



Agenda Report

2725 Judge Fran Jamieson
Way
Viera, FL 32940

New Business - Development and Environmental Services Group

J.1.

10/12/2021

Subject:

Approval of a letter request to the U.S. Army Corps of Engineers for a Section 206 study of the feasibility of an ecosystem restoration project at the 528 Causeway in the Banana River

Fiscal Impact:

The first \$100,000 of initial investigation is 100% federal
Any additional feasibility study cost requires 50% non-federal match
Project design and construction, if feasible, requires 35% non-federal match

Dept/Office:

Natural Resources

Requested Action:

Approve the Chair to sign a letter request to the U.S. Army Corps of Engineers requesting a Section 206 study of the feasibility of an ecosystem restoration project to remove the earthen causeway in the Banana River under Highway 528

Summary Explanation and Background:

Slow flow and long residence/retention times makes certain segments of the Indian River Lagoon in Brevard County highly vulnerable to nutrient pollution and harmful algal blooms. Several modeling efforts indicate that causeways contribute to compartmentalization and flow restriction. The northernmost segment of the Banana River has experienced intense and prolonged algal blooms contributing to a dramatic loss of seagrass and associated fish and marine life.

The U.S. Army Corps of Engineers has a program to investigate the potential benefits and cost effectiveness of locally sponsored ecosystem restoration projects. Through this program, the Army Corps can investigate the extent to which the causeway supporting Highway 528 across the Banana River contributes to ongoing water quality issues, associated harmful algae blooms, consequential seagrass losses, and whether removal or modification of the causeway could be a significant part of ecosystem restoration for seagrass, fish and marine life.

The attached letter, would request an investigation and express the County's willingness to serve as the study sponsor. The first \$100,000 of the initial investigations would be 100% federally funded. Feasibility study costs in excess of \$100,000 would be cost shared 50%-50%. The non-federal cost share for project design and construction is 35%, if a feasible plan is identified. The sponsor's cost share may include cash, work in-kind, or a combination and will be delineated in a

Project Partnership Agreement, to be executed before construction commences.

Prior Board Action and Community Support for Examining Causeway Impacts and Options:

On February 26, 2019 the County Commission approved a recommendation from the Save Our Indian River Lagoon Citizen Oversight Committee to request the Florida Department of Transportation (FDOT) evaluate options to improve circulation by replacing portions of the State Road 528 and 520 causeways over the Banana River with elevated bridge spans. A letter was sent from the Commission Chair to the Secretary of FDOT, District 5.

On December 5, 2018 the Canaveral Port Authority adopted a resolution supporting efforts to study and evaluate improvements to 528 and 520 that would benefit the lagoon, the economy and the resilience of essential transportation corridors and infrastructure.

On March 14, 2019 the Space Coast Transportation Planning Organization adopted a resolution asking FDOT to evaluate causeway impacts and estimate the costs of bridge and causeway alterations.

On February 8, 2019 the 5-county collaborative Indian River Lagoon Council approved a resolution supporting planning studies for 528 and 520 transportation improvements beneficial to Indian River Lagoon restoration.

On August 20, 2020 a letter was sent on behalf of the Indian River Lagoon Council to a new Secretary of FDOT, District 5 reiterating the need for the State Road 528 design to consider Indian River Lagoon water quality improvement options, including quantification of costs and benefits, and addressing coastal vulnerability concerns.

Most recently, on August 24, 2021, at the request of the Economic Development Commission, the County Commission approved sending a letter to the Army Corps of Engineers requesting a feasibility study for restoration of natural water flow and wetlands associated with transportation corridors serving the Kennedy Space Center. On August 30, 2021 Congressman Bill Posey sent a letter to the Army Corps of Engineers supporting the County Commission's request. Congressman Posey noted the national and regional economic and ecosystem benefits of addressing the federal legacy of impacts on the Indian River Lagoon.

Clerk to the Board Instructions:

None, if approved, Natural Resources will coordinate with the Chair to print the letter on the proper letterhead and send the signed letter to the Army Corps



Kimberly Powell, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001
Fax: (321) 264-6972
Kimberly.Powell@brevardclerk.us

October 13, 2021

MEMORANDUM

TO: Virginia Barker, Natural Resources Management Director


RE: Item J.1., Approval of a Letter Request to the U.S. Army Corps of Engineers for a Section 206 Study of the Feasibility of an Ecosystem Restoration Project at the 528 Causeway in the Banana River

The Board of County Commissioners, in regular session on October 12, 2021, approved the Chair to execute a Letter to the U.S. Army Corps of Engineers requesting a Section 206 study of the feasibility of an Ecosystem Restoration Project to remove the earthen causeway in the Banana River under Highway 528. Enclosed is the original Letter for you to send.

