From:
To:
Cc:

(b)(6)

Subject: DRAFT TSP Milestone Meeting Minutes - Mobile Harbor GRR
Date: Sunday, April 1, 2018 8:38:00 PM
Attachments: Draft_Minutes-Mobile_Harbor_GRR_TSP_28_March_2018.docx

---

All: Attached are the DRAFT Minutes from the TSP Milestone Meeting. Please review and provide changes to me by COB Friday, 06 April.

(b)(6): Thank you for the great start on the minutes!

(b)(6)

Pages 2 through 13 redacted for the following reasons:
- -
(b)(5)

From: (b)(6)
To:
Subject: Out of Office April 2-6
Date: Sunday, April 1, 2018 8:44:00 PM

Thanks (b)(6)

(b)(6) Just as info, I will be out of the office this week on Spring Break. Call my cell or (b)(6) if you have an emergency. We did distribute the Draft Minutes from the TSP Milestone Meeting to the PDT this evening and should send to the full list of attendees (including you guys) upon my return early next week.

Waiting to hear back from (b)(6) on his availability to meet with the NGO's. Will coordinate with you guys on any decisions on how/when to move forward with the meeting prior to contacting the NGO's.

(b)(6)

-----Original Message-----
From (b)(6)
Sent: Friday, March 30, 2018 6:40 PM
To: (b)(6)
Cc: (b)(6)
Subject: [Non-DoD Source] Fwd: DIPOA letter to Corps

As info.

Sent from my iPhone

Begin forwarded message:

From: Dauphin Island Property Owners Association <office@dipoa.org <mailto:office@dipoa.org> >
Date: March 30, 2018 at 6:00:18 PM CDT
To: (b)(6)
Subject: DIPOA letter to Corps
Reply-To: office@dipoa.org <mailto:office@dipoa.org>

<Blockedhttp://r20.rs6.net/on.jsp?ca=24b5c26c-b1c5-4ad4-88eb-f12c8d98849c&a=1108979060962&c=f136de70-79c5-11e3-ad22-d4ae527536ce&ch=f1d170c0-79c5-11e3-ad68-d4ae527536ce>

Dear Association members,

The Board of Directors has approved and sent to the United States Army Corps of Engineers, as well as local, state and federal office holders, the attached letter regarding disposal practices related to the sand dredged from the Mobile Ship Channel. It is the Board's position the current dredging practices significantly contribute to the erosion of Dauphin Island beaches. A similar position is held by the Town of Dauphin Island, respected coastal engineers and many interested organizations and individuals.

Please review the attached letter :
Blockedhttps://drive.google.com/file/d/1gCDx9J9jJd3Sb6v_q_QKH6T5ptBrIoDk/view?usp=sharing <Blockedhttp://r20.rs6.net/tn.jsp?f=001n5yEhDhRoBZZ1K4zz84v0WEd8assIHCDOp-9f3i5icOieWV1xU24LJ8NAtzumybOR0II1Mps3LSuRHsP3nbvsIIiwAHxchf24Ikp7xAz7-_3v1vaaDOZa4Ppt7Rf-87LtwWcWwxvYcYIvAYoYl9cAwzMY6hVq36QJVDaioAONPNH5ITBkpJi9dfpOpfawPd3S-DxsO49cE4YqAlDCzsFRM-JojLZRV3s4aXFRPUAsb6KlAbs0yBq5y2LxjjxMcuiHcbbJGfRUYxNjQnhtJUKcoSinh6oNUMw&c=_u6r1W4V7mzz8cEcSs0nbhpsBcPpbEcYXY8ZDwVQrwiACWU35T6QMQ==&ch=LWk73-uDheXtH5E4JhB_CJY5Why6rsrewNB-pjoU5NXLrzUR7Bxhew==> . If you share the views set out in the letter, the Board strongly encourages you to write or email the Corps at MobileHarborGRR@usace.army.mil <mailto:MobileHarborGRR@usace.army.mil> to voice your personal opinion about this issue. It would be very beneficial to this effort to also sent a copy of your letter or email to local, state and federal office holders that serve Dauphin Island and surrounding communities. Please feel free to attach the Board's letter to the Corps and adopt the positions stated therein if you would like to do so.

Thank you for considering being a participant in this effort to reverse the erosion of our island's beaches.

Dennis J. Knizley
President
Dauphin Island Property Owners Association

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There are three ways to pay!

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* Mail a check or money order to PO Box 39, Dauphin Island, AL 36528.
* Online via PayPal with your debit/credit card from our homepage dipoa.org <Blockedhttp://r20.rs6.net/tn.jsp?f=001n5yEhDhRoBZZ1K4zz84v0WEd8assIHCDOp-9f3i5icOieWV1xU24LPLXqwLIhdW9mDL9E6GgJQGPmH-7h713_rFciZQ_OGjzAptHLfrUk3A7z27kiFUEX8vdVd9P1FudQKPbttZV8WE=&c=_u6r1W4V7mzz8cEcSs0nbhpsBcPpbEcYXY8ZDwVQrwiACWU35T6QMQ==&ch=LWk73-uDheXtH5E4JhB_CJY5Why6rsrewNB-pjoU5NXLrzUR7Bxhew==> .

Visit our website <Blockedhttp://r20.rs6.net/tn.jsp?f=001n5yEhDhRoBZZ1K4zz84v0WEd8assIHCDOp-9f3i5icOieWV1xU24LG2bYDIbKZB75rFVyI0z6UNYulnWwLFt4qB3F75GW7BUk9G6mP9Io0sV5j1-EXqtjW1Lm3VzPpViJDHCBSoMSLQ=&c=_u6r1W4V7mzz8cEcSs0nbhpsBcPpbEcYXY8ZDwVQrwiACWU35T6QMQ==&ch=LWk73-uDheXtH5E4JhB_CJY5Why6rsrewNB-pjoU5NXLrzUR7Bxhew==>
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Dues paying members receive discounts!
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ISLE DAUPHINE SUPPER CLUB & EVENT CENTER
Meeting and event space at beach level
251-861-6000

ISLE DAUPHINE GOLF CLUB
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Open 7 days/wk 8am-dusk
251-861-3176
Dauphin Island Property Owners' Assoc., 100 Orleans Dr, PO Box 39, Dauphin Island, AL 36528

Dauphin Island Property Owners' Assoc. | 100 Orleans Dr, PO Box 39, Dauphin Island, AL 36528
Unsubscribe jadams@asdd.com <Blockedhttps://visitor.constantcontact.com/do?p=un&m=001xVjQGQdzknjwYwo-vX4nGw%3D&ch=f1d170c0-79c5-11e3-ad68-d4ae527536ce&ca=24b5c26c-b1c5-4ad4-88eb-f12c8d98849c>
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Sent by office@dipoa.org <mailto:office@dipoa.org> in collaboration with
<Blockedhttp://www.constantcontact.com/index.jsp?cc=nge>
Try it free today <Blockedhttp://www.constantcontact.com/index.jsp?cc=nge>

From: (b)(6)
To:
Cc:
Subject: Re: Mobile Harbor
Date: Tuesday, April 3, 2018 11:09:22 AM

Got it...will let (b)(6) know.

Sent from my BlackBerry 10 smartphone.
Original Message
From (b)(6)
Sent: Tuesday, April 3, 2018 11:08 AM
To: (b)(6)
Cc: (b)(6)
Subject: Mobile Harbor

(b)(6) - fyi...spoke with COL DeLapp, no problem moving the public engagement associated with the release of the draft report to mid-July. We can discuss when you return next week.
(b)(6)

(b)(6)

From:
To:
(b)(6)
Cc:

Subject: Re: DRAFT TSP Milestone Meeting Minutes - Mobile Harbor GRR
Date: Thursday, April 5, 2018 2:12:30 PM

Reminder comments are due COB tomorrow.

Sent from my BlackBerry 10 smartphone.
Original Message
From: (b)(6)
Sent: Sunday, April 1, 2018 8:38 PM
To: (b)(6)
(b)(6)
Cc: (b)(6)
(b)(6)
Subject: DRAFT TSP Milestone Meeting Minutes - Mobile Harbor GRR

All: Attached are the DRAFT Minutes from the TSP Milestone Meeting. Please review and provide changes to me by COB Friday, 06 April.

(b)(6) Thank you for the great start on the minutes!

(b)(6)

From: (b)(6)
To:
Subject: Re: Mobile Harbor Channel Improvement GRR - Request for Gross Appraisal
Date: Thursday, April 5, 2018 12:44:47 PM
Attachments: IMG_20180405_121536.jpg
IMG_20180405_121507.jpg
IMG_20180405_120537.jpg

Sent from my BlackBerry 10 smartphone.
Original Message
From: (b)(6)
Sent: Thursday, April 5, 2018 11:55 AM
To:
Cc: (b)(6)
Subject: Mobile Harbor Channel Improvement GRR - Request for Gross Appraisal

(b)(6) - per our conversation, please put this in SAS queue and provide me w/ your anticipated cost and how you would like funds resourced. Please also copy (b)(6) who is our PM.

SOW: provide Gross Appraisal to SAM-RE for study purposes regarding valuation on that portion of Little Sand Island that is being impacted by the proposed TSP for turning basin expansion. Approx. 1 ac. of uplands will be excavated from the northwest corner of Little Sand Island in order to expand the existing turning basin. While I realize the NFS already owns this land, for project cost and crediting purposes, we need to establish a value in order for the NFS to receive proper credit if/when they provide subject lands to the project/for project purposes.

Attachments:

1) Aerial Section map for north parcel - where the impacts will actually occur
2) Aerial Section map for south parcel
3) Topo map
4) Zoomed in Project Footprint map - approx. 43,560 s.f. - while the exact footprint covers a slightly smaller portion of uplands being impacted, I am increasing to add for additional riparian buffer.
5) Vesting deed - Current owner is NFS. Note: the attached vesting deed provides you w/ a complete of record legal of the entire island along w/ known encumbrances that exist on subject property.
6) Supplemental Agreement to Lease between NFS and USCG. Note: The lease is mainly for docking of an inoperable training vessel that USCG uses to train personnel. I have yet to put my hands on the full copy of the lease that details the actual lease boundaries, I am moving ahead w/ assumption that lease covers entire island until I have more info.

