



**SOUTH CAROLINA
ENVIRONMENTAL
LAW PROJECT**

Lawyers for the Wild Side

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March 8, 2022

VIA U.S. MAIL

Hon. Jana E. Shealy
Clerk, SC Administrative Law Court
1205 Pendleton Street, Suite 224
Columbia, SC 29201

Re: Request for Contested Case Hearing
Coastal Conservation League v. DHEC, Price & Carolyn Sloan, et al.

Dear Madame Clerk:

Please find enclosed a Request for Contested Case Hearing, which is being filed on behalf of the Coastal Conservation League, along with the filing fee. Thank you for your kind consideration.

Respectfully,

Leslie S. Lenhardt
Staff Attorney

Enclosures

cc: Joseph Owens, Esq.
Stephen Goldfinch, Esq.
Brad Churdar, Esq.

Our Mission To protect the natural environment of South Carolina by providing legal services and advice to environmental organizations and concerned citizens and by improving the state's system of environmental regulation.

STATE OF SOUTH CAROLINA
ADMINISTRATIVE LAW COURT

Coastal Conservation League,)	Docket No. 22-ALJ-07-____-CC
)	
)	
Petitioner,)	
v.)	
)	
South Carolina Department of Health and)	REQUEST FOR CONTESTED
Environmental Control, Office of Ocean)	CASE HEARING
and Coastal Resource Management,)	
Price and Carolyn Sloan,)	
Mark and Anne Tiberio,)	
Michael and Laura Schulte, and)	
Northwest Properties of Hickory, LLC,)	
)	
Respondents.)	
_____)	

TO: THE ADMINISTRATIVE LAW COURT AND THE RESPONDENTS:

The Coastal Conservation League (“Petitioner”), pursuant to S.C. Code Ann. § 44-1-60 and Rule 11 of the Rules of Procedure for the Administrative Law Court, hereby requests a contested case hearing to review the decision of the Respondent, South Carolina Department of Health and Environmental Control (“DHEC”), to issue an after-the-fact approval (“Approval”) to allow for the permanent placement of sandbags and their covering with sand to Respondents Price and Carolyn Sloan, Mark and Anne Tiberio, Michael and Laura Schulte, and Northwest Properties of Hickory, LLC (hereinafter referred to as “the Property Owners”). A copy of the Final Agency Decision, issued on February 10, 2022, is attached as **Exhibit 1** to this Request. This timely appeal follows.

I. Background

The Property Owners own beachfront properties on the southern end of Debidue Beach, which are located landward of a long-existing wooden seawall along the seaward edge of their

properties. The wooden seawall was built prior to passage of the Beachfront Management Act and its prohibition on seawalls, and thus would not be permissible under current law. See S.C. Code Ann. § 48-39-290(B)(2). Petitioner is informed and believes that the Property Owners all purchased their properties sometime after 2014. The DeBordieu Colony Community Association (“DCCA”), of which the Property Owners are members, has had to conduct significant beach renourishment projects over the years due in large part to the erosion on that portion of the beach. During the periods between the renourishment projects, the seawall becomes exposed, but has still functioned as a hard erosion control structure. The Property Owners have represented that they have experienced periodic overwash from storm events, though the seawall remains intact and functional. In 2019, DHEC issued a critical area permit to DCCA to conduct another renourishment project and to also install a groin field to extend the life of future renourishment projects, a portion of which was appealed by Petitioner.¹ At the time of this filing, commencement of the renourishment and groin installation is imminent.

Back in September of 2020, the Property Owners, who have stated they were “not satisfied with current regulatory options for addressing emergency erosion conditions on the beachfront...” (Request for Board Review at p. 2, **Exhibit 2**), and who apparently were undeterred by the law, installed sandbags without obtaining any permit or other approval from Respondent DHEC. DHEC staff discovered the illegal activity and initiated enforcement not long after. For over a year, the Property Owners refused to remove the illegal bags and forced the DHEC staff to engage in protracted enforcement negotiations over that length of time. Well into the enforcement process, the Property Owners enlisted Dr. Paul Gayes, a professor at Coastal Carolina University, requesting that he use his position at the University to apply for a research exemption in an effort

¹ See Coastal Conservation League v. SCDHEC & Debordieu Colony Community Assn., Docket No. 19-ALJ-07-0089-CC, currently pending at the Court of Appeals.

to keep the illegal sandbags in place. On October 25, 2021, Dr. Gayes submitted a “research study proposal” to Respondent DHEC, for the purpose of studying what happens when sandbags are buried under sand. See request attached as **Exhibit 3**. Dr. Gayes proposed to have the sandbags covered with sand supplied through the DCCA renourishment project. DHEC staff responded to Dr. Gayes on November 10, 2021 declining to grant the Approval and specifically outlining the reasons why the sandbags do not meet the standards for either a research project exemption or a pilot project exemption and, more particularly, why the request seeks approval for a prohibition under the Beachfront Management Act.² The Property Owners, and significantly, not the applicant Dr. Gayes, submitted a Request for a Final Review Conference to the DHEC Board on November 23, 2021. **Exhibit 2**.

Prior to the Board meeting of January 13, 2022, the South Carolina Department of Natural Resources (“DNR”) responded to the DHEC staff’s request for information regarding the implications of the proposal. According to DNR, “sand bags that stay permanently on ocean-facing beaches have the potential to cause significant negative impacts to beach geomorphology and wildlife species, such as sea turtles, shorebirds, horseshoe crabs, and the intertidal benthic community which depend on the health of the habitats.” **Exhibit 4** at 3.

In its Final Agency Decision dated February 10, 2022, the DHEC Board reversed its staff decision and approved the request under both the “research” exemption found in S.C. Code Ann. § 48-39-130(D) and under the “pilot project” exemption in § 48-39-320(C).

II. The League’s Interests and Involvement in this Matter

² There are two provisions that plausibly could apply to this request from Dr. Gayes: S.C. Code Ann. § 48-39-30(D)(2) (“research activities of state agencies and educational institutions”) and § 48-39-320(c) (“pilot project”).

The League is a non-profit membership corporation organized and existing under the laws of the State of South Carolina. The League works to protect the health of the natural resources of the South Carolina coastal plain and to ensure a high quality of life for all of the people who live in South Carolina. Members of the League enjoy recreating on Debidue Beach in the vicinity of the sandbags, as well as south along Hobcaw Barony to the associated Outstanding Resource Waters of North Inlet, for harvesting oysters, fishing, boating, beach-walking, observing wildlife and other recreational purposes.

Members of the League are also concerned about the sea turtle population on Debidue Beach.

The League, as an organization that is committed to protecting these public trust resources, is also committed to preventing such a dangerous precedent from becoming the reality on the coast.

The Board's approval (under the guise of a research or pilot study) allows the permanent placement of what is and should be a temporary, emergency measure- the utilization of sandbags. Essentially, the Property Owners are attempting to keep a permanent erosion control structure in front of their homes through the permit exemption process and get rewarded for ignoring the laws prohibiting same. The Approval would not further research on alternative beachfront technologies because there is absolutely nothing new or experimental about putting sandbags on the beach or covering up those sandbags with sand. What is new is the attempt to evade clear regulatory prohibitions and to raise experimental arguments to avoid complying with them.

The DHEC staff correctly described the nature of this matter: "The [appeal] is an attempt by the private property owners to resolve enforcement issues by enlisting the assistance of a public university to pursue a research exception to keep the sandbags in place and bury them with sand." Initial Staff Response at 5, **Exhibit 5**.

III. Grounds for Reversal

The DHEC Board's Final Agency Decision ("FAD") contains no analysis of findings supporting its reversal of the staff decision. Further, the FAD runs contrary to the plain letter of the law. The Coastal Zone Management Act unequivocally provides that the use of sandbags are allowed **only** as a temporary measure and **only** in emergency situations.

A. The Approval Does Not Comply with 48-39-130(D).

The Board issued the Approval in part under the Coastal Zone Management Act's "research activities" exemption, which states:

"It shall not be necessary to apply for a permit for the following activities: (2) hunting, erecting duck blinds, fishing, shellfishing and trapping when and where otherwise permitted by law; the conservation, repletion and research activities of state agencies and educational institutions or boating or other recreation provided that such activities cause no material harm to the flora, fauna, physical or aesthetic resources of the area."

S.C. Code Ann. § 48-39-130(D)(2).

The Board based its approval "in part upon the representation by the Requestors and Applicant that the proposed research activity will have no negative effect on the coastal flora or fauna, including no harmful impact on turtle nesting." **Exhibit 1** at 4. This conclusion was made without any evidentiary support and despite DNR's objections specifying the impacts on the sea turtle population, and is thus arbitrary. In addition, the U.S. Fish and Wildlife Service also expressed concern about the impact of the sandbag wall on wildlife, including sea turtles. There is no other discussion as to the basis for the Approval under Section 48-39-130(D); however, that provision also sets forth additional requirements for compliance under § 48-39-320(C)

B. The Approval Does Not Comply with 48-39-320(C).

The Board also cited to Section 48-39-320(C) as a basis for the Approval:

(C) Notwithstanding any other provision of law contained in this chapter, the board, or the Office of Ocean and Coastal Resource Management, may allow the use in a pilot project of any technology, methodology, or structure, whether or not referenced in this chapter, if it is reasonably anticipated that the use will be successful in addressing an erosional issue

in a beach or dune area. If success is demonstrated, the board, or the Office of Ocean and Coastal Resource Management, may allow the continued use of the technology, methodology, or structure used in the pilot project location and additional locations.

S.C. Code Ann. § 48-39-320(C).

The DHEC Board concludes that this is a project worthy of study and that some new technology is in use here. Neither fact nor law supports these conclusions. Despite the Property Owners' attempt to cast these sandbags as some novelty ("geotextile systems"), the DHEC staff recognized them for what they are. "Sandbags, whether made of 'commodity' materials or engineered materials, are already regulated by the S.C. Beachfront Management Act and Coastal Permitting Regulations. The structures that have been placed at the properties in question are fabric containers that contain sand and are therefore sandbags." **Exhibit 5**

Big sandbags with strong wrapping like those illegally placed on the beach are going to be more difficult to move, but they are still sandbags, which have been used on the beachfront for decades. Covering the bags with sand does not create new or experimental conditions. The effects of sandbags are well documented, generally leading to disastrous results when they are not placed temporarily and removed as required. Covering sandbags with sand is similarly not a new or experimental method, and calling the bags "geotextile systems" does not make them anything other than sandbags as evidenced by the photographs included in the Respondents RFR as Exhibit 3.

Even if the agency determines that a proposal qualifies as a "pilot project" for "any technology, methodology, or structure," the applicant is may only proceed if

- (i) the **emergency order for use is only issued by the department**; and
- (ii) a **bond is supplied** to reasonably estimate and cover the cost of removal

S.C. Code Ann. § 48-39-130(D)(1)(d).

The Property Owners failed to supply a bond to cover the removal of the sandbags, and no emergency order was issued, thus the project violates this provision and cannot be authorized under §§ 48-39-130(D) and 48-39-320(C).

The statutory and regulatory framework of the Beachfront Management Act contemplates the use of sandbags, but only as a temporary measure in an emergency situation. These bags clearly were never intended to be temporary, as they have been installed for over a year now and the Property Owners, who are North Carolina residents, have consistently refused to remove them at every step.

The CZMA and its underlying regulations are clear that sandbags are for temporary use in an emergency. S.C. Code Ann. § 48-39-130(D) includes the following language relating to sandbags:

It shall not be necessary to apply for a permit for the following activities:

(1) The accomplishment of emergency orders of an appointed official of a county or municipality or of the State, acting to protect the public health and safety, upon notification to the department. However, with regard to the beach and dune critical area, the following techniques or a combination thereof, shall be used in accordance with guidelines provided by the department are allowed pursuant to this item:

(a) sandbags, provided that a bond is supplied to reasonably estimate and cover the cost of removal;

Again, no bond was supplied and no emergency order issued. Indeed, no emergency exists at these properties and thus these sandbags have no emergency to address. The Department has never issued any emergency approval either, if the exemption under § 48-39-320 were to be applied. They are located behind the existing wooden bulkhead, where a permitting renourishment project is set to commence, and do not address an emergency situation envisioned by the statute: "Emergency" means any unusual incident resulting from natural or unnatural causes which

endanger the health, safety, or resources of the residents of the State, including damages or erosion to any beach or shore resulting from a hurricane, storm, or other such violent disturbance.” S.C. Code Ann. § 48-39-10(U). Regular overwash and chronic erosion do not rise to the level of an emergency as defined in the CZMA.