Your continued cooperation is greatly appreciated.

Sincerely yours,

BOARD OF COUNTY COMMISSIONERS
RACHEL M. SADOFF, CLERK


Kimberly Powell, Clerk to the Board

/cld

Encl. (1)

cc: Finance
Budget



Rita Pritchett, District 1 Commissioner

7101 S Highway 1
Titusville, FL 32780
321-607-6901

D1.commissioner@brevardfl.gov

BOARD OF COUNTY COMMISSIONERS

District Engineer
U.S. Army Corps of Engineers
Jacksonville District
Attn: CESAJ-PM
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: Section 206 request to determine the feasibility of an ecosystem restoration project where Highway 528 crosses the Banana River portion of the Indian River Lagoon in Brevard County, FL

Dear Sir:

This letter is to request that the U.S. Army Corps of Engineers, Jacksonville District, conduct a study under Section 206 of the Water Resources Development Act of 1996, as amended, to determine the feasibility of an ecosystem restoration project where the earthen causeway supporting Highway 528 crosses the Banana River segment of the Indian River Lagoon in Brevard County, Florida.

The Indian River Lagoon, designated by Congress as an estuary of national significance, extends along 40% of Florida's east coast. Its historically high biological diversity and abundance includes 4,300 species, many of economic value or federally listed as threatened or endangered species. For the last decade, harmful algal blooms have limited light penetration to the shallow seagrass beds and decimated this critical habitat for marine life. In 2020 and 2021, the paucity of surviving seagrass led to mass starvation of hundreds of manatees in Brevard County, the hub of the east coast manatee population, a federally listed threatened species.

Slow flow and long residence/retention times makes certain segments of this national estuary more vulnerable to nutrient pollution and harmful algal blooms. In particular, the Banana River, and especially the northernmost compartment of the Banana River, has experienced the most dramatic loss of seagrass areal extent. Several modeling efforts indicate that causeways across the Banana River contribute to compartmentalization, restricting the exchange of nutrient rich waters in the northern end of the Banana River with better quality water to the south.

Brevard County requests that the U.S. Army Corps of Engineers, Jacksonville District, undertakes an investigation of the extent to which the causeway supporting Highway 528 across the Banana River segment of the Indian River Lagoon contributes to ongoing water quality issues, associated harmful algae blooms, consequential seagrass losses, and whether removal or modification of the causeway could be a significant part of ecosystem restoration, benefitting seagrass, fish and marine life. Brevard County hereby requests an investigation and expresses our willingness to serve as the study sponsor.

This correspondence is NOT being sent on behalf of the Brevard County Board of County Commissioners. Any views, opinions or other matters expressed or represented in this correspondence are my own.

Brevard County understands that the first \$100,000 of the initial investigations would be Federally financed and feasibility study costs in excess of \$100,000 would be cost shared 50%-50%. Further we understand that the non-federal cost share for project design and construction is 35%, if a feasible plan is identified. The sponsor's cost share may include cash, work in-kind, or a combination.

If studies indicate a viable solution, our objective will be to proceed with construction. We are also aware that the Corps' and local sponsor's responsibilities will be delineated in the Project Partnership Agreement, which both parties will execute before construction commences.

If you need additional information, please contact Virginia Barker, Natural Resources Management Department Director at 321-350-8411 or virginia.barker@brevardfl.gov.

Sincerely,



Rita Pritchett, Chair
Brevard County Board of County Commissioners

As approved by the Board on September 14, 2021

District Engineer
U.S. Army Corps of Engineers
Jacksonville District
Attn: CESAJ-PM
P.O. Box 4970
Jacksonville, FL 32232-0019

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Sincerely,



Rita Pritchett, Chair
Brevard County Board of County Commissioners

As approved by the Board on September 14, 2021



Tammy Rowe, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001
Fax: (321) 264-6972
Tammy.Rowe@brevardclerk.us

February 27, 2019

MEMORANDUM

TO: Virginia Barker, Natural Resources Management Director

RE: Item F.3., Consideration of Support for a Florida Department of Transportation (FDOT) Causeway Improvement Study of State Roads 528 and 520

The Board of County Commissioners, in regular session on February 26, 2019, approved recommendation from the Save Our Indian River Lagoon Citizen Oversight Committee supporting requests to the Florida Department of Transportation (FDOT) to evaluate options to improve water circulation by replacing portions of the State Road (SR) 528 and 520 causeways with elevated bridge spans over the Banana River.

