

FINAL INTEGRATED GENERAL REEVALUATION REPORT AND SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT ADDENDUM

**BREVARD COUNTY, FLORIDA
HURRICANE AND STORM DAMAGE REDUCTION PROJECT
MID-REACH SEGMENT**



**U.S. Army Corps
of Engineers
Jacksonville District**

MARCH 2014

THIS PAGE LEFT BLANK INTENTIONALLY

PURPOSE

This addendum to the Brevard County, Florida HSDR Project, Mid-Reach Segment (Mid-Reach Segment) GRR was prepared in response to additional information requested by the Assistant Secretary of the Army for Civil Works related to Section 3045 of the Water Resources Development Act of 2007. Section 3045 authorizes the Secretary to afford credit toward the non-federal share of the cost of initial construction and periodic nourishment associated with the North Reach Segment of the Brevard County, Florida HSDR Project incurred by the non-federal interest to respond to damages to the North Reach Segment that are the result of a Federal navigation project, as determined in the final report for the study. The addendum outlines the timeline of the Mid-Reach Segment, history on the credit, authorizations related to the credit, and scenario tables showing the possible effect that the credit would have on future Federal allocations. An updated project summary of the GRR is included in this addendum and reflects the most recent project (certified) cost estimate.

PROJECT SUMMARY

The Brevard County General Re-evaluation Report, and Supplemental Environmental Impact Statement, presents the results of a hurricane and storm damage reduction study for the 7.8 mile Mid-Reach segment of Brevard County, Florida. The Mid-Reach was previously studied in the Feasibility Report with Final Environmental Impact Statement for Brevard County (1996), but the Mid-Reach segment was removed from the recommended plan due to environmental concerns. A general re-evaluation report for Brevard County, Florida was authorized by the Water Resources Development Act of 2000 to determine if all or a portion of the Mid-Reach is acceptable for addition into the Brevard County hurricane and storm damage reduction project.

The goal of the Brevard County Mid-Reach project is to reduce the damages caused by erosion and coastal storms to shorefront structures along the Mid-Reach study area. Project objectives were developed based on the project problems, opportunities, goals, and Federal and State objectives and regulations. The objectives focused on reducing storm damages to coastal structures, maintaining the recreational beach, maintaining opportunities for recreational use of the nearshore areas, and maintaining environmental quality. Alternative plans were also constrained by the desire to avoid, minimize and mitigate environmental impacts to the nearshore hardbottom as regulated by the Magnusons-Stevens Fishery Conservation and Management Act.

A large number of alternatives were evaluated through an iterative, multi-step process to select the recommended plan. Included in the evaluation were both non-structural and structural alternatives. The final array of alternatives focused on beach nourishment in varying scales seeking to minimize impact to the nearshore hardbottom.

The District supports the non-federal sponsor's locally preferred plan as the recommended plan. The locally preferred plan is shown in the alternatives evaluation as Local Option 6. The plan consists of a 10-foot extension of the mean high water line plus advanced nourishment to maintain that design fill volume in Reach 1 (R-119 to R-109), a 20-foot extension of the mean high water line plus advanced nourishment to maintain that design fill volume in Reaches 2 and 3 (R-109 to R-99), a 10-foot extension of the mean high water line plus advanced nourishment to maintain that design fill volume in Reaches 4 and 5 (R-99 to R-83), and a dune fill with no added advanced nourishment in Reach 6 (R-83 to R-75.4). The approximate volume of sand to be placed, as calculated from the 2005 survey, includes an initial design fill of 445,000 cubic yards plus an advanced nourishment fill of 210,000 cubic yards for a total fill of 655,000 cubic yards at initial construction. Fill will be obtained by rehabilitating the Poseidon dredged material management area (DMMA) at Port Canaveral, dredging material from Canaveral Shoals offshore borrow area with placement into the Poseidon DMMA every 6 years, and hauling by dump truck to the Mid-Reach for placement on the beach at approximately 3 year intervals. The renourishment volume is approximately 210,000 cubic yards. The recommended plan offers erosion protection ranging from a 5-year storm level to a 75-year storm, varying along the length of the Mid-Reach. The plan includes 3.0 acres of environmental impact to the nearshore rock resources, following minimization of the impacts as much as possible while still offering maximum storm damage reduction. Mitigation for impacts due to direct and indirect cover of the nearshore rock is included in the 3.0 acre impact; however, approximately 1.4 acres is expected to include some temporal variation as the advanced nourishment erodes. The recommended plan includes impacts in Reaches 1 to 5 and no impact in Reach 6. The area impacted is on the landward edge of the nearshore rock, resulting in a small width of rock impacted but over the whole length of Reaches 1 to 5. The calculated impact acreage is 3.0 acres out of the total of 31.3 acres of nearshore rock in the Mid-Reach study area. The nearshore rock seaward of the fill area will not be impacted. The mitigation quantity is calculated from the State of Florida Uniform Mitigation Assessment Method (UMAM) ratio of 1.6 mitigation acres required for every acre of natural rock impacted, resulting in a mitigation of 4.8 acres. Mitigation will be accomplished concurrent with the nourishment project, with construction of articulated concrete mats with embedded coquina rock in water depths of 14 to 16 feet mean low water.

