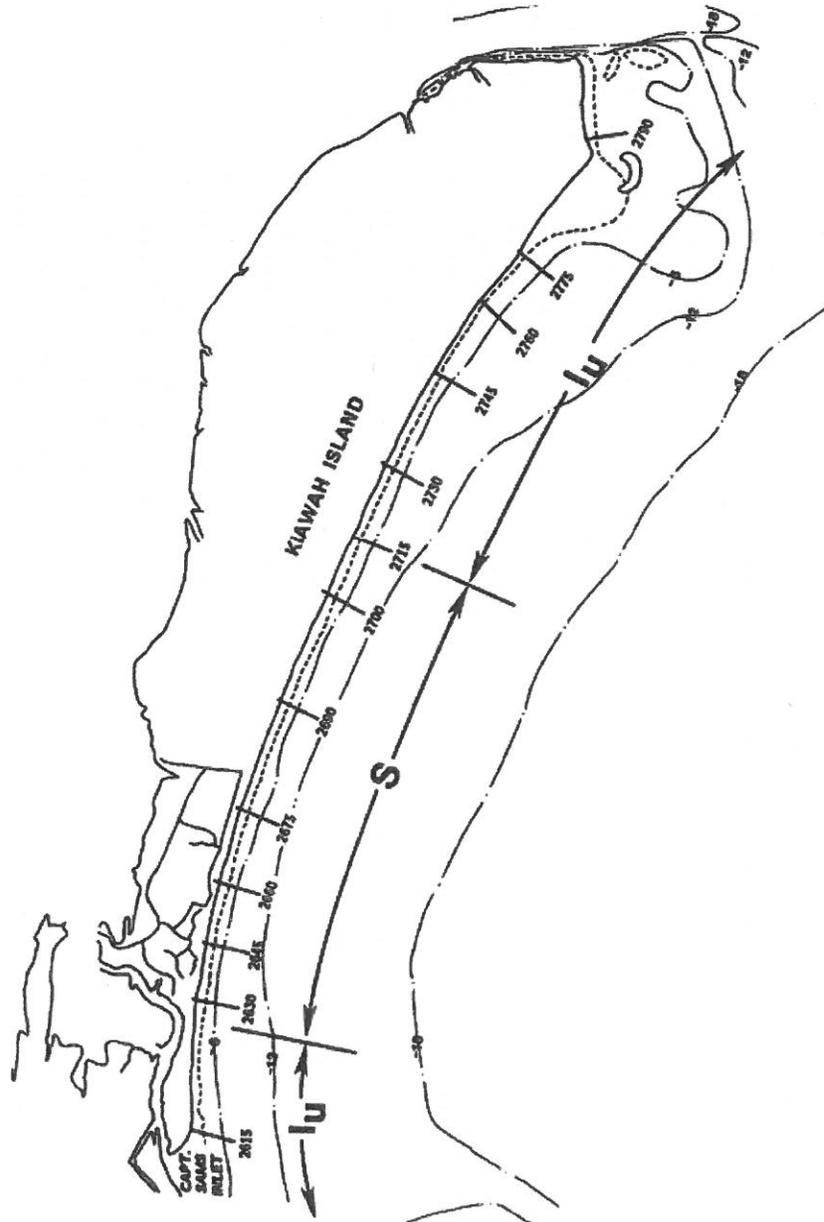


Figure 2. Map of erosion zone designations on Kiawah Island from Jones et al., June 1988. 'lu' designates unstabilized inlet zones, and 'S' designates standard zones.

³ Jones et al. June 1988.

The -6 foot, -12 foot, and -18 foot depth contours shown in Figure 2 demonstrate the presence of the ebb shoal complex associated with Stono Inlet to the north of Kiawah Island and the ebb shoal complex associated with Captain Sams Inlet and the North Edisto River Inlet to the south of Kiawah Island. Updated shoreline data and offshore bathymetry contours continue to show that the shoreline southwest of Monument 2625 to the mouth of the inlet is an unstabilized inlet zone. The shoreline positions along the standard erosion zone of Kiawah Island are spaced tightly together with a consistent orientation. Around Monument 2625, the historical shoreline positions diverge and become spaced more widely apart, indicating that the shoreline in this zone is more dynamic (Figure 3).



Figure 3. Updated shoreline positions along Kiawah Island showing closely spaced shorelines in the standard erosion zone and divergence in the shoreline positions in the unstabilized inlet zone, beginning around Monument 2625.