S.C. Code Ann. Regs. 30-15.H(3)(d) further explains that “Sandbags shall only be used to construct temporary protection for existing habitable structures and critical infrastructure if the Department or appointed official determines a structure to be in imminent danger and emergency conditions conform with the definition of emergency in Section 48-39-10(U), or as allowed in R.30-13.Q(1).” “To maintain the temporary nature that is intended for the use of sandbags, the following criteria shall be used when issuing emergency orders for sandbags ... (d) **“At no time shall the sandbags be buried or covered with sand.” Id.**

Finally, the imminent renourishment project undercuts a determination that emergency circumstances exist here.

The Board’s Order ignores the obvious legal prohibition against even studying this sort of beach armoring. The statute specifically prohibits the use of any hard erosion control structures, like seawalls and bulkheads. S.C. Code Ann. § 48-39-290(B)(2). Because of the permanent nature of the Property Owners’ structure, it is functioning and effectively acting as a seawall, which is expressly prohibited. In addition, allowing this sand bag wall to be permanently covered “would be akin to a state educational institution requesting to build and study a new shore-parallel erosion control structure, such as a bulkhead, seawall, or revetment, to determine how well the structure protects beachfront houses landward of it.” **Exhibit 1**

By obtaining the Board’s reversal of the staff, the Property Owners have succeeded in obtaining authorization for a permanent erosion control structure in clear contravention of the laws and

regulations of the Beachfront Management Act. DCCA is implementing its plans to renourish and install groins in the very near future, which addresses the erosional issues facing these properties. These sandbags will, if allowed to remain and be covered with sand, become a hard erosion control structure and will open the door for similar structures along our coast.

WHEREFORE, Petitioner requests that this Court conduct a contested case hearing and reverse Respondent DHEC's issuance of the approval to Respondents.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Leslie S. Lenhardt", written over a horizontal line.

Leslie S. Lenhardt
Amy E. Armstrong
S.C. Environmental Law Project
510 Live Oak Drive
Mount Pleasant, SC 29464
(843) 527-0078
leslie@scelp.org

Attorneys for Petitioner

March 8, 2022

EXHIBIT 1



Mark R. Elam, Chairman
Seema Shrivastava-Patel, Vice-Chair
Charles M. Joye, II, P.E., Secretary
Jim P. Creel, Jr.

Board:
J.B. (Sonny) Kinney
Richard V. Lee, Jr.
Morris E. Brown, III, MD, FAAFP
Robert R. Morgan, Jr., MD, MBA

February 10, 2022

Via Electronic Mail and US Mail Certified 7021197000081182670

Randolph R. Lowell, Esquire
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J. Joseph Owens, Esquire
Email: jowens@willoughbyhoefer.com
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Charleston, SC 29492

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Via Electronic Mail and US Mail

Paul T. Gayes
Executive Director – Burroughs and Chapin Center for Marine and Wetland Studies
Professor of Marine Science
Coastal Carolina University
Email: ptgayes@coastal.edu
Post Office Box 261954
Conway, SC 29528

Via Electronic Mail Delivery

Bradley D. Churdar, Esquire
Email: churdabd@dhec.sc.gov
SCHEC – Office of General Counsel
1362 McMillan Avenue, Suite 400
Charleston, SC 29405

RE: Docket No. 21-RFR-89, Coastal Carolina University

Dr. Gayes and Counsel of Record:

Please find enclosed the Final Agency Decision in the above referenced matter.

Very truly yours,

M. Denise Crawford
Clerk of the Board

**SOUTH CAROLINA BOARD OF HEALTH AND ENVIRONMENTAL CONTROL
FINAL AGENCY DECISION**

BOARD DOCKET NUMBER 21-RFR-89

In Re:

Application for Approval To Conduct A Planned Study and Research Proposal Submitted By Dr. Paul Gayes (Applicant) of Coastal Carolina University, A Research And Educational Institution Located In Horry County, S.C.

Parties requesting Board Review:

Price and Carolyn Sloan, Mark and Anne Tiberio, Michael and Laura Schulte, and Northwest Properties of Hickory, LLC (Requestors)

Appearances:

Randy Lowell, Esquire. Joseph Owens, Esquire. and Stephen Goldfinch, Esquire, for Requestors
Blair Williams, Matt Slagel, Morgan Flake, and Bradley D. Churdar, Esquire, for South Carolina Department of Health and Environmental Control

Dr. Paul Gayes of Coastal Carolina University, Applicant

This matter comes before the South Carolina Board of Health and Environmental Control ("Board") for final review pursuant to S.C. Code Ann. § 44-1-60. The matter under review is governed by the South Carolina Coastal Tidelands and Wetlands Act, also referred to as the Beachfront Management Act (BMA), and related regulations.

BACKGROUND

On October 25, 2021, Dr. Paul Gayes of Coastal Carolina University submitted a research study proposal to the South Carolina Department of Health and Environmental Control ("Department" or "OCRM"). The research proposal seeks permission to allow "geotubes," also

referred to as “geosynthetic sandbag systems” and “geotextile systems,” to remain on site and be buried during an upcoming beach renourishment project at DeBordieu Colony in Georgetown County. The beach renourishment project, including the construction of related groins, is authorized to be undertaken pursuant to 2019 Critical Area Permit Number 2017-01795, issued by the Department to the DeBordieu Colony Community Association. Judicial review of the permit is presently pending before South Carolina Court of Appeals.

The sandbags, which are proposed to remain on site and be buried, were placed in front of properties owned by the Requestors without authorization. Prior to submittal of the study request, the Department had initiated enforcement action against the Requestors for the unauthorized placement of the sandbags and other related issues.

On November 10, 2021, the Department responded to Dr. Gayes’ proposal and denied permission for the sandbags to be left in place and buried. The Department expressed concerns about burying sandbags, which is prohibited by S.C. Code Ann. Regs. 30-15.H(3)(d). The Department expressed further concern about impact on the upcoming beach renourishment and groins project, including impact on the detailed monitoring program required by the permit.

A Request for Final Review (RFR), dated November 23, 2021, was filed on behalf of the named property owners. The RFR acknowledges that covering of sandbags “is specifically prohibited” by regulation and states that “[a]ccordingly Dr. Gayes sought permission under the ‘Educational Institution Research’ and/ or ‘Pilot Project’ provisions of the BMA to conduct the study such that the geotextile systems at the Requestor’s properties could be covered with sand during the upcoming renourishment project.” A Staff Response to the Request for Final Review was filed on December 10, 2021. Numerous public comments were received and provided to the Board.

The Board conducted a Final Review Conference on January 13, 2022. While neither Dr. Gayes nor Coastal Carolina University challenged the denial of the study request, Dr. Gayes participated in the Final Review Conference.

BOARD DECISION

Having heard from the parties in this matter, and on the basis of the evidence presented and the administrative record, the Board concludes that the proposed study should be allowed pursuant to exemptions provided at S.C. Code Ann. 48-39-130 (D) and § 48-39-320(C).

S.C. Code Ann. 48-39-130 (D) provides in relevant part:

(D) It shall not be necessary to apply for a permit for the following activities.

(2) Hunting, erecting duckblinds, fishing, shellfishing and trapping when and where otherwise permitted by law; the conservation, repletion and research activities of state agencies and educational institutions or boating or other recreation provided that such activities cause no material harm to the flora, fauna, physical or aesthetic resources of the area.

S.C. Code Ann. § 48-39-320(C) provides:

(C) Notwithstanding any other provision of law contained in this chapter, the board, or the Office of Ocean and Coastal Resource Management, may allow the use in a pilot project of any technology, methodology, or structure, whether or not referenced in this chapter, if it is reasonably anticipated that the use will be

successful in addressing an erosional issue in a beach or dune area.

If success is demonstrated, the board, or the Office of Ocean and Coastal Resource Management, may allow the continued use of the technology, methodology, or structure used in the pilot project location and additional locations.

Section 48-39-130(D) requires that the research study must not cause material harm to flora or fauna. The Board decision in this matter is made in part upon the representation by the Requestors and Applicant that the proposed research activity will have no negative effect on coastal flora or fauna, including no harmful impact on turtle nesting.

The study is to be conducted only on the sandbags presently placed at Requestors' properties at DeBordieu Colony and does not cover the placement of such structures at any other location. The study request from Dr. Gayes acknowledges that the structures may need to be "modified as may be required and practical for the present considerations." It is the responsibility of the Applicant to ensure the integrity of these structures and that required modifications be coordinated with OCRM staff. For the study to proceed in accordance with S.C. Code 48-39-320(C), the Applicant must provide sufficient details of the study and success criteria to the Department, in coordination with OCRM staff.

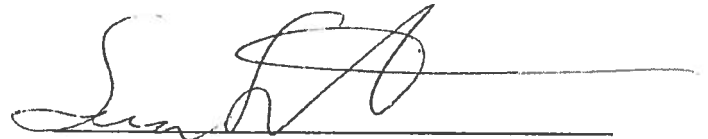
The Applicant is responsible for obtaining any approvals or authorizations from and maintaining compliance with the requirements of other local, federal, or state entities. This shall include but is not limited to state or federal agencies responsible for protecting flora, fauna, and other natural resources, and specifically compliance with the federal Endangered Species Act.

The Board further concludes that allowing the research study to proceed does not render OCRM's enforcement actions moot. While this Final Agency Decision allows the sandbags to remain in place and be buried for the study, the Department may otherwise proceed with the pending enforcement actions and exercise its full enforcement authority.

CONCLUSION

On the conditions set forth in this Final Agency Decision, the Board concludes that the proposed research study is allowed pursuant to S.C. Code Ann. 48-39-130 (D) and § 48-39-320(C).

AND IT IS SO ORDERED.



Seema Shrivastava-Patel, Vice-Chairwoman
Board of Health and Environmental Control
For the Board

February 10, 2022

Notice of Right to Request Contested Case Hearing Before Administrative Law Court

S.C. Code Ann. § 44-1-60(F)(2) provides that within thirty days after the receipt of the Board's written final agency decision an applicant, permittee, licensee, or affected person desiring to contest the final agency decision may request a contested case hearing before the Administrative Law Court (ALC), in accordance with the Administrative Procedures Act. A request for a contested case hearing before the ALC must be filed in accordance with the Rules of the ALC, including payment of the ALC's filing fee, at the following address:

Clerk's Office
South Carolina Administrative Law Court
Edgar A. Brown Building
1205 Pendleton, St. Suite 224
Columbia, SC 29201

The ALC's Notice of Request for Contested Case Hearing form and the Rules of the ALC can be found at the ALC's website: <http://www.scalc.net>. If a party files a request for a contested case hearing with the ALC, the party must serve a copy of the request on DHEC and any other parties at the same time the request is filed with the ALC. A copy of the request for contested case hearing must be delivered or mailed to DHEC at the following address:

Denise Crawford
Clerk of Board
SC DHEC
2600 Bull Street
Columbia, SC 29201

The above information on filing a request for a contested case hearing before the Administrative Law Court is provide as a courtesy; parties before the ALC are responsible for complying with all applicable requirements of the Court.

EXHIBIT 2

WILLOUGHBY & HOEFER, P.A.

ATTORNEYS & COUNSELORS AT LAW

MITCHELL M. WILLOUGHBY
JOHN M.S. HOEFER
RANDOLPH R. LOWELL**
TRACEY C. GREEN
CHAD N. JOHNSTON
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ELIZABETH ZECK*
ELIZABETHANN L. CARROLL
ANDREW J. D'ANTONI
R. WALKER HUMPHREY, II***
ANDREW R. HAND****
J. JOSEPH OWENS

ELIZABETH S. MABRY
J. PATRICK HUDSON
OF COUNSEL

JOSEPH H. FARRELL, III
SPECIAL COUNSEL

*ALSO ADMITTED IN TEXAS
**ALSO ADMITTED IN WASHINGTON, D.C.
***ALSO ADMITTED IN CALIFORNIA
****ALSO ADMITTED IN NORTH CAROLINA

November 23, 2021

VIA E-MAIL & HAND DELIVERY

Clerk of the Board
SCDHEC
2600 Bull Street
Columbia, SC 29201
boardclerk@dhec.sc.gov

RECEIVED

NOV 23 2021

Clerk, Board of Health
and Environmental Control

21-RFR-89

Re: Request for Final Review Conference

Dear Madame Clerk:

Enclosed please find a Request for Final Review Conference submitted on behalf of Price and Carolyn Sloan, Mark and Anne Tiberio, Michael and Laura Schulte, and Northwest Properties of Hickory, LLC as well as the requisite \$100.00 filing fee.