From an ecosystem standpoint, minimizing impacts to nearshore rock resources within the Mid-Reach is considered more important than restoring a complete sandy shoreline or wider beach. As stated earlier, the Mid-Reach was previously studied in the Feasibility Report with Final Environmental Impact Statement for Brevard County (1996), but was removed from the recommended plan at that time due to environmental concerns. The U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Environmental Protection Agency, Florida Game and Fresh Water Fish Commission and the Florida Department of Environmental Protection all expressed concern that proposed beach nourishment within the Mid-Reach would have adverse impacts on nearshore coquina rock outcrops and scattered worm rock communities; therefore, the Mid-Reach was dropped from the 1996 recommended plan. This type of habitat is protected by the Magnuson-Stevens Fishery Conservation and Management Act and is considered Essential Fish Habitat and a Habitat of Particular Concern. Research conducted for this study identified multiple ecological functions and species attendant to the Mid-Reach rock. Other researchers have also found that hard bottom habitats support the most diverse assemblage of fishes off eastern Florida. Furthermore, the Mid-Reach rock is unique due to its being isolated from larger hard bottom habitats to the south. The current opinions of Federal and State agencies have established a need to minimize and avoid impacts to this resource. On the other hand, the ocean shoreline or beach along the Mid-Reach is mostly developed with a mix of commercial, residential, and small public parks. Urbanization has impacted the dune system, and while this project would maintain a dune environment with a select group of native plant species, a full restoration of historical dune habitat is not practical. It is important to note that various agencies are managing/preserving dune habitat along a majority of Brevard County's 72-mile ocean coastline. As proposed, the recommended plan, which has been fully coordinated, minimizes impacts to the nearshore rock resource while still providing hurricane and storm damage reduction benefits.

Cost sharing was based on the NED plan. Overall Federal participation in cost for the initial construction of the project is 54% of the NED plan based on shoreline ownership and public access. As the Locally Preferred Plan (LPP) final total project cost estimate is lower than the NED plan, the initial construction of the LPP is cost-shared at 54% Federal participation. Table 1 indicates the costs for the Locally Preferred Plan (LPP) including cost sharing percentages; the cost data are in October 2012 (FY13) price level and 3.75% interest rate. The recommended plan presented in this documentation was demonstrated as being economically feasible, environmentally acceptable, and soundly engineered. Coordination of the plan to date has resolved all issues brought forward during the scoping process. Table 2 cost summary table indicates the cost data presented in October 2012 (FY13) price level and 7% interest rate. When project costs

are escalated to FY14 price levels with the same discount rate of 3.75%, the total initial construction cost is \$34,023,000, and the total periodic nourishment is \$173,826,000.

The recommendation contained herein reflects the information available at this time and current policies governing formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program or the perspective of higher review levels within the executive branch. Consequently, the recommendation may be modified before it is transmitted to the Congress as a proposal for authorization and implementation funding.

**FINAL INTEGRATED GRR & SUPPLEMENTAL EIS
 BREVARD COUNTY, FLORIDA HSDR PROJECT
 MID-REACH SEGMENT
 ADDENDUM**

MARCH 2014

BREVARD COUNTY MID-REACH SHORE PROTECTION PROJECT GENERAL REEVALUATION REPORT			
Table 1			
<i>Price Level = October 2012, Interest Rate = 3.75%</i>			
PHYSICAL DATA (All elevations are referenced to NGVD)			
Project Length (mi)			7.8
Berm Crest Elevation (ft)			+10.6
MHW Shoreline Extension (ft)		variable 0 to 20-foot	
Foreshore Slope			1V on 8H
Nearshore Slope			1V on 8H
Nourishment Interval (yr)			3
Volume of Advance Nourishment (cy)			210,000
Volume of Design Fill (cy)			445,000
Volume of Initial Fill (cy)			655,000
Initial Construction Cost			\$33,415,000
Total Interest During Construction			\$768,070
Each Future Nourishment Cost			\$10,670,000
Annualized Costs			\$4,901,000
ANNUAL BENEFITS			
Prevention of Storm Damages:			\$13,726,000
Incidental Recreation Benefits			\$1,124,000
Total			\$14,850,000
BENEFIT TO COST RATIO			3.0
PROJECT COST SHARING (%)			
<u>Initial Construction</u>		<u>Periodic Nourishment</u>	
Federal	54.0%	Federal	44.2%
Non-Federal	46.0%	Non-Federal	55.8%
Total Project Cost over 50 years (\$)			
Federal			\$93,503,000
Non-Federal			\$110,633,000
Total			\$204,136,000