Please advise if you need any additional info.

Respectfully,

(b)(6)


(b)(6)


ALABAMA
GREAT SEAL
HANK WILLIAMS'
BOYHOOD HOME
Hiram Williams lived in Georgiana from age 7 to 11. In 1931, Mrs. Lillie Williams moved Hiram and his sister Irene from rural Wilcox County to this house owned by Thaddeus B. Rose. When he was 8, his mother bought him a guitar for $3.50. Black street musician Rufus (Tee-Tot) Payne became his teacher. Hiram practiced guitar under the raised-cottage house and sang on the streets for tips. The family moved to Greenville in the fall of 1934 and then to Montgomery in 1937 where, at age 14, Hiram began calling himself "Hank."
MARKER ERECTED 2006 BY ALABAMA BUREAU OF TOURISM & TRAVEL
MUSEUM


HANK WILLIAMS, SR.
FAN CLUB HOUSE
148


GEORGIANA,
ALABAMA
Home of...
Hank Williams

From:
To:
(b)(6)

Cc:
Subject: DIPOA Letter on Mobile Harbor
Date: Monday, April 9, 2018 4:17:00 PM
Attachments: DIPOA Letter 21 Mar 2018.pdf

(b)(6) Just FYI...Letter from the DIPOA in regards to Mobile Harbor.

(b)(6)

March 21, 2018

Colonel Jon DeLapp
Commander Mobile District
United States Army Corps of Engineers
109 Saint Joseph Street
Mobile, AL 36602-3630

VIA UNITED STATES MAIL

Re: Disposal site for dredge material from the Mobile Outer Bar Ship Channel

Dear Colonel DeLapp:

I write to you as President of the 3,300 member Dauphin Island Property Owners Association regarding the disposal of sand dredged from the outer bar of the Mobile Ship Channel. The Board of Directors has requested that I inform the United States Corps of Engineers of the Association's position in light of recent data disclosed by the Corps of Engineers to the public in a February 22, 2018 meeting at the Corps of Engineers offices in Mobile, Alabama.

The Association is highly concerned that the placement of beach quality sand dredged from the outer bar of the Mobile Ship Channel be in an area where it will return to the littoral drift and limit the significant erosion that has been occurring on Dauphin Island over the past several decades. As you are aware the dredge material is currently being deposited in the Sand Island Beneficial Use Area (SIBUA) at a water depth of approximately twenty-seven feet. At the February 22, 2018 Corps meeting, Corps representatives indicated the sand is leaving that area at about one-half the deposited rate. Consequently, the sand that the Corps of Engineers has been depositing in the SIBUA since 1999 is accumulating there, and only half the material dredged has left the SIBUA, leaving half the material at the disposal site. It is my understanding that approximately seven million cubic yards of sand remains in the SIBUA, and that area is nearing capacity.

These circumstances illustrate two concerns: 1) the sand is not returning to the littoral drift and having an opportunity to make its way to the beaches of Dauphin Island and 2) there now needs to be a different area for which the sand must be deposited as the SIBUA is nearing capacity. There have been discussions of extending the SIBUA area north and west, but still having the material deposited at a twenty-seven foot depth. The current problem of the sand not returning back into the littoral drift will not be solved or affected by simply continuing to place the sand at such water depths. It is our understanding that coastal engineering science indicates an effective water depth that will return the vast majority of this sand to the littoral drift should be in twenty foot of water or less, possibly as shallow as ten to fifteen foot of water. The Association appreciates the fact that disposal in shallower waters may require additional costs because of the draft of the vessels currently being used to deposit the sand, and there may be a necessity to pump or otherwise deliver the sand to a water depth of less than twenty feet. Notwithstanding the costs, it is imperative the sand be deposited in an area of less than twenty feet in order to begin returning the entire volume of the newly dredged sand to the littoral drift. This concern is exacerbated by the fact that the Corps is proposing to widen and deepen the Mobile Ship Channel, and that event will cause an additional five to twenty percent of the sand in the littoral drift to be captured in the outer bar of the Mobile Ship Channel. That additional sand will also be dredged and should be returned to the drift.

Moving the sand disposal site to an area of less than twenty feet will only begin to repair the extensive damage that has been done to Dauphin Island by the amount of sand that has been removed from the littoral drift and remains in the SIBUA. Hopefully the remaining sand in the SIBUA will after decades return to the littoral drift, but a continued practice of depositing dredged sand material in water depths above twenty foot would only contribute to the further demise of the beaches of Dauphin Island.

The Corps has been made aware of the value of Dauphin Island not only as a contributor to the regional economy, but also as a critical barrier island protecting the mainland from storm surges and damages as a result of hurricanes, tropical storms, and other natural calamities. It is important to the public that the geological integrity of the island remain intact to afford this protection.

As the Corps of Engineers has now publicly stated there is scientific data that the depositing of dredge material at the twenty seven foot depth has only allowed one-half of the sand over the last twenty years to have even the opportunity to return to the drift, it is imperative that changes be made in the dredge material disposal site. The only site that is acceptable to return this dredged material to the littoral drift is to deposit the sand would be in an area of less than a twenty feet depth.

On behalf of the Dauphin Island Property Owners Association, I urge the Corps of Engineers to change the practices of the depositing of dredge material to the shallower areas so that they may benefit the public at large, the regional economy, the fisheries, the environment, and the safety of the citizens that live on Dauphin Island and the mainland of Mobile County.

Serious consideration of these concerns by the Corps of Engineers will be deeply appreciated.

Very truly yours,

Dennis J. Knizley
President
Dauphin Island Property Owners Association, Inc.

DJK/cmk

cc:
Brigadier General Diana M. Holland, Commander, South Atlantic Division, United States Corps of Engineers
Lieutenant General Todd T. Semonite, Commanding General and Chief of Engineers, United States Corps of Engineers
The Honorable Richard Shelby, United States Senator
The Honorable Doug Jones, United States Senator
The Honorable Bradley Byrne, United States Congressman
The Honorable David Sessions, Alabama State Representative
The Honorable Bill Hightower, Alabama State Senator
The Honorable Sandy Stimpson, Mayor, City of Mobile
The Honorable Jeff Collier, Mayor, Town of Dauphin Island
The Honorable Terry Downey, Mayor, City of Bayou La Batre
The Honorable Jerry Carl, Commissioner, Mobile County
The Honorable Kay Ivey, Governor, State of Alabama

From: (b)(6)
To:
Subject: FW: DIPOA letter to Corps
Date: Monday, April 9, 2018 2:38:00 PM

(b)(6) The link below has the letter with the position from the DIPOA. Basically, they only want the material in less than 20' depth to ensure littoral transport.

(b)(6)

From: (b)(6)
Sent: Friday, March 30, 2018 6:40 PM
To
Cc (b)(6)
Subject: [Non-DoD Source] Fwd: DIPOA letter to Corps

As info.

Sent from my iPhone

Begin forwarded message:

> From: Dauphin Island Property Owners Association <office@dipoa.org <mailto:office@dipoa.org> >
> Date: March 30, 2018 at 6:00:18 PM CDT
> To (b)(6)
> Subject: DIPOA letter to Corps
> Reply-To: office@dipoa.org <mailto:office@dipoa.org>

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Please review the attached letter :

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Thank you for considering being a participant in this effort to reverse the erosion of our island's beaches.

Dennis J. Knizley

President

Dauphin Island Property Owners Association

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* Online via PayPal with your debit/credit card from our homepage dipoa.org <Blockedhttp://r20.rs6.net/tn.jsp?f=001n5yEhDhRoBZZ1K4zz84v0WEd8assIHCDOp-9f3i5icOieWV1xU24LPLXqwLIhdW9mDL9E6GgJQGPmH-7h713_rFciZQ_OGjzAptHLfrUk3A7z27kiFUEX8vdVd9P1FudQKPbttZV8WE=&c=_u6r1W4V7mzz8cEcSs0nbhpsBcPpbEcYXY8ZDwVQrwiACWU35T6QMQ==&ch=LWk73-uDheXtH5E4JhB_CJY5Why6rsrewNB-pjoU5NXLrzUR7Bxhew==> .

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From:
To:
(b)(6)
Cc:

Subject: Mobile Harbor GRR TSP Milestone Meeting - DRAFT Minutes
Date: Monday, April 9, 2018 5:18:00 PM
Attachments: Draft_Minutes-Mobile_Harbor_GRR_TSP_28_March_2018.docx
Mobile Harbor GRR 28 Mar 2018 TSP Presentation v2.pdf

All: Attached are the DRAFT Minutes from the Mobile Harbor GRR TSP Milestone Meeting held March 28, 2018. Please review and let me know if you have any comments by COB Monday, April 16, 2018.

(b)(6)

-----Original Appointment-----
From: (b)(6)
Sent: Friday, March 02, 2018 2:54 PM
To: (b)(6)

(b)(6)

(b)(6)

Cc: (b)(6)

(b)(6)

Subject: Mobile Harbor GRR TSP Milestone Meeting
When: Wednesday, March 28, 2018 12:00 PM-2:00 PM (UTC-06:00) Central Time (US & Canada).
Where: Mobile District Employees - Executive Conference Room

All,
Please plan on attending the Tentatively Selected Plan Milestone Meeting for the Mobile Harbor GRR, Wednesday, March 28 at 1300hrs ET (1200hrs CT).

The Read-Aheads will be provided March 14.
Webinar and call-in information will be provided shortly.