Your continued cooperation is always appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
SCOTT ELLIS, CLERK

Tammy Rowe

Tammy Rowe, Deputy Clerk



BOARD OF COUNTY COMMISSIONERS

KRISTINE ISNARDI, COMMISSIONER, DISTRICT 5
490 Centre Lake Dr. NE
Suite 175
Palm Bay, FL 32907
Phone: 321.253.6611
Fax: 321.253.6620
D5.Commissioner@brevardfl.gov

Danielle Stern, Chief of Staff
Vic Luebker, Community Affairs Director
Janette Roig, Legislative Aide

February 26, 2019

Mr. Mike Shannon
Secretary, FDOT District 5
719 S. Woodland Blvd.
Deland, FL 32720

RE: SR 528 Widening Design Could Potentially Benefit Indian River Lagoon Health

Dear Mr. Shannon:

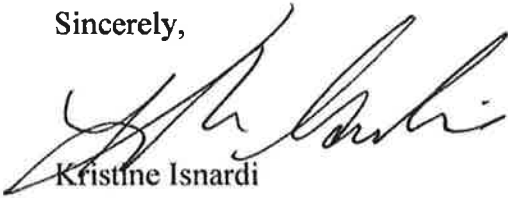
The Brevard County Commission is aware that FDOT is working on plans to widen the critically important SR 528 transportation corridor from Industry Road to the Port Canaveral Interchange, over the Indian River and Banana River. This work provides an exceptionally rare opportunity to consider infrastructure improvements that will improve transportation in a manner that could also provide decades of improved circulation within a highly impaired and unnaturally stagnant section of the Banana River.

The health of the Indian River Lagoon National Estuary is critically important to the social fabric and economic well-being of Brevard County. The County Commission is aware of recent modeling conducted by Dr. Gary Zarillo for the Indian River Lagoon National Estuary Program, with funding cost share from the Canaveral Port Authority. This modeling indicates that replacing sections of the SR 520 and SR 528 causeways with open bridge spans could significantly improve natural circulation (up to 9-10%) which could disrupt the harmful algal blooms that currently plague this section of the estuary.

From 2011 to present, the Banana River between SR 520 and SR 528 has experienced intense algal blooms that have decimated the seagrass community, seagrass dependent marine life, fisheries and associated commercial and recreational industries. In 2016, this section of the lagoon experienced the worst fish kill reported in the history of the Brevard, making international headlines that negatively impacted the Space Coast brand and tourism economy.

Due to the substantial environmental and economic challenges specific to this section of the lagoon, and this rare opportunity to provide significant water quality improvements to a National Estuary, the County Commission respectfully requests that FDOT give great consideration to the cost and benefits of bridge span improvements over the Banana River.

Sincerely,



Kristine Isnardi

Chair

Brevard County Board of County Commissioners

cc: Loreen Bobo, District 5 Director of Transportation Development
Georganna Gillette, Executive Director, Space Coast TPO
Frank Abbate, County Manager
John Denninghoff, Assistant County Manager
Virginia Barker, Natural Resources Management Director

**CANAVERAL PORT AUTHORITY
RESOLUTION # RES-2018-014-EXE-3
A RESOLUTION IN SUPPORT OF THE INCLUSION OF IMPROVEMENTS BENEFICIAL TO
THE INDIAN RIVER LAGOON SYSTEM RESTORATION AND REGIONAL INFRASTRUCTURE
IN PLANNING STUDIES FOR
STATE ROAD 528 AND STATE ROAD 520**

WHEREAS, the Indian River Lagoon ("Lagoon") is a diverse, shallow-water estuary stretching across 40 percent of Florida's East Coast;

WHEREAS, the Lagoon represents a complex estuarine ecosystem comprised of three water bodies: the Indian River, Mosquito Lagoon and Banana River that together have been designated as an "Estuary of National Significance" by the U.S. Congress in 1990;

WHEREAS, the Lagoon supports important commercial and recreational fisheries and economic resources that are vital to the interests of the Port District, the region, the State of Florida and the nation with an estimated annual economic impact of \$7.6 billion;

WHEREAS, the Lagoon has become one of the most vulnerable estuaries in Florida that is threatened throughout its geographic range and watershed by water quality decline, habitat alteration and loss, fisheries decline, loss of biological diversity, and altered hydrologic flow;

WHEREAS, the earthen causeways for State Road (SR) 528 and SR 520 have an impact on the natural water flow and impede dispersal mechanisms of the Indian River Lagoon;

WHEREAS, the Florida Department of Transportation (FDOT) is a key partner with the Canaveral Port Authority in planning and construction of intermodal and port facility projects;

WHEREAS, FDOT is conducting a causeway improvement study (FM #407402-3&4) for the future widening of SR 528 (the "Project") and has plans to conduct future studies for SR 520;