Current nautical charts from the National Oceanic and Atmospheric Administration (NOAA) also show that the offshore bathymetry contours are not parallel with the current shoreline from the mouth of the inlet to Monument 2625 (Figure 4). The orientations of the contours shift at Monument 2625, which is consistent with the original erosion zone designations established in 1988 (see Figure 2).

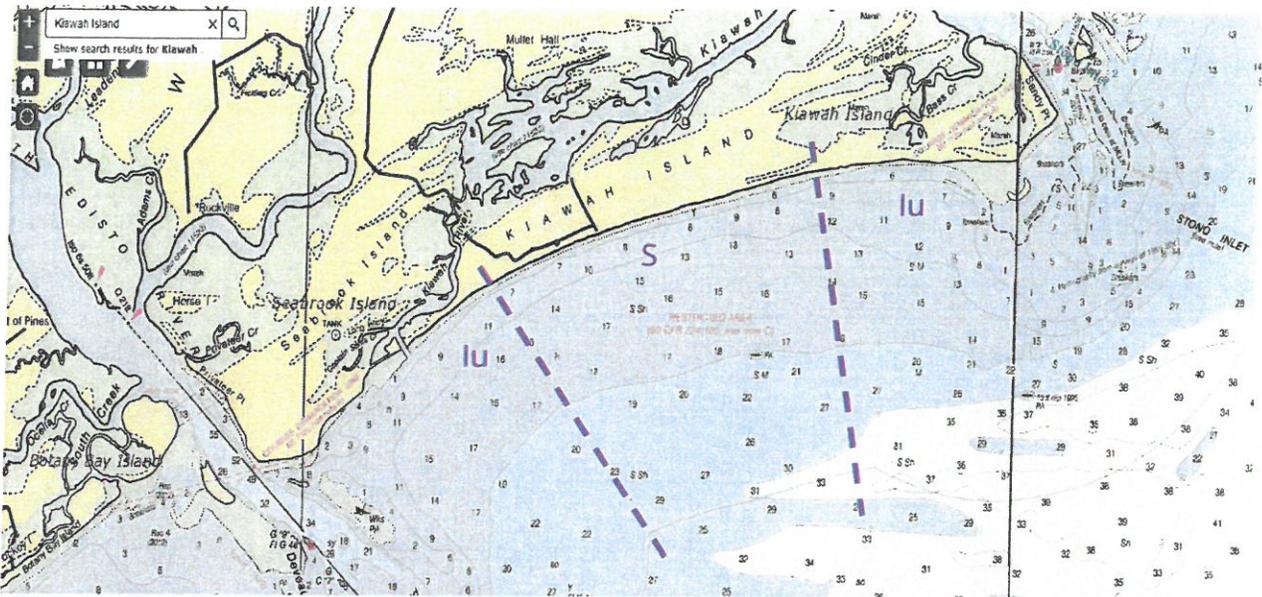


Figure 4. NOAA nautical chart of Kiawah Island, showing the -6 foot, -12 foot, and -18 foot depth contours. The dashed purple lines indicate where the orientations of the offshore bathymetry contours shift and the corresponding points along the shoreline where the erosion zones transition from unstabilized inlet zones (lu) to a standard erosion zone (S). Chart obtained from <https://nauticalcharts.noaa.gov/rnconline/rnconline.html>.

The Department also reviewed the supplemental information submitted by the Petitioner. Beach profile elevation data are not the sole data source used by the Department to designate erosion zones. As summarized above, the zones were originally designated based on historical shoreline positions and offshore bathymetry contours. These data sources continue to show that the unstabilized inlet zone adjacent to Captain Sams Inlet is designated correctly. The Petitioner also submitted a digital terrain model showing LiDAR data of Captain Sams Spit from a July 2016 inlet relocation monitoring report. The Petitioner asserts that this digital terrain model provides sufficient information to justify a re-designation of the shoreline from an unstabilized inlet zone to a standard zone. The Department disagrees with this assertion. The digital terrain model shows LiDAR data covering the upland and a very limited swath of the nearshore coastal ocean (approximately 1,000 feet offshore). The -18 foot offshore bathymetry contour shown in Figure 4 is located approximately 2 miles offshore. Bathymetric data covering larger distances offshore is needed to evaluate the extent of ebb shoal complexes and shifts in the orientation of bathymetry contours.