(b)(6)

Pages 3 through 41 redacted for the following reasons:
- -
(b)(5)

From:
To:
Cc: (b)(6)

Subject: RE: Mobile Harbor GRR Update for COL Hogeboom
Date: Monday, April 9, 2018 4:50:00 PM

Okay. Just let us know the time/date.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, April 09, 2018 4:34 PM
To:
Cc: (b)(6)

(b)(6)

Subject: Mobile Harbor GRR Update for COL Hogeboom

(b)(6) - the SAD Deputy Commander, COL Hogeboom, will be here next week for some events with the RSC. He asked for an update on the GRR, in particular wants to understand the issues behind the many letter SAD's received. My recommendation is you, (b)(6), and (b)(6) walk him thru some select slides from the recent TSP brief...explain the DI issues, etc. Will let you know the date/time as soon as I learn. Thanks.

(b)(6)

(b)(6)

From: (b)(6)
To:
Subject: RE: Alsbama State Port Authority Strategic Plan Update
Date: Tuesday, April 10, 2018 9:07:00 AM
Attachments: 28 Mar 2018 TSP Presentation_v7.pptx

(b)(6): Attached is the Powerpoint of the TSP Milestone Slides. Let me know if you need something that is not in here and I will provide.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Friday, April 06, 2018 8:58 AM
To: (b)(6)
Subject: [Non-DoD Source] Alsbama State Port Authority Strategic Plan Update

(b)(6),

We are in the process of updating our strategic plan . We would like to include one or two pages about the Channel Improvements. Can I use a couple of slides from the TSP meeting or can you send me something with a graphic representation of the proposed improvements and accompanying narrative?

(b)(6)

Vice-President, Technical Services

Alabama State Port Authority

P.O. Box 1588

Mobile, AL, 36633-1588

Phone: (251) 441-7082

Fax: (251) 441-9395

MOBILE HARBOR GRR

With Integrated Supplemental Environmental Impact Statement

Tentatively Selected Plan

Prepared by Curtis M. Flakes

28 March 2018

"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."

US Army Corps of Engineers ®

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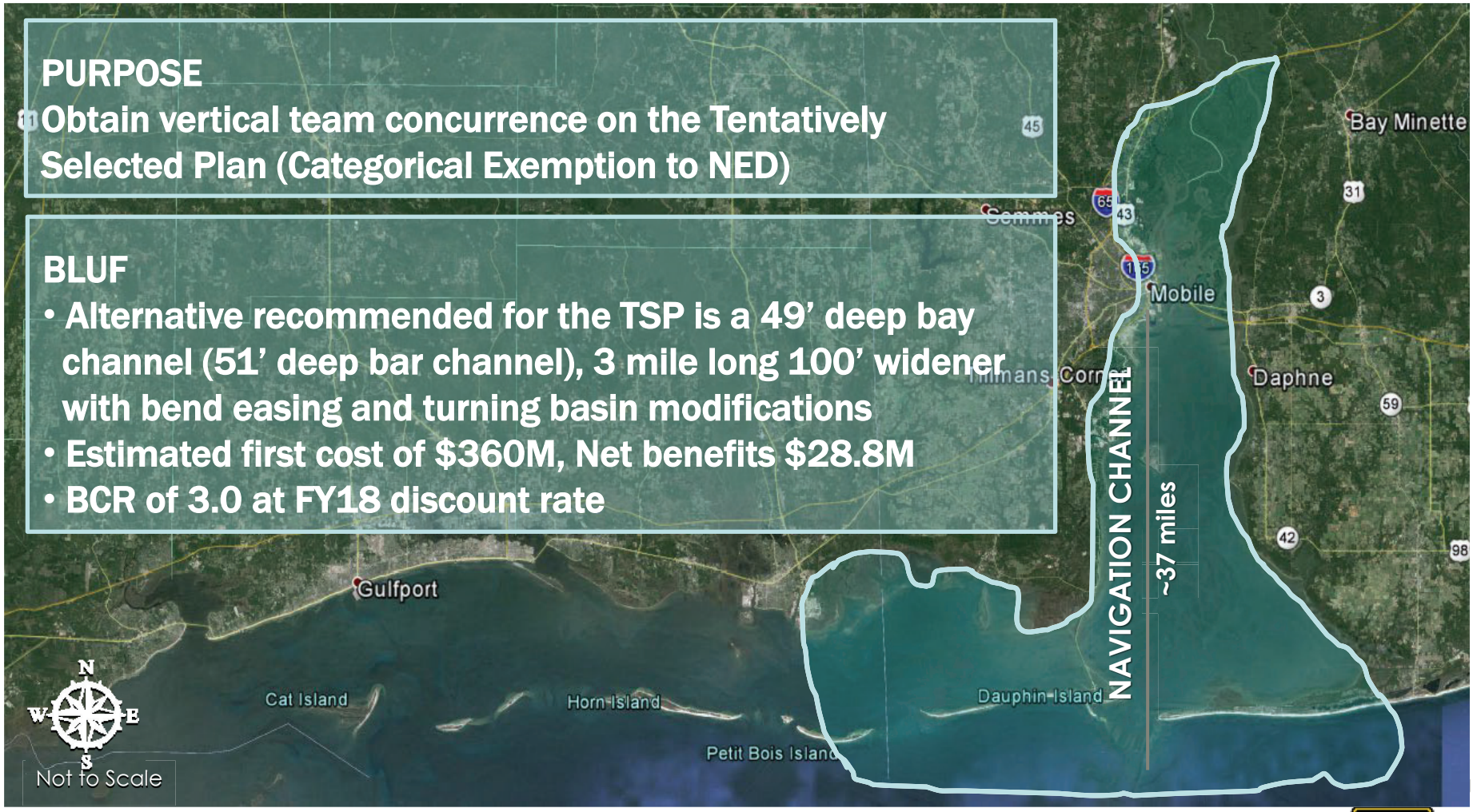
MOBILE HARBOR GRR
PURPOSE/BOTTOM LINE UP FRONT



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MOBILE HARBOR GRR
BACKGROUND

"Modernizing the Port of Mobile is necessary because 2/3rds of the Port of Mobile's vessel traffic today is restricted or delayed directly impacting shipper costs and competitiveness."

- James K. Lyons, ASPA Director

Full Service Seaport
- ✓ 10th Largest in the U.S.
- ✓ 58M+ Tons of Cargo Handled Port-wide

Growth Steadily Climbs
- ✓ Record 2017 20% Container Growth
- ✓ Ranked #2 Steel Port in U.S.
- ✓ Ocean Carriers continue to add service

Strong Exporter of U.S Materials and Goods

Contributes Significantly to the Economy
- ✓ 153,000+ Jobs
- ✓ $25.1B in economic value

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MOBILE HARBOR GRR
AGENCY COORDINATION

- Charrette Jan 28-29, 2015
- Cooperating Agency Meetings Dec 2015, Mar 2016, Sep 2016, Feb 2017, Sep 2017, and Feb 2018
- Beneficial Use Meetings May 2016 and Jan 2018

GENERAL NATURE OF AGENCY CONCERNS

- **Effects on Physical Parameters**
  - Water circulation
  - Salinity
  - Dissolved Oxygen
  - Sedimentation
  - Shoreline Erosion
  - Storm Surge
- **Beneficial Use Opportunities**
- **Accurately Capturing Baseline Conditions**
- **Natural Resources**
  - Fisheries
  - Essential Fish Habitat
  - Submerged Aquatic Vegetation
  - Oysters
  - Marshes and Wetlands
  - Protected Species
  - Benthic Communities
  - Shoreline Erosion
- **Cultural Resources**

FEDERAL AND STATE COOPERATING AGENCIES

- Alabama Department of Environmental Management
- Alabama Department of Conservation and Natural Resources
- Alabama State Historic Preservation Office
- Alabama Department of Transportation
- Geological Survey of Alabama
- U.S. Fish and Wildlife Service
- NOAA National Marine Fisheries Service
- Environmental Protection Agency
- U.S. Geological Survey
- Federal Emergency Management Agency
- Mobile Bay National Estuary Program

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MOBILE HARBOR GRR
PUBLIC ENGAGEMENT

- Public scoping meeting Jan 2016
- Public Meetings Mar 2017, Sep 2017, and Feb 2018
- Focus Group Meetings with Seafood Interests, Environmental NGOs, Dauphin Island Interests, and Environmental Justice Communities
- Bi-weekly Updates, Quarterly Newsletters, Social Media, Listserv

GENERAL NATURE OF PUBLIC COMMENTS

- Erosion impacts to Dauphin Island
- Placing material on eroding shorelines
- Interruption of coastal processes
- Reestablishment of sand transport to Dauphin Island
- Beneficial use of dredged material
- Impacts to wildlife
- Impact to oysters and other commercial fisheries
- Impacts to recreational fishing
- Creating unwanted islands
- Climate change
- Impacts to cultural resources
- Support for project

MOBILE HARBOR GRR
PROBLEMS/OBJECTIVES/OPPS/CONSTRAINTS

PROBLEMS AND OBJECTIVES

Problem #1: Larger size vessels experience transit delays due to existing width of channel

Objective 1. Reduce vessel congestion

Objective 2. Improve the efficiency of operations for cargo vessels within Mobile Harbor

Problem #2: Existing channel depths limit vessel cargo capacity

Objective 1. Accommodate current and anticipated growth in containerized and bulk cargo vessel traffic

Objective 2. Allow more efficient use of containerships and bulk carriers

Problem #3: Existing traffic congestion has increased safety concerns

Objective 1. Provide navigation improvements to improve vessel transit safety

OPPORTUNITIES

- Eliminate or reduce navigational restrictions and inefficiencies (*i.e.*, channel width and depth limitations)
- The protection, restoration, and creation of environmental resources through the beneficial use of dredged material
- Improve navigational safety

CONSTRAINTS

- Avoid or minimize negative impacts on coastal and sediment transport processes.
- Avoid or min. shoreline erosion
- Avoid or min. neg. impacts to:
  - Protected Species
  - Submerged Aquatic Vegetation
  - Essential Fish Habitat
  - Existing Natural Resources (marshes, wetlands, and bay bottoms)
  - Water Quality
  - Cultural resources
  - Adjacent Communities
- Must have adequate Disposal Area Capacity
- Dredge material for ODMDS and open water placement must meet suitability criteria