WHEREAS, the Project is listed as a priority by the Central Florida Metropolitan Planning Organization Alliance and the Space Coast Transportation Planning Organization on which the Canaveral Port Authority serves as a Member of the Governing Board;

WHEREAS, both SR 528 and SR 520 are designated hurricane evacuation routes;

WHEREAS, SR 528 serves as an essential transportation corridor that links the goods entering Port Canaveral (including fuel) to all of Central Florida for hurricane preparedness and during post-hurricane response and recovery periods;

WHEREAS, the Canaveral Port Authority partnered with the Indian River Lagoon National Estuary Program and Indian River Lagoon Council to complete a study of potential improvements to improve the flushing of the Indian River Lagoon system based on increasing bridge spans, adding additional relief spans, and elevating portions of the causeways;

WHEREAS, the study, *Numerical Model Flushing Experiments, Final Report*, dated September 2018 was presented at the regularly scheduled meeting of the Canaveral Port Authority's Board of Commissioners on October 31st, 2018;

WHEREAS, the results of the study conservatively show that flushing may be improved by almost 10% with causeway elevating alterations to SR 528 and SR 520; and

WHEREAS, causeway elevating alterations can provide 21st century transportation corridor improvements that deliver the following additional benefits: improved infrastructure resiliency to storm surge, shoreline erosion and sea level rise; restoration of Lagoon bottom lost during causeway construction; restoration of historic sea grass beds lost in causeway construction; improved recreational fishing associated with elevated roadway structure; and opportunities for long-term mitigation planning.

NOW, THEREFORE, BE IT RESOLVED, THE CANAVERAL PORT AUTHORITY in a regularly scheduled meeting assembled on December 5, 2018, supports FDOT's efforts to study and evaluate infrastructure improvements options to SR 528 and SR 520 and encourages the inclusion of any and all infrastructure improvements that will benefit the Lagoon, the economy and the resiliency of essential transportation corridors and infrastructure.

DONE, ORDERED AND ADOPTED, this 5th day of December 2018 at Port Canaveral, Brevard County, Florida.

CANAVERAL PORT AUTHORITY:



Secretary/Treasurer **Bob Harvey**


Chairman



RESOLUTION 19-15

SR 528 IMPROVEMENTS BENEFICIAL TO THE INDIAN RIVER LAGOON SYSTEM

RESOLUTION, supporting FDOT’s evaluation of infrastructure improvements related to the SR 528 projects that benefit the Indian River Lagoon System.

WHEREAS, the Space Coast Transportation Planning Organization (TPO) is the designated and constituted body responsible for the urban transportation planning and programming process for the Palm Bay-Melbourne-Titusville Urbanized Area; and

WHEREAS, freight movement along SR 528 represents the lifeblood of economic activity, providing direct east/west access to Port Canaveral, facilitating both commerce and the supply of vital goods to residents and visitors of Central Florida; and

WHEREAS, the Florida Department of Transportation is currently designing the SR 528 widening and bridge replacements from Industry Road to SR 401 (FM No. 407402-3 & 4); and

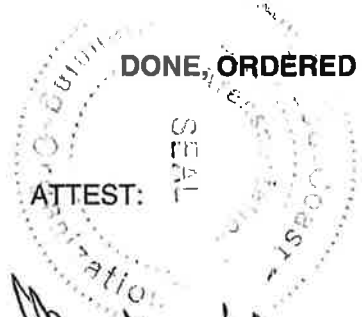
WHEREAS, a recent Florida Institute of Technology Study, 2018 Numerical Modal Flushing Study, determined that modification of the SR 528 and SR 520 causeway and bridge structures may provide flushing benefits by 9-10% based on increasing bridge spans, adding additional relief spans, and elevating portions of the causeways.

NOW, THEREFORE, BE IT RESOLVED by the Space Coast Transportation Planning Organization that

1. FDOT continue evaluating the 2018 Numerical Modal Flushing Experiment Study; and
2. FDOT provide an estimate of the additional costs and impacts related to the proposed SR 528 bridge and causeway alterations and a summary of steps that would be required to implement the proposed improvements; and
3. FDOT continue evaluating regional and joint environmental projects that would provide benefit to the water quality of the Indian River Lagoon system; and
4. FDOT finalize all evaluations and cost estimates expeditiously to reach a conclusion.

DONE, ORDERED AND ADOPTED THIS 14TH DAY OF March, 2019.

