

## FY2022/2023 Local Government Funding Request

### Final Inlet Project Assessment

|               |                                                       |
|---------------|-------------------------------------------------------|
| Project Name  | South Lake Worth Inlet Management Plan Implementation |
| Local Sponsor | Palm Beach County                                     |

|                    |           |
|--------------------|-----------|
| Initial Assessment | 8/23/2021 |
| Group Assessment   | 8/25/2021 |
| Draft Assessment   | 8/31/2021 |
| Final Review       | 10/5/2021 |

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| Project Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| The South Lake Worth Inlet (also known as Boynton Inlet) is located between DEP monuments R151 and R152 in Palm Beach County. The Inlet Management Plan (IMP) was adopted in March 1999, establishing an annual bypassing objective of 88,000 cubic yards of sand with 60,000 cubic yards to be bypassed by the sand transfer plant. The interior deposition basin (sand trap) was expanded in 2002 and in 2009 it was reconstructed. Seagrass mitigation was completed in 2014 and maintenance dredging was completed in 2015. A new sediment budget study has been finalized and will be a component of an updated IMP. The requested funds include the design and construction of the expansion of the sand trap laterally and to a depth of -17.55 ft. NAVD throughout, which consists of the removal and disposal of rock and sediment. Requested funds are also for the physical and biological monitoring and design costs for the sediment budget update. Staff have determined that the Design and Construction phase costs associated with the sand trap expansion is eligible for a 75% state cost share and the remaining Design and Monitoring phase costs are eligible for a 50% state cost share. |

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|--------------------------------------------------------------------------------------------------|
| Funds will be used for (list project phase, specify which phase is reimbursement, if applicable) |
| Design (FY22/23 and reimbursement for FY21/22), Construction and Monitoring                      |

|                    |             |
|--------------------|-------------|
| State cost share % | 50% and 75% |
|--------------------|-------------|

| Project Budget Table       |         |            |                    |                    |                    |
|----------------------------|---------|------------|--------------------|--------------------|--------------------|
|                            | State % | Federal    | State              | Local              | Total              |
| Feasibility                | 0.00%   | \$0        | \$0                | \$0                | \$0                |
| Design                     | 50.00%  | \$0        | \$12,500           | \$12,500           | \$25,000           |
| Design                     | 75.00%  | \$0        | \$75,000           | \$25,000           | \$100,000          |
| Construction               | 75.00%  | \$0        | \$3,318,750        | \$1,106,250        | \$4,425,000        |
| Year 1 Monitoring          | 50.00%  | \$0        | \$57,500           | \$57,500           | \$115,000          |
| Year 2+ Monitoring         | 0.00%   | \$0        | \$0                | \$0                | \$0                |
| <b>Total Project Costs</b> |         | <b>\$0</b> | <b>\$3,463,750</b> | <b>\$1,201,250</b> | <b>\$4,665,000</b> |

|                                        |      |
|----------------------------------------|------|
| <b>TOTAL PROJECT SCORE (80 points)</b> | 49.3 |
|----------------------------------------|------|

|                                            |       |    |
|--------------------------------------------|-------|----|
| <b>Sand reaching the inlet (10 points)</b> | Score | 10 |
|--------------------------------------------|-------|----|

Local Sponsor: 200,000 cy

**Department:** Net littoral transport to the inlet is 200,000 cubic yards per year as defined in the "South Lake Worth Inlet Management Program Update" (CPE, 2003).

**Volume of sand:** 200,000

|                                        |              |     |
|----------------------------------------|--------------|-----|
| <b>Severity of erosion (10 points)</b> | <b>Score</b> | 8.8 |
|----------------------------------------|--------------|-----|

**Local Sponsor:** Target annual bypassing objective: 88,000 cy/yr

**Department:** The annual target bypassing is 88,000 cy to the south.

**Target bypassing volume:** 88,000

|                                                  |              |    |
|--------------------------------------------------|--------------|----|
| <b>Balancing the sediment budget (10 points)</b> | <b>Score</b> | 10 |
|--------------------------------------------------|--------------|----|

**Local Sponsor:** Annual average bypassing: 97,222 cy/yr. Updated sediment budget was approved 3/31/2021 by local stakeholders and the state.

**Department:** The annual target bypassing is 88,000 cy to the south. For the 22 year period from the adoption of the IMP in March 1999 the inlet has bypassed more than 100% of this target.