Thank you for your time and consideration. If you have any questions, please do not hesitate to contact me.

Very truly yours,

WILLOUGHBY & HOEFER, P.A.



J. Joseph Owens

Enclosures

cc: Dr. Paul Gayes (*via electronic mail*)
Elizabeth von Kohlnitz (*via electronic mail*)

OFFICES:

COLUMBIA | 930 RICHLAND STREET, COLUMBIA, SC 29201 | 803.252.3300 FAX 803.256.8062
CHARLESTON | 133 RIVER LANDING DRIVE, SUITE 200, CHARLESTON, SC 29492 | 843.619.4426 FAX 843.619.4490

STATE OF SOUTH CAROLINA
BEFORE THE BOARD OF THE DEPARTMENT OF
HEALTH AND ENVIROMENTAL CONTROL

Price and Carolyn Sloan,

Mark and Anne Tiberio,

Michael and Laura Schulte, and

Northwest Properties of Hickory, LLC,

Requestors,

v.

Department of Health and Environmental Control,
Office of Ocean and Coastal Resource Management,

Respondent.

**Re: Denial of Research Permit for the Study of Natural and Engineered Dune Systems
in Grand Strand**

REQUEST FOR FINAL REVIEW CONFERENCE

Price and Carolyn Sloan, Mark and Anne Tiberio, Michael and Laura Schulte, and Northwest Properties of Hickory, LLC (hereinafter together, "Requestors") respectfully request that the Board of the South Carolina Department of Health and Environmental Control (DHEC) conduct a Final Review Conference to review the staff decision to deny a research permit to Dr. Paul Gayes of Coastal Carolina University (CCU), which, among other items, would permit geotextile erosion control systems installed at Requestors' properties to be covered with sand to form a cored dune system either during or in coordination with an upcoming beach renourishment

project in Georgetown County for purposes of evaluating potential mechanisms and solutions to implement the State's coastal preservation policy.

Executive Summary

This Request provides a critical and time-sensitive opportunity for coastal property owners, scientists, and regulators to research and evaluate a potential coastal management tool with a strong likelihood of advancing the State's coastal preservation policy directive. Requestors' beachfront properties are each located along a highly erosive section of beach in Georgetown County, where the dry sand beach and/or dune system erodes in between periods of planned renourishment. When this erosion occurs, each of Requestors' properties is exposed to flooding inundation and associated damages whenever any significant storm or tidal event occurs in the area.

Not satisfied with current regulatory options for addressing emergency erosion conditions on the beachfront, which have remained unchanged despite the State's adoption of the coastal *preservation* policy in 2018, and for the reasons further outlined herein, Requestors' each installed geotextile sandbag systems to protect their properties. Notably, the geotextile systems installed at these properties were engineered specially for the coastal environment by a global engineering and manufacturing firm that has installed similar systems with great effectiveness around the world. **Thankfully, the geotextile systems installed at Requestors' properties have performed flawlessly since their installation in 2020, despite numerous storms and tidal events which have caused other adjacent sandbag systems to suffer total and catastrophic failure.**

Among other factors meant to evaluate potential mechanisms for implementing the State's coastal preservation policy, the current research proposal submitted to DHEC's Office of Ocean and Coastal Resource Management (OCRM) by Dr. Gayes of CCU provides for the geotextile systems installed at Requestors' properties to be covered with sand during an upcoming

renourishment project at the community to form the base of a dune system. Notably, the geotextile systems installed at Requestors' properties were designed and engineered specifically for that very purpose. However, current OCRM regulations, which were promulgated at a time when the State's coastal preservation policy was not in effect, forbid sandbag systems to be covered with sand, without exception. Accordingly, Dr. Gayes submitted the present study proposal to OCRM under certain statutory "research" and/or "pilot project" permitting exceptions, so as to allow this critical research to move forward without risk of infringement on current OCRM regulation.

Regrettably, OCRM denied the covered geotextile component of Dr. Gayes' research proposal to move forward. As further outlined in this Request, OCRM takes the position that coastal research activities cannot violate existing regulations, and further that the geotextile systems installed at Requestors' properties are not likely to be successful in addressing erosional issues at Requestors' properties.

For the reasons outlined in this Request, OCRM's decision to deny this component of Dr. Gayes' research proposal:

- (1) has the potential to stifle coastal research and innovation activities in this State moving forward,**
- (2) is in direct contradiction to other statutory provisions which allow research activities to be conducted in these circumstances, and**
- (3) is also likely in violation of other policy statements outlined in the State's coastal management statutes.**

Furthermore, OCRM's position as it relates to the lack of effectiveness of the geotextile systems is not only incorrect, but clearly misses the point of the proposed research. If installed correctly and working properly, the covered geotextile systems would operate out of sight and

mind beneath the dune systems where they are located, without any negative effect on coastal flora or fauna (including sea turtles). Only when those geotextile systems become exposed due to expected erosion would they operate as a last line of defense to protect Requestors' properties from inundation, as they currently have been doing with complete effectiveness for the past year.

Unfortunately for Requestors and other similarly-situated coastal property owners, not to mention coastal scientists and engineers interested in creative solutions to coastal preservation management options in this State, time is of the essence. The renourishment project at Requestors' community is set to take place within the next month. Accordingly, to the extent this Board does not grant a Final Review Conference and overturn the decision of OCRM on the issue, Requestors would likely not have time to further appeal that decision.

The covered geotextile component of Dr. Gayes' research proposal presents a clear-cut, common-sense opportunity to evaluate a coastal management technology which has been successfully utilized around the world to determine if coastal development regulators in this State should adopt similar technology as an option to protect coastal property in furtherance of the State's policy of coastal preservation. Now is the time for that evaluation, and the characteristics of Requestors' beachfront properties make them the ideal locations for this potential coastal management tool to be evaluated.

More specific bases for this Request are as follows:

Beach Erosion at DeBordieu Colony Beach

1. Requestors' beachfront properties are each located in DeBordieu Colony, which is a private community located in Georgetown County. The beachfront portion of DeBordieu Colony is approximately 1.5 miles and known as DeBordieu Beach.

2. The south end of DeBordieu Beach, where Requestors' properties are situated, suffers from significant erosion.

3. Due to the high erosion rate, a timber bulkhead supported by pilings was constructed in 1981 along the south end of DeBordieu Beach to protect adjacent houses and hold the shoreline in place. Each of Requestor's properties is located landward of this bulkhead, which is currently exposed up to 6 feet in some places due to erosion, but from time to time is covered with sand following renourishment projects conducted by the community.

4. Specifically, the community has implemented four renourishment projects on DeBordieu Beach in the last 25 years: 1990, 1998, 2006, and 2015. Each of these projects has added increasingly larger amounts of sand to protect the beach. The 2006 and 2015 renourishments were large scale hydraulic fill projects, in which sand was pumped by dredge from offshore borrow areas to the beach using a large pipeline. Those projects each placed around 550,000 to 650,000 cubic yards of sand onto DeBordieu Beach.

5. In 2019, the community was issued a new permit by OCRM to conduct another off-shore dredge-based renourishment project of up to 650,000 cubic yards (Permit No. 2017-01795). Notably, that permit also allows for the construction of three groins to be installed during the renourishment, which will provide increased erosion protection and longevity of the renourishment.¹ That project is currently in the process of mobilization and is expected to be completed in March 2022.

¹ Notably, the community and OCRM are currently defending a legal challenge to the groin component of the current renourishment project, and have thus far been successful in defending the project in challenges before his Board, the Administrative Law Court, and as it relates to an injunction to stop construction of the project filed with the S.C. Court of Appeals, where the case is still pending. A major legal and factual element of that case involves OCRM's determination that Requestors' homes are currently threatened by the highly erosive conditions at the south end of DeBordieu Beach.

6. In recognition of the beachfront erosion problems facing DeBordieu Beach, the community established a 17-year Beach Preservation Fund (BPF) in 2017 to ensure commitment and appropriate funding to conduct current and future renourishment projects. The BPF is funded through assessments collected from the community's property owners, including each of the Requestors, and is expected to accumulate over \$10 million following payment for the construction of the current renourishment and groin project.

7. Despite the previous renourishment projects and presence of the bulkhead, each of Requestors' properties, and many of the adjacent homesites, have suffered significant erosion and/or associated flooding damages following storm and tidal events, both historically and in recent years. This erosion and flooding inevitably occurs after the dry sand beach and/or dune system added during a renourishment project is eroded away in the years following a renourishment project.

8. Many beachfront property owners at the community, including Requestors or prior owners of their properties, have been forced to use a variety of measures to protect their properties after the dry sand beach and/or dune system is eroded, including but not limited to sandbag installations and at least one OCRM-approved experimental method involving haybales. However, none of those solutions have been effective in preventing further erosion and flooding during storm and tidal events, and conditions have only grown worse in recent years.

9. Specifically, successive storm events² on the South Carolina coast in recent years have adversely impacted the longevity of the 2015 renourishment project, and the dry sand beach

² Hurricanes Isaias, Dorian, Irma, and Matthew are several of the recent storms that have impacted the Project area and caused increased erosion since the 2015 renourishment project. However, DeBordieu Colony has also suffered extensive erosion as a result of seasonally expected Nor'easter storms or other tidal events, including a set of major king tides earlier this month.

and dune system established by that project at the south end of DeBordieu Beach eroded much faster and earlier than expected.

10. By 2018, despite the presence of the bulkhead, any significant tidal event or storm in the area was likely to result in erosion and flooding damage to each of Requestors' properties due to the lack of dry sand beach and dune system.

11. Photographs showing the condition of Requestors' properties after the dry sand beach and dune system was eroded leading up to the installation of the geotextile systems in 2018 and 2019 are attached as Exhibit 1.³

12. The commodity sandbag installations typically allowed by OCRM under appropriate circumstances pursuant to coastal emergency regulations (*See* S.C. Code Ann. Regs. 30-15(H)) are not designed for the coastal environment and are not effective in protecting beachfront properties from any significant tidal event or storm. This has certainly been the case for beachfront properties like Requestors' at the south end of DeBordieu Beach.

13. More often than not, wave forces during a storm or tidal event cause the commodity sandbag installations at beachfront properties to fail, resulting in those bags being torn open and apart, and litter from the bags being released into the environment. Furthermore, when those commodity bags inevitably fail during a tidal or storm event, it results in erosion and flooding damage for beachfront property owners like Requestors.

14. Just earlier this month (November 2021), king tides resulted in major erosion and flooding damages along the south end of DeBordieu Beach. Photographs showing the condition of

³ Notably, at one of Requestors' properties, commodity sandbags installed and buried under the dune system by the previous owners were exposed following a high tide event in 2018. *See Ex. 1*. Requestor purchased the property in 2017 without knowledge that those commodity bags existed, and has since removed those bags at significant cost.

the commodity sandbag installations at neighboring properties after the November 2021 king tides are attached as Exhibit 2.

15. Given the erosion problems experienced at their properties, and their experience with the lack of effectiveness and environmental damages caused by commodity sandbags in coastal applications, Requestors began searching for a new solution to protect their properties in an effective and environmentally-friendly manner in or around 2018.

Geotextile Installation

16. Between the spring and fall of 2020, pillow-shaped geosynthetic sandbag systems designed and manufactured by HUESKER⁴ were installed at each of Requestors' properties to provide erosion protection. Some of the geotextile systems installed at Requestors' properties also include a geotextile fabric wrap designed and manufactured by HUESKER to further increase the effectiveness of the geotextile sandbag systems.

17. Photographs showing the condition of Requestors' properties after the installation of the geotextile systems are attached as Exhibit 3. Notably, these pictures were taken in April 2021, after Requestors' geotextile systems had already experienced and provided significant protection from several storms and tidal events.

