



# MEMORANDUM

AGENDA ITEM #IV.G

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DATE: MARCH 18, 2024

TO: COUNCIL MEMBERS

FROM: STAFF

SUBJECT: MIAMI-DADE COUNTY FLOOD CONTROL / SALINITY CONTROL STRUCTURES UPDATE

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At its January 22, 2024 Council Meeting, the Council met with representatives of Broward County, Miami-Dade County, South Florida Water Management District, and U.S. Army Corps of Engineers, Jacksonville District to discuss the Central & Southern Flood Risk Study.

Currently, the Central & Southern Florida Flood Control System, a gravity drainage system, is not able to manage flooding reliably. Sea level rise and aged infrastructure is contributing to the current and foreseeable failure of salinity control structures in Broward and Miami-Dade counties. According to the South Florida Water Management District's (SFWMD) [2023 Annual Consolidated Report](#), Miami-Dade County has 16 salinity control structures with 13 FPLOS Phase 1 Structures (unfunded) and 3 FPLOS Phase II Structures (partially funded). Broward County has 7 FPLOS Phase 1 Structures (unfunded). At this time, there is insufficient funding to conduct required Level 3 engineering studies for the vast majority of the Phase 1 unfunded projects. While an estimated study by the U.S. Army Corps of Engineers of a handful of salinity control structures is under consideration, the vast majority of salinity control structures will languish without Level 3 engineering studies delaying needed funding for improvements past 2032 at the earliest.

Following the conclusion of the presentation, the Board instructed staff to prepare a letter to the Mayors of Miami-Dade and Broward counties urging local funding from the counties to expedite Level 3 engineering studies, in partnership with the South Florida Water Management District, to position the salinity control structures for federal funding on an expedited basis. The narrative of the letter is attached accompanied by illustrative maps and a chart for your information.

Recommendation: Information Only



South Florida Regional Planning Council  
1 Oakwood Boulevard, Suite 250, Hollywood, Florida 33020  
954-924-3653 Phone, 954-924-3654 FAX  
[www.sfr regionalcouncil.org](http://www.sfr regionalcouncil.org)



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Goren, Cherof, Doody &  
Ezrol, P.A.

February 1, 2024

The Honorable Daniella Levine Cava  
Mayor, Miami-Dade County  
111 NW 1<sup>st</sup> Street, 29<sup>th</sup> Floor  
Miami, Florida 33128

The Honorable Oliver Gilbert, III  
Chairman, Miami-Dade County Board  
of County Commissioners  
111 NW 1<sup>st</sup> Street, Suite 220  
Miami, Florida 33128

The Honorable Nan Rich  
Mayor, Broward County  
County Commissioner &  
Former State Senator  
115 South Andrews Avenue, #421  
Fort Lauderdale, Florida 33301

Re: County Funding Effort needed for Flood Protection / Salinity Control Structures

Dear Mayor Rich, Mayor Levine Cava, and Chairman Gilbert:

At the Council’s recent Board Meeting, the Council Members met with the Chief Resilience Officers and staff from Broward County (Dr. Jurado), Miami-Dade County (Mr. Murley), South Florida Water Management District (Dr. Maran), and U.S. Army Corps of Engineers (ACOE), Jacksonville District (Mr. Gysan, P.E., Ms. Veléz, P.E., and Major Cory Bell). Following a presentation by Dr. Jurado, the Council Members discussed the current and foreseeable failure of flood protection / salinity control structures in Miami-Dade County and Broward County and the need to work in partnership with the South Florida Water Management District to provide local funding to advance Level 3 Engineering Studies.

In summary, there are 23 flood control / coastal salinity structures in Broward (7) and Miami-Dade (16). Absent retrofitting and/or replacement, and complementary infrastructure investments, these structures are failing, or are expected to fail in the foreseeable future, to provide regional flood protection. Of these, three structures have received some level of partial funding. Four additional structures, two in each county, are under consideration for funding through the ongoing C&SF Flood Resiliency Study by the ACOE / SFWMD leaving 16 FPLOS Phase I structures without funding for the Level 3 Engineering Studies required to qualify for federal funding. Without these Level 3 Engineering Studies, funding for infrastructure replacement and/or improvements are likely to extend past 2032 at the earliest. To move these studies forward, the counties are proposing to collaborate with SFWMD to conduct the Level 3 Engineering Studies for the anticipated 5 unfunded structures in Broward and 11 structures in Miami-Dade.