The mouth of Captain Sams Inlet naturally migrates in a southwesterly direction towards Seabrook Island. However, inlet relocation projects in 1983, 1996, and 2015 have moved the inlet mouth back towards Kiawah Island. These inlet relocation projects have resulted in Captain Sams Inlet and the adjacent shorelines being maintained in approximately the same position over time. When the inlet mouth migrates too close to Seabrook Island, it is moved back towards Kiawah Island so it does not threaten structures or infrastructure on either island (Figure 5). The Petitioner has not provided sufficient evidence to demonstrate that the effects of Captain Sams Inlet on adjacent shorelines have been reduced. Rather, the periodic inlet relocation projects have resulted in similar shoreline dynamics as there were in 1988, when the zone designations were first established. The ebb shoal complex offshore and its interactions with waves and currents result in dynamic shorelines in unstabilized inlet zones.



Figure 5. Aerial photo of Captain Sams Inlet, immediately following the 2015 inlet relocation project. A new inlet mouth was cut through Kiawah Island to the north (top of photo), and a sand berm was constructed across the former inlet mouth to the south (bottom of photo).

The Department's permit for the last Captain Sams Inlet Relocation Project in 2015 (P/N 2008-1870-2IG) allowed the Seabrook Island Property Owners Association to "relocate Captain Sams Inlet from its existing position to its 1963/1983/1996 position through Kiawah spit between Kiawah Island and Seabrook Island" and to provide "erosion control and maintenance of a sediment supply to Seabrook Island." This approach to inlet management will likely continue in the future as Seabrook Island property owners seek to keep the inlet mouth sufficiently far away from structures and infrastructure on Seabrook Island. Because of the location of Petitioner's property, it is subject to inlet dynamics and would not be considered a "standard erosion zone"⁴ as defined by S.C. Code § 48-39-270(b). Figures 6 and 7 show the results of the inlet relocation projects in 1996 and 2015, which returned the inlet complex to its 1988 configuration. Therefore, the shoreline adjacent to Captain Sams Inlet on Kiawah Island, from the mouth of the inlet to Monument 2625, continues to be influenced by Captain Sams Inlet.

⁴ "(6) A standard erosion zone is a segment of shoreline which is subject to essentially the same set of coastal processes, has a fairly constant range of profiles and sediment characteristics, and is not influenced directly by tidal inlets or associated inlet shoals.



Figure 6. Aerial photos showing the Captain Sams Spit shoreline position before (top) and after (bottom) the 1996 inlet relocation project. These images were obtained from Google Earth's Timelapse: <https://earthengine.google.com/timelapse/>



Figure 7. Aerial photos showing the Captain Sams Spit shoreline position before (top) and after (bottom) the 2015 inlet relocation project. These images were obtained from Google Earth's Timelapse: <https://earthengine.google.com/timelapse/>

Petitioner's Assertion #2: For all portions of the Property within the Standard Zone, the baseline should be set at what the Petitioner alleges is the crest of a primary oceanfront sand dune along the shoreline as depicted in Exhibits D and E. To support this assertion, the Petitioner provided a map titled '2015 Dune Crest Points', showing points at Monuments 2620, 2625, and 2630 and dune topographical survey data from SW+A Surveying, LLC in 2016.