18. As previously outlined, each of Requestors' properties suffered from a lack of dry sand beach and protective dune system prior to the installation of the geotextile systems, which resulted in significant erosion and flooding damage during storm and tidal events subsequent to the 2015 renourishment project. *See Ex. 1.*

⁴ HUESKER is one of the world's leading manufacturers of geosynthetics, agricultural, and industrial textiles. It has designed, engineered, and installed coastal geosynthetic applications around the globe. *See* <https://www.huesker.us/>.

19. Notably, the geotextile systems installed at Requestors' properties are manufactured from a proprietary, state-of-the-art geotextile fabric designed for coastal erosion applications and manufactured by HUESKER known as Soiltain®. Pursuant to the Soiltain® Data Sheet:

Soiltain® is a reinforced non-woven geotextile comprised of high-quality polypropylene yarns woven into a stable network such that the yarns retain their relative positions. The geotextile is inert to biological degradation and naturally encountered chemicals, alkalis, and acids. Soiltain® geotextiles have been developed to produce geotextile tubes and bags, reinforce steepened slopes, embankments over soft soils, and landfill liners. Soiltain® reinforced non-woven textiles are produced at HUESKER's manufacturing facility that has achieved ISO 9001 certification for its systematic approach to quality in development, manufacture, inspection, sales and application support of geosynthetics.

See Soiltain® Data sheet, attached as Exhibit 4.

20. Unlike commodity sandbags, the Soiltain® geotextile systems at Requestors' properties were engineered specially for the coastal environment, including as it relates to tensile strength, abrasion and tearing resistance, UV resistance, and other factors. *Id.*

21. Soiltain® or similar geotextile systems have been installed by HUESKER around the world in a variety of applications with great effectiveness. See HUESKER Geotextile and Soiltain® PowerPoint, attached as Exhibits 5 and 6, respectively.

22. The Soiltain® geotextile systems installed at Requestors' properties are also designed to be covered by sand to form the base of a cored dune system. According to HUESKER, the Soiltain® fabric is designed to allow for the roots of dune grasses and vegetation to grow into its fibers, thereby further strengthening the dune system and preventing erosion. However, none of the geotextile systems installed at Requestors' properties are covered with sand for the reasons outlined below.

23. Notably, the Soiltain® geotextile bags installed at Requestors' properties were designed to be compliant with OCRM regulations, which only permit sandbag systems up to one cubic yard to be installed. *See* S.C. Code Ann. Regs. 30-15(H)(3)(b) ("The bags, when filled, shall be a maximum size of one cubic yard"), and *compare* to dimensions outlined in the Data Sheet (Ex. 4).

24. If properly covered during or in association with the upcoming renourishment project at DeBordieu Beach, the Soiltain® cored dune systems at Requestors' properties will be completely out of sight and will not impact the coastal processes of the beach or dune system. Only when (and if) the dry sand beach and dune system is eroded in the years following the upcoming renourishment will the geotextile systems become exposed.

25. Since the installation of the geotextile systems at Requestors' properties, none of the Requestors have suffered any significant erosion or flooding damages at their properties despite several significant storms and tidal events. The geotextile installations have been completely effective and remained in place to protect Requestors' properties from erosion and flooding, all without any of the environmental impacts associated with commodity sandbag installations.

26. In fact, during the king tides experienced by the community earlier this month, each of Requestors' geotextile systems were completely effective in protecting their properties from flooding and erosion. *See* Photographs taken November 9, 2021, attached as Exhibit 7.

27. On the other hand, as referenced, the commodity sandbag installations at the neighboring properties suffered catastrophic failure, resulting in significant flood damage to those properties and the release of plastic litter from those bags into the environment. *See* Ex. 2.

OCRM Enforcement Actions

28. In December 2020, Requestors were each issued Notice of Alleged Violation (NOAV) Letters by OCRM, which alleged, among other items, that the geotextile systems at their properties were installed without authorization from OCRM in violation of S.C. Code Ann. § 48-39-130(A) and S.C. Code Ann. Regs. 30-2(B). *See* NOAV Letters attached as Exhibit 8.

29. Since that time, Requestors have, through counsel, coordinated with OCRM towards a resolution of the enforcement actions in a manner that would allow the geotextile systems to remain in place, including through multiple conferences, as well as in-person site inspections.

30. Furthermore, Requestors have presented OCRM with several beach-compatibility sand tests for the sand inside the geotextile systems, removal estimates, and other technical materials in Requestors' possession related to the geotextile systems installed at their properties for purposes of a receiving an after-the-fact permit or otherwise being allowed to maintain the geotextile systems in place. *See* Sand Tests and Removal Estimate Emails, attached as Exhibits 9 and 10, respectively.

31. A representative from HUESKER also provided a PowerPoint presentation of the geotextile systems installed at Requestors' properties to OCRM personnel on January 11, 2021. *See* PowerPoint, attached as Exhibit 11.

32. HUESKER also conducted a tensile strength test for the geotextile material installed at Requestors' properties compared to the commodity sandbag material, which was provided to OCRM. *See* "*Comparative Analysis of Huesker's vs. Competitor's Sandbags*", attached as Exhibit 12.

33. Throughout the enforcement process, Requestors have shown and maintained that OCRM should allow the geotextile systems to remain in place due to a variety of factors, including but not limited to:

- a. the emergency erosion conditions currently experienced at their properties require the systems to remain in place;
- b. the geotextile systems were designed and engineered for the specific coastal application in which they are installed, and have been effectively installed in similar applications around the world;
- c. the geotextile systems were designed to be compliant with the emergency sandbag permitting regulations issued by OCRM;
- d. the geotextile systems currently installed are highly superior to the commodity-type sandbags currently permitted by OCRM in terms of effectiveness, aesthetics, and environmental impact, and the results since installation speak for themselves;
- e. the fill material in the geotextile systems is beach compatible; and,
- f. removal of the systems would cause unnecessary environmental disturbance.

34. To date, the enforcement actions are still pending without a resolution. However, as further described below, OCRM recently informed Requestors that it expects for the geotextile systems to be removed from their properties prior to the upcoming renourishment project.

Change from Coastal Retreat to Preservation Policy

35. In 1988, the "Beachfront Management Act" ("BMA") (Coastal Tidelands and Wetlands Act, as amended, §48-39-250, et seq.) established a comprehensive statewide beachfront management program in South Carolina.

36. The "Policy Statement" section of the BMA provides, among other items, that the State's coastal development policy is to:

- (1) protect, preserve, restore, and enhance the beach/dune system, the highest and best uses of which are declared to provide:
 - (a) protection of life and property by acting as a buffer from high tides, storm surge, hurricanes, and normal erosion;
 - (b) a source for the preservation of dry sand beaches which provide recreation and a major source of state and local business revenue;
 - (c) an environment which harbors natural beauty and enhances the well-being of the citizens of this State and its visitors;

(d) natural habitat for indigenous flora and fauna including endangered species;

S.C. Code Ann. § 48-39-260.

37. Notable here, the BMA also established at the time a policy of “gradual retreat from the [coastal] system over a forty-year period.” S.C. Code Ann. § 48-39-260 (1988); *see also* S.C. Code Ann. § 48-39-280 (1988)(“A forty-year policy of retreat from the shoreline is established.”).

38. Pursuant to this “forty-year policy of retreat”, OCRM established jurisdictional development boundaries referred to as the “baseline” and “setback” lines, which govern how close to the ocean property can be developed and what repairs can be made to beachfront property in the event of storm damage, among other items. *See* S.C. Code Ann. § 48-39-280. These jurisdictional lines are updated by OCRM every seven to ten years based on best available data pursuant to the statute. *Id.*

39. The State’s coastal retreat policy remained in place for three decades, despite frequent challenges to OCRM’s authority under the regulatory scheme.⁵

40. Pursuant to the Beachfront Management Reform Act of 2018 (the “Reform Act”), the State’s policy of coastal “retreat” was abolished and replaced with a policy of coastal “preservation.”

41. Pursuant to the Reform Act, the title of S.C. Code Ann. § 48-39-280 was amended to read, “Beach preservation policy established[.]”, and that statute now provides: “A policy of beach preservation is established. The department must implement this policy and utilize the best available scientific and historical data in the implementation . . .” S.C. Code Ann. § 48-39-280(A).

⁵ OCRM or its predecessor faced (and continues to face) frequent challenges to its jurisdictional development boundary determinations, not the least of which resulted in the seminal Supreme Court takings case, *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 112 S. Ct. 2886 (1992).

42. All references to the State’s previous policy of coastal retreat, including a reference in the policy section of the BMA (Section 48-39-260), were eliminated pursuant to the Reform Act, which also holds in place the most seaward beachfront development jurisdictional lines established until that point. *See* S.C. Code Ann. § 48-39-280(A)(1)(4).

43. Earlier this year, OCRM established the “Beachfront Preservation Technical Advisory Committee” (TAC) to review and evaluate the State’s policy of beach preservation. According to DHEC’s website, “The members of the [TAC] will work to inform a future South Carolina Beach Preservation Committee by examining research and information related to beach preservation techniques, including shoreline stabilization, beach nourishment and dune restoration, and land management.”⁶

44. OCRM’s establishment of the TAC is a positive and productive step forward as the State transitions to its current policy of coastal preservation.

45. However, no substantive regulations have been promulgated by OCRM as they relate to a beachfront property owner’s ability to implement new and effective solutions to effectuate the State’s policy of beachfront preservation since the Reform Act was passed in 2018, including as it relates to shoreline stabilization or dune restoration methods currently under consideration by the TAC.

46. Requestors are also not aware of any research activities that have been conducted since the passage of the Reform Act which would evaluate potential mechanisms and applications to implement the State’s coastal preservation policy, whether by OCRM or anyone else.

⁶ <https://scdhec.gov/environment/your-water-coast/ocean-coastal-resource-management-ocrm/beach-preservation-technical-advisory-committee>

Research Proposal Permit Request

47. On October 25, 2021, Dr. Paul Gayes⁷ of Coastal Carolina University submitted a research proposal to DHEC's Office of Coastal Resource Management (OCRM) entitled, "Planned Study and Research Permit Proposal as the State Of South Carolina Transitions from a Beachfront Policy of 'Retreat' to 'Preservation'" (hereinafter, "Research Proposal"). The Research Proposal and associated email transmittance are attached as Exhibit 13.

48. The Research Proposal includes a variety of study elements designed to evaluate the State's coastal preservation policy, including but not limited to an evaluation of the functionality of natural and engineered beach dune systems in the Grand Strand region and the reduction of inundation risk related to those systems. *See Ex. 13*.

49. Among other study components, the Research Proposal sought permission from OCRM to leverage the upcoming renourishment and groin project (Permit No. 2017-01795) at DeBordieu Colony in furtherance of the study.

50. Specifically, pursuant to the Research Proposal, the geotextile systems at Requestors' properties would be covered with sand during or in association with the upcoming renourishment project to form a cored dune system (as they were designed to be). Those cored dune systems would then be evaluated in comparison to other natural or engineered dune systems pursuant to the methodology outlined in the Research Proposal, and for purposes of determining whether they are an effective and appropriate method of shoreline stabilization or dune restoration in furtherance of the State's coastal preservation policy.

⁷ Dr. Gayes is the Director of Coastal Carolina University's Burroughs & Chapin Center for Marine and Wetland Studies and the Palmetto Professor of Marine Science and Geology. His academic bio is available at: <http://scmss.coastal.edu/faculty/ptgayes>.

51. However, the covering of sandbags with sand is specifically prohibited pursuant to a regulation promulgated by OCRM, which states: “At no time shall the sandbags be buried or covered with sand.” S.C. Code Ann. Regs. 30-15.H(3)(d).⁸

52. Accordingly, Dr. Gayes sought permission under the “Educational Institution Research” and/or “Pilot Project” provisions of the BMA to conduct the study such that the geotextile systems at Requestors’ properties could be covered with sand during the upcoming renourishment project.

53. Specifically, S.C. Code Ann. § 48-39-130, entitled, “Permits required to utilize critical areas”, provides, in relevant part, that it shall not be necessary to apply for a permit for a variety of activities, including “**research activities of state agencies and educational institutions . . . provided that such activities cause no material harm to the flora, fauna, physical or aesthetic resources of the area.**” S.C. Code Ann. § 48-39-130(D)(2)(emphasis added).