ATTEST:



Andrea Young
ANDREA YOUNG, SECRETARY

SPACE COAST TRANSPORTATION
PLANNING ORGANIZATION

Kathy Meehan
KATHY MEEHAN, CHAIR

IRL COUNCIL RESOLUTION 2019-03
A RESOLUTION IN SUPPORT OF THE INCLUSION OF IMPROVEMENTS
BENEFICIAL TO THE INDIAN RIVER LAGOON SYSTEM RESTORATION AND
REGIONAL INFRASTRUCTURE IN PLANNING STUDIES FOR
STATE ROAD 528 AND STATE ROAD 520

WHEREAS, the Indian River Lagoon ("Lagoon") is a diverse, shallow-water estuary stretching across 40 percent of Florida's East Coast; and

WHEREAS, the Lagoon represents a complex estuarine ecosystem comprised of three water bodies: the Indian River, Mosquito Lagoon and Banana River that together have been designated as an "Estuary of National Significance" by the U.S. Congress in 1990; and

WHEREAS, the Lagoon supports important commercial and recreational fisheries and economic resources that are vital to the interests of the region, the State of Florida and the nation with an estimated annual economic impact of \$7.6 billion; and

WHEREAS, the Lagoon has become one of the most vulnerable estuaries in the United States that is threatened throughout its geographic range and watershed by water quality decline, habitat alteration and loss, fisheries decline, loss of biological diversity, and altered hydrologic flow; and

WHEREAS, the earthen causeways for State Road (SR) 528 and SR 520 have impacted the natural water flow of the Lagoon and impede dispersal mechanisms of Lagoon organisms; and

WHEREAS, the Florida Department of Transportation (FDOT) is a key partner with the Canaveral Port Authority in planning and construction of intermodal and port facility projects; and

WHEREAS, FDOT is conducting a causeway improvement study (FM #407402-3&4) for the future widening of State Road 528 (the "Project") and has plans to conduct future studies for State Road 520; and

WHEREAS, the Project is listed as a priority by the Central Florida Metropolitan Planning Organization Alliance and the Space Coast Transportation Planning Organization on which the Canaveral Port Authority serves as a Member of the Governing Board; and

WHEREAS, both SR 528 and SR 520 are designated hurricane evacuation routes; and

WHEREAS, SR 528 serves as an essential transportation corridor that links the goods entering Port Canaveral (including fuel) to all of Central Florida for hurricane preparedness and during post-hurricane response and recovery periods; and

WHEREAS, the Canaveral Port Authority partnered with the IRL Council (an independent, special district of Florida) and Indian River Lagoon National Estuary Program (IRLNEP) to complete a study of potential improvements to improve the flushing of the Lagoon system based on increasing bridge spans, adding additional relief spans, and elevating portions of the causeways;

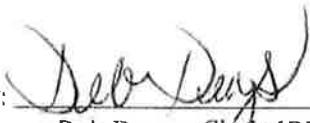
WHEREAS, the study, Numerical Model Flushing Experiments, Final Report, dated September 2018 was presented at the regularly scheduled meeting of the Canaveral Port Authority's Board of Commissioners on October 31, 2018;

WHEREAS, the results of the study show that flushing may be improved by almost 10% with causeway elevating alterations to SR 528 and SR 520; and

WHEREAS, causeway elevating alterations can provide 21st century transportation corridor improvements that deliver the following additional benefits: Improved infrastructure resiliency to storm surge; Shoreline erosion and sea level rise; Restoration of Lagoon bottom lost during causeway construction; Restoration of historic sea grass beds lost in causeway construction; Improved recreational fishing associated with elevated roadway structure; and Opportunities for long-term mitigation planning.

NOW, THEREFORE, BE IT RESOLVED, THE IRL COUNCIL in a regularly scheduled meeting assembled on February 8, 2019, supports FDOT's efforts to study and evaluate infrastructure improvements options to SR 528 and SR 520 and encourages the inclusion of any and all infrastructure improvements that will benefit the Lagoon, the economy and the resiliency of essential transportation corridors and infrastructure.

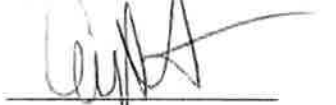
DONE at New Smyrna Beach Florida, this 8th day of February 2019.

