Contact

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www.jupiterus1bridge.com

Project Development & Environment (PD&E) Study

State Road 5 / US-1 Federal Highway Bridge
From CR-A1A to Beach Road
Palm Beach County, Florida
FPID 428400-2-22-02 / ETDM #14199

PD&E Study Proposed Schedule

ACTIVITY	2015	2016	2017	2018
Begin Study				
Public Kick-off Meeting				
Public Input				
Develop Build Alternatives				
Alternatives Public Workshop				
Public Hearing No-Build and Build Alternatives Presented				
Study Complete/Location Design Concept Acceptance				

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Location Map

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TITLE VI

The Florida Department of Transportation is required to comply with various

Non-discrimination laws and regulations, including Title VI of the Civil Rights Act of 1964

Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability or family status.

Persons wishing to express concerns about Title VI may do so by contacting either:

Florida Department of Transportation District Four
District Four Title VI Coordinator
Shavon Nelson
Title VI Program Office
3400 West Commercial Boulevard
Fort Lauderdale, Florida 33309-3421
(954) 777-4190
Toll Free at (866) 336-8435, ext. 4190
shavon.nelson@dot.state.fl.us

or

Florida Department of Transportation
Statewide Title VI Coordinator
Jacqueline Paramore
Equal Opportunity Office
605 Suwannee Street
Mail Station 65
Tallahassee, Florida 32399-0450
(850) 414-4753
jacqueline.paramore@dot.state.fl.us

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Step 1: **Initiate SECTION 106 PROCESS**
Establish undertaking
Identify appropriate SHPO/THPO
Plan to involve the public
Identify other consulting parties

▶ *No undertaking / no potential to cause effects*

▼

Undertaking is type that might affect historic properties.

▼

Step 2: **Identify Historic Properties**
Determine scope of efforts
Identify historic properties
Evaluate historic significance

▶ *No historic properties affected*

▼

Historic properties are affected.

▼

Step 3: **Assess Adverse Effects**
Apply criteria of adverse effect

▶ *No historic properties adversely affected*

▼

Historic properties are adversely affected.