54. Similarly, S.C. Code Ann. § 38-39-320, entitled, “Comprehensive beach management plan; pilot projects to address beach and dune erosion”, provides, in relevant part:

(C) Notwithstanding any other provision of law contained in this chapter, the board, or the Office of Ocean and Coastal Resource Management, may allow the use in a pilot project of any technology, methodology, or structure, whether or not referenced in this chapter, if it is reasonably anticipated that the use will be successful in addressing an erosional issue in a beach or dune area. If success is demonstrated, the board, or the Office of Ocean and Coastal Resource Management, may allow the continued use of the technology, methodology, or structure used in the pilot project location and additional locations.

S.C. Code Ann. § 38-39-320(C)(emphasis added).

⁸ Notably, there is no statutory provision in the BMA which prohibits the covering of sandbags with sand, as proposed in the Research Proposal. That prohibition is only contained in the aforementioned OCRM regulation, promulgated under the auspices of a “retreat” policy.

55. The Research Proposal was also accompanied by a cover letter and geotextile engineering report drafted by Mr. Joe Little, PE⁹, of Little Environments, PLLC, entitled, “An Examination of Geosynthetics for Application on South Carolina Coastlines Under Broader Consideration of Technological Improvements in the Industry, Materials, and Lessons Learned from Existing Applications[.]” (“Little Report”). The Cover Letter and Little Report are attached as Exhibits 14 and 15, respectively.

56. Among other information, the Little Report examines the application and history of engineered geosynthetic coastal systems around the world in contrast with commodity or traditional coastal sandbags. *See Ex. 15*. Based on Mr. Little’s first-hand experience with regard to the effectiveness and significant benefits of geosynthetic systems like those installed at Requestors’ properties, the Little Report recommends that OCRM allow the systems to remain in place pursuant to the methodology outlined in the Research Proposal.¹⁰

57. The Little Report was also submitted to OCRM with a tensile-strength testing report and Summary of Results comparing the geotextile material installed at Requestors’ properties with the commodity sandbag material. The testing report and Summary of Results are attached as

⁹ Mr. Little is a coastal engineer based in Raleigh, North Carolina, who has worked with geosynthetics in dozens of coastal applications.

¹⁰ As stated in Mr. Little’s Cover Letter:

It is my sincerest engineering opinion, supported by the documents above, that the examination of the engineered geosynthetic containers left where they are currently, and supplemented by the upcoming beach nourishment, by the means and methods proposed under Paul Gayes research proposal, is a smart and informed path forward for [DeBordieu] Colony, community stake holders, and the environment. The information and understanding to be gained from an approved research permit will further benefit the state of SC and its future generations in the management and environmental stewardship of our coastlines.

Ex. 14.

Exhibits 16 and 17, respectively. The tensile-strength testing report shows that the geotextile materials installed at Requestors' properties are up to 8-10 orders of magnitude stronger than traditional or commodity sandbags. *Id.*

OCRM Denial of Research Proposal

58. On November 10, 2021, OCRM denied the Research Proposal. OCRM email denial, attached as Exhibit 18. Although OCRM did not object to certain components of the proposed study, it declined to exercise its discretion to issue an appropriate permit to allow for the geotextile systems at Requestors' properties to be covered with sand during or in association with the upcoming renourishment project. *See Ex. 18.*

59. Specifically, OCRM stated that it “declines to exercise its discretion pursuant to the ‘pilot project’ provisions under S.C. Code Ann. Section 48-39-320(C) as it is not reasonably anticipated that the use of buried sandbags will be successful in addressing an erosional issue in a beach or dune area because buried sandbags would not affect coastal processes until the sandbags become exposed.” *Id.*

60. OCRM further stated that it “does not support the proposed burying of the existing sandbags and asserts that ‘research activities of state agencies and educational institutions’ under S.C. Code Ann. Section 48-39-130(D)(2) cannot violate other statutes or regulations.” *Id.*

The Decision of OCRM to Deny the Research Proposal Should be Reversed by this Board

61. As outlined in this Request, the evidence presented by Requestors in support of the Research Proposal conclusively establishes a strong likelihood that Dr. Gayes' study will determine that the geotextile systems installed at Requestors' properties are an appropriate and effective tool that can and should be utilized by beachfront property owners as the State transitions to a policy of coastal preservation.

62. As an initial matter, unlike commodity sandbags, the geotextile systems at Requestors' properties were engineered specially for the coastal environment, including as it relates to tensile strength, abrasion resistance, UV resistance, and multiple other factors. *See Ex. 4.* These systems have proved effective for decades without failure in other similar coastal applications around the world. *See Exs. 5 and 6.*

63. Indeed, Requestors and OCRM have witnessed first-hand over the past year how effective the geotextile systems are in comparison to the commodity or traditional style bags installed elsewhere on DeBordieu Beach. *Compare Exs. 2 and 7.*

64. Simply put, the neighboring commodity sandbag systems installed at DeBordieu Beach have suffered catastrophic failure when faced with any significant storm or tidal events, while the geotextile systems installed at Requestors' properties have been totally unfazed by those same events since their installation.

65. Along those lines, the failure of the commodity sandbags at DeBordieu Beach has resulted in large quantities of plastic sandbag litter strewn across the beach and into the ocean following storm events, as expected and outlined in the Little Report. *See Exs. 2 and 15.* On the other hand, Requestors' geotextile systems have not resulted in any similar litter or environmental impacts.

66. Furthermore, as it relates to the Research Proposal's request to allow the geotextile systems at Requestors' properties to be covered to from a cored dune system, the conditions at the south end of DeBordieu Beach, as outlined in this Request, confirm that that component of the study should be allowed to move forward for purposes of evaluating whether such a system can lead to improved beach preservation techniques, including shoreline stabilization and dune restoration.

67. As previously outlined, only when the dry sand beach and dune system is eroded in the years following the upcoming renourishment at the south end of DeBordieu Beach will the geotextile systems at Requestors' properties become exposed. In that scenario, the geotextile systems will be acting as the last line of defense from the emergency conditions experienced at Requestors' properties (as they are currently), such that Requestors would be eligible to install emergency sandbags at that time.

68. Similarly, to the extent the geotextile systems become exposed at Requestors' properties in the years following the upcoming renourishment project, the bulkhead would also be exposed at that time such that the exposed geotextile systems would not have any effect on the flora, fauna, physical, or aesthetic resources of the area (including, namely, the ability of sea turtles to nest).

69. Accordingly, allowing the geotextile systems to remain in place at Requestors' properties, as proposed in the Research Proposal, thereby further limits the environmental impacts to the beach associated with the installation and reinstallation of emergency sandbag or geotextile systems in the future.

70. Furthermore, despite OCRM's position that pilot project permits cannot violate existing OCRM regulations, the relevant statute specifically provides to the contrary. Specifically, as set forth, Section 38-39-320 provides that pilot project permits can be issued **“[n]otwithstanding any other provision of law contained in this chapter . . . if it is reasonably anticipated that the use will be successful in addressing an erosional issue in a beach or dune area.”** S.C. Code Ann. § 38-39-320 (emphasis added).

71. As set forth, the evidence presented in this Request in support of the Research Proposal conclusively establishes a strong likelihood that covering the geotextile systems installed

at Requestors' properties, as proposed in the Research Proposal, will, in fact, "be successful in addressing an erosional issue in a beach or dune area." *See id.*

72. Similarly, the educational research exception outlined in Section 38-39-130 is silent as to whether the research activities allowed pursuant to a permit issued under that statute can utilize technology that is currently in violation of an OCRM regulation. *See* S.C. Code Ann. § 38-39-130. Instead, the statute simply requires that those research activities "**cause no material harm to the flora, fauna, physical or aesthetic resources of the area**", which would not be an issue in this scenario for the reasons outlined above. S.C. Code Ann. § 48-39-130(D)(2)(emphasis added).

73. Significantly, interpreting the research statute and/or pilot project statutes so as not to allow the permitting of research activities which may be in violation of current OCRM regulations would stifle coastal management innovation and technological advances, which are both desperately needed in an era of increased coastal pressures on development, especially as it relates to climate change and sea level rise.

74. Such a position could also specifically undermine certain policy statements outlined in the BMA, including but not limited to the State's responsibility to "protect, preserve, restore, and enhance the beach/dune system, the highest and best uses of which are declared to provide [] . . . [] protection of life and property by acting as a buffer from high tides, storm surge, hurricanes, and normal erosion[.]" S.C. Code Ann. § 48-39-260(1)(a).

75. Notably, a variety of other coastal states, including but not limited to Florida, Massachusetts, and North Carolina, have adopted a more progressive and technological approach to coastal management. Relevant here, those states have implemented statutes or regulations which allow for geotextiles, cored dune systems, or buried sandbags to be used in appropriate coastal

applications, provided that strict compliance requirements are achieved. *See, e.g.* 15A N.C. Admin. Code 7H.0308.

76. Based on information learned from the Research Proposal, to the extent it is allowed to move forward as proposed, South Carolina coastal policy managers could adopt similar compliance requirements in allowing geotextile systems to be permitted in this State under appropriate coastal conditions, including but not limited to material standards for the geotextile materials installed, bond requirements to ensure removal of installed systems, requirements to conduct minor renourishment activities to keep the geotextile systems buried, and/or commitments of ongoing and future renourishment (like there is at DeBordieu Colony).

Conclusion

For the reasons outlined in this Request, Requestors respectfully request that this Board conduct a Final Review Conference and reverse OCRM's decision not to issue a research or pilot project permit to Dr. Gayes for purposes of allowing the complete Research Proposal to be conducted, as currently proposed.

[SIGNATURE PAGE FOLLOWS]

EXHIBIT 3

From: Paul Gayes <ptgayes@coastal.edu>
Sent time: 10/25/2021 10:39:08 AM
To: von Kolnitz, Elizabeth <vonkoln@dlhec.sc.gov>
Cc: J. Joseph (Joe) Owens; Laura Arencibia <larencib@coastal.edu>
Subject: Beach "Functionality" Preservation research proposal.
Attachments: OCRM Research Permit Request-Oct 20-2021.docx

Hi Elizabeth, attached please find the overview proposal concept to leverage the upcoming beach renourishment project at Debordieu to contribute to the developing discussions of what "preservation" of the beach-dune system means as a guiding principle to the state. The premise is to document the spectrum of functionality across the existing shoreline using the Grand Strand region of South Carolina, with some areas being "fully" functional and others being significantly to severely impacted in terms of functionality of key services of the beach-dune system.

The underlying hypothesis is that areas presently under the most pressure of high background erosion rates may be a valuable proxy for broader future pressures associated with sea level rise and anticipated continuation of changes in storm, as well as day to day sediment dynamics and response of beaches in the region. With such an expected widening of the extent of more highly pressured or reduced functionality the options to affect a preservation strategy can be expected to become heightened. The hope is through such an exercise now, much needed discussions and considerations may find more urgency so they might be considered purposefully and deliberately rather than the prospect delaying until under pressures of perceived "emergencies" in the future; when arguably alignment of principle and practice may be more challenging to sustain

To best leverage the opportunity associated with the upcoming project at Debordieu, it would seem a meeting with OCRM and various groups that can shape the final design specifics considerations at Debordieu to optimize definitions of functionality and services within the dune system in this case would be productive across a myriad of sub-issues related to renourishment, groins, geotubes with associated materials and design more generally framed out in this proposal. Our goal here is more the consideration of functionalities as defined in considering process-response nba

I'm copying Joe Owens at Willoughby & Hoefler, P.A. to both inform the community the represents and the hope towards engagement in the refinement of design for interest of all involved; including the beaches of South Carolina.

Hope all is well but you and everyone there. Some things are progressing with onshore wind power test bed and should give you a heads up next window of opportunity.

Best regards, PTG

Paul T Gayes
Executive Director-Burroughs and Chapin Center for Marine and Wetland Studies
Professor of Marine Science
Coastal Carolina University
PO Box 261954
Conway, SC 29528
843-349-4015

Planned Study and Research Permit Proposal as The State Of South Carolina Transitions From A Beachfront Policy Of “Retreat” To “Preservation”

The State of South Carolina has transitioned the guiding principle of its beachfront management policy from one focused on the health of the active beach system free to migrate landwards under conditions of sea level rise and deficient in local sedimentary budget on interannual to decadal scales to a new principle of beach preservation. As was the case with the original Beachfront Management Act, there are considerable details and challenges in implementation of the very long-term goals in the short (event) and mid (decadal) scales.