MOBILE HARBOR GRR
MEASURES AND INITIAL ALTERNATIVES

STRUCTURAL MEASURES

Channel Modification

- Deepening
- Widening
- Bend Easing
- Passing Lanes
- Meeting Areas
- Turning Basin

NON-STRUCTURAL MEASURES

- No-Action
- Relocation of buoys
- Additional Tugs
- Light-loading
- Lightering
- Topping-off offshore
- Scheduling

Initial Alternatives

Structural

Depth

- 46 ft to 55 ft in 1 ft increments (48 ft to 57 ft in Entrance Channel)
- Turning Basin Depth to match channel depth

Width

- 500 ft and 550 ft in Bay Channel
- Widen full channel length
- 650 to 700 ft in Entrance Channel
- Bend easing

Nonstructural

Nonstructural alternatives will match nonstructural measures listed above

MOBILE HARBOR GRR
FOCUSED ARRAY OF ALTERNATIVES

- Four general criteria are considered during alternative plan screening: ***Completeness, Effectiveness, Efficiency, and Acceptability***
- Technical criteria considered in the evaluation of alternatives:

Engineering Criteria:

- Must represent a sound, acceptable, safe, efficient and reliable engineering solution

Economic Criteria:

- Must contribute benefits to NED
- Tangible benefits must exceed economic costs
- Each separable unit of improvement must provide benefits at least equal to costs

Environmental Criteria:

- Must fully comply with all relevant environmental laws, regulations, policies, and executive orders
- Must represent an appropriate balance between economic benefits and environmental sustainability
- Must be developed in a manner that is consistent with the USACE Environmental Operating Principles (EOPs)

Measure	Alternatives			
Deepening	47’	48’	49’	50’
Widening	Additional 100 feet of width for 3 miles for each depth alternative			
	Additional 100 feet of width for 5 miles for each depth alternative			

MOBILE HARBOR GRR

FOCUSED ARRAY REFINED VALUES

Preliminary Project Cost ($M)				
Measure	Depth (Feet)			
	47	48	49	50
Deepening	195.69	271.84	347.32	429.74
Deepening and Widening 100 ft for 3 miles	204.39	282.04	359.42	434.34
Deepening and Widening 100 ft for 5 miles	207.89	286.34	365.22	449.34

Preliminary Project Net Benefits ($M)				
Measure	Depth (Feet)			
	47	48	49	50
Deepening	13.7	21.2	28.7	34.0
Deepening and Widening 100 ft for 3 miles	13.9	21.3	28.8	33.9
Deepening and Widening 100 ft for 5 miles	13.5	19.9	28.3	33.5

Values based on FY18 discount rate and FY16 vessel operating costs

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MOBILE HARBOR GRR

BENEFIT UNCERTAINTY ANALYSIS

Net benefits expressed as a five number summary

Alternative	Minimum	Quartile 1	Median	Quartile 3	Maximum	Avg Net Benefits
47 Foot Deepening	$7,797M	$9,738M	$13,630M	$17,590M	$20,531M	$13,690M
48 Foot Deepening*	$15,018M	$17,369M	$20,402M	$25,591M	$28,245M	$21,203M
49 Foot Deepening	$22,231M	$24,990M	$27,165M	$33,583M	$35,950M	$28,717M
49 Foot Widening	-$920,700	-$29,400	$74,000	$148,200	$275,700	$56,800

Alternative	Minimum	Quartile 1	Median	Quartile 3	Maximum	BCR
47 Foot Deepening	2.0	2.3	2.8	3.3	3.7	2.8
48 Foot Deepening*	2.4	2.6	2.9	3.4	3.6	3.0
49 Foot Deepening	2.6	2.8	3.0	3.4	3.6	3.1
49 Foot Widening	-0.5	1.0	1.1	1.2	1.4	1.1

Risk informed planning requires transparency in the estimation of values. This table shows the range of net benefits for deepening and widening, as shown all deepening alternatives are positive. The 49' deepening alternative has the highest possible net benefits.

Results based on 20 HarborSym model iterations
*48 Foot benefits are interpolated; HarborSym modeled for 47FT and 49FT
**benefits from 49' depth HarborSym call list

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MOBILE HARBOR GRR
FINAL ARRAY OF ALTERNATIVES

Combined Measures Preliminary Project Cost and Net Benefits ($M) Deepening, 3-Mile Widener, Bend Easing, Turning Basin			
	Alternative (Depth in Feet)		
	47	48	49
Cost	204.39	282.04	359.42
Net Benefit	13.9	21.3	28.8

Satisfies Categorical Exemption from NED based on Sponsor limitation

Widener size supported by Pilot Letter –Three Mile Passing Lane

Reduces Traffic Delay, Improves Vessel Cargo Capacities, Reduces Safety Concerns

TSP Plan:

- ★ **Deepening - 49 ft (51 ft bar)**
- ★ **Widening - 3 miles by 100 ft**
- ★ **Bend easing**
- ★ **Turning basin modifications**

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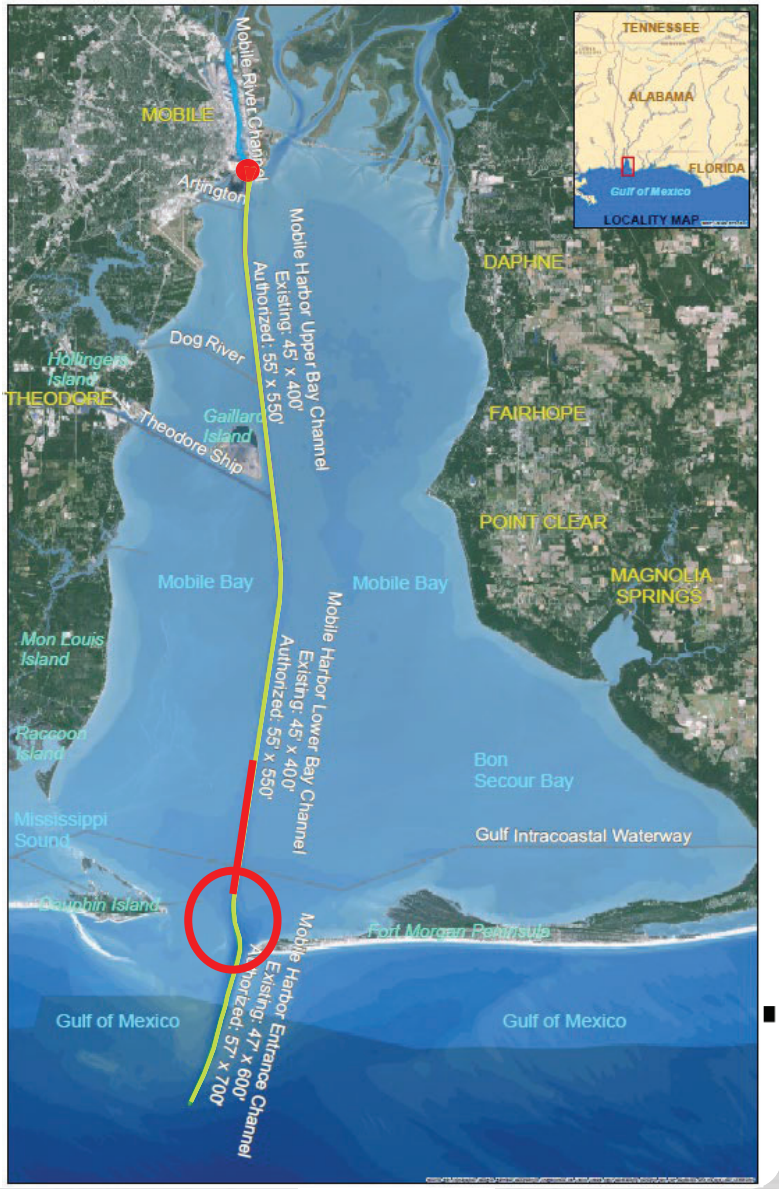
MOBILE HARBOR GRR
TENTATIVELY SELECTED PLAN

- ❑ Channel Deepening: 49 feet*
- ❑ Channel Widening: 3 mi. long, 100 ft wide*
- ❑ Turning Basin Modification
- ❑ Bar Channel Bend Easing

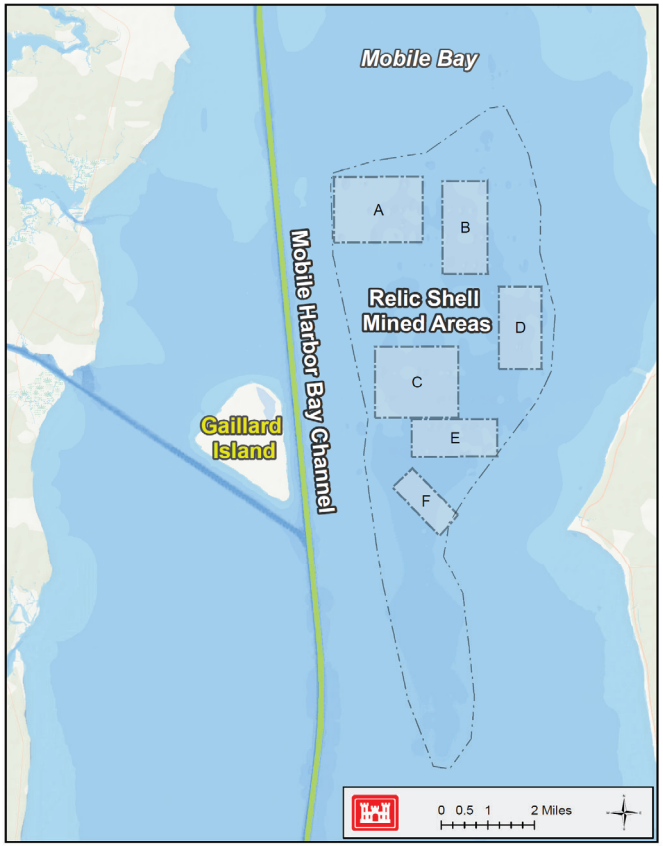
* Environmental impact analysis is based on a 50 foot depth and 100 foot widener for a distance of 5 miles