▼

Step 4: **Resolve Adverse Effects**
Continue consultation

▶ *Memorandum of Agreement*

▼

FAILURE TO AGREE

▶ **COUNCIL COMMENT**

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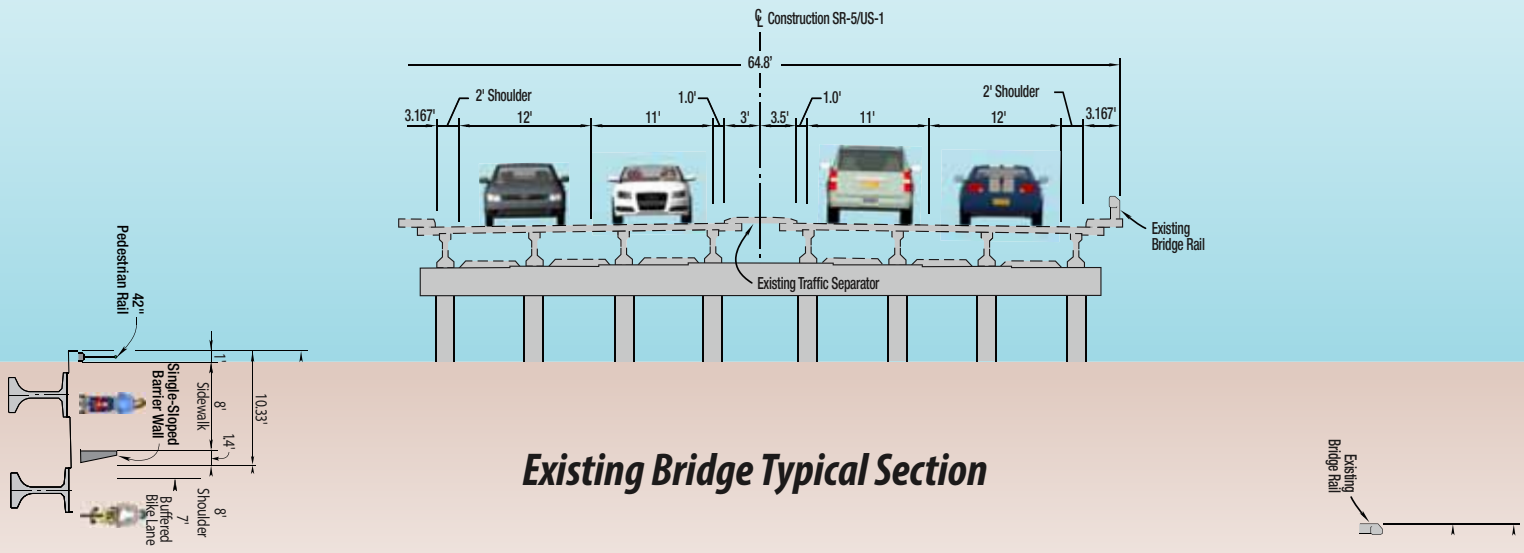
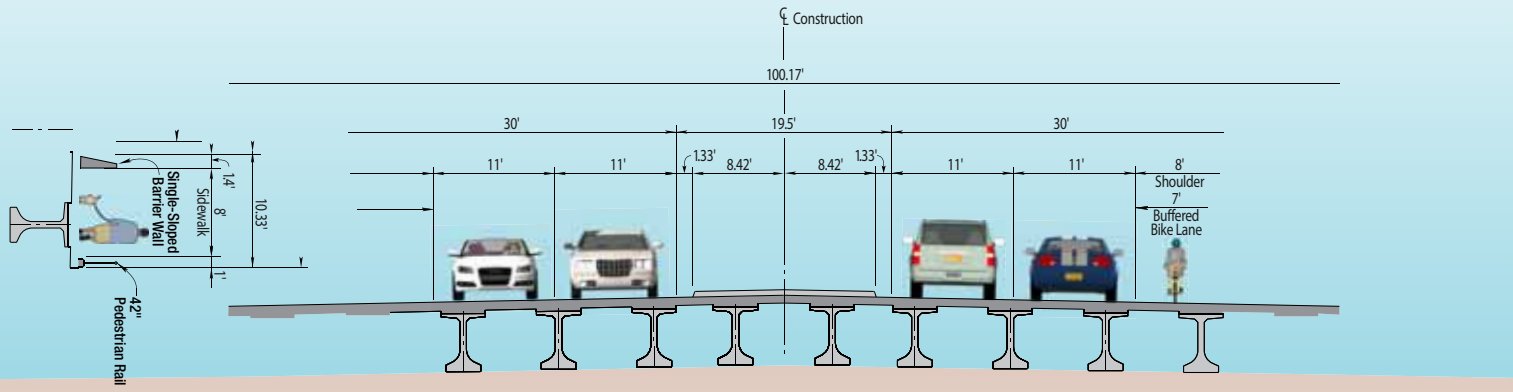