There is presently a broad continuum in the degree and nature of functionality of the active beach dune system along the Grand Strand of South Carolina that presents an opportunity to begin to test and explore the long-term outcome of the new principle of beach preservation. This proposal seeks to characterize the range of functionality along the present Grand Strand, which spans from fully functioning “natural” beach dune systems free to migrate landwards, to those where “preservation” is more established as holding the present shoreline and ambient stasis sustained by periodic beach nourishment projects.

At the present time, there is an opportunity to leverage an upcoming beach renourishment project in an area of historically high erosional pressure. This area has begun to modify its historically constructed beach nourishment designs to include other engineering structures targeting enhancing the stability and length of time a traditional renourishment may provide benefits, as further outlined in this proposal.

Traditionally high erosion rate locations can serve as a critical proxy for the long-term consideration of the challenge and decisions ahead of the State as time and sea level rise progress. Over time, based on measured long-term sea level change at Myrtle Beach, it is clear sea level has been rising and presently is rising considerably faster than in the early 2000’s. Further, the region has experienced a series of large storm events consistent with modeled projections of increased pressure on coastal states and communities.

With the State forming a Beach Preservation Technical Committee to begin to address the fuller meaning and consequence of the change in guiding principle, the proposed study is well aligned to help inform a critical and timely state consideration policy managing a critical dynamic environment.

Study Elements:

FUNCTIONALITY OF BEACH DUNE SYSTEMS. For the purpose of this study, the functionality or ecosystems services of the active beach dune system is characterized by the following attributes:

Natural Beach Dune Sediment Budget: The short term (annual) behavior of the beach segment budget, which ultimately drives where there is long term erosion or stability of a section of coastline, can be characterized by longer term (months to years) storage of sediment in the

upper beach-dune system during periods of fair weather to be available to be released back into the lower beach and surf zone/nearshore bar portion of the beach during storm events. The dune system sub-cell is notably operational on a longer-term scale of years to decades and as a result is highly sensitive to changes in the rates of sediment storage through aeolian processes and frequency of storms and loss of sand from the dunes sub-system back to the lower beach and surf zone effecting its role as a source of sediment to be redistributed across the beach during events.

Reduction Of Risk and Impact of Inundation During Large Storms: The role of a wide and high dune system as the primary defense from infrequent but large storms and associated surges is well established. Many projects and indices of risk of the coast and infrastructure behind the dunes is predicated on the morphology of the dune system. Where inter-storm recovery of the dunes system is unable to keep up with the availability of sand, driven by the long-term sediment budget of the system and the frequency of storm events actively drawing sand from the dune system faster than recovery, the functionality of the dunes in reducing inundation and damage to coastal infrastructure is reduced.

The Beach Dune System As A Habitat For Biological And Biogeochemical Services. A range of plants and animals utilize the dune environment for part or all of their life cycle. Organisms such as Piping Plover and Turtles access dunes as sites for nesting. Seabeach Amaranth is a dune plant that has experienced considerable pressure and of concern along the coast.

WORK ELEMENT 1

Undertake an assessment of the morphology, stability and historical capacity to sustain dune functions and recovery, whether naturally or through beach nourishment projects. This can be characterized by historical beach profiles Coastal Carolina University (Coastal) began collecting in the late 1980's and continues to monitor in sections of the Grand Strand. Recently, Coastal has begun to utilize LIDAR to characterize dune morphology and variability in great spatial resolution. This element will set up basic metrics of dune height, width, volume, storm impact and recovery from historical data sets.

We will characterize dune "health" and service of resistance to inundation as a function of subaerial dry beach width to support the assertion that dune stability and services will degrade if insufficient high tide dry beach is present to enable aeolian processes to bridge the sediment dispersal patterns to include actively storing sand in the local dune system.

A parallel effort will also utilize existing data sets (Google Earth) and potentially locally new photogrammetric drone video data to classify the density, maturity and stability of dune vegetation. This is expected to serve as a validation of the morphologically based determination of stability and functional aeolian dune processes.

We will also spatially plot historical Sea Turtle nest locations from SC DNR data to compare the use and viability of nests along sections of the coast that experience low erosion rates (historical) and stable dune systems.

WORK ELEMENT 2

While some areas of the Grand Strand have been largely sustained by present rates of natural sediment dispersal pathway, most locations along the Grand Strand have been “preserved” to varying degrees of success by periodic re-introduction of volumes of sediment and associated dune construction. There are however, a number of locations that have been particularly challenged to maintain a fully functional beach/dune system and associated services such as reduction of storm inundation and habitat. We assert that these areas present an important opportunity to consider the “what, then” question when historical methods to mitigate beach erosion are unable to sustain the full suite of beach dune system functionalities. The recent measurements and projections for continued elevation of some of the erosional drivers of relative sea level rise and storminess would argue more areas of the SC coast will begin to face increased erosional pressure and challenges to the principle of “preservation”.

A specific test of the challenges seeks to leverage an upcoming renourishment project at the Debordieu Community in Georgetown County. It is here where the addition of three “low profile groins” has been added to the historical renourishment applications, reflecting the challenges of the traditional approach to beach erosion and “preservation”. The southern end of the community is particularly challenged and can serve as an example for a consideration of a range of long-term challenges, such as sea wall and emergency order policy.

At the present time, at the end of a renourishment cycle, there are dunes that have failed from lack of sufficient sediment budget and elevated pressure on loss of sediment from the beach dune system. Those areas arguably have not provided any of the primary beach dune services of reduction of inundation risk, participation in the annual to decadal sediment budget or as habitat. At a few properties, following a storm impact homeowners installed a diversity of emergency structures (sand bags and geotextile tubes). Those structures are a source of a range of regulatory concern, which heightens the value of testing the potential for sustaining some level of services.

We proposed to engage with DHEC OCRM, other commenting agencies and the renourishment contractors to undertake a test of the level of functionality of constructed dune systems in the area of highest erosional pressure, where the dune system has historically failed and arguably provided little if any of the primary services targeted within the principle of preservation.

Specifically, we are hopeful a section of the coast presently bordered by structures placed under emergency conditions, may be able to remain in place, modified as may be required and practical for present considerations. The goal of the study will be assessing the difference in functionality and services afforded by dune construction as traditionally practiced from those cored or pre-positioned for the reasonably expected emergency conditions in the future.

The expectation is that adjacent sections of un-cored dune will, similarly to the section cored by geotubes, experience sand loss and associated functionality, however, in the section where geotubes become emergent, the reduction and impact of storm inundation and damage to at

least moderate level storms is expected to endure. Notably, the type of geotubes installed at this section were specifically engineered to achieve that result when compared against the commodity protection materials currently permitted by the State. However, the structures were also designed to be compliant with existing regulations to the greatest extent possible, but presently it would not be permissible to cover the structures with sand for purposes of evaluating the cored dune system.

We would urge through the discussion of all concerned that a pathway to periodically nourish just the dune system can be established, which can maintain the aesthetic and at least be commensurate with adjacent unconsolidated dune services. We expect the impact of geotube cored sections of dune will readily be demonstrated to expand risk reduction functions, which will be monitored by LIDAR survey. Question of habitat function will be assessed as above for the broader Grand Strand by tracking dune vegetation density, maturity and future turtle nest inventories.

We expect the project to provide valuable context for the “What, then” question, where the reasonably anticipated shift of more sections of the South Carolina coast from diminished capacity of past preservation / coastal erosion strategies to keep up with the evolving pressures. With the DeBordieu Community presently experiencing rather severe erosional pressures, and other hotspot areas enduring similar challenges, is a critical concern and challenge to the concept and meaning of preservation as a statewide policy.

LOGISTICAL CONSIDERATIONS

We propose to undertake the study leveraging long term focus and data sets developed by BCCMWS at Coastal Carolina University, as well as historical monitoring data by SC OCRM, and DNR. LIDAR applications at DeBordieu will be completed as part of long-term student training and research experiences for CCU undergraduates. Elements of this work will be incorporated into a broader PhD dissertation by Ms. Laura Arencibia. BCCMWS has entered a cooperative agreement with South Carolina Sea Grant to re-establish a research/extension position based at CCU. Ms. Katie Finegan is a Coastal Engineer (M.S. NCSU) with seven years of experience in North Carolina who will fill the CCU-SCSGC position starting in October 2021. Ms. Finegan will also participate and assist with directing CCU students and analyses. Dr. Paul Gayes will serve as Principal Investigator and be responsible for the overall project objectives and coordinating results with OCRM and other interested parties.

EXHIBIT 4

South Carolina Department of Natural Resources

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Robert H. Boyles, Jr
Director
Lorianne S. Riggan
Director, Office of
Environmental Programs

January 11, 2022

Mr. Blair Williams
Manager, Critical Area Permitting Section
Ocean and Coastal Resource Management
SC Dept. of Health and Environmental Control
1362 McMillan Avenue, Suite 400
Charleston, SC 29405

REFERENCE: Sandbag usage on beaches and associated wildlife impacts

Dear Mr. Williams,

The South Carolina Department of Natural Resources (SCDNR) is writing this letter in response to a request for information from the South Carolina Department of Health and Environmental Control (SCDHEC) regarding the potential impacts to wildlife and their habitat as a result of the use of temporary or permanent sandbags on beaches.

Sandbags placed as a barrier alongside shore-parallel structures are a means of soft stabilization to temporarily stop or slow the effects of erosion. Impacts of sandbags to coastal geomorphology and geological processes that naturally shape barrier island beaches vary depending on the size of the sandbags and the duration they remain in place. As fixed structures that are effectively impermeable, the installation of sandbags on a beach interrupts sand transport down the beach through longshore processes (GEL Engineering, 2016; Wallingford, 2000). Sandbags have been identified as an appropriate alternate for hard engineering structures that vary only in that they are less permanent and less expensive (Cooper and Pilkey, 2004). When stacked, large sandbags placed parallel to a beachfront shoreline can cause scouring by deflecting wave energy downward, in a similar fashion to concrete seawalls, creating toe erosion (Dolan, 1972; Dean, 2009). If erosion occurs adjacent to sandbags, the sandbags also have the potential to act as groins, trapping sediment updrift (Wallingford, 2000).

The presence of sandbags on the beachfront can also impact the grain size composition of the beach sand; median diameter of sand on the beach berm and at the toe of sandbags placed parallel to the beach can increase over time, becoming coarser grained (Li *et al.*, 2020). The placement of sandbags on a beach can also interfere with the exchange of sand between beach

face and adjacent dune systems, which provide natural protection from storms and function as a sand storage mechanism for the beach and larger coastal system. Sandbags are only appropriate for short-term protection while other management solutions are being planned; they should be removed as quickly as possible to prevent long-term impacts on the landscape and allow natural geomorphic processes to resume (Wallingford, 2000).

The presence of sandbags not only impacts the movement and composition of sediments, thus affecting wildlife habitat, but can also cause direct impacts to wildlife. Loss of available nesting and foraging habitat could have detrimental impacts on sea turtle and shorebird populations. Like hard beach engineering options, sandbags can eliminate some of the essential components of the beach that these species need to survive. Nesting by sea turtles typically occurs between the area of the mean high tide line and primary dune crest of the beach. Any barriers, such as sandbags, and other obstructions that prevent sea turtles from accessing dry sand at higher elevations creates a loss of habitat. When forced to use a less favorable nest site, one more seaward than would normally be chosen due to the placement of an obstruction, this results in greater egg mortality.

Sea turtle nests are typically excavated 18-24 inches below the surface; therefore, sandbags covered with sand also create a barrier underneath the visible beach surface that can prevent sea turtles from successfully excavating a nest and wasting energy reserves. When a sea turtle encounters a barrier on the beach, whether to reach high ground or in excavating a nest, she must expend additional energy to find a new nest site which reduces the reproductive fitness of the nesting female. At times, a female sea turtle may return to the ocean only to exit again later for another laborious crawl onto land all while not eating during egg laying season. Multiple nesting attempts to reach suitable habitat can attribute to less nesting success overall as females abort eggs at sea resulting in a reduction of contribution of offspring to the sustainability of the many federally protected sea turtle species that nest on South Carolina beaches.