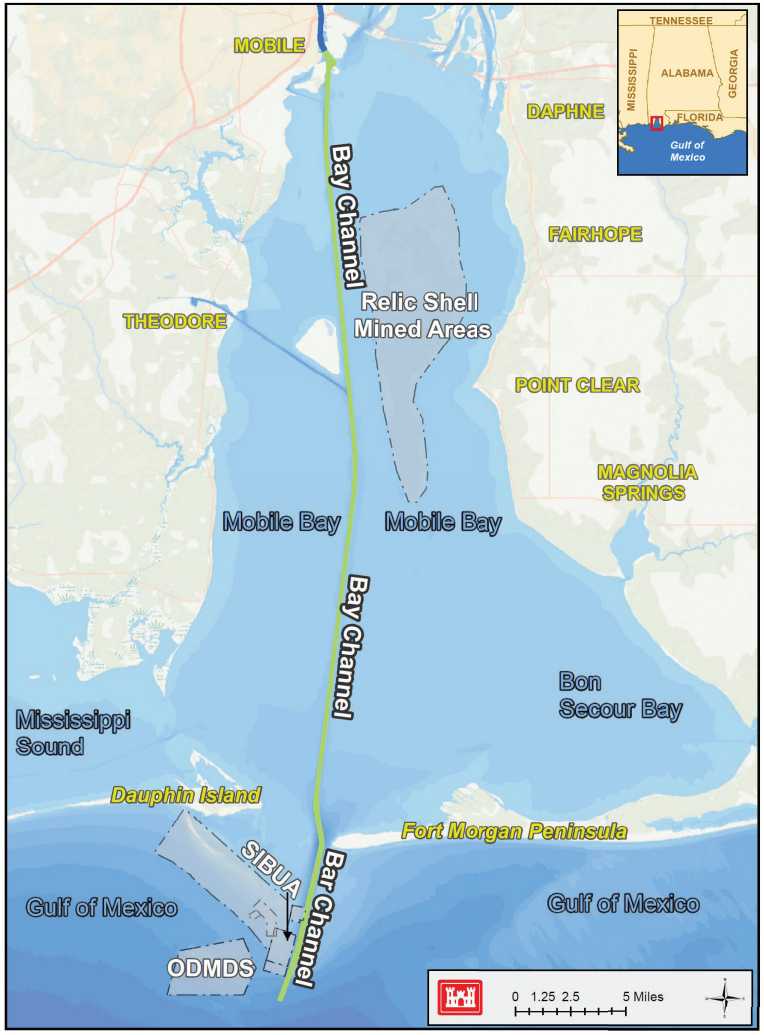


MOBILE HARBOR GRR
DREDGED MATERIAL PLACEMENT

Proposed Placement:

- ❑ Formerly mined relic shell area
- ❑ Sand Island Beneficial Use Area (SIBUA)
- ❑ Pelican/Sand Island Complex
- ❑ ODMDS





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MOBILE HARBOR

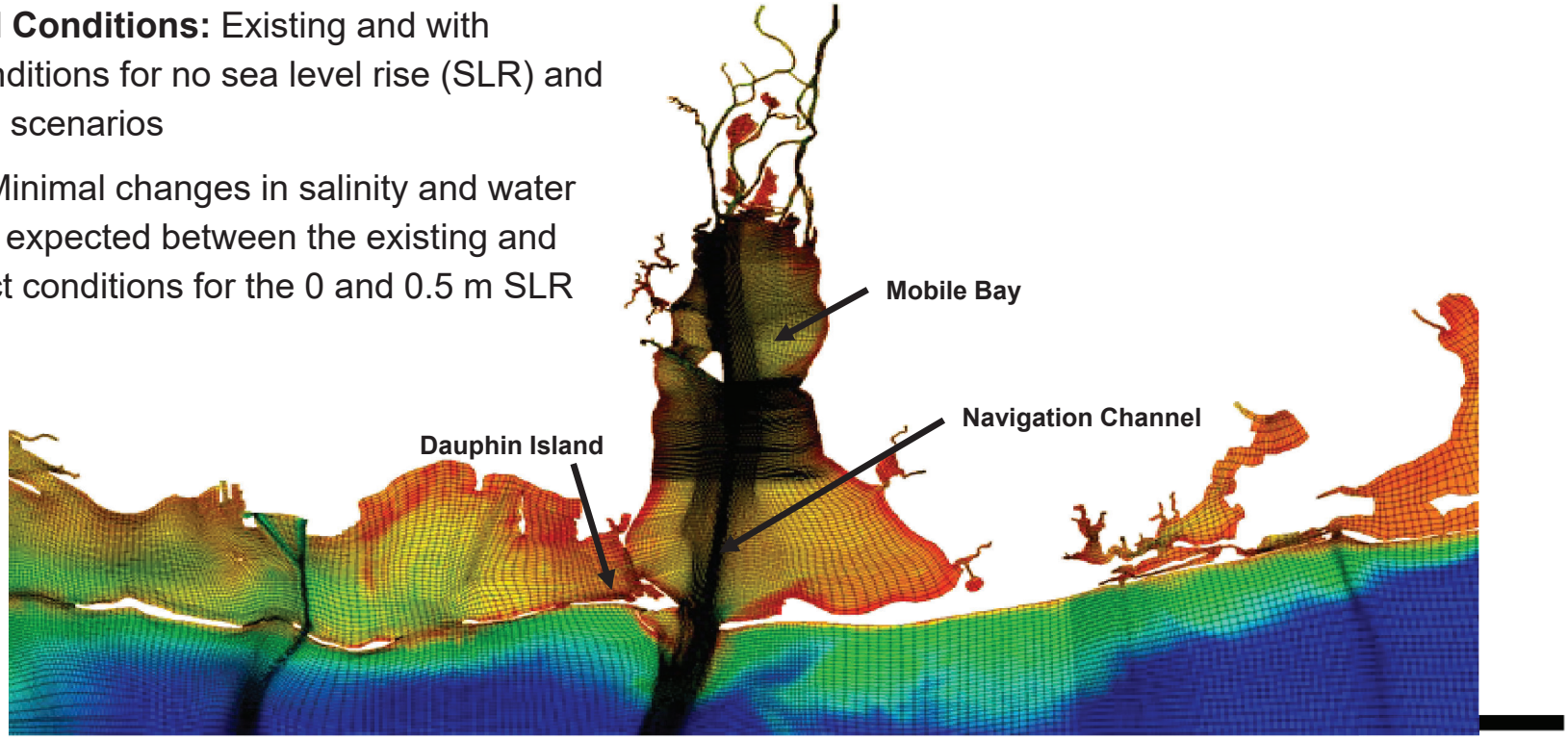
HYDRODYNAMIC & WATER QUALITY MODELING

Approach: Conduct hydrodynamic and water quality modeling to (1) characterize the physical conditions and processes of the study area and (2) determine the relative changes due to widening and deepening the channel (i.e., 5' deeper for the entire channel with a 100' wide x 5 mile long widener in the southern Bay).

Simulation Period: January 2010 – December 2010

Simulated Conditions: Existing and with project conditions for no sea level rise (SLR) and 0.5 m SLR scenarios

Results: Minimal changes in salinity and water quality are expected between the existing and with project conditions for the 0 and 0.5 m SLR cases.



Model Extents

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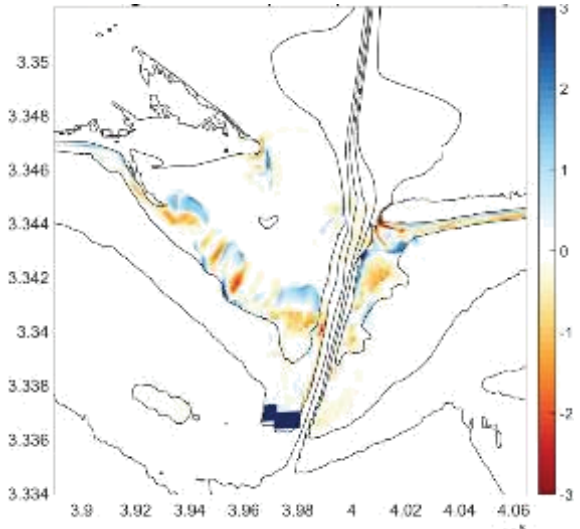
MOBILE HARBOR
SEDIMENT TRANSPORT MODELING

Approach: Conduct estuarine (fine-grained) and coastal (coarse-grained) sediment transport modeling to evaluate possible effects of widening and deepening the channel on sediment transport in Mobile Bay and on the ebb-tidal shoal/nearshore coastal areas.

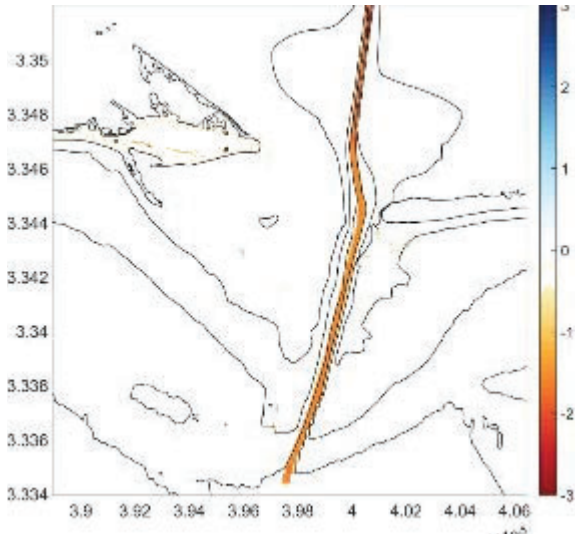
Simulation Period: Estuarine (January 2010 – December 2010)
Coastal (10-yr simulation derived from data spanning from 1998 – 2016)

Simulated Conditions: Existing and with project conditions for no sea level rise (SLR) and 0.5 m SLR scenarios

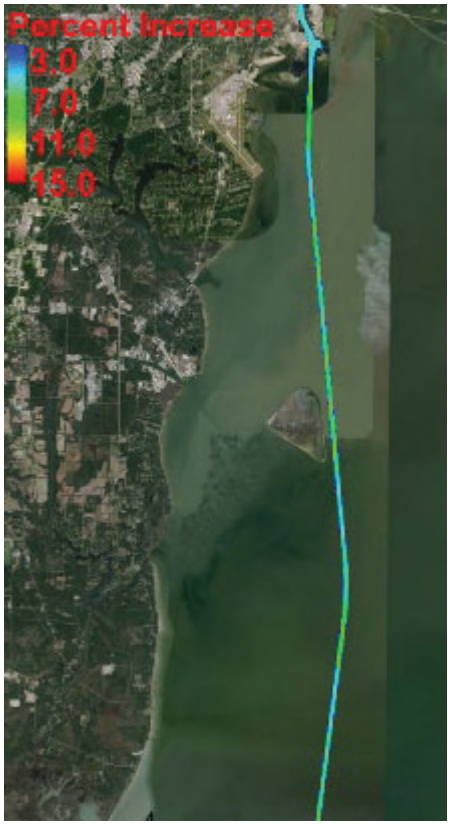
Results: Minimal bed level changes expected between the existing and with project conditions in the bay and on ebb-tidal shoal. Shoaling rates are expected to increase between 5 – 15%.