Existing Bridge Typical Section



Proposed Approach Span Typical Section

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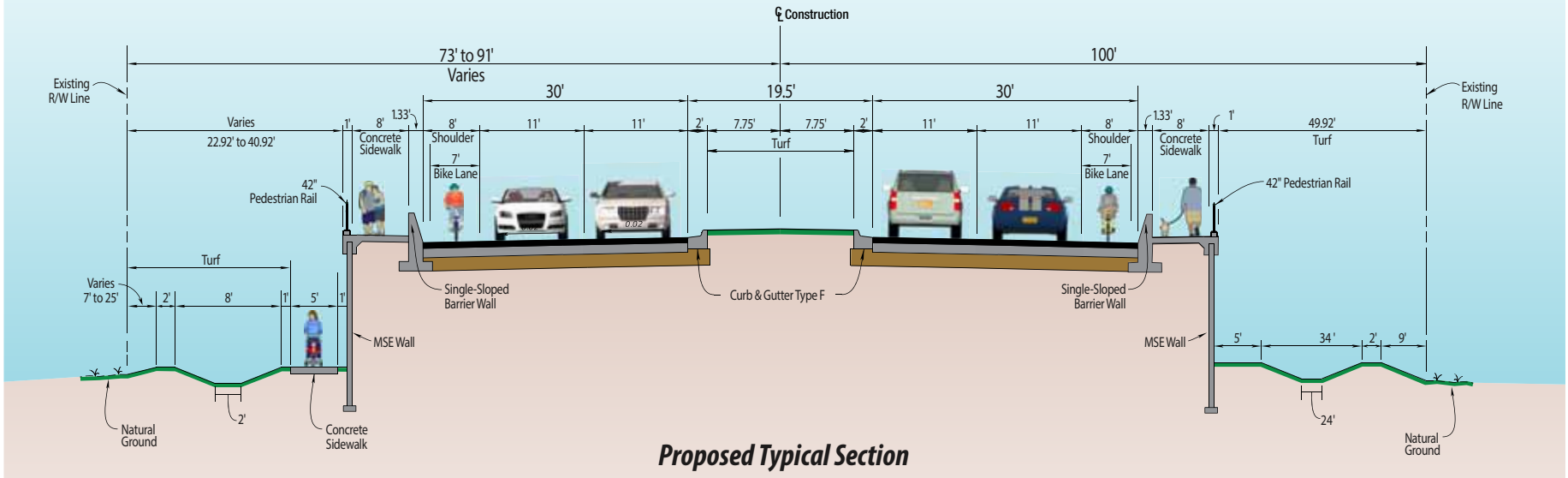
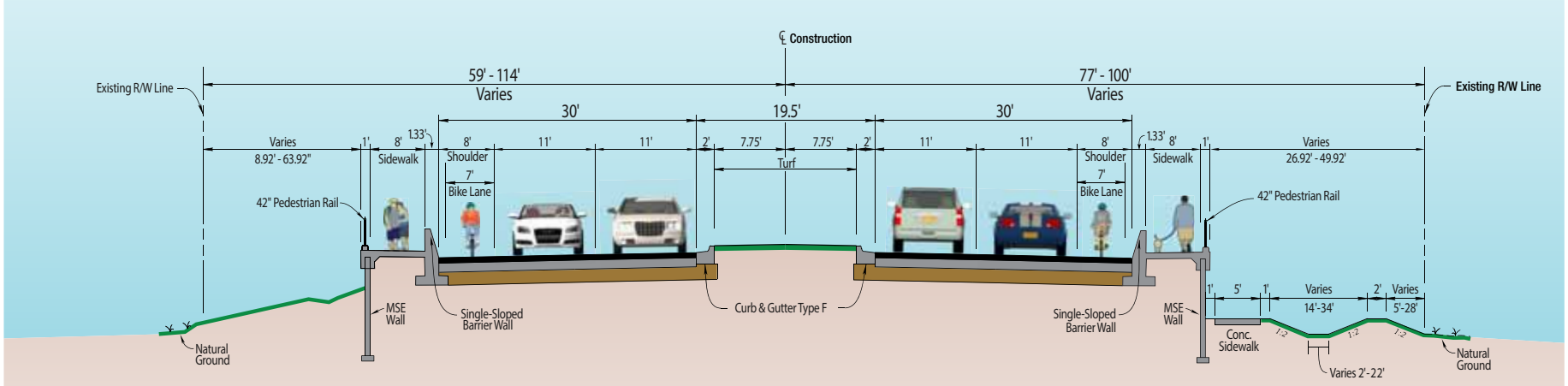


Proposed Typical Section

SR 5 (US 1)
North of Federal Highway Bridge to Jupiter Cove Dr.
Design Speed = 45 MPH



Proposed Typical Section

SR 5 (US 1)
Jupiter Cove Dr to SR 811 (Alt. A1A) / CR 707 (Beach Road)
Design Speed = 45 MPH

Project Development & Environment (PD&E) Study

State Road 5 / US-1 Federal Highway Bridge From CR-A1A to Beach Road
Palm Beach County, Florida FPID 428400-2-22-02 / ETDM #14199

EVALUATION MATRIX – CONCEPT ALTERNATIVES
US-1/SR 5 (Federal Highway) Bridge Over The Loxahatchee River/Intracoastal Waterway