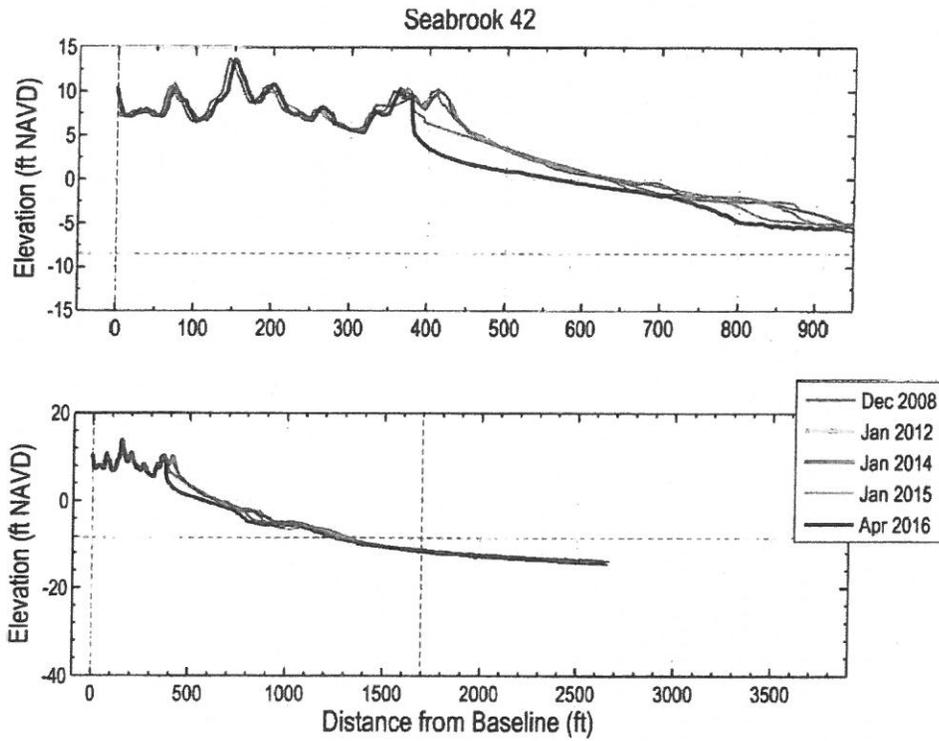
Department's Response #2: As described above in Department's Response #1, the Department maintains its position that the section of ocean shoreline from Monument 2625 and extending to the mouth of Captain Sams Inlet is correctly classified as an unstabilized inlet zone. In unstabilized inlet zones, S.C. Code Ann. § 48-39-280(A)(2) directs the Department to establish the baseline at "the most landward point of erosion at any time during the past forty years, unless the best available scientific and historical data of the inlet and adjacent beaches indicate that the shoreline is unlikely to return to its former position." The Department used shoreline data within the mandated 40 year window to establish the baseline southwest of Monument 2625. Additionally, the best available scientific and historical data of Captain Sams Inlet and adjacent beaches does not indicate that the shoreline is unlikely to return to its former position. Periodic inlet relocation projects keep this stretch of shoreline subject to inlet processes, which in turn, can result in dynamic shoreline positions adjacent to the inlet.⁵

Petitioner's Assertion #3: For the portions of the Property that remain designated within the Unstabilized Inlet Zone, the baseline should be set at the most landward point of erosion over the last 40 years. Here, the Petitioner alleges that there has been no such trend of erosion; instead, the Property continues within an unbroken trend of accretion so the baseline should be set using the data and aerial imagery resulting in a baseline along the escarpment after Hurricane Matthew. To support this assertion, the Petitioner provided average shoreline change rates between 1988 and 2017 and a photo-interpreted post-Hurricane Matthew escarpment from a NOAA aerial photo taken on October 13, 2016.

Department's Response #3: In unstabilized inlet zones, S.C. Code Ann. § 48-39-280(A)(2) directs the Department to establish the baseline at "the most landward point of erosion at any time during the past forty years, unless the best available scientific and historical data of the inlet and adjacent beaches indicate that the shoreline is unlikely to return to its former position."

The Department disagrees with the assertion that Captain Sams Spit has experienced an unbroken trend of accretion. Exhibit A, submitted by the Petitioner, shows beach profile elevation data from a July 2016 inlet relocation monitoring report produced by Coastal Science & Engineering. Many of the profiles show erosion that has occurred between December 2008 and April 2016 (pre-Hurricane Matthew) (Figure 8). Figure 9 also shows sand volume loss in the 2017 and 2018 profiles for Transects 2625 and 2620.

⁵ Even if the Department assumes for the sake of argument that the zone should be changed to a standard zone, the Petitioner has failed to show that there was a primary oceanfront sand dune where it is claiming one existed. Petitioner's data is insufficient to demonstrate that there was a dune at least 36 inches from toe to crest, and 500 feet long to qualify as a Primary Oceanfront Sand Dune per S.C. Code Ann. Regs. 30-1(D)(43). Moreover, from BERM data collected in 2018, it is evident that the sand dune Petitioner has identified is no longer present.



