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February 27, 2019

M E M O R A N D U M

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:

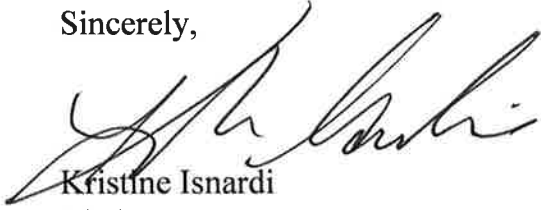
The Brevard County Commission is aware that FDOT is working on plans to widen the critically important SR 528 transportation corridor from Industry Road to the Port Canaveral Interchange, over the Indian River and Banana River. This work provides an exceptionally rare opportunity to consider infrastructure 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,

A handwritten signature in black ink, appearing to read 'Kristine Isnardi', written in a cursive style.

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



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.

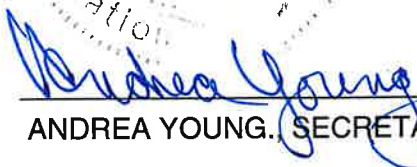
NOW, THEREFORE, BE IT RESOLVED by the Space Coast Transportation Planning Organization that

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.

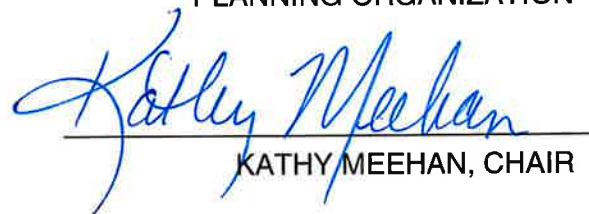
DONE, ORDERED AND ADOPTED THIS 14TH DAY OF March, 2019.

ATTEST:

SEAL


ANDREA YOUNG, SECRETARY

SPACE COAST TRANSPORTATION
PLANNING ORGANIZATION


KATHY MEEHAN, CHAIR

**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

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;

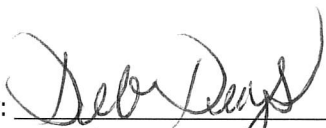
WHEREAS, the study, Numerical Model Flushing Experiments, Final Report, dated September 2018 was presented at the regularly scheduled meeting of the Canaveral Port Authority's Board of Commissioners on October 31, 2018;

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

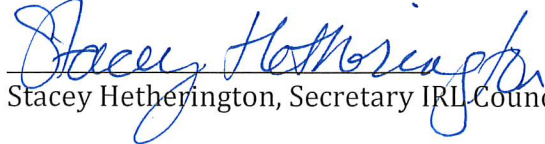
WHEREAS, causeway elevating alterations can provide 21st century transportation corridor improvements that deliver the following additional benefits: Improved infrastructure resiliency to storm surge; Shoreline erosion and sea level rise; Restoration of Lagoon bottom lost during causeway construction; 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