The SFWMD is able to undertake these studies expeditiously and at an estimated cost of \$1.5 million per structure. The payment would be spread over two years. This translates to an expenditure by Broward County of \$7.5 million and \$16.5 million by Miami-Dade County over two years, or \$3.5 million and \$8.25 million per year respectively.

Given the urgency of this matter for the region, its residents, and economy, the Council recommends that the counties undertake and fund the studies for the 16 remaining FPLOS Phase 1 Control Structures in partnership with the SFWMD. It is critically important to fast track this work and submit it for Federal Funding (project authorization and appropriations) on an expedited schedule. It is also important to convey to the U.S. ACOE and SFWMD the importance of moving forward with the C&SF Flood Resiliency Study for a minimum of 4 Flood Control / Coastal Salinity Structures; two each in Miami-Dade and Broward. A unified regional voice and local funding will assist both the SFWMD and U.S. ACOE, Jacksonville District in moving this critical work forward at the federal level.

Additional materials accompany this correspondence for your review and information. In addition, you can view the meeting presentation and conversation at [https://youtu.be/kMeXRdhl\\_7I?si=2HRqlaEbzM9ol4w](https://youtu.be/kMeXRdhl_7I?si=2HRqlaEbzM9ol4w) . Please do not hesitate to let me or Isabel Cosio Carballo, Executive Director, know if we can provide you with additional information or otherwise be of assistance to you.