Date	Unit Vol (cy/ft)
Jan 2006	424.7
Nov 2006	458.5
Dec 2007	460.7
Dec 2008	441.3
Nov 2010	467.9
Jan 2012	448.4
Jan 2014	449.4
Jan 2015	439.8
Apr 2016	403.3



Figure 8. Beach profile "Seabrook 42" from Coastal Science & Engineering's July 2016 inlet relocation monitoring report, provided by the Petitioner as Exhibit A. The beach cross-sections at the top of the figure show erosion that occurred between January 2012 and April 2016. The table at the bottom of the figure shows that the unit volume of sand at this profile decreased from 448.4 cy/ft to 403.3 cy/ft over the same timeframe.

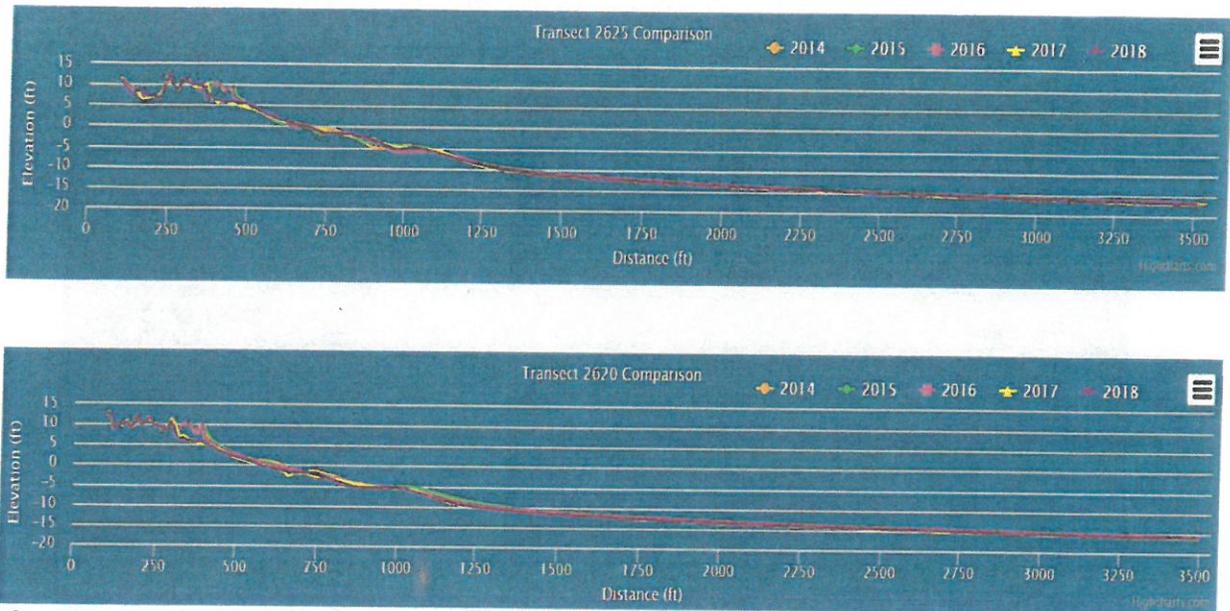


Figure 9. Beach profiles from DHEC OCRM's BERM Explorer web application showing Transects 2625 and 2620. The beach cross-sections show additional loss of sand from 2016 to 2017 and 2018.

Regardless of any recent accretion or erosion, in unstabilized inlet zones, S.C. Code Ann. § 48-39-280(A)(2) directs the Department to establish the baseline at “the most landward point of erosion at any time during the past forty years, unless the best available scientific and historical data of the inlet and adjacent beaches indicate that the shoreline is unlikely to return to its former position.” The Department used shoreline data within the mandated 40 year window to establish the baseline southwest of Monument 2625. Additionally, the best available scientific and historical data of Captain Sams Inlet and adjacent beaches do not indicate that the shoreline is unlikely to return to its former position. Periodic inlet relocation projects keep this stretch of shoreline subject to inlet processes, which in turn, can result in dynamic shoreline positions adjacent to the inlet.

Petitioner's Assertion #4: Petitioner asserts that the 1988 vegetation line, utilized by the Department for the baseline, is inaccurate, and has proposed an alternative interpretation of the 1988 vegetation line. In support of this alternative interpretation, the Petitioner has provided beach profiles from the Town of Kiawah Island's 1991 local beachfront management plan. For the portions of the Property that remain designated within the unstabilized inlet zone, the Petitioner asserts that the baseline should be placed at the alternative interpretation of the 1988 vegetation line (Figure 10).

