Broward County Shore Protection Project – Segment III and Sand Bypass

Environmental Planning and Community Resilience Division
Public Webinar
October 30, 2020 at 1:00 pm
Questions and Updates

- Enter in chat window during webinar
- Email resilience@broward.org
- Visit www.broward.org/BeachRenourishment
- Follow @BrowardEnv
- Call us 954-519-1270
- Municipal staff will receive regular updates
Broward County Beach Management Program

Benefits of Beach Management

**Habitat**
- Provide critical habitat for seabirds and sea turtles

**Recreation**
- Enjoyed by residents and tourists
- Beaches attract more people to Florida than theme parks (noted by 25% of respondents)

**Economy**
- Broward beaches produce over $8.5 billion annually in direct and indirect economic activity

**Protection**
- Protect over $4 billion in upland infrastructure
Broward County Beach Management Program

Why Manage the Beaches?

Development of Port Everglades impeded southerly sediment transport

Early erosion control efforts, hard armoring and structures, were uncoordinated and largely ineffective
Broward County Segment III – Project History

- 1971 - City of Hallandale Beach
- 1976 - John U. Lloyd State Park (Federal SPP)
- 1979 – Hollywood/ Hallandale (Federal SPP)

- 1989 - John U. Lloyd State Park (Federal SPP)
- 1991 - Hollywood/ Hallandale (Federal SPP)

- 2001 – City of Hollywood @ Diplomat
- 2005/2006 – Segment III (Federal SPP)
- 2012 – City of Hollywood
- 2013 - John U. Lloyd State Park (Beneficial Use of Inlet Dredging)
- 2019 – Segment III Emergency Project (FCCE -Hurricane Irma)
Broward County Segment III – Project History

Port Everglades to South County Line

Hollywood

Hallandale

Dr. Von D. Mizell-Eula Johnson State Park

Dania Beach

AREA 1 (JUL NORTH)

AREA 2 (JUL SOUTH)

AREA 3 (DANIA BEACH)

AREA 4 (NORTH HOLLYWOOD)

AREA 5 (CENTRAL HOLLYWOOD)

AREA 6 (SOUTH HOLLYWOOD)

AREA 7 (HALLANDALE BEACH)

FT. LAUDERDALE

PORT EVERGLADES

ATLANTIC OCEAN

Hallandale
Before and After 2005 Project-State Park

March 5, 2005
Pre-Construction

January 4, 2006
In Progress

April 2, 2006
Post-Construction
Before and After 2005 Project-Hollywood

March 2005 (Before)  Sept 2005 (After)  April 2006 (6 Months After)
Typical **Above Mean High Water** Beach Profile (following 1st Post- Irma Emergency Project)

Typical **Full** Beach Profile (following 2013 O&M Dredging Project)
Upcoming Beach Project 2021/2022

• US Army Corps of Engineers replacing sand lost from Hurricane Irma
• $58,545,000 federal funding
• 1 million cubic yards of sand, truck haul
• ~6 miles along State Park, Dania Beach, Hollywood and Hallandale Beach
• March 2021; November 2021-March 2022
Project Goals

✓ Replace losses from Hurricane Irma
✓ Limit disruption of beach use and traffic patterns
✓ Avoid environmental impacts
✓ Add storm protection dune, where feasible
Truck Haul Project Basics – Sand Sourcing

- Material obtained from upland sand mines in central FL and trucked to site
- Permit required sand specifications - QA/QC conducted at the mine(s) to assure sand grain size, color, and silt content

- Inbound and outbound truck routes pre-established
- Local Traffic Control Plans provide predictability, developed with municipalities to minimize disruption
- Trucks routed to pre-established Staging/Access areas for offload
What Will The Sand Look Like?
Truck Haul Project Basics – Staging and Access

- Road trucks deliver sand to staging/access areas for offload
- Multiple points used to reduce beach haul lengths, optimize sand placement efficiency, minimize community impacts
- Typically fencing erected for security and access control
- Backhoe transfer to off road trucks
Truck Haul Project Basics – Staging and Access

Potential staging areas and access points

• Dania Beach:
  Dania Pier Parking lot (end of Cambridge Street)

• Hollywood Beach:
  Balboa Street
  Meade Street
  Greenbriar Street
  Keating Park (Magnolia Terrace)

• Hallandale Beach:
  South City Beach Park
Truck Haul Project Basics – Beach Haul Lanes