Coastal engineering projects also present a specific and complex threat to coastal bird species having the potential to eliminate habitat for migrating and wintering birds. According to Dugan et al. (2006, 2008), studies in sandy beach environments have observed reduced abundance and diversity of shorebirds along armored beaches relative to those unarmored. Additionally, the loss of upper beach and shallow water foraging zones, as well as changes in the availability of prey has also been attributed to and associated with armoring. Temporary or permanent structures, including sandbags, placed within the coastal environment displace natural habitat and have the potential to greatly diminish the suitability of the habitat to meet the needs for shorebird survival and reproduction. Shorebirds depend on the intertidal and supratidal habitats for foraging, roosting and nesting.

In South Carolina, ocean-facing sandy beaches are also known to be important spawning habitat for the Atlantic horseshoe crab. Female horseshoe crabs typically come ashore to spawn during the months of April through June. During mating, females typically bury themselves in the sand to deposit their eggs at a depth of 8 cm to 15 cm. Therefore, similar to sea turtles, the presence of sandbags in such locations has the potential to create an obstacle to female horseshoe crabs attempting to deposit their eggs in the sand. In addition, depending on the location of the bags,

females could be prevented from reaching their desired location for spawning within the intertidal region. Horseshoe crabs coming ashore ocean beaches in high wave energy environments can be susceptible to flipping which leads to desiccation and mortality. Sandbags could contribute to this flipping-related mortality.

Sandbags that remain for extended periods of time and become buried on the beach also have the potential to cause impacts to intertidal benthic organisms. These organisms include small crustaceans, clams and worms that live in the beach sediment matrix and are important prey items for fish, larger invertebrates, and shorebirds. Two of the most abundant organisms in this community, which are also important prey species, are amphipod crustaceans and *Donax spp.* clams, both of which burrow into the sediment and use wave activity to migrate up and down the beach with the tide. Depending on sandbag placement and location, they could serve as a barrier to intertidal benthic organism movement either vertically, by directly inhibiting burrowing, or horizontally, by inhibiting access laterally during certain portions of the tide if they become exposed. Both outcomes would render the habitat unusable to these prey species and thus as well to the shorebirds that forage for these species in these habitats. If sandbags are buried and located in an erosive environment, their depth and exposure would likely become shallower and more exposed over time, further exacerbating any potential impacts for intertidal benthic organisms.

Depending on the sandbag material, eventual degradation could also contribute plastic particles to the surrounding environment. Sandbags are considered a temporary measure and degrade over time in the environment from exposure to wind, water and sun. As they degrade, they become a concern for potential wildlife entanglement and ingestion, as well as pollution, both as microplastic and partial bags on the beaches and in the ocean.

In summary, sandbags that stay permanently on ocean-facing beaches have the potential to cause significant negative impacts to beach geomorphology and wildlife species, such as sea turtles, shorebirds, horseshoe crabs, and the intertidal benthic community which depend on the health of the beach habitats.

If you have any questions related to this information, please contact Stacie Crowe at 843.953.9092 or at crowes@dnr.sc.gov.

Sincerely,



Stacie Crowe
Coastal Environmental Project Manager
Office of Environmental Programs

References:

Cooper, J.A.G. and Pilkey, O.H. 2004. Alternatives to the mathematical modeling of beaches. *Journal of Coastal Research*, 20(3), pp.641-644.

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EXHIBIT 5

**BEFORE THE BOARD OF HEALTH AND ENVIRONMENTAL CONTROL
INITIAL STAFF RESPONSE TO REQUEST FOR REVIEW**

Requestors: Price and Carolyn Sloan
Mark and Anne Tiberio
Michael and Laura Schulte, and
Northwest Properties of Hickory, LLC
Joseph Owens, Attorney for Requestors, Willoughby & Hoefler, P.A.
Stephen Goldfinch, Attorney for Requestors, Stephen Goldfinch Attorney at Law

Applicant: Dr. Paul Gayes, Coastal Carolina University (CCU)

Docket No.: 21-RFR-89

OGC No.: 2021-OCR-0031

I. Summary

a. Type of Request.

Request to conduct a study under an exception to a permit pursuant to S.C. Code Ann. §48-39-130(D)(2) and S.C. Code Ann. Regs. 30-5(A)(2).

b. Location.

Shoreline along the beachfront of DeBordieu Colony in Georgetown County.

c. Decision.

On November 10, 2021, the South Carolina Department of Health and Environmental Control's Office of Ocean and Coastal Resource Management ("Department" or "DHEC OCRM") responded, via email, to a study request submitted by Dr. Paul Gayes with CCU. Specifically, the Department's response addressed concerns about burying sandbags, which is expressly prohibited by S.C. Code Ann. Regs. 30-15.H(3)(d), which states, "At no time shall the sandbags be buried or covered with sand." Additionally, the Department's response addressed concerns about leaving sandbags in place and covering them with sand from an upcoming beach renourishment and groins project, and how the sandbags could affect the detailed monitoring program required by the issued renourishment and groins permit. It should be noted that the Department is not opposed to Dr. Gayes or CCU undertaking other aspects of the coastal study that was requested along DeBordieu Colony or the Grand Strand of South Carolina that do not involve the burial of sandbags, provided additional information regarding study parameters are submitted for further coordination. **See Exhibit A (Email).**

d. Relevant Chronology.

The chronology shows the Department conducted a thorough review and was responsive to specific inquiries and public participation.

January 24, 2019 – DHEC OCRM issued Critical Area Permit Number 2017-01795 for beach renourishment and three groins to the DeBordieu Colony Community Association. The project footprint includes the shoreline seaward of Requestors' properties.

August 24-27, 2020 – Department staff testified at the Administrative Law Court in defense of issued permit 2017-01795.

September 23, 2020 – Department staff observed unauthorized, stacked sandbags and other materials placed in the beach/dune system critical area landward of the timber seawall at several properties at the southern end of DeBordieu Colony in Georgetown County within DHEC OCRM's direct permitting jurisdiction. It is the Department's understanding that the unauthorized sandbags and other materials were installed sometime after Hurricane Isaias (August 3, 2020) and prior to staff's site visit on September 23, 2020, and these materials were placed without an Emergency Order authorization from the Department.

September 24, 2020 – Department staff sent Cease and Desist Directives via certified mail to property owners where unauthorized materials had been placed. The Directives instructed the property owners to immediately stop the placement of all unauthorized materials in the beach/dune system critical area.

October 1, 2020 – Department staff sent Notice to Comply documents via certified mail to property owners where unauthorized materials had been placed. The Notice to Comply documents required the removal of all unauthorized materials from the beach/dune system critical area at the sites.

October 6, 2020 – Department staff received notice that Willoughby & Hoefler, P.A. and Stephen Goldfinch Attorney at Law had been retained by Requestors as legal representation.

November 6, 2020 – After additional site visits documented that the unauthorized sandbags and other materials remained within the beach/dune system critical area, the matter was referred from Compliance staff to Enforcement staff for further action.

December 11, 2020 – Department staff sent Notice of Alleged Violation/Admission Letters, including proposed Findings of Fact, via certified mail to Requestors and their attorneys.

December 22, 2020 – A meeting with Department Critical Area Permitting staff and Compliance and Enforcement staff was requested by one of Requestors' attorneys.

January 7, 2021 – A conference call was held between one of Requestors' attorneys, Critical Area Permitting staff, and Compliance and Enforcement staff to discuss the authorization process for sandbags at Requestors' properties. Department staff answered all questions regarding the Department's process for beachfront emergency orders, including the bonding process associated with sandbags.

January 11, 2021 – A Microsoft® Teams meeting was held between Requestors’ attorneys, Department staff, and a representative from Huesker, the manufacturer of the sandbags placed at Requestors’ properties. The Huesker representative presented information about the specifications of the sandbags placed in the beach/dune system critical area.

February 1, 2021 – An enforcement conference was held virtually via Microsoft® Teams. Department staff, the Department’s attorney, and Requestors’ attorneys were present.

February 26, 2021 – A site meeting was held on DeBordieu Island to further discuss the sandbags and the material within them. Department staff, an attorney for Requestors, and a contractor for Requestors were present at the site meeting. Department staff took measurements of a representative sample of sandbags, which were used to determine that the approximate size of each sandbag at Requestors’ properties is one (1) cubic yard. After the meeting at DeBordieu Island, Department staff and the contractor for Requestors proceeded to a sand pit in Andrews, SC off Laser Point Road. Requestors’ contractor stated that the sand pit was the source of the materials used at the sites and within the sandbags. Requestors’ contractor acknowledged that there were inconsistencies in the materials mined from the pit.

March–October, 2021 – Department Enforcement staff have been drafting and finalizing Consent Orders in an attempt to bring Requestors’ properties into compliance.

October 25, 2021 – The Department received a study request from Dr. Paul Gayes at CCU to, among other items, “undertake a test of the level of functionality of constructed dune systems in the area of highest erosional pressure” at DeBordieu Colony. **See Exhibit B (Study Request).**

November 10, 2021 – The Department responded to Dr. Gayes via email and stated that the Department is not granting permission for any sandbags to be buried and left in place as proposed in the submitted study request.

November 23, 2021 – The Department received a Request for Final Review. The Requestors are four private property owners with unauthorized sandbags and other materials within the beach/dune system critical area. Dr. Gayes and CCU did not challenge the Department’s response and are not listed as Requestors.

II. Relevant Law

a. Statutes.

§48-39-130(D)(1): Emergency Orders

§48-39-130(D)(2): Exceptions to a critical area permit

§48-39-150(A)(1)-(10). “In determining whether a permit application is approved or denied the department shall base its determination on the individual merits of each

application, the policies specified in Sections 48-39-20 and 48-39-30 and be guided by [ten] general considerations.”

§48-39-250: Legislative findings regarding the coastal beach/dune system

§48-39-260: Policy statement

§48-39-280: Beach preservation policy established; notice requirements; appeals procedures

§48-39-320(C): Pilot projects to address beach and dune erosion

b. Regulations.

R.30-5(A)(2): Exceptions to a critical area permit

R.30-11(B): General Guidelines [Considerations] for All Critical Areas.

R.30-11(C): Further Guidelines for All Critical Areas.

R.30-15(H): Emergency Orders

R.30-15(H)(3)(d): Project standards for sandbags; specifically, “At no time shall the sandbags be buried or covered with sand.”

c. The South Carolina Coastal Zone Management Program Document.

Chapter III. Guidelines for Evaluation of All Projects

III. Staff Response to Grounds Stated in Request for Review.

Requestors have submitted a Request for Final Review Conference (RFR) document that provides information in sections entitled:

- a. Beach Erosion at DeBordieu Colony Beach**
- b. Geotextile Installation**
- c. OCRM Enforcement Actions**
- d. Change from Coastal Retreat to Preservation Policy**
- e. Research Proposal Permit Request**
- f. OCRM Denial of Research Proposal, and**
- g. The Decision of OCRM to Deny the Research Proposal should be Reversed by this Board**

The following response will address Requestors’ basis of appeal by each titled section.

As an initial concern by Department staff, this appeal is not appropriate. The entity submitting the study request is Coastal Carolina University. The Department responded to Coastal

Carolina University and has not received any communication back from the University since the Department's November 10, 2021 email correspondence. CCU did not submit the RFR to the Department. Rather, the RFR was submitted by four private property owners with ongoing enforcement matters at their properties directly related to the unauthorized sandbags and other materials that are the subject of the RFR. The RFR is an attempt by the private property owners to resolve enforcement issues by enlisting the assistance of a public university to pursue a research exception to keep the sandbags in place and bury them with sand. Requestors are not the entity that proposed the research study or that would be responsible for conducting the study.

a. Beach Erosion at DeBordieu Colony Beach

The Department recognizes that the southern end of DeBordieu Beach is historically erosional and that a timber seawall was built seaward of several houses in 1981. DeBordieu Colony has constructed four beach renourishment projects in the last 30 years: 1990, 1998, 2006, and 2015. The projects have been constructed approximately 8 years apart. More recently, the Department issued Critical Area Permit Number 2017-01795 for renourishment and three groins on January 24, 2019. Department staff also defended the issued permit at an Administrative Law Court (ALC) hearing in August 2020. The ALC upheld the issued permit, which is now the subject of further review at the Court of Appeals.

The renourishment and groins project is expected to be constructed in late 2021 and early 2022. The emergency situation that Requestors find themselves in due to beach erosion is expected to be remedied by the renourishment and groins project. In fact, the renourishment permit application materials submitted by the DeBordieu Colony Community Association stated that one of the main purposes of the project is to "Protect homes and associated infrastructure from erosion and reduce potential storm damages." The unauthorized sandbags that have been placed at Requestors' properties will not be needed or allowed to remain at that time.