Department's Response #4: During this remand, the Department reviewed the digitization of the 1988 vegetation line for the portion of Kiawah Island west of monument 2625, and made minor modifications to fine tune the line of continuous vegetation. This reviewed vegetation line can be seen in Figure 10, and has also been provided to the Petitioner in shapefile format.

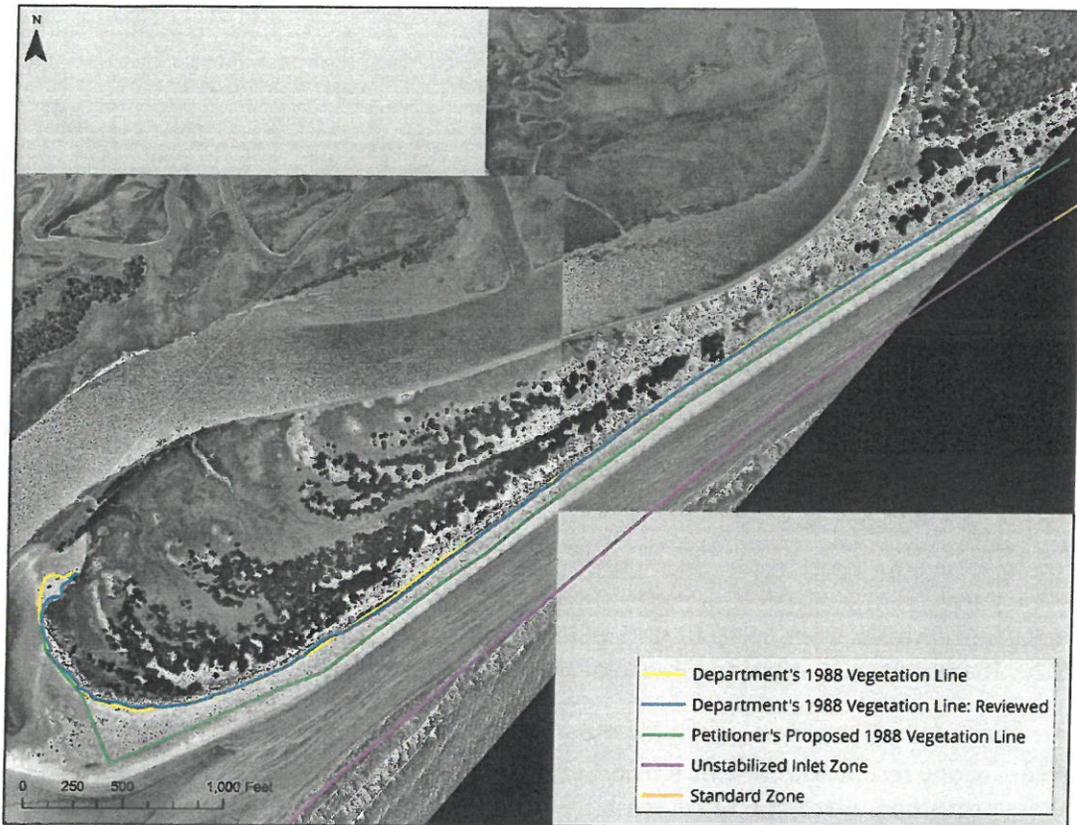


Figure 10. This map shows the 1988 aerial imagery with beach zones, the Department's original 1988 vegetation line, the Department's reviewed 1988 vegetation line, and the Petitioner's proposed 1988 vegetation line.

The beach profile charts provided by the Petitioner do not support the Petitioner's proposed vegetation line. The profile seen in Figure 11 shows a sharp increase in elevation approximately 150 feet seaward from monument 2625. As seen in Figure 12, the distance from Monument 2625 to the Department's 1988 vegetation line is approximately 150 feet.