	No Build	25-foot Bascule	30-foot Bascule	35-foot Bascule	40-foot Bascule
General					
Meets Purpose and Need	Does not meet the project Purpose and Need because the existing bridge is structurally deficient and functionally obsolete.	Meets the project Purpose and Need.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	- -	++	++	++	++
Community Support	The existing bridge is structurally deficient and functionally obsolete. FDOT has determined that it needs to be replaced. The community is in support of the replacement of the existing bridge and would not be in favor of the No-Build Alternative.	Satisfies the need for a new bridge, however, the vertical clearance is the same as the existing bridge and will not result in less bridge openings. Input received to date favors a higher bascule bridge.	Satisfies the need for a new bridge. The vertical clearance is 5 feet higher than the existing bridge and will result in 25% fewer bridge openings. Input received to date favors a higher bascule bridge.	Satisfies the need for a new bridge, and the vertical clearance is 10 feet higher than the existing bridge. This will result in 44% fewer bridge openings. This alternative was favored most often by the agencies and public input received to date.	Satisfies the need for a new bridge, and the vertical clearance is 15 feet higher than the existing bridge. This will result in 49% fewer bridge openings. The community expressed concerns that this bridge could be too high. This alternative required the US1/CRA1A/Jupiter Harbour intersection to be raised about 4 feet which would result in impacts to the surrounding property. This alternative received mixed support from the community.
	- -	+	++	+ +	+
Engineering					
Benefit to Marine and Vehicular Traffic	No Change	The vertical clearance over the ICWW is the same as existing and no reduced bridge openings will be realized by vehicular traffic. The horizontal clearance will be widened from 90 to 125 feet, which will benefit marine traffic by allowing two boats to pass at the same time.	The vertical clearance above the ICWW will increase by about 5 feet. Larger vessels will be able to pass under the bridge and bridge openings will be reduced by 25%. This will have a positive effect to both the marine and vehicular traffic. The horizontal clearance will be widened from 90 to 125 feet, which will benefit marine traffic by allowing two boats to pass at the same time.	The vertical clearance above the ICWW will increase by about 10 feet. Larger vessels will be able to pass under the bridge and bridge openings will be reduced by 44%. This will have a positive effect to both the marine and vehicular traffic. The horizontal clearance will be widened from 90 to 125 feet, which will benefit marine traffic by allowing two boats to pass at the same time.	The vertical clearance above the ICWW will increase by about 15 feet. Larger vessels will be able to pass under the bridge and bridge openings will be reduced by 49%. This will have a positive effect both the marine and vehicular traffic. The horizontal clearance will be widened from 90 to 125 feet, which will benefit marine traffic by allowing two boats to pass at the same time.
	- -	+	+	+ +	+ +
Impact to South Approach	No Impact	There are only minor impacts to the south approach because the new bridge centerline is the same as the existing bridge but the bridge is 36 feet wider than existing. Walls are used to keep all improvements within the existing right-of-way. The vertical alignment for the 25, 30 and 35 foot vertical alternatives touches down north of the existing US 1/CR A1A intersection. Impacts to the intersection are minimal.	Similar to the 25-ft. Bascule,	Similar to 25-ft. Bascule	The bridge is 36 feet wider than existing. All improvements are contained within the existing right-of-way. The vertical alignment touches down south of the US 1/CR A1A intersection. The intersection must be raised about 4 feet, which will impact the newly constructed CR A1A and require the driveway connection into Jupiter Harbour to be reconstructed, which would result in impacts.
	0	-	-	-	- -
Impact to North Approach	No Impact	Horizontal alignment is similar to existing and walls are used to keep all improvements within existing right-of-way. The vertical alignment touches down south of the US 1/Alternate A1A/Beach Road intersection. Impacts are minimal.	Similar to the 25-ft. Bascule and impacts are minimal.	Similar to the 25-ft. Bascule and impacts are minimal	Horizontal alignment is similar to existing and walls are used to keep all improvements within existing right-of-way. The vertical alignment touches down south of the US 1/Alternate A1A/Beach Road intersection but Jupiter Cove Drive about 550 feet north of the bridge must be raised about 7 feet which will result in right of way impacts and require reconstruction of the roadway and drive access to adjacent properties.
	0	-	-	-	- -

Symbol	Description
+	The alternative meets or has a positive response to the Evaluation Category
0	The alternative has no affect or provides some benefit to the Evaluation Category
-	The alternative has a poor or negative response to the Evaluation Category
NOTE:	++ or - - denote greater impact positively or negatively