By: 
Deb Denys, Chair IRL Council

ATTEST:


Stacey Hetherington, Secretary IRL Council

Approved as to legal form and sufficiency:


Carolyn S. Ansay
IRL Council, Legal Counsel



ONE LAGOON

ONE COMMUNITY · ONE VOICE

INDIAN RIVER LAGOON
NATIONAL ESTUARY PROGRAM

*Board of Directors of the
IRL Council, sponsor of the
Indian River Lagoon
National Estuary Program:*

Susan Adams

IRL Council Chair
Indian River County
Commission

Stacey Hetherington

IRL Council Vice-chair, Martin
County Commission

Curt Smith,

IRL Council Secretary
Brevard County Commission

Billie Wheeler

Volusia County Council

Chris Dzadovsky

St. Lucie County Commission

Aaron Watkins

Director, Central District,
Florida Department of
Environmental Protection

Doug Bournique

Governing Board, St. Johns
River Water Management
District

Jacqui Thurlow-Lippisch

Governing Board, South
Florida Water Management
District

César Zapata

U.S. Environmental
Protection Agency, Region 4

August 20, 2020

Attention: Mr. Jared Perdue, Secretary, FDOT District Five
Ms. Georganna Gillette, Executive Director, Space Coast TPO

On February 8, 2019, the IRL Council, an independent special district of Florida, passed Resolution 2019-03 supporting FDOT's efforts to study and evaluate infrastructure improvement options to SR 528 and SR 520. The resolution encouraged the inclusion of "any and all infrastructure improvements that will benefit the Lagoon, the economy and the resiliency of essential transportation corridors and infrastructure".

To address a lack of current information from FDOT to guide water quality considerations and to provide due diligence support for the discussion, Port Canaveral and the IRL Council contracted for water flow modeling from Dr. Gary Zarillo, Florida Institute of Technology. Results from those model runs showed that by expanding the bridge opening at the 528 Causeway on the Banana River section, water flow improvements between 9-17% could be realized if coupled with similar future improvements to the south at SR 520 Causeway. This range of water flow improvement was influenced by a variety of wind and freshwater flow conditions. This range represents a significant water flow improvement that should not be ignored. Compartmentalization of the Banana River created by original dredge and fill causeway construction decades ago is significant. The resulting decrease in water flow has increased the vulnerability of this section of the lagoon to nutrient pollution and other detrimental inputs.

In addition to hydrological modeling, Dr Zarillo provided sea level rise data that considered both global sea level trends and important Florida east coast regional water level trends. A detailed review of infrastructure risk exposure to sea level rise and climate change was not considered in the FDOT analysis.

To fully understand infrastructure vulnerabilities, analyses must integrate global trends, regional and seasonal sea level variability, and storm surge vulnerabilities. The current linear trend methodology used by FDOT to estimate future sea level rise is both outdated and not supported by recent coastal infrastructure resilience planning.

In 2017, the Space Coast Transportation Planning Organization (SCTPO) took a strong leadership role in resiliency planning by completing a Sea Level Rise Vulnerability Assessment. SCTPO also participated in the creation of the East Central Florida Regional Planning Council's Regional Resiliency Action Plan and adopted the plan in March 2019. The FDOT sea level rise analysis does not align with these local plans. Dr. Zarillo's work has been presented to FDOT. To date, these data have not received full FDOT consideration.

In addition to the Florida Tech models, the SJRWMD made a significant investment in their modeling team to expand the scope of their Indian River Lagoon hydrological model to include projections of water quality parameters. All of these data were shared with FDOT and the SCTPO Governing Board. This leading-edge effort provided a new tool for data-driven decision-making regarding nutrient loads and project evaluation. It promises to be a valuable evaluation tool for FDOT and local partners to guide mitigation planning and decision-making. Results from these SJRWMD model runs demonstrated the value of reducing nutrient loads from land-based sources to attain water quality improvements. The SJRWMD hydrological model aligned well with the work of Dr. Zarillo. The bottom line is that we will need to accomplish both water flow improvements and aggressive nutrient reduction interventions to achieve desired water quality improvements in the Banana River.

In July 2020, the SCTPO moved toward decision-making on the existing design of SR 528. Presentations were made to SCTPO advisory committees and the Governing Board that included the SJRWMD hydrology-biological response findings; IRL Council summary of Dr. Zarillo's findings and other IRL considerations; and a current update from FDOT regarding a nutrient reduction mitigation strategy.

The IRLNEP applauds FDOT staff for reexamining mitigation strategies that focus on quantifiable nutrient reductions. FDOT's comparisons to traditional stormwater approaches clearly showed the limitations of our past mitigation thought process related to water quality. However, important questions were posed by the SCTPO Governing Board members that remained unanswered or were answered with insufficient detail. After more than 3 years of discussions, potential options to current design have not been fully considered.

On July 31, 2020 the IRL Council Board of Directors discussed these important infrastructure and water quality issues. Concerns were raised about the lack of attention to consider water flow improvements that could be delivered by a low span bridge extension or other engineered options to improve the current design.