Sincerely yours,

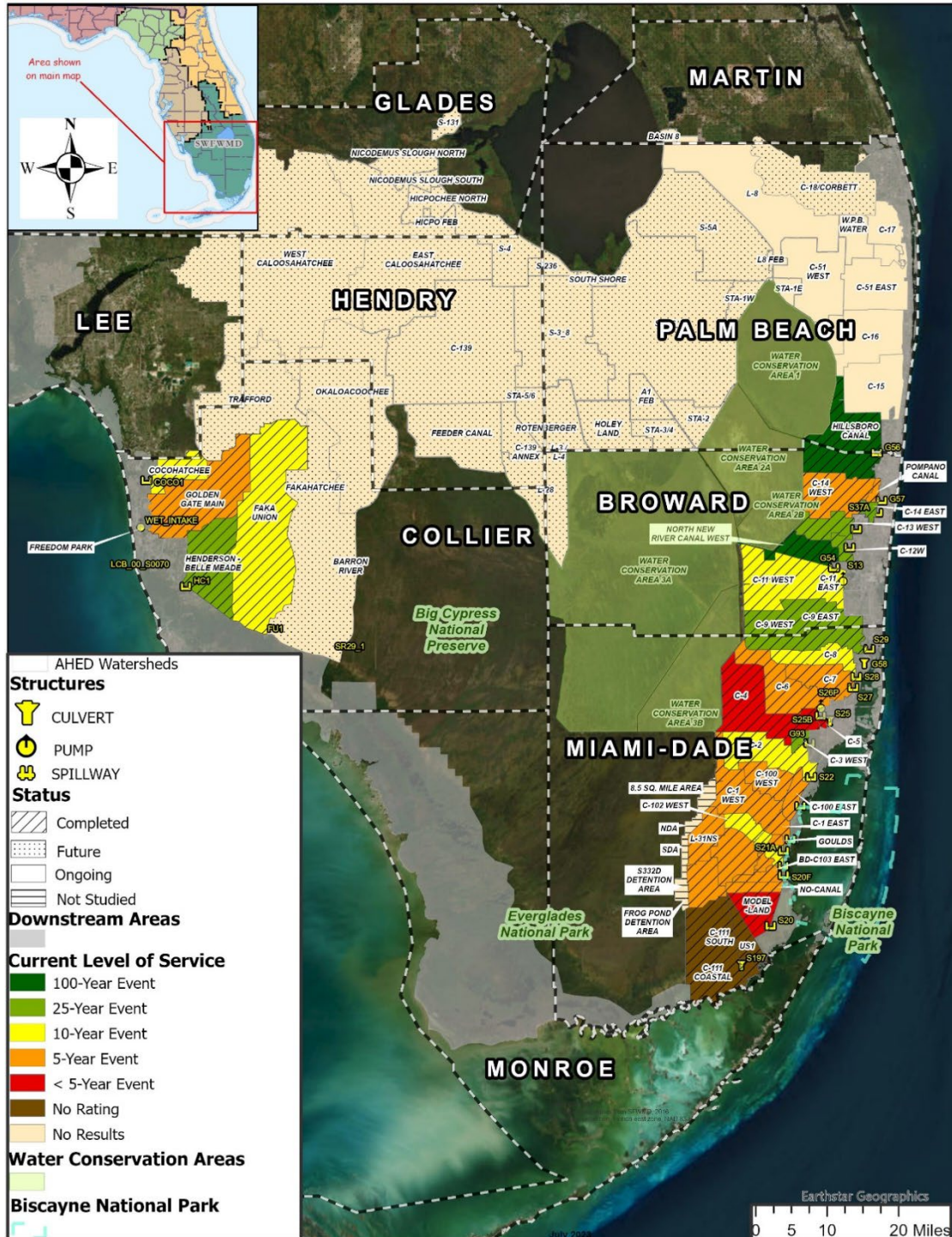


Steve Geller  
Chair, SFRPC  
Broward County Commissioner & Former State Senator

Enclosures

ICC/JMJ

cc Jimmy Morales, Chief Operating Officer, Miami-Dade County  
Monica Cepero, County Administrator, Broward County  
Jennifer Jurado, Ph.D., Deputy Director & Chief Resilience Officer, Broward County  
James F. Murley, Chief Resilience Officer, Miami-Dade County  
Drew Bartlett, Executive Director, SFWMD  
Ana Carolina Coelho Maran, P.E., Ph.D., District Resiliency Officer, SFWMD  
Colonel James Booth, District Commander, U.S. ACOE, Jacksonville District  
Mayor Cory J. Bell, Deputy District Commander for South Florida, U.S. ACOE  
Eva B. Velez, P.E. Chief Ecosystem Branch, U.S. ACOE  
E. Timothy Gysan, P.E., PMP, Senior Project Manager, Ecosystems Branch, U.S. ACOE  
Council Members, South Florida Regional Planning Council  
Isabel Cosio Carballo, MPA, Executive Director, SFRPC



**Figure 3-3: Current Flood Protection Level of Service**

### Future Flood Protection Level Service

The future flood protection level of service, under a 2-foot sea level rise scenario is shown in Figure 3-4. The figure depicts the level of service generally provided by existing infrastructure in critical basins, predominantly located in Broward and Miami-Dade Counties. The level of service is represented by the respective rainfall frequency event that results in flooding within areas of each basin, simulated as part of completed FPLOS Phase I – Flood Vulnerability Assessments.