With Project Condition 10 Year Simulation
Bed Level Change (+/- Erosion/Deposition, m)



With Project – Existing Condition
Bed Level Change (+/- Erosion/Deposition, m)



With Project Simulation
Percent Increase in Channel Shoaling

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MOBILE HARBOR

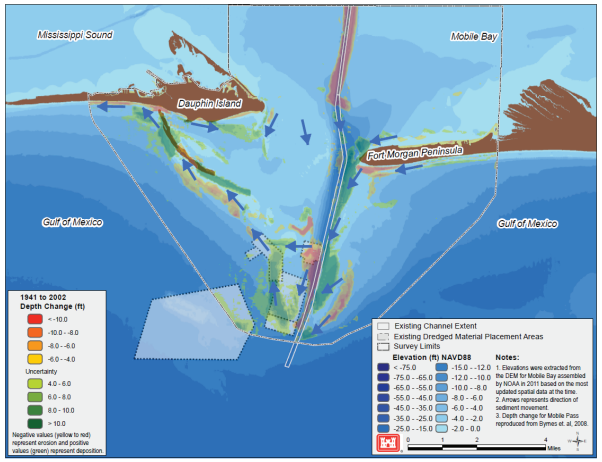
FUTURE MAINTENANCE MATERIAL PLACEMENT

Approach: Compare short and long-term changes in bathymetry to quantify sediment transport rates and identify transport pathways along the ebb-tidal shoal to determine if adequate disposal capacity exists for future maintenance material placement in the Sand Island Beneficial Use Area (SIBUA).

Analysis Period: 1941 – 2015

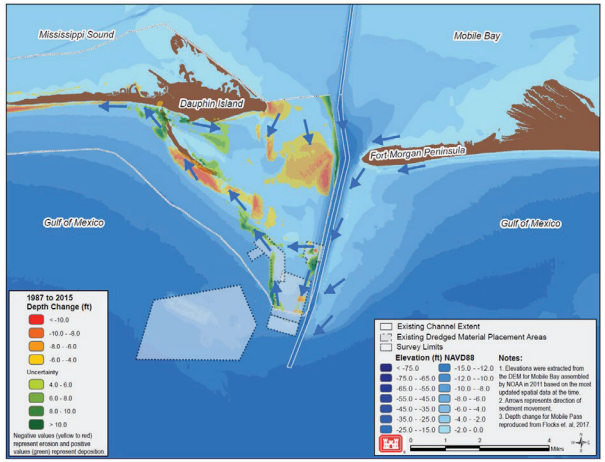
Results: Consistent sediment transport pathways are observed over the short and long-term periods. Material placed in SIBUA is in the active transport system; however, since placement in SIBUA was initiated in 1999, material has left the site at a lower rate than it has been placed in the site resulting in a need for expansion in the north/northwest direction to accommodate future needs.

Mobile Pass Bed Level Change 1941 to 2002



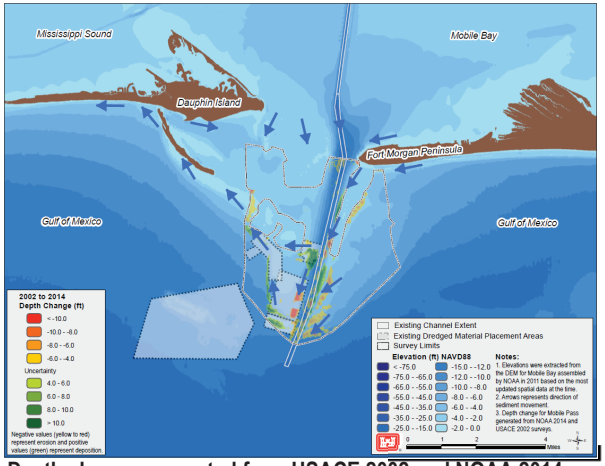
Depth change reproduced from Byrnes et. al, 2008 "Evaluation of Channel Dredging on Shoreline Response at and Adjacent to Mobile Pass, Alabama"

Mobile Pass Bed Level Change 1987 to 2015



Depth change reproduced Flocks, et. al, 2017 "Analysis of Seafloor Change around Dauphin Island, Alabama, 1987–2015" Open-File Report 2017–1112.

Mobile Pass Bed Level Change 2002 to 2014



Depth change generated from USACE 2002 and NOAA 2014 surveys.

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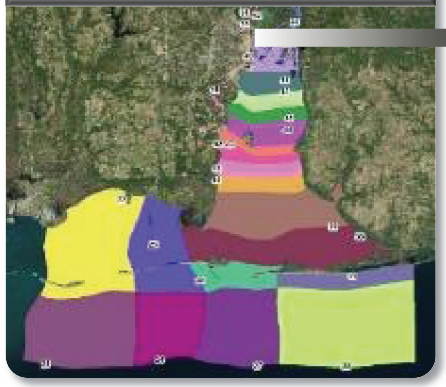
MOBILE HARBOR GRR
AQUATIC RESOURCES ASSESSMENT

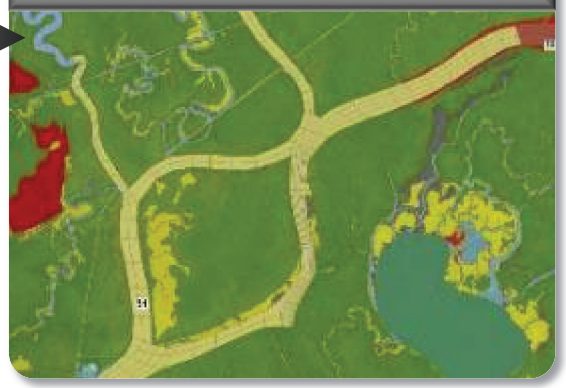
Overview

- Assessing potential impacts to wetlands, submerged aquatic vegetation, benthic invertebrates, oysters, fish
- Model outputs predicting changes in water quality (salinity, dissolved oxygen) comparing existing and post-project conditions
- Sea level rise scenario - 0.5 meter intermediate projection per USACE guidance at Dauphin Island

Model grid consists of 30 blocks & 48,000 cells

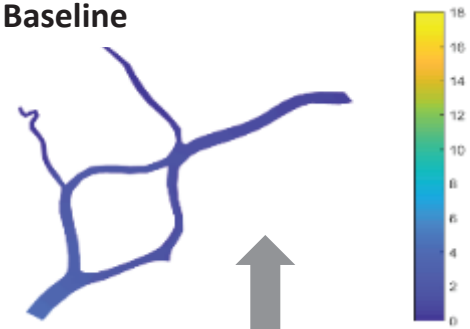


Model Block 54



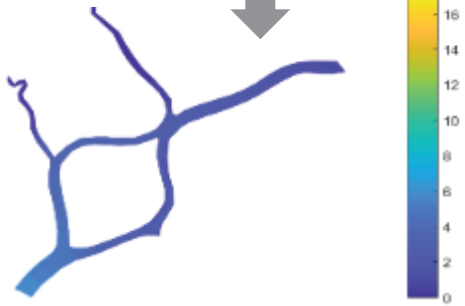
Mean Salinity - July 2010

Baseline



No Measurable Change

With Project



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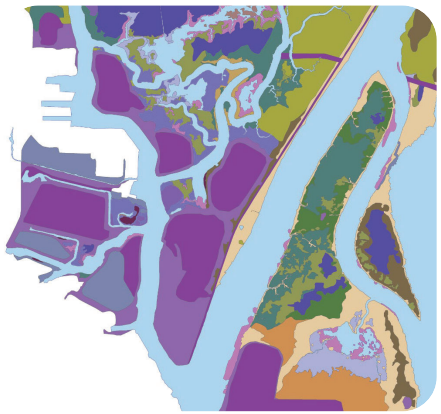
MOBILE HARBOR GRR
WETLANDS

Approach

- Wetland mapping - 77,000 ac mapped; 43 community types; >800 on-site samples
- Assessed potential exceedance of salinity thresholds

Results

- **No wetland losses anticipated**
- All vegetation within acceptable environmental tolerance ranges
- All wetlands within ideal growth conditions
- Sea level rise will result in substantial inundation of existing wetlands
- Project impacts remain negligible under 0.5 meter sea level rise scenario



