

# BENEFICIAL USE OF DREDGED MATERIAL

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# Overview

- **GDOT is the Local Sponsor for the Atlantic Intracoastal Waterway and the Brunswick and Savannah Harbor Projects**
- **Maintenance material removed from inner harbors annually (on average)**

<b>Savannah:</b>	<b>6,000,000 cubic yards</b>
<b>Brunswick:</b>	<b>500,000 cubic yards</b>

# Overview

- **Savannah Harbor Dredge Material Containment Areas (DMCAS)**

**7 upland DMCAs**

**6,000 acres in DMCAs**

**42 miles of containment dikes**

**Largely silt**

# Overview

- **Brunswick Harbor DMCA**

- 1 upland DMCA**

- 700 acres in DMCA**

- 4 miles of containment dikes**

- Largely sand**



# Beneficial Uses

- **Provide additional DMCA storage capacity**
- **Provide social and/or environmental benefits**

# Beneficial Uses

- **Dike Construction**
- **Roads/Public Works**
- **Offshore Bird Island, Savannah**
- **Inshore Bird Island, Brunswick**
- **Brick manufacturing study**

# Dike Construction

- **Dikes are raised every 6-12 years to provide additional disposal capacity**
- **Material removed from interior of DMCA to raise dikes**
- **Typical 6 foot dike raising restores between 5 and 6 cubic yards of area capacity for each linear foot of dike**

# Roads/Public Works

- **Glynn County harvests sand from Brunswick DMCA**
- **Material mostly used as base material for county roads**
- **Amount removed varies annually**



# Savannah Harbor Bird Island

- **Constructed offshore north of bar channel**



# Savannah Harbor Bird Island

## Construction

- **Constructed in 2004**
- **Approximately 6 acres above MLW**
- **1.5 miles offshore**
- **Material removed from inland DMCA and pumped offshore**

# Savannah Harbor Bird Island

## Benefits

- **Increased disposal capacity by 500,000 cubic yards**
- **Provides protected roosting and nesting area for migratory bird species**

# Brunswick Harbor Bird Island

- **Constructed inshore north of navigation channel**





# Brunswick Harbor Bird Island

## Construction

- **Constructed in 2007 during harbor deepening**
- **Approximately 15 acres above MLW**
- **0.5 miles from shore**
- **Material dredged directly from channel bottom to the site**

# Brunswick Harbor Bird Island

## Benefits

- **Provided additional disposal capacity during deepening**
- **Diverted 800,000 cubic yards from disposal areas**
- **Provides protected roosting and nesting area for migratory bird species**

# Savannah Harbor Brick Study

- **Performed by Georgia Tech School of Civil and Environmental Engineering**
- **Study was to assess the viability of producing fired bricks from dredge material from the Savannah River**
- **Also looked at economic feasibility of brick production**

# Savannah Harbor Brick Study

- **Bricks were successfully created in the lab using only dredge materials (silt and sand) with minimal additives**
- **Economic study compared building a brick factory on-site to shipping the material to an existing brick factory**



# Savannah Harbor Brick Study

- **Economics determined best option is to ship material to existing brick factories**
- **Not found to currently be feasible due to transportation costs to factories**
- **May become feasible if transportation costs decrease or if there is an increased demand for green products**

# Beneficial Use Challenges

- **Consistent volume removal**
- **Environmental hurdles**
- **Corps buy in**