- Off road trucks deliver sand from staging area to build out area
- Traffic lanes may be demarcated with signage or temporary fencing – lane access restricted
- Guide safety vehicles accompany trucks along route to and from
Truck Haul Project Basics – Construction Zone

- Can be as large as 1,000 feet
- Public access restricted
- Restricted area is moved as sections are finished
Storm Damage Reduction Easements

Approximate landward limit of area affected by easement (example)
Construction limited to seaward of landward limit of easement

Approximate landward limit of area affected by easement (example)

Erosion Control Line
Construction limited to seaward of landward limit of easement
Truck Haul Project Basics – Construction Monitoring

- Permit required - work stoppage for exceedances
- Vibration Monitoring – prevent potential structural impacts
- Turbidity Monitoring – prevent potential environmental impacts
Truck Haul Project Basics – Environmental Monitoring

_Permit required_ under conditions defined in project Biological Monitoring Plan (currently in draft form)

- Nearshore resources and mitigative artificial reef resources
  - Assessed before and annually for three years following project
  - Hardbottom edge monitoring – nearshore reef margin location
  - Nearshore biological community transects – sublethal community changes and sediment movement
- Listed Species Inventory and condition monitoring
  - Preconstruction surveys for all listed coral species
  - Condition monitoring if > 10 corals within 200m of project ETOF
- Sea turtle monitoring
  - Construction to occur outside of main season for sea turtle nesting (Nov 1-May 1)
  - Construction during Mar-Apr and Nov require nest relocation
- Seabird, Marine Mammal, and Dune vegetation protections
  - Daily seabird nesting surveys during season
  - Marine Mammal sighting work stoppages
  - Minimum dune vegetation area size disturbance restrictions
Sea Turtle Lighting Ordinances

• Effective March 1-October 31 each year
• Ordinances enforced by Local Code Enforcement
• Require all lighting that is visible from the beach to be:
  ✓ **LOW**
    • Fixture height
    • Lumen output
  ✓ **SHIELDED**
    • Downward directed
    • Full cut-off
  ✓ **LONG** (wavelength)
    • Amber or red LED is best
• Don’t forget about interior lights!
Dune Feature

- County resilience initiative for surge protection
- Constructed by US Army Corps under agreement with County
  - Agreement pending for State Park
  - Will pursue municipal agreements for Segment III
- Planted with native sea oats
Segment III
Project Schedule

Contractor Award, February 2021

Potential State Park Construction, March- April 2021

Construction, November 2021- April 2022

Continued Construction, if needed, November 2022

**Subject to change, depends upon procurement schedule**
Broward County Shore Protection Project – Port Everglades Sand Bypass
Broward County Beach Management Program

Why Bypass Sand?
Development of Port Everglades impeded southerly sediment transport
Port Everglades Sand Bypass Project
Construction 2021-2022

- Rubble Removal
- Rock Placement, Reef Construction
- Sand Trap
- Sand Placement
- Sand Tightened Jetty
- Groin
Contractor Award, April 2021

Dredging, May – November 2021

Jetty Improvements, May – December 2021

Mitigation Reef, July 2021

**Subject to change, depends upon procurement schedule**
Sand Bypass Construction

- Sand trap
  - 11 acres, depth -29 to 50 feet NAVD,
  - Requires 365,000 cy dredging
- 1st sand beach placement, north of inlet
  - 30,000 cy
- Future sand placement, ~3 yrs
  - South of inlet, state park
Sand Bypass Construction

• North Jetty Improvement
  • Extension of 160 feet

• Rubble Removal
  • North of the inlet to facilitate flow to trap, 7.3 acres of hardbottom re-exposed

• Rubble Barrier
  • 600’, to limit sand accumulation north of jetty

• Two Artificial Reefs, 0.5 acres total
Construction

Excavation

Rock Works

Sand Spreading
### Draft Construction Schedule

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment III Contractor Award</td>
<td>February 2021</td>
</tr>
<tr>
<td>Segment III Construction</td>
<td>March 2021</td>
</tr>
<tr>
<td>Sand Bypass Contractor Award</td>
<td>April 2021</td>
</tr>
<tr>
<td>Sand Bypass Dredging</td>
<td>May – November 2021</td>
</tr>
<tr>
<td>North Jetty Improvements</td>
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</tr>
<tr>
<td>Segment III Construction</td>
<td>November 2021–March 2022</td>
</tr>
<tr>
<td>1st Sand Bypass</td>
<td>2024</td>
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</tbody>
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