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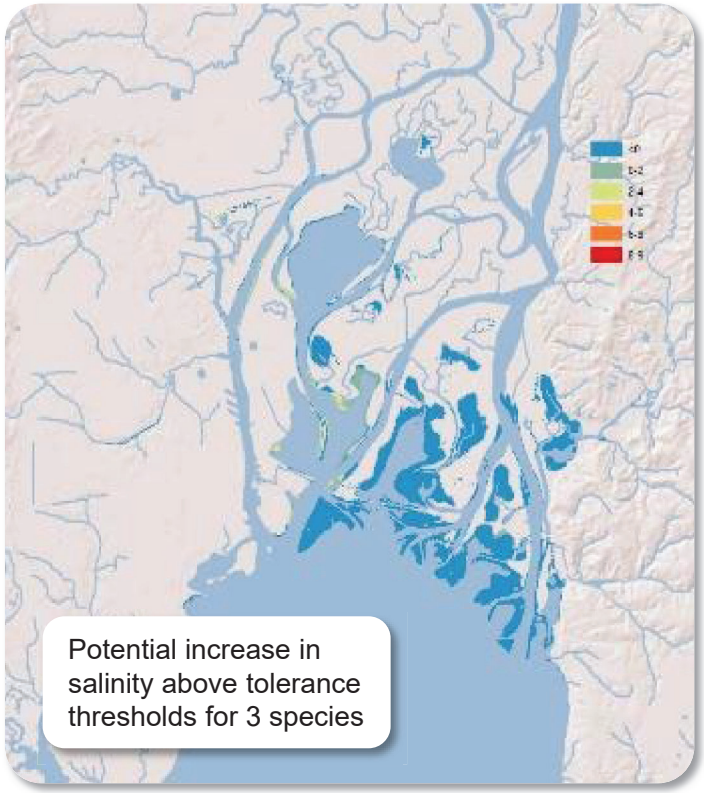
MOBILE HARBOR GRR
SUBMERGED AQUATIC VEGETATION

Approach

- Mobile Bay SAV extent verified (>6,000 ac) across 55 community types
- Salinity tolerances established for each community and adjusted to local conditions

Results

- **No loss of SAV habitat expected**
- Sufficient DO present under all scenarios
- Under expected (average) salinity conditions few impacts expected for most species
- Potential stress of Eurasian watermilfoil (invasive species), water celery, and coon's tail for short duration
- No major differences seen between baseline and post-project conditions under sea level rise scenario



Potential increase in salinity above tolerance thresholds for 3 species

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MOBILE HARBOR GRR
OYSTERS

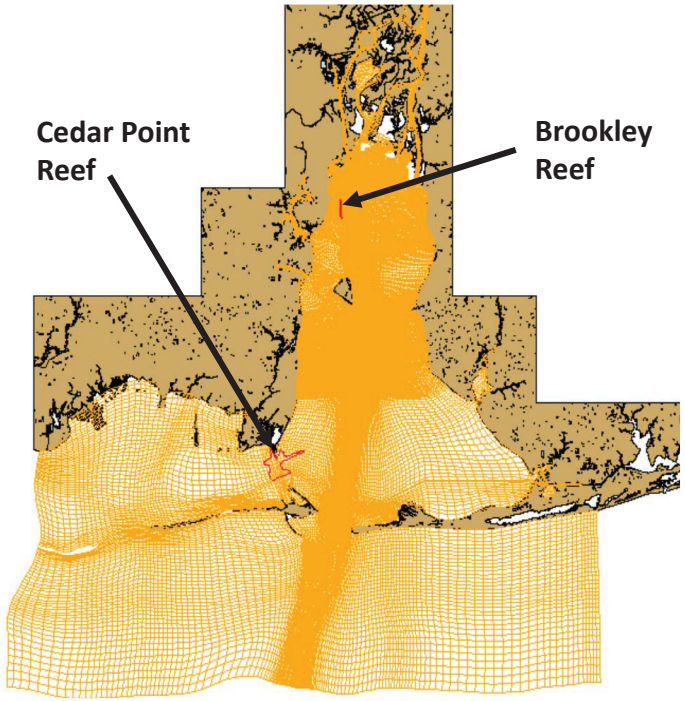
Approach

- 13 adult oyster reefs (>3600 ac) assessed for salinity and DO impacts
- Simulated oyster larval movement through integrated hydrodynamic, water quality, and larval tracking models

Results

- **Oyster larvae particle tracking displays 100% survivorship under all scenarios**
- Dissolved oxygen levels stay well above minimum oyster tolerances
- Salinity stays within oyster tolerance ranges
- Oyster model predicts no increase in larvae flushing out of Mobile Bay
- Sea-level rise scenario predicts no oyster mortality

Oyster Larvae Tracking Domain



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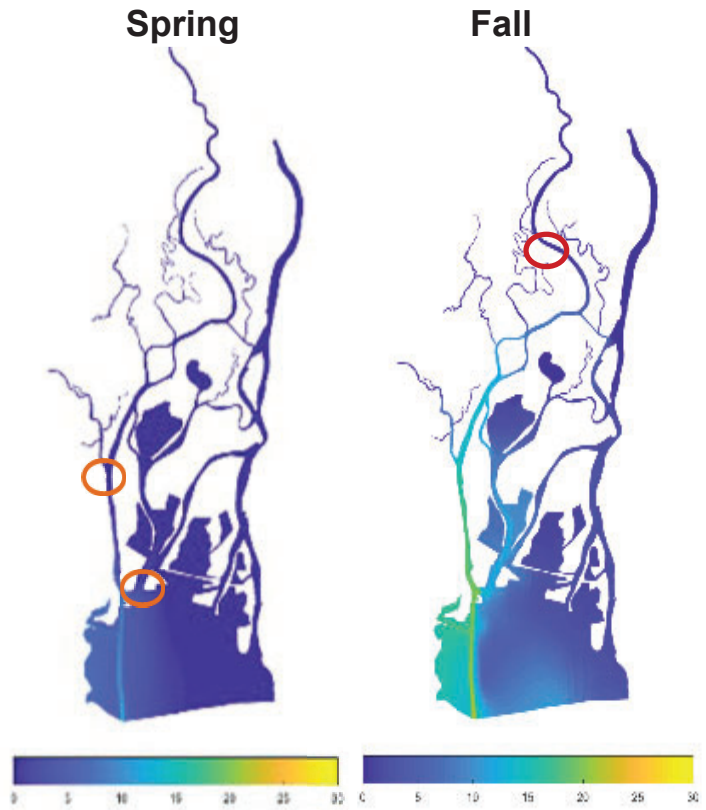
MOBILE HARBOR GRR
BENTHIC INVERTABRATES

Approach

- 240 samples taken in freshwater, transitional, and upper bay habitats
- Locations of changes in invertebrate communities identified

Results

- **Community transitions from saline to freshwater will remain similar to baseline conditions.**
- Degree of freshwater (river) inputs dictates species transition locations
- Impacts to fish via prey availability appear negligible



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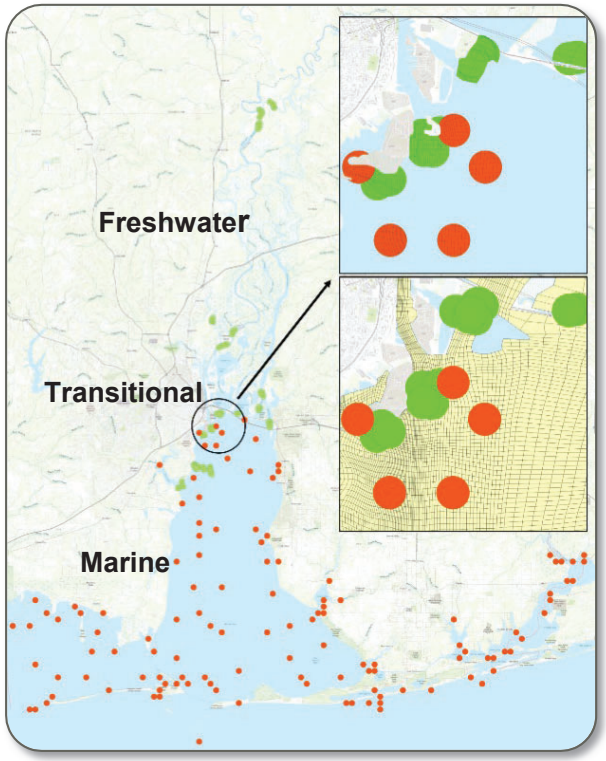
MOBILE HARBOR GRR
FISH

Approach

- Data obtained from AL Marine Resources (2005-2015) and supplemented by USACE
- 98,000 individual fish, 140 species
- Linked salinity and abundance of community members

Results

- **No impacts expected due to salinity for:**
  - ✓ Freshwater species
  - ✓ Freshwater species entering estuary
  - ✓ Resident estuary species
  - ✓ Marine species entering estuary
  - ✓ Marine species



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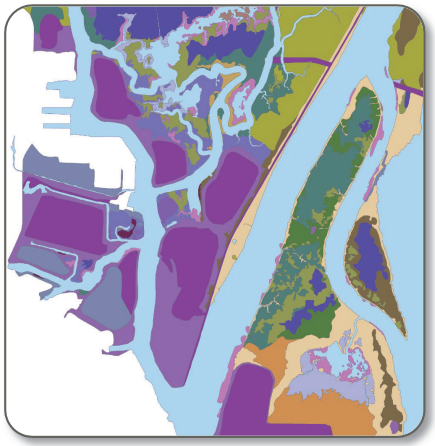
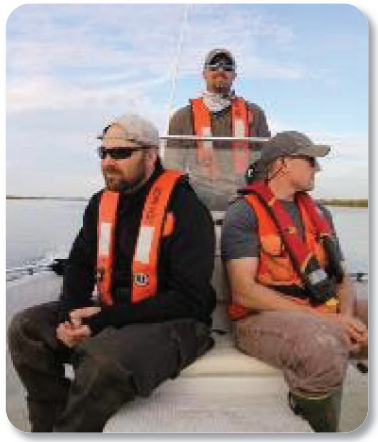
MOBILE HARBOR GRR
AQUATIC RESOURCES ASSESSMENT SUMMARY

- **No major impacts (i.e., loss of resources) anticipated for:**
  - ✓ **Wetlands**
  - ✓ **SAV**
  - ✓ **Oysters**
  - ✓ **Benthic Invertebrates**
  - ✓ **Fish**
- Project impacts remain negligible under 0.5 meter sea level rise scenario





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MOBILE HARBOR GRR
KEY RISKS/UNCERTAINTIES

Task	Risk Description	Risk Rating	Task	Risk Description	Risk Rating
Cultural Resource Surveys	(b)(5)		*Ship Simulations*	(b)(5)	
Sediment Testing			*Pipeline Crossings*		
Geotechnical data			*Vessel Generated Wave Energy (i.e., Ship Wake) Assessment*		
Disposal Capacity			*Public Acceptance*		

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MOBILE HARBOR GRR
WHAT'S NEXT

- DQC of DRAFT Report (May 2018)
- Vertical Team Teleconference for approval to release Draft Report (Jun 2018)
- Release Draft Report with NEPA for Public, Technical, Policy, and Legal Review (Jun 2018)
- Public Meeting on Draft Report (Jun 2018)
- Agency Decision Milestone (Nov 2018)

MOBILE HARBOR GRR

QUESTIONS?