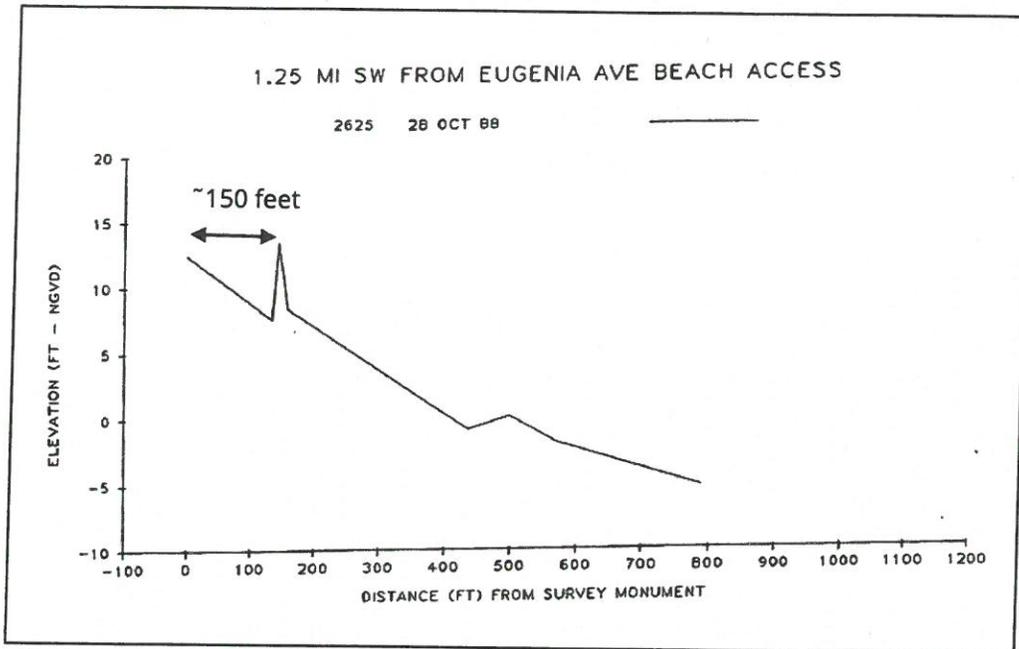


Figure 11. A chart supplied by the Petitioners from the Town of Kiawah's 1991 Beachfront Management Plan.

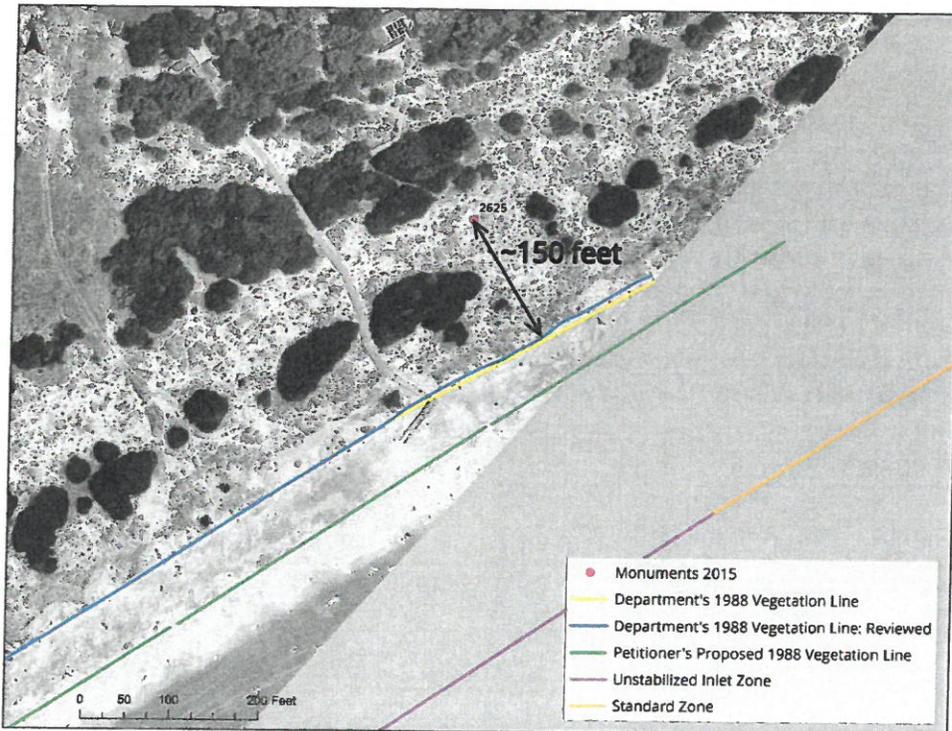


Figure 12. This map shows the 1988 aerial imagery, monument 2625, the Department's original 1988 vegetation line, the Department's reviewed 1988 vegetation line, and the Petitioner's proposed 1988 vegetation line. The distance from the monument to the Department's line is approximately 150 ft.

Finally, while the Department recognizes that there may be patches of sparse vegetation seaward of the Department's reviewed 1988 vegetation line, when digitizing a line of continuous vegetation (Figure 13), these sporadic clumps do not constitute a continuous line.