Project Development & Environment (PD&E) Study

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US-1/SR 5 (Federal Highway) Bridge Over The Loxahatchee River/Intracoastal Waterway

	No Build	25-foot Bascule	30-foot Bascule	35-foot Bascule	40-foot Bascule
Traffic Operations	No Change	No Change	The vertical clearance above the ICWW will increase by about 5 feet and larger vessels will be able to pass under the bridge reducing bridge openings by 25%. This will benefit vehicular traffic.	The vertical clearance above the ICWW will increase by about 10 feet and larger vessels will be able to pass under the bridge reducing bridge openings by 44%. This will benefit vehicular traffic.	The vertical clearance above the ICWW will increase by about 15 feet and larger vessels will be able to pass under the bridge reducing bridge openings by 49%. This will benefit vehicular traffic.
	0	0	+	++	++
Bicycle – Pedestrian Facilities	No Change	The proposed bridge typical section has two 8-foot shoulders that accommodate buffered bicycle lanes and 8-foot sidewalks.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	- -	++	++	++	++
Traffic Control (TC)	No construction activities would occur with this alternative.	Two TC options are being evaluated. One closes the existing bridge during construction for 4 to 6 months and reroutes all traffic via Alternate A1A. The other uses one of the two existing US 1 bridges, one lane in each direction, during construction.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	- -	- -	- -	- -
Drainage	Untreated runoff will continue to discharge off the bridge deck into the Loxahatchee River.	All stormwater-permitting requirements would be met. Runoff from the new bridge would not be directly discharged into the river but will be carried off the bridge and properly treated.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	- -	+ +	++	++	++
Socio-Economic					
Residential -Business Access	No Impact	During construction, access to businesses and residential areas will be maintained but temporary disruptions will occur.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	The intersection of US 1/CR A1A/Jupiter Harbour must be raised 4 feet and will have greater inconvenience to the adjacent properties.
	0	-	-	-	- -
Business Relocations	No Impact	No permanent business relocations are required but temporary impacts will be necessary to adjacent properties during construction.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	-	-	-	-

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US-1/SR 5 (Federal Highway) Bridge Over The Loxahatchee River/Intracoastal Waterway

General					
Emergency Evacuation	No Impact	Emergency evacuation may be temporarily affected during construction. After the project is completed, evacuation will improve because of more efficient open/close operation.	Emergency evacuation may be temporarily affected during construction. After the project is completed, evacuation will improve because of fewer bridge openings and more efficient open/close operation and 25% less openings.	Similar to the 30-ft. Bascule, but with 44% less openings resulting in fewer bridge openings	Similar to the 30-ft. Bascule, but with 49% less openings resulting in fewer bridge openings
	0	+	+	++	++
Emergency Response	No Change	Response time during construction may be affected. Once the new bridge is completed, response times may improve because of a more efficient bridge open/close operation.	Response time during construction may be affected. Once the new bridge is completed, response times should improve because of a more efficient bridge open/close operation and 25% fewer openings as the vertical clearance increases and the number of bridge openings reduce.	Similar to the 30-ft. Bascule, but with 44% less openings emergency response will be better.	Similar to the 30-ft. Bascule, but with 49% less openings emergency response will be better.
	0	+	+	++	++
Residential Relocations	No Impact	No residential relocations are required.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	0	0	0	0
Recreational Impacts (Temporary)	No Impact	Best practices will be implemented during construction; however, temporary impacts may occur to boat traffic, other users of the waterway, bicyclists, and pedestrians.. Access to the Lighthouse Park will be maintained during construction. Temporary closure of the observation/fishing pier may be required.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	-	-	-	-
Recreational Access (Permanent)	No Impact	No permanent impacts to recreational access are expected to occur.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	0	0	0	0
Natural Environment					
EFH (Seagrass/Mangrove Impacts)	No Impact	0.01 acres of direct impacts and 0.02 acres of secondary impacts to seagrass beds; 0.01 acres of direct impacts and 0.02 acres of secondary impacts to mangrove fringe.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	-	-	-	-
Other Essential Fish Habitat (EFH) Impacts (Water Column and Substrate)	No Impact	The existing bridge is approximately 1.28 acres over water. The new bridge will extend over only an additional 0.52 acres over water.; Sediment impacts: 6850 cyds temporary dredge impacts for pier removal and utility cable installation. 543 cyds of channel dredging for new bascule pier..	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	-	-	-	-