The Critical Area Permit referenced above did not contemplate the placement of sandbags landward of the timber seawall because they were not placed until later in 2020. S.C. Code Ann. Regs. 30-15(H)(2)(d)(i) states that sandbags "must be removed at the property owner's expense prior to the placement of renourishment sand at the property." Consistent with this regulation and consistent with prior beach renourishment projects at Isle of Palms where sandbags were present in the beach/dune system prior to the project, all sandbags would need to be removed prior to renourishment sand placement at DeBordieu.

b. Geotextile Installation

The structures that have been placed at Requestors' properties are fabric containers that contain sand and are therefore sandbags. Sandbags are already regulated by S.C. Code Ann. Regs. 30-15(H). Burying sandbags, as proposed, is expressly prohibited by S.C. Code Ann. Regs. 30-15(H)(3)(d), which states "At no time shall the sandbags be buried or covered with sand."

Requestors submitted specification sheets, tensile strength test results, and other information about the “pillow-shaped geosynthetic sandbag systems designed and manufactured by HUESKER” that have been placed at Requestors’ properties. The Department does not take issue with the sandbags themselves. It has been determined through the Compliance and Enforcement efforts described in the Relevant Chronology section above that each individual sandbag is approximately 1 cubic yard in volume, as required. However, other issues exist including sandbags being placed without prior authorization, sandbags being stacked too high, being filled with potentially non-beach compatible material, or being wrapped in additional geotextile fabric. These issues are the subject of ongoing Compliance and Enforcement efforts between the Department and Requestors.

c. OCRM Enforcement Actions

The sandbags at Petitioners’ properties were installed without Department authorization. As stated in the RFR and summarized above in the Relevant Chronology section, the Department has been working with Requestors to bring their properties into compliance for issuance of Emergency Orders. There are issues that remain unresolved, as stated above, and that are the subject of ongoing Department Compliance and Enforcement efforts. Regardless if Emergency Orders are issued to Requestors to keep the existing sandbags in place for now, they will be required to be removed in their entirety in conjunction with the upcoming renourishment project. The Department has never allowed existing sandbags to remain in place and be buried by renourishment sand because S.C. Code Ann. Regs. 30-15(H)(3)(d) states that “At no time shall the sandbags be buried or covered with sand.” Additionally, the habitable structures would no longer be eligible for sandbags after a renourishment project because they would no longer be imminently threatened. Requestors can obtain temporary protection for imminently threatened habitable structures if they meet the statutory and regulatory requirements.

d. Change from Coastal Retreat to Preservation Policy

Requestors state on page 13, item # 40 of the RFR that “Pursuant to the Beachfront Management Reform Act of 2018 (the ‘Reform Act’), the State’s policy of coastal ‘retreat’ was abolished and replaced with a policy of coastal ‘preservation.’”

Specifically, prior to the referenced Reform Act, §48-39-280(A) stated “A forty-year policy of retreat from the shoreline is established.” Now, §48-39-280(A) states “A policy of beach preservation is established.” Notably, the statute does not state that a policy of “*beachfront development* preservation is established.” The beach itself is the subject of the preservation policy, as supported by the legislative findings and policy statements in the S.C. Beachfront Management Act, §48-39-250 et seq. The first policy statement in §48-39-260 is: “In recognition of its stewardship responsibilities, the policy of South Carolina is to protect, preserve, restore, and enhance the beach/dune system.” The Department is charged with managing public trust resources; not private property.

As Dr. Gayes knows, since he is a member, the Department has initiated a Beach Preservation Technical Advisory Committee (TAC) and has held two meetings so far. Requestors mistakenly referred to the name of this group as the “*Beachfront* Preservation Technical

Advisory Committee” on page 14, item # 43 of the RFR [emphasis added]. The distinction between “beach preservation” and “beachfront preservation” is important as noted in the paragraph above. The TAC is expected to meet approximately once a month through late spring 2022 and will provide valuable input from varied perspectives related to beach preservation. The members of the TAC will work to inform a future South Carolina Beach Preservation Committee by examining research and information related to beach preservation techniques, including shoreline stabilization, beach nourishment and dune restoration, and land management. More information about the TAC can be found on the Department’s website here: <https://scdhec.gov/environment/your-water-coast/ocean-coastal-resource-management-ocrm/beach-preservation-technical-advisory-committee>

e. Research Proposal Permit Request

Requestors mistakenly refer to the study request from Dr. Gayes as a “permit request.” The request is not a permit request or permit application. Rather, Dr. Gayes is attempting to operate under the exception to a permit provisions in S.C. Code Ann. §48-39-130(D)(2) and S.C. Code Ann. Regs. 30-5(A)(2) as a member of a state educational institution. The Department received a study request from Dr. Gayes to, among other items, “undertake a test of the level of functionality of constructed dune systems in the area of highest erosional pressure” at DeBordieu Colony. The study request goes on to state that “we are hopeful a section of the coast presently bordered by structures placed under emergency conditions, may be able to remain in place, modified as may be required and practical for present considerations. The goal of the study will be assessing the difference in functionality and services afforded by dune construction as traditionally practiced from those cored or pre-positioned for the reasonably expected emergency conditions in the future.” In other words, Dr. Gayes is proposing to leave in place the unauthorized sandbags that exist at Requestors’ properties, bury them with renourishment sand, and then evaluate how the areas with sandbags protect Requestors’ properties in the future when the sandbags become exposed, compared to other properties without sandbags.

Requestors acknowledge on page 3 of the RFR that “current OCRM regulations, which were promulgated at a time when the State’s coastal preservation policy was not in effect, forbid sandbag systems to be covered with sand, without exception.”

Requestors argue that research activities of state agencies and educational institutions can be implemented even if they are in direct conflict with promulgated regulations. This would be akin to a state educational institution requesting to build and study a new shore-parallel erosion control structure, such as a bulkhead, seawall, or revetment, to determine how well the structure protects beachfront houses landward of it. New erosion control structures are expressly prohibited by the S.C. Beachfront Management Act. Likewise, covering emergency sandbags with sand is expressly prohibited by the associated regulations. The Department asserts that any research activities of state agencies and educational institutions may not require a Critical Area Permit, but the proposed activity must be otherwise permissible according to applicable statutes and regulations.

Requestor states on pages 3 and 4 of the RFR that “Furthermore, OCRM’s position as it relates to the lack of effectiveness of the geotextile systems is not only incorrect, but clearly misses

the point of the proposed research. If installed correctly and working properly, the covered geotextile systems would operate out of sight and mind beneath the dune systems where they are located, without any negative effect on coastal flora or fauna (including sea turtles).” DHEC’s response to Dr. Gayes stated that “The Department also declines to exercise its discretion pursuant to the ‘pilot project’ provisions under S.C. Code Ann. §48-39-320(C) as it is not reasonably anticipated that the use of buried sandbags will be successful in addressing an erosional issue in a beach or dune area because buried sandbags would not affect coastal processes until the sandbags become exposed.” Requestors and the Department agree that the buried sandbags would serve no purpose and could not be studied or monitored until they become exposed at some point in the future. However, the Department asserts that buried sandbags could negatively affect sea turtle nesting in the meantime.

In its permit application materials for beach renourishment and groins (Permit Number 2017-01795), the DeBordieu Colony Community Association, of which Requestors are members, stated that the permitted renourishment and groins project would result in an anticipated renourishment return interval (time between successive projects) of 12 years. Once the renourishment and groins project is constructed, it will likely be several years before the buried sandbags would become exposed. While the sandbags are buried, there would be nothing to study at Requestors’ properties under Dr. Gayes’ proposal.

f. OCRM Denial of Research Proposal

S.C. Code Ann. Regs. 30-15(H) states that “Emergency situations before or after a storm event may prompt the Department, or an appointed official of a county or municipality or of the state to issue emergency orders under R.30-5, allowing property owners to construct *temporary barriers* against wave uprush [emphasis added]. A structure is determined to be in imminent danger when the erosion comes within twenty feet of that structure.” Regarding sandbags specifically, S.C. Code Ann. Regs. 30-15(H)(1) goes on to state that “Sandbags shall only be used to construct *temporary protection* for existing habitable structures and critical infrastructure if the Department or appointed official determines a structure to be in *imminent danger* and emergency conditions conform with the definition of emergency in Section 48-39-10(U), or as allowed in R.30-13.Q(1)” [emphasis added]. Finally, S.C. Code Ann. Regs. 30-15(H)(3) states “To maintain the *temporary nature that is intended for the use of sandbags*, the following criteria shall be used when issuing emergency orders for sandbags...(d) *At no time shall the sandbags be buried or covered with sand*” [emphasis added].

Clearly, sandbags are only to be used as a temporary measure to protect imminently threatened habitable structures or critical infrastructure. The regulations emphasize that sandbags are intended to be used as a temporary measure and that burying them with sand would result in a more permanent structure. New permanent erosion control structures have been prohibited by the S.C. Beachfront Management Act since 1988.

Following the construction of the renourishment and groins project, Requestors’ properties would not be eligible for the placement of emergency sandbags, whether buried or not, because the habitable structures would no longer be imminently threatened with erosion within twenty feet of the habitable structures. Rather, 650,000 cubic yards of sand would be

added to the project area, along with three groin structures to help retain the placed sand, thereby eliminating the imminent threat.

Critical Area Permit Number 2017-01795 for renourishment and three groins, issued by the Department on January 24, 2019, requires monitoring within and downdrift of the project area to evaluate potential downdrift impacts of the groins, general performance of the project, and potential required mitigation. Sandbags were not permitted as part of the renourishment project and could affect the existing permit conditions and required monitoring program. As stated above, this permit is the subject of ongoing review by the Court of Appeals. **Making unpermitted modifications (burying sandbags) within the permitted renourishment and groins project footprint is wholly inappropriate for a permit that is under appeal and one that has mitigation decisions tied to monitoring results.**

g. The Decision of OCRM to Deny the Research Proposal should be Reversed by this Board

As discussed above, the research proposal to leave in place and bury sandbags is flawed in several ways. First, the proposal is in direct conflict with S.C. Code Ann. Regs. 30-15(H)(3)(d), which states “To maintain the *temporary nature that is intended for the use of sandbags*, the following criteria shall be used when issuing emergency orders for sandbags...(d) *At no time shall the sandbags be buried or covered with sand*” [emphasis added]. Second, a Critical Area Permit for beach renourishment and three groins has been issued by the Department in this area. Once constructed in late 2021 and early 2022, the project will eliminate the imminent threat of erosion that Requestors are facing, and Requestors will no longer be eligible for sandbags. The Critical Area Permit is also the subject of ongoing review by the Court of Appeals and contains monitoring and mitigation requirements that burying sandbags could affect. Third, there would be nothing to study at Requestors’ properties related to the sandbags while the sandbags remain buried by renourishment sand. It will likely be several years before the buried sandbags would become exposed. Fourth, Requestors’ unauthorized placement of sandbags and other materials within the beach/dune system critical area is the subject of ongoing Department Compliance and Enforcement efforts, as summarized in the Relevant Chronology section above. Sites with active compliance/enforcement issues are not appropriate sites for research activities proposed by state educational institutions. Finally, the language change within the S.C. Beachfront Management Act from “a forty-year policy of retreat from the shoreline” to “a policy of beach preservation” does not throw out the rest of the Act or association regulations. The beach itself remains the subject of the preservation policy, as supported by the legislative findings and policy statements in the Act, §48-39-250 et seq.

IV. Requested Action

Based on the foregoing, the Department requests that the Board decline to hold a final review conference in the above-referenced matter and uphold the staff decision as issued.

[SIGNATURES ON FOLLOWING PAGE]

BEFORE THE BOARD OF HEALTH AND ENVIRONMENTAL CONTROL

INITIAL STAFF RESPONSE TO REQUEST FOR REVIEW

Docket No.: 21-RFR-89, (Denial of a request to conduct a study titled “Planned Study and Research Permit Proposal as The State of South Carolina Transitions from a Beachfront Policy of ‘Retreat’ To ‘Preservation’”)

Respectfully Submitted,

**Blair N.
Williams**

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Blair N. Williams, Manager
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Brad Churdar

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Office of Ocean & Coastal Resource Management

Date: December 10, 2021