**CEG calculated value:** 88,000

|                                                     |              |   |
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| <b>Increased bypassing improvements (10 points)</b> | <b>Score</b> | 0 |
|-----------------------------------------------------|--------------|---|

**Local Sponsor:** Proposed increase in bypassing: 3,000 cy/yr. No estimate of shortfall of annual bypassing.

**Department:** There is no unmet annual bypassing objective, therefore no points awarded.

**CEG calculated value:** 0

|                                                           |              |   |
|-----------------------------------------------------------|--------------|---|
| <b>Cost-effectiveness of using inlet sand (10 points)</b> | <b>Score</b> | 0 |
|-----------------------------------------------------------|--------------|---|

**Local Sponsor:** Yes, proposed project is requesting construction phase funds for a major inlet management project component. Opinion of probable costs by licensed professional engineer submitted with application materials. Cost per unit volume of sand for proposed project: \$39.23 cy. Upland sand source: \$52.44 cy. Offshore sand source: \$200 cy.

**Local Sponsor:** The proposed trap expansion is expected to entail an initial construction event to remove rock and maintenance to dredge the incremental increase of impounded sand during its project life. The trap expansion will continue to benefit the inlet as long as the inlet is maintained. The inlet was initially constructed in 1927 and has been maintained to date (94 years). Therefore, the project life of the proposed trap expansion was assumed to be equivalent to this demonstrated commitment to managing and maintaining the inlet.

**Department:**

The Department requests that the County justify the project life of 94 years, especially in relation to the life cycle of the other structural features of the inlet, and the functioning of the sediment impoundment basin and other features in relation to sea level rise. The Department recommends the use of 50 years for a project life.

**Department:**

While the inlet may have been maintained for the last 94 years, that does not lead to a conclusion that the functional use of the inlet can be maintained for the next 94 years without major modifications to the inlet structures, including the sediment impoundment basin. Given these unknowns, the generally accepted procedure, including that used by the USACE, is 50 years. Additionally, the Department has not received a copy of the engineer's opinion of estimated cost that includes the other cost data and discount rates used by the County in the proposed calculations.

**Inlet Management Plans**

|                                |              |          |
|--------------------------------|--------------|----------|
| <b>Existing IMP (5 points)</b> | <b>Score</b> | <b>5</b> |
|--------------------------------|--------------|----------|

**Local Sponsor:**

Existing IMP adopted 1999

**Department:**

Verified

|                               |              |          |
|-------------------------------|--------------|----------|
| <b>Updated IMP (5 points)</b> | <b>Score</b> | <b>5</b> |
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**Local Sponsor:**

Submitted IMP with updated sediment budget to State and was approved on 3/31/2021

**Department:**

Verified

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|----------------------------|--------------|----------|
| <b>New IMP (10 points)</b> | <b>Score</b> | <b>0</b> |
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**Local Sponsor:**

No

**Department:**

Verified

|                                                                   |              |            |
|-------------------------------------------------------------------|--------------|------------|
| <b>Enhanced longevity of proximate beach projects (10 points)</b> | <b>Score</b> | <b>5.8</b> |
|-------------------------------------------------------------------|--------------|------------|

**Local Sponsor:**

107,810 cy annualized beach nourishment volume

**Department:**

Since the 1999 IMP there has been 3,664,510 cy placed at the Ocean Ridge Beach Project to the south of the inlet. The bypass amount from bypass dredging and sand transfer plant is 2,138,892 cy of this amount which is 58.4% of the total fill amount.

**CEG calculated value:**

58.40%

**Criteria in 161.101(14) applicable to inlets**

|                                 |              |          |
|---------------------------------|--------------|----------|
| <b>Active permits (1 point)</b> | <b>Score</b> | <b>1</b> |
|---------------------------------|--------------|----------|

**Local Sponsor:** Yes, FDEP (0117708-001-JC) exp 2/8/2026 and ACOE (SAJ-2000-02301 (IP-EGR)) exp 12/19/2022

**Department:** Verified

|                                           |              |   |
|-------------------------------------------|--------------|---|
| <b>Federal funds available (3 points)</b> | <b>Score</b> | 0 |
|-------------------------------------------|--------------|---|

**Local Sponsor:** No

**Department:** Verified

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|----------------------------------------------------------|--------------|-----|
| <b>Total amount of previous state funding (4 points)</b> | <b>Score</b> | 1.7 |
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**Local Sponsor:** N/A

**Department:** Fiscal year 2012/2013 through 2021/2022

**Total funds:** \$1,912,662.00

|                                       |              |   |
|---------------------------------------|--------------|---|
| <b>Secured local funds (2 points)</b> | <b>Score</b> | 2 |
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**Local Sponsor:** Yes, Draft Resolution provided with application

**Department:** Verified - signed Resolution received 9/14/2021