**FINAL INTEGRATED GRR & SUPPLEMENTAL EIS
BREVARD COUNTY, FLORIDA HSDR PROJECT
MID-REACH SEGMENT
ADDENDUM**

MARCH 2014

BREVARD COUNTY MID-REACH SHORE PROTECTION PROJECT GENERAL REEVALUATION REPORT			
Table 2			
<i>Price Level = October 2012, Interest Rate = 7.00%</i>			
PHYSICAL DATA (All elevations are referenced to NGVD)			
Project Length (mi)			7.8
Berm Crest Elevation (ft)			+10.6
MHW Shoreline Extension (ft)		variable 0 to 20-foot	
Foreshore Slope			1V on 8H
Nearshore Slope			1V on 8H
Nourishment Interval (yr)			3
Volume of Advance Nourishment (cy)			210,000
Volume of Design Fill (cy)			445,000
Volume of Initial Fill (cy)			655,000
Initial Construction Cost			\$33,415,000
Interest During Construction			\$1,454,693
Each Future Nourishment Cost			\$10,670,000
Annualized Costs			\$5,828,670
ANNUAL BENEFITS			
Prevention of Storm Damages:			\$11,605,000
Incidental Recreation Benefits			\$933,000
Total			\$12,538,000
BENEFIT TO COST RATIO			2.2
PROJECT COST SHARING (%)			
<u>Initial Construction</u>		<u>Periodic Nourishment</u>	
Federal	54.0%	Federal	44.2%
Non-Federal	46.0%	Non-Federal	55.8%
Total Project Cost over 50 years (\$)			
Federal			\$93,503,000
Non-Federal			\$110,633,000
Total			\$204,136,000

MID-REACH TIMELINE

- September 1996 - Brevard County, FL feasibility report completed for South Reach and North Reach study areas only. The feasibility report initially included the Mid-Reach study area and developed a plan for beach nourishment. During review of report, concerns were raised on the environmental impacts to the nearshore hardbottoms in Mid-Reach. In order to allow the North Reach and South Reach to continue towards authorization and construction, the Mid-Reach was removed from the recommended plan (as recommended in Chief's report dated 23 Dec 96).
- 23 December 1996 - Chief's Report recommended North and South Reaches but not Mid-Reach
- 1996 –WRDA '96 authorized construction of Brevard County Shore Protection Project (SPP), North Reach and South Reach only
- 1999- Settlement agreement in the “Don Applegate and Gayle Applegate et al (Plaintiffs) v. The United States of America” in the US Court of Federal Claims (Docket No. 92-832-L).
- 2000- WRDA 2000 (Sec 418) authorized the preparation of a GRR for Brevard County to include Mid-Reach
- 2007- WRDA '07 amended WRDA '99 (Sec. 310) and authorized Federal government to credit sponsor.
- May 2009- USACE Independent Coastal Expert(ICE) Final Report approved by ASA(CW)
- 2009- ASA(CW) memo on how to apply crediting
- 23 May 2012- Brevard Mid-Reach GRR submitted to ASA(CW) for review/approval
- 24 January 2013- ASA(CW) memo with comments on GRR
- 8 August 2013- PPA amendment executed provides credit to South Reach only because Mid-Reach is not yet authorized.

BACKGROUND ON CREDIT

The application of potential credit against the non-federal share of the cost of construction of the Brevard County, Florida project was not initially addressed in the Mid-Reach GRR authorized by Section 418 of WRDA 2000. Rather, the analysis was carried out pursuant to Section 310 of WRDA 1999, which directed a separate freestanding study and report to determine the credit owed based upon damage to the overall Brevard County Shore Protection Project (SPP) attributable to the Canaveral Harbor jetties. Based on the resultant study, it was determined that the damage to the North Reach segment was a result of the Federal navigation project and that the entire cost should be borne by the Federal government. Section 3045(b) of WRDA 2007 modified Section 310 to direct the Secretary to credit against the non-federal sponsor's cost for the Brevard County project its costs incurred in connection with the North Reach. The Section 310 Independent Coastal Expert Study Report (ICE Report) was completed in February 2009, and approved in May 2009 by the Acting ASA(CW) Mr. Salt, to include approximately \$8.6 million in credit for costs incurred by the sponsor to perform its 2000-2001 renourishment, to be afforded to offset the sponsor's share of any future work funded for the Brevard County SPP.