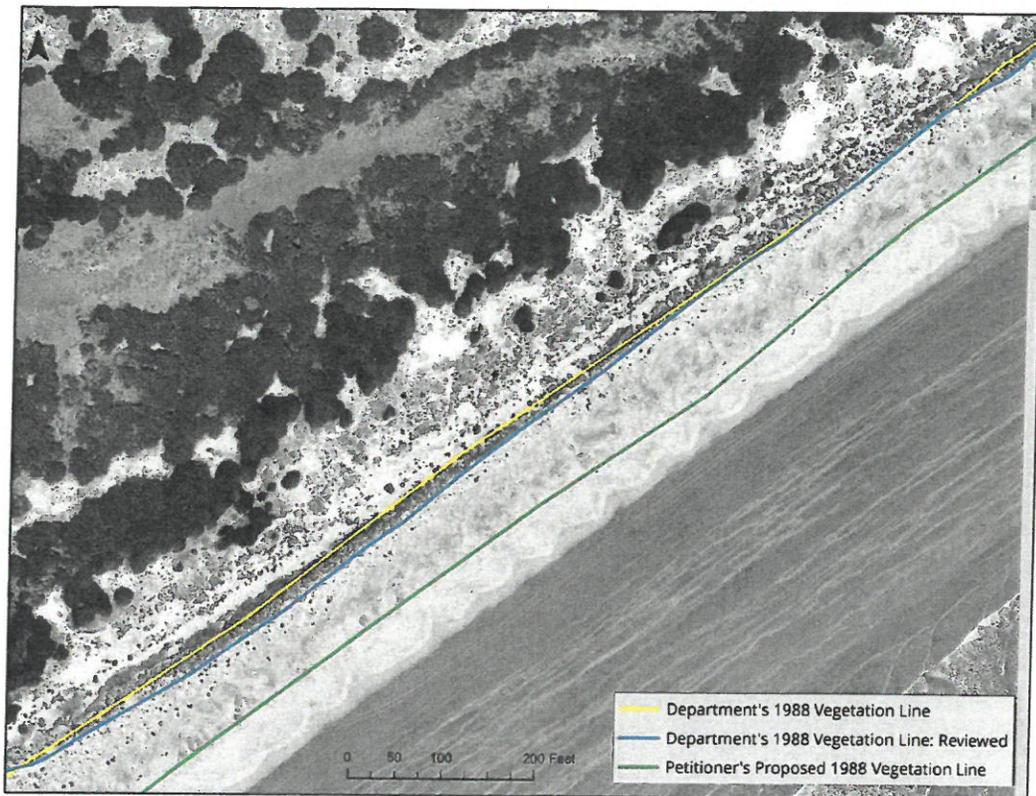


Figure 13. This map shows the 1988 aerial imagery, the Department's original 1988 vegetation line, the Department's reviewed 1988 vegetation line, and the Petitioner's proposed 1988 vegetation line. The purpose of the map is to visually show the line of continuous vegetation, as demarcated by the Department's reviewed vegetation line.

The Department maintains its position that the baseline is accurately established in this unstabilized inlet zone using 40 years of historical shoreline data. The Department considers the reviewed 1988 vegetation line to be the most landward point of erosion in the last 40 years. This is the Department's final decision on remand.

Please let us know if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Elizabeth B. von Kolnitz', is written over the word 'Sincerely,'.

Elizabeth B. von Kolnitz
Chief
Office of Ocean and Coastal Resource Management

cc: Matthew J. Slagel, Beachfront Permitting Project Manager, DHEC-OCRM
Jessica B. Boynton, Shoreline Specialist, DHEC-OCRM
Sallie P. Phelan, Attorney, DHEC

**STATE OF SOUTH CAROLINA
ADMINISTRATIVE LAW COURT**

KDP II, LLC,)	DOCKET NO. 18-ALJ-07-0047-CC
)	
Petitioner,)	
)	
vs.)	CERTIFICATE OF SERVICE
)	
South Carolina Department of Health and Environmental Control,)	
)	
Respondent.)	
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The undersigned hereby certifies that on this day she has served all parties in the above-captioned action with a copy of *Department's Final Decision on Remand* on the Petitioner through counsel by U.S. Mail and electronic mail to the following addresses:

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Sallie P. Phelan

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