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Physical Features					
Contamination	No Impact	2 medium risk contamination sites identified. No high risk contamination sites identified.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	-	-	-	-
Noise & Vibration	No Impact	Noise sensitive sites evaluated in the study did not approach the Noise Abatement Criteria. Temporary noise impacts could occur during construction, but the Town of Jupiter has an ordinance that limits construction to daylight hours. Construction noise impacts will be minimized through the use of best management practices. Vibration monitoring will be conducted by the Construction Engineering and Inspection (CEI) firm at the U.S. Navy Married Men's Housing Quarters and the Jupiter Lighthouse for the duration of construction activities. chimneys at the U.S. Navy Married Men's Housing Quarters will be supported prior to the start of pile driving operations and will remain in place through construction. The Fresnel lenses in the Jupiter Lighthouse will be wrapped similar to methods used for hurricane preparedness prior to pile driving activities.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	-	-	-	-
Air Quality	No Impact	Project passed air quality screening evaluation. Temporary construction impacts could occur, but will be minimized by utilizing best management practices.	Same as 25-ft. Bascule, but it is anticipated that localized air quality could improve as a result of less bridge openings limiting the period of idling cars.	Similar to the 30-ft. Bascule	Similar to the 30-ft. Bascule
	0	0	+	+	+
Water Quality	Stormwater would continue to discharge directly to the Aquatic Preserve (AP)/Outstanding Florida Water (OFW)	An additional 0.52 acres of bridge over the AP/OFW, but stormwater treatment will be provided off the bridge.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
Cost					
Construction Cost	0	$90,196,000	$91,901,000	$95,846,000	$97,277,000
*** Survey, Permitting, Design & CEI**	0	$22,549,000	$22,975,250	$23,961,500	$24,319,250
Right-of-Way	0	TBD	TBD	TBD	TBD
Mitigation	0	TBD	TBD	TBD	TBD
TOTAL COST	0	$112,745,000	$114,876,250	$119,807,500	$121,596,250
	+ +	-	-	-	-
TOTAL POINTS	**-9**	**-4**	**-1**	**+3**	**-1**

*25% of construction Cost

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Floodplain Impacts (acreage – primarily over the Loxahatchee River)	No Impact	7.31 acres (zone A7). No work is being performed below the 100-year floodplain elevation; thus project does not encroach on the base floodplain. .	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	-	-	-	-
Wildlife & Habitat (Endangered and Threatened Species)	No Impact	17 Federally listed and 24 state listed species were evaluated in the study area. The project would have no effect or may affect, but is not likely to adversely affect all listed species except Johnson's seagrass. The project "may affect" Johnson's seagrass. Direct and secondary impacts to Johnson's seagrass approximately 0.01 acres.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	-	-	-	-
Cultural Resources					
Historical/ Archaeological	No Impact	The removal of the NRHP-eligible bridge and the construction of a new bridge results in an adverse effect. No adverse effects anticipated for other historic and archaeological resources. A Determination of Effects evaluation is being conducted. Minimization and mitigation measures will be developed. .	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	-	-	-	-
Section 4(f) Direct and Constructive Use	No Impact	No direct use of Section 4(f) resources recreational resources anticipated. Removal of the bridge constitutes direct use. A Programmatic Section 4(f) Evaluation will be prepared. Section 4(f) use of NRHP listed and eligible resources will be evaluted	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	0	0	0	0
Parks/Recreational Areas/Trails	No impact	Although the Jupiter Lighthouse Park and the Outstanding Natural Area (ONA) are adjacent to the project, the project will be conducted entirely within existing right-of-way. Access will be maintained during construction. There may be temporary traffic disruptions during construction. The secondary effects and possible mitigation will be evaluated.	Same as 25-ft. Bascule	Same as 25-ft. Bascule	Same as 25-ft. Bascule
	0	0	0	0	0

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