At this point, subject to a currently pending audit of costs related to the sponsor's nourishment work referenced in the Acting ASA(CW)'s approval memo, the sponsor appears to have satisfied the statutory requirements for credit. The PCA Amendment for Brevard North and South Reaches allows for the crediting to be applied toward future nourishments of the Brevard South Reach. The North Reach is 100% Federally funded, so no sponsor funds apply for construction. Assuming the ASA(CW) approves the Mid-Reach GRR and Congress provides funding for the Mid-Reach work as noted in the ASA(CW)'s approval, it has been determined that the available credit can be applied against the non-federal sponsor's share of the costs of constructing the Mid-Reach segment, and appropriate crediting provisions should be incorporated into the Mid-Reach PPA. Because the Brevard North and South Reach PCA assumes that the \$8.6 million will be applied towards the South Reach, the Brevard North and South Reach PCA will need to be amended again if the Mid-Reach PPA is written to include crediting. If crediting is mentioned in both agreements, it must be clear that there is \$8.6 million total credit that may be applied to authorized Brevard County projects.

CREDIT AUTHORIZATIONS

WRDA 1999, Section 310. Brevard County, Florida

a. Study – Not later than 120 days after the date of enactment of this Act, the Secretary, in cooperation with the non-Federal interest, shall complete a study of any damage to

the project for shore protection, Brevard County, Florida, authorized by section 101(b)(7) of the Water Resources Development Act of 1996 (110 Stat. 3667), to determine whether the damage is the result of a Federal navigation project.

b. Conditions – In conducting the study, the Secretary shall use the services of an independent coastal expert, who shall consider all the relevant studies completed by the Corps of Engineers and the local sponsor of the project.

c. Mitigation of Damage – After completion of the study, the Secretary shall mitigate any damage to the shore protection project that is the result of a Federal navigation project. The costs of the mitigation shall be allocated to the Federal navigation project as operation and maintenance costs.

WRDA 2007, Section 3045 - Brevard County, Florida.

(b) Credit – Section 310 of the Water Resources Development Act of 1999 (113 Stat. 301) is amended by adding at the end the following: “(d) Credit – After completion of the study, the Secretary may credit, in accordance with section 221 of the Flood Control Act of 1970 (42 U.S.C. 1962d-5b), toward the non-Federal share of the cost of the project for shore protection the cost of nourishment and renourishment associated with the project for shore protection incurred by the non-Federal interest to respond to damages to Brevard County beaches that are the result of a Federal navigation project, as determined in the final report for the study.”

FEDERAL COST ALLOCATION CHANGES DUE TO CREDIT APPLICATION

The tables below were prepared as part of the additional information requested by the Assistant Secretary of the Army for Civil Works. These tables reflect the possible effect that the non-federal (NF) credit would have on future Federal allocations if applied. It should be noted that in each scenario in which credit is applied, the proportionate cost share, as specified in the feasibility cost sharing agreement, has been maintained.

The following numbers assume none of the crediting is applied to the South Reach and all is applied to the Mid-Reach. If the total first cost for Brevard Mid-Reach is \$36.81 million, with a Federal share of \$19.88 million and a non-federal share of \$16.93 million, then the Corps will need to seek funds to cover its \$19.88 fed share plus an additional \$8.58 million to make up for the credit the sponsor is going to get for its prior work. This is a Federal total first cost of \$28.46. The sponsor would pay the remainder (\$16.93 non-federal share minus \$8.58 million credit = \$8.35 million) in cash or with new work-in-kind.

Tables 3, 4, 5, and 6 present the total project cost and cost allocations for three scenarios, including if no credit were applied to the Mid-Reach project, if the full credit were applied, and if half the credit were applied to the Mid-Reach project and half to the South Reach project.