As a result of staff discussions with IRL Council Board members and discussion during the July 31, 2020 Board meeting, the IRL Council Board of Directors, respectfully offer the following recommendations:

- Reducing causeway flow restrictions at SR 528 represents a one-time opportunity to restore natural flow to the Indian River Lagoon, decrease vulnerability to nutrients and pollutants and improve an estuary of national significance that contributes over \$7.6 billion to the regional economy. Any and all actions that advance those improvements should be fully considered.
- Although direct comparisons are difficult to assess from site to site based on hydrology, tides and flushing characteristics, FDOT has demonstrated its ability to implement water quality improvements in a number of locations throughout the state. Water flow matters to both the hydrology and biology of a healthy estuary. Water flow improvement should be a desired outcome of this transportation corridor improvement.
- A decision to push forward with current design will deliver two extra lanes and improved elevation. At best, this represents an incremental improvement with little consideration for

long-range visioning for this critical transportation corridor. We have a historic opportunity to address a long-standing water quality problem caused by causeway construction.

- The importance of SR 528 to the State of Florida grows with delivery of essential services at Port Canaveral coupled with the historic expansion of both public and commercial space launch capabilities at Kennedy Space Center. Re-imagining this corridor with a 50- to 70-year vision is a catalytic and historic transportation visioning opportunity that should not be ignored.
- The current and future safety of Florida's residents and visitors and our economy depend on having coastal infrastructure that is resilient to both sea level rise and storm surge. The best available science and engineering design must be considered as we plan for sea level rise, increased storms and storm surge events. The focus of these emerging challenges will be borne first and foremost by fragile barrier island communities.

Governor Ron DeSantis has taken bold, visionary, leadership actions to advance clean water and coastal resilience for the State of Florida. These are historic policy and investment priorities. The IRL Council and IRLNEP support the Governor's vision for Florida's future. It is with that vision and spirit that we share the following IRL Council Board of Director's position:

The current design plan for SR 528 needs to reconsider Indian River Lagoon water quality improvement options, including quantification of costs and benefit values. We believe that design options exist that can address these important water quality and coastal vulnerability concerns. SR 528 decisions should be driven by one question and one question only: What is the right thing to do to secure Florida's clean water future and optimize multiple benefits over the life of this essential corridor project?

The IRL Council and IRLNEP stand ready and willing to assist the SCTPO and FDOT in any way that we can to advance discussions about design options to address these important water quality concerns. A decision to move forward, as designed and without these option considerations, will remove a once in a generation opportunity to make a transportation legacy decision for Florida that will serve our citizens and our quality of life as we move through this 21st century.

On behalf of the IRL Council Board of Directors, we thank you for your time and thoughtful consideration.

Regards,



Duane De Freese, Ph.D.
Executive Director, IRL Council & Indian River Lagoon National Estuary Program

Copies:

IRL Council Board of Directors
Captain John W. Murray, Port Canaveral Director and Chief Executive Officer
Robert Musser, Port Canaveral Senior Director, Environmental



Kimberly Powell, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 837-2001
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Kimberly.Powell@brevardclerk.us

August 25, 2021

M E M O R A N D U M

TO: Commissioner Rita Pritchett, District 1 - Chair

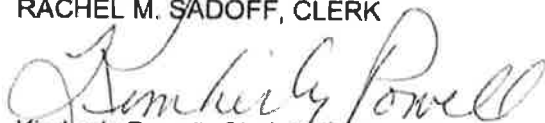
RE: Item J.2., Letter to the U.S. Army Corps of Engineers on Behalf of the Board of County Commissioners Requesting a Feasibility Study for Restoration of Natural Water Flow and Wetlands at Kennedy Space Center (KSC)

The Board of County Commissioners, in regular session on August 24, 2021, approved sending the letter to the U.S. Army Corps of Engineers on behalf of the Board of County Commissioners requesting a feasibility study for restoration of natural water flow and wetlands at KSC. Enclosed is the Letter.

Your continued cooperation is always appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
RACHEL M. SADOFF, CLERK


Kimberly Powell, Clerk to the Board

Encl. (1)

cc: Economic Development Commission (EDC)



BOARD OF COUNTY COMMISSIONERS

Rita Pritchett, District 1 Commissioner

7101 S Highway 1

Titusville, FL 32780

321-607-6901

D1.commissioner@brevardfl.gov

August 24, 2021

Lieutenant General Scott A. Spellmon
Chief of Engineers and Commanding General
U.S. Army Corps of Engineers
441 G Street NW
Washington, D.C. 20314-1000

**RE: Federal Solicitation for Proposals by Non-Federal Interests in FY2023 Water Resources Development Act:
Kennedy Space Center and the Indian River Lagoon**

Dear LT GEN Spellmon:

Along Florida's Space Coast, two valuable assets coexist – NASA's Kennedy Space Center (KSC) and the Indian River Lagoon, which was designated by Congress as an estuary of national significance. The Indian River Lagoon (IRL) occupies 40% of Florida's east coast with a watershed comprised of seven counties and 39 cities. The IRL generates \$7.6 Billion annually to Florida's economy, is home to 1.6 million residents and is recognized for its high biological diversity (4,300 species documented, with numerous species of economic value and species of concern (rare, threatened or endangered). The IRL is a key driver to the wealth and health of Florida's economy by providing jobs, housing, tourism, industry, and recreation. The natural resource looms large for the quality of life that will help ensure KSC and its commercial space partners can attract and retain the skilled workforce necessary to sustain the Space Coast, Florida, and the United States as the epicenter of human spaceflight, technology development, and space discovery.