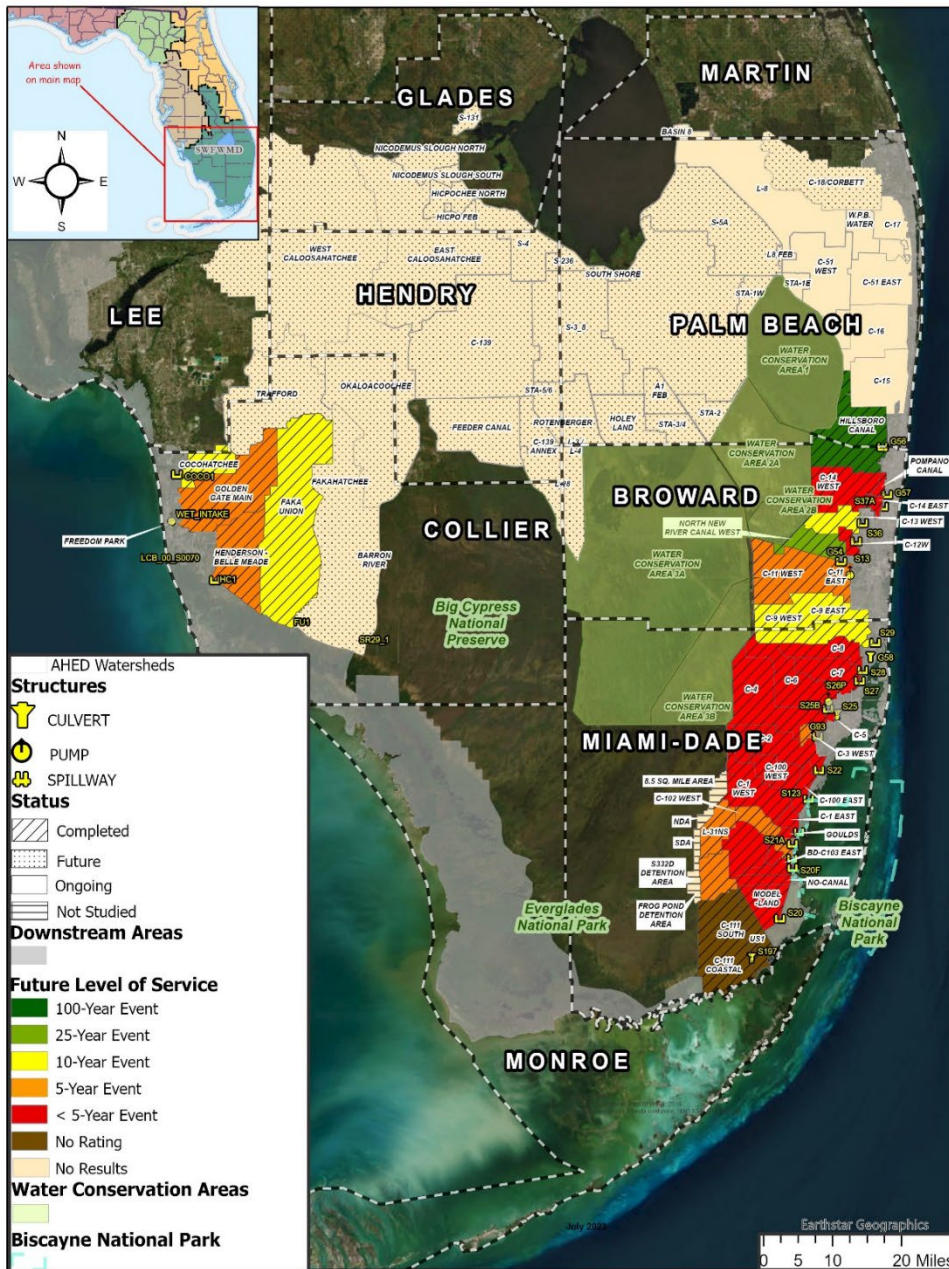


Figure 3-4: Future Flood Protection Level of Service

**Flood Protection Level of Studies (FPLOS)**

Miami-Dade: FPLOS Phase I: 13 Structures; FPLOS Phase II: 3 Structures (Partially funded)

Broward: FPLOS Phase I: 7 Structures

Table 1: List of Resiliency Priority Water Control Structure Projects, including implementation and funding status

Project Name / Water Control Structures	Project	Source	Project below the expected service level (25-year/4%)?	Total Cost Estimate <sup>(1)</sup>	Status of Implementation	Status of Funding	Funds Expended (through June 30 2023) <sup>(2)</sup>
S-28 Coastal Structure and C-8 Basin Resiliency <b>Miami</b>	FPLOS Phase II		Yes	\$261,446,031	Not Started (Conceptual Design Completed)	Staff, H&H and Design Funds Construction partially funded \$50M FEMA BRIC Award Recommendation + Match	\$665,325
S-29 Coastal Structure and C-9 Basin Resiliency <b>Miami</b>	FPLOS Phase II		Yes <sup>(3)</sup>	\$355,280,352	Ongoing Design Start: FY22 End: FY24	Staff, H&H and Design Funds Construction partially funded \$50M FEMA BRIC Award Recommendation + Match	\$1,648,560
S-27 Coastal Structure and C-7 Basin Resiliency <b>Miami</b>	FPLOS Phase II (Pilot)		Yes	\$126,870,189	Ongoing Design. Start: FY22 End: FY24	Staff, H&H and Design Funds Construction partially funded \$50M FEMA BRIC Award Recommendation + Match	\$1,407,923
S-26 Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		Yes	\$ 144,858,126	Not Started	Not yet funded	\$0
G-57 Coastal Structure Resiliency <b>Broward</b>	FPLOS Phase I		Yes	\$ 33,394,620	Not Started	Not yet funded	\$0
S-22 Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		Yes	\$92,414,986	Not Started	Not yet funded	\$0
S-37A Coastal Structure Resiliency <b>Broward</b>	FPLOS Phase I		No	\$ 149,094,074	Not Started	Not yet funded	\$0
G-58 Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		Yes	\$20,927,917	Not Started	Not yet funded	\$0