TABLE 3. SUMMARY FEDERAL COSTS ALLOCATION

	NF Credit Applied	Federal Cash	Non-Federal Cash	Total
No Credit	-	\$93,635,760	\$110,499,675	\$204,135,436
Full Credit	\$8,576,176	\$98,266,895	\$105,868,540	\$212,711,612
Half Credit	\$4,288,088	\$95,951,328	\$108,184,108	\$208,423,524

**FINAL INTEGRATED GRR & SUPPLEMENTAL EIS
BREVARD COUNTY, FLORIDA HSDR PROJECT
MID-REACH SEGMENT
ADDENDUM**

MARCH 2014

TABLE 4. Funds Allocation Table (No Credit Applied)

Year	Total Project Cost	Non-Fed LERRD	Non-Fed Const. Credit	Scheduled Const.	%	Non-Fed Cash	Fed Cash
Prior PED*	\$1,210,935	\$0	\$0	\$1,210,935	N/A	\$423,827	\$787,108
FY2021	\$32,204,319	\$0	\$0	\$32,204,319	16.4%	\$14,813,987	\$17,390,332
FY 2023	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY 2024	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY 2026	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY 2027	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY 2029	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY 2030	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2031	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2033	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2034	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2036	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2037	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2038	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2040	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2041	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2043	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2044	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2045	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2047	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2048	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2050	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2051	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2052	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2054	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2055	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2057	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2058	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2059	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2061	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2062	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2064	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2065	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2066	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
Total	\$204,135,436	\$0	\$0	\$204,135,436	100%	\$110,499,675	\$93,635,760

*Prior PED for this effort does not reflect sunk PED; it is estimated PED cost in years 2014 through 2019.

**FINAL INTEGRATED GRR & SUPPLEMENTAL EIS
BREVARD COUNTY, FLORIDA HSDR PROJECT
MID-REACH SEGMENT
ADDENDUM**

MARCH 2014

TABLE 5. Funds Allocation Table (All Credit Applied)

Year	Total Project Cost	Non-Fed LERRD	Non-Fed Const. Credit ⁽¹⁾	Scheduled Const.	%	Non-Fed Cash	Fed Cash ⁽²⁾
Prior PED*	\$1,210,935	\$0	\$0	\$1,210,935	N/A	\$423,827	\$787,108
FY2021	\$40,780,495	\$0	\$8,576,176	\$32,204,319	16.4%	\$10,182,852	\$22,021,467
FY 2023	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY 2024	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY 2026	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY 2027	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY 2029	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY 2030	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2031	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2033	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2034	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2036	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2037	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2038	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2040	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2041	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2043	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2044	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2045	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2047	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2048	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2050	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2051	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2052	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2054	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2055	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2057	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2058	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2059	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2061	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2062	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2064	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2065	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2066	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
Total	\$212,711,612	\$0	\$8,576,176	\$204,135,436	100%	\$105,868,540	\$98,266,895

*Prior PED for this effort does not reflect sunk PED; it is estimated PED cost in years 2014 through 2019.

⁽¹⁾ A credit of \$8,576,176 for sponsor's contribution to initial fill of North Reach was applied to the sponsor's contributions for the initial construction of Mid Reach.

⁽²⁾ Federal cash required in FY2021 increased for construction due to the NFS credit applied from North Reach to Mid Reach.

**FINAL INTEGRATED GRR & SUPPLEMENTAL EIS
BREVARD COUNTY, FLORIDA HSDR PROJECT
MID-REACH SEGMENT
ADDENDUM**

MARCH 2014

TABLE 6. Funds Allocation Table (50% Credit Applied)

Year	Total Project Cost	Non-Fed LERRD	Non-Fed Const. Credit ⁽¹⁾	Scheduled Const.	%	Non-Fed Cash	Fed Cash ⁽²⁾
Prior PED*	\$1,210,935	\$0	\$0	\$1,210,935	N/A	\$423,827	\$787,108
FY2021	\$36,492,407	\$0	\$4,288,088	\$32,204,319	16.4%	\$12,498,419	\$19,705,900
FY 2023	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY 2024	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY 2026	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY 2027	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY 2029	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY 2030	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2031	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2033	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2034	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2036	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2037	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2038	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2040	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2041	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2043	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2044	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2045	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2047	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2048	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2050	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2051	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2052	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2054	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2055	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2057	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2058	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2059	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2061	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2062	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2064	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
FY2065	\$675,885	\$0	\$0	\$675,885	0.3%	\$377,144	\$298,741
FY2066	\$9,994,126	\$0	\$0	\$9,994,126	4.9%	\$5,576,723	\$4,417,404
Total	\$208,423,524	\$0	\$4,288,088	\$204,135,436	100%	\$108,184,108	\$95,951,328

*Prior PED for this effort does not reflect sunk PED; it is estimated PED cost in years 2014 through 2019.

⁽¹⁾ A partial credit of \$4,288,088 (half of the \$8,576,176) in credit for sponsor's contribution to initial fill of North Reach was applied to the sponsor's contributions for the initial construction of Mid Reach.

⁽²⁾ Federal cash required in FY2021 increased for construction due to the NFS credit applied from North Reach to Mid Reach.