I am writing to you today to propose a project for the inclusion of the February 2022 Annual Report to Congress as required by WRRDA 2014, Section 7001. The proposal is for a feasibility study on ways to restore IRL water flow. Federal construction at KSC has altered the natural water flow, water connections and wetlands between Mosquito Lagoon, Banana River, and the Indian River Lagoon. Current east-west transportation corridor and earthen causeway infrastructure servicing KSC are contributing to poor water quality, harmful algal blooms, loss of seagrass and impacts to biological resources – including manatees.

East-west transportation causeways have compartmentalized the system, further restricted water flow and increased water retention time in waterbodies. Slow flow and long retention times makes these segments of water more vulnerable to nutrient pollution and Harmful Algal Blooms (HABs). The worst water quality and hot spots for algal blooms in in the Mosquito Lagoon, northern Indian River Lagoon, and Banana River.

Outcomes of this study will determine a way forward to build coastal resilience into KSC infrastructure and transportation corridors while improving water flow and restoration of natural wetland connections that were once natural hydrological features of the Mosquito Lagoon, Banana River, and northern Indian River Lagoon estuary complex.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rita Pritchett'.

Rita Pritchett, Chair
Brevard County Commissioner
District 1

BILL POSEY
8th District, Florida

COMMITTEES:
SCIENCE, SPACE, AND TECHNOLOGY
Space Subcommittee

FINANCIAL SERVICES
CONSUMER PROTECTION AND FINANCIAL
INSTITUTIONS SUBCOMMITTEE

Housing, Community Development, and
Insurance Subcommittee

CONGRESSIONAL CAUCUSES: KATHARINE
HOUSE PERMANENT CAUCUS, CO-CHAIR
REPUBLICAN STUDY COMMITTEE
CONGRESSIONAL AUTISM CAUCUS
MILITARY VETERANS CAUCUS

Congress of the United States
House of Representatives
Washington, DC 20515

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BREVARD COUNTY GOVERNMENT OFFICES
IN Titusville
(321) 284-8189

August 30, 2021

Lieutenant General Scott A. Spellman
Chief of Engineers and Commanding General
U.S. Army Corps of Engineers
441 G Street, NW
Washington, DC 30314-1000

Dear General Spellman,

I urge you to include in your February 2022 Report pursuant to Section 7001, the Brevard County Commissioners' proposal for a feasibility study of a project for ecosystem restoration. The county's proposal is enclosed.

The proposed study would examine the feasibility of a project with an integrated system of features restoring to the extent practicable the natural hydrologic flow within the Indian River Lagoon in the vicinity of the Kennedy Space Center. Over many decades, construction of transportation projects and other features within the aquatic environment have altered and restricted natural flows. The ecosystem of the study area has been degraded in terms of hydrology and as a result also in both habitat and water quality. The study area is part of the Indian River Lagoon, one of the most biodiverse ecologies in the western hemisphere. As the Commissioners establish in their proposal, the Indian River Lagoon is one of the most critical resources of the entire Spacecoast and produces huge ecological and economic benefits to the nation as well as to the proposed study area. The proposed study would develop for Congressional authorization a project within the Corps priority mission of ecosystem restoration.

The proposed study would of course be subject to the Water Resources Development Act's cost and time limitations of \$3 million and 3 years respectively. The exact scope and scale of the study would be developed in collaboration of the Commissioners with your Commander, Jacksonville District, during the pre-study phase. Brevard County is prepared to be the non-Federal sponsor. The proposal meets all five of the criteria established by Congress in WRRDA 2014.

I strongly endorse the study proposal and the importance of developing a viable restoration plan non-Federal interests can support in cooperation with the Corps of Engineers. The ecosystem and economic benefits of a properly designed project will be enormous both nationally and regionally. A sound project will also address the legacy impacts of Federal activities on the ecosystem of the Indian River Lagoon.

Please add this proposal to your 2022 report to Congress.

Thank you for your attention.

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Posey", with a long horizontal flourish extending to the right.

Bill Posey
Member of Congress