**October 2023**

**Flood Protection Level of Studies (FPLOS)**

Miami-Dade: FPLOS Phase I: 13 Structures; FPLOS Phase II: 3 Structures (Partially funded)

Broward: FPLOS Phase I: 7 Structures

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Project Name / Water Control Structures	Project	Source	Project below the expected service level (25-year/4%)?	Total Cost Estimate <sup>(1)</sup>	Status of Implementation	Status of Funding	Funds Expended (through June 30 2023) <sup>(2)</sup>
S-123 Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		Yes	\$ 104,958,469	Not Started	Not yet funded	\$0
S-20F Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		Yes	\$77,703,413	Not Started	Not yet funded	\$0
S-21 Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		Yes	\$70,981,354	Not Started	Not yet funded	\$0
S-21A Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		Yes	\$ 70,303,527	Not Started	Not yet funded	\$0
G-93 Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		No	\$ 42,203,088	Not Started	Not yet funded	\$0
S-25B Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		Yes	\$ 93,660,490	Not Started	Not yet funded	\$0
G-56 Coastal Structure Resiliency <b>Broward</b>	FPLOS Phase I		No	\$162,769,468	Not Started	Not yet funded	\$0
G-54 Coastal Structure Resiliency <b>Broward</b>	FPLOS Phase I		No	\$ 83,451,585	Not Started	Not yet funded	\$0
S-25 Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		Yes	\$ 28,748,435	Not Started	Not yet funded	\$0
S-33 Coastal Structure Resiliency <b>Broward</b>	FPLOS Phase I		No	\$ 35,505,876	Not Started	Not yet funded	\$0

**October 2023**

**Flood Protection Level of Studies (FPLOS)**

Miami-Dade: FPLOS Phase I: 13 Structures; FPLOS Phase II: 3 Structures (Partially funded)

Broward: FPLOS Phase I: 7 Structures

Table 1: List of Resiliency Priority Water Control Structure Projects, including implementation and funding status

Project Name / Water Control Structures	Project	Source	Project below the expected service level (25-year/4%)?	Total Cost Estimate <sup>(1)</sup>	Status of Implementation	Status of Funding	Funds Expended (through June 30 2023) <sup>(2)</sup>
S-20G Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		Yes	\$34,861,279	Not Started	Not yet funded	\$0
S-13 Coastal Structure Resiliency <b>Broward</b>	FPLOS Phase I		Yes	\$48,474,453	Not Started	Not yet funded	\$0
S-36 Coastal Structure Resiliency <b>Broward</b>	FPLOS Phase I		Yes	\$ 38,835,405	Not Started	Not yet funded	\$0
S-197 Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		N/A	\$ 66,435,182	Not Started	Not yet funded	\$0
S-20 Coastal Structure Resiliency <b>Miami</b>	FPLOS Phase I		Yes	\$ 25,394,727	Not Started	Not yet funded	\$0

Notes: (1) The values reported under the Column "Total Cost Estimates" do not include staff time. (2) The values reported under the Column "Funds Expended" includes expenses since the start of FY20 through June 30, 2023. The total expended funds reported for each individual project includes in kind/staff time and planning funds. An additional \$12,409,933 was spent within the same period for overall projects planning (FPLOS H&H modeling, data analyses, resiliency plan formulation, and other related planning efforts). (3) Expected service level is currently greater than a 25-year return period (less than 4% chance of occurrence), however the respective structure inspection report presents priority level for infrastructure refurbishment.