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From:
To: (b)(6)

Subject: RE: Description of Channel Segments for Mobile Harbor GRR
Date: Tuesday, April 10, 2018 7:44:00 AM

(b)(6)
Only additional comment is in Figure 4 reference it misspells Choctaw.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Tuesday, April 10, 2018 7:00 AM
To: (b)(6)

(b)(6)

Subject: RE: Description of Channel Segments for Mobile Harbor GRR

(b)(6)

My comments in the attached.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, April 9, 2018 5:04 PM
To: (b)(6)

(b)(6)

Subject: Description of Channel Segments for Mobile Harbor GRR

Team,

See the attached descriptions from the EN Appendix of the various channel segments of the Mobile Harbor project. (b)(6) and (b)(6) are preparing some nice figures to illustrate the channel features and I'll add those to the document/send them out when they're ready. I wanted to pass this along to the group (1) for any comments/revisions you see necessary ((b)(6) and (b)(6) - please confirm I've properly referenced authorities) and (2) for others to use for consistency in the report.

If you could send me any comments back by the end of this week, I'd greatly appreciate it.

(b)(6)

From:
To: (b)(6)
Cc:
Subject: RE: Mobile Harbor GRR TSP Milestone Meeting
Date: Tuesday, April 10, 2018 10:04:00 AM

Got it...thank you (b)(6)

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, March 28, 2018 1:46 PM
To: (b)(6)

(b)(6)

Subject: RE: Mobile Harbor GRR TSP Milestone Meeting

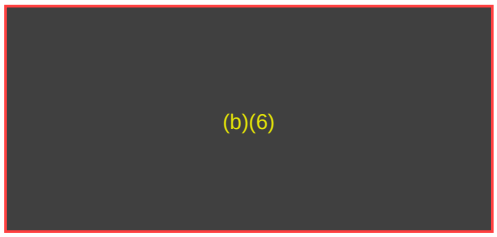
I thought of one suggestion after we finished the meeting.
(b)(5)
(b)(5) I do not need the reason now, just keep that in mind as you write the report.

Great job!
(b)(6)

-----Original Appointment-----
From: (b)(6)
Sent: Friday, March 02, 2018 3:54 PM
To: (b)(6)
(b)(6)

Subject: Mobile Harbor GRR TSP Milestone Meeting
When: Wednesday, March 28, 2018 12:00 PM-2:00 PM (UTC-06:00) Central Time (US & Canada).
Where: Mobile District Employees - Executive Conference Room

All,
Please plan on attending the Tentatively Selected Plan Milestone Meeting for the Mobile Harbor GRR, Wednesday, March 28 at 1300hrs ET (1200hrs CT).
<< Message: RE: Mobile Harbor GRR TSP Milestone Meeting - Webinar/Call-in Information >>
The Read-Aheads will be provided March 14.
Webinar and call-in information will be provided shortly.



From: (b)(6)
To:
Subject: FW: Draft Email, Mobile Harbor GRR, Delegation of Approval Authority
Date: Wednesday, April 11, 2018 4:16:00 PM

FYI

-----Original Message-----
From: (b)(6)
Sent: Wednesday, April 11, 2018 3:44 PM
To: (b)(6)
(b)(6)
Cc: (b)(6)
Subject: Draft Email, Mobile Harbor GRR, Delegation of Approval Authority

(b)(6), (b)(6), and (b)(6),

Below, please see our proposed text for an email from South Atlantic Division to (b)(6) at the Office of Water Project Review. (b)(6) would help us communicate SAD's recommendation to HQUSACE staff.

Draft email:

(b)(5)

Please review the draft email for accuracy and let me know if I need to make any changes.

Thanks!

(b)(6)

From:
To:
(b)(6)
Cc:
Subject: RE: Mobile Harbor GRR Bi-weekly Meeting
Date: Wednesday, April 11, 2018 1:32:00 PM

All: Just a reminder that we will be having our bi-weekly meeting today in the MsCIP Conference Room.

(b)(6)

-----Original Appointment-----
From: (b)(6)
Sent: Wednesday, February 01, 2017 12:39 PM
To: (b)(6)
(b)(6)
Cc: (b)(6)
(b)(6)
Subject: Mobile Harbor GRR Bi-weekly Meeting
When: Wednesday, April 11, 2018 2:00 PM-3:00 PM (UTC-06:00) Central Time (US & Canada).
Where: MsCIP Conference Room

For those not in the district office, call-in Information is as follows:

USA Toll-Free:
Access Code:
Security Code:

All: The Mobile Harbor GRR bi-weekly meeting has been moved to Wednesdays at 2pm, beginning February 01,

2017. Please update your calendar accordingly. The purpose of the meeting remains to provide a brief update on the project, ensure all work is being performed, and ensure that the schedule is met.
Thanks,

From:
To: (b)(6)
Cc:
Subject: RE: New Mobile Harbor ADM Labor Codes (Revised 10 April 2018)
Date: Wednesday, April 11, 2018 8:44:00 AM
Attachments: Mobile Harbor GRR - Review Plan 03 February 2016.pdf
Mobile Harbor GRR Report Summary 14 March 2018.pdf

(b)(6) Still on schedule for June 12 release. Attached is the most current review plan and report summary...

(b)(6): Please create an IEPR labor number for (b)(6).

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Tuesday, April 10, 2018 10:36 AM
To: (b)(6)
Cc: (b)(6)
Subject: RE: New Mobile Harbor ADM Labor Codes (Revised 10 April 2018)

Hi (b)(6),

Thanks for the update. Just to clarify I'm back-filling (b)(6) position while she's on detail as the DDN-PCX Technical Director. So the IEPR effort will occur on my watch. Can you please reallocate (b)(6) funds for IEPR to me?

Also, I'm tracking a concurrent review start date of 12 June. Is that still the schedule?

Finally, to get the IEPR stuff rolling, can you please send me the current approved Review Plan and the most current report summary?

Thanks!

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Tuesday, April 10, 2018 9:53 AM
To: (b)(6)
(b)(6)
Subject: FW: New Mobile Harbor ADM Labor Codes (Revised 10 April 2018)

(b)(6)/(b)(6)/(b)(6) Please use the updated labor numbers for future time entries on Mobile Harbor.

(b)(6) ATR

(b)(6) IEPR
(b)(6) ATR (New Orleans District)
(b)(6) (St. Paul District)

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Tuesday, April 10, 2018 8:44 AM
To: (b)(6)

(b)(6)

Cc: (b)(6)
Subject: New Mobile Harbor ADM New Labor Codes

All: Please use the new ADM labor numbers for the Mobile Harbor GRR provided below:

EN-GG (b)(6)

EN-H (b)(6)

EN-HH (b)(6)

EN-TS (b)(6)

OP-M (b)(6)

PD-D (b)(6)

PD-EC (b)(6)

PD-EC (b)(6) / (b)(6)

PD-FP (b)(6)

Real Estate (b)(6)

(b)(6)


(b)(6)

REVIEW PLAN

Mobile Harbor, Alabama, General Reevaluation Report (GRR)

Mobile District

February 2016

P2: 353199

MSC Approval Date:
Last Revision Date:

US Army Corps
of Engineers ®

REVIEW PLAN

Mobile Harbor General Reevaluation Report (GRR)

TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the Mobile Harbor, AL General Reevaluation Report (GRR). This Review Plan is being developed as part of the Project Management Plan (PMP) for the Mobile Harbor GRR, dated March 2015.

b. References

(1) Engineering Circular (EC) 1165-2-214, Water Resources Policies and Authorities, Civil Works Review, 15 Dec 2012
(2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
(3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
(4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
(5) Review of Civil Works Projects, Planning SMART Guide, 31 May 2012
(6) ECB 2007-6 "Model Certification Issues for Engineering Software in Planning Studies" dated 10 April 2007
(7) EM 1110-2-1613, Hydraulic Design of Deep Draft Navigation Projects, 31 May 2006.

c. Requirements. This review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. The decision documents shall also be reviewed by the Civil Works Cost Engineering and Mandatory Center of Expertise (Cost MCX) to obtain cost certification per EC 1165-2-214. All planning and engineering models used are approved/certified in accordance with EC 1105-2-412.

d. Types of Review

(1) District Quality Control/Quality Assurance (DQC). All work products and reports, evaluations, and assessments shall undergo necessary and appropriate District Quality Control/Quality Assurance (DQC). DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). Mobile District shall manage DQC and the documentation of DQC activities.

(2) Agency Technical Review (ATR). ATR is mandatory for all decision and implementation documents. The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented in the GRR are technically correct and comply with published US Army Corps of Engineers (USACE) guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by a designated Review Management Organization (RMO) and conducted by a qualified team from outside the Mobile District that is not involved in the day-to-day production of the project/product. The RMO for this effort is the Deep Draft Navigation Planning Center of Expertise, DDNPCX. ATR teams will be comprised of senior level USACE personnel and may

be supplemented by outside experts as appropriate. To assure independence, the ATR lead shall be from outside SAD.

(3) Independent External Peer Review (IEPR). IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. Any work product, report, evaluation, or assessment that undergoes DQC and ATR also MAY be required to undergo IEPR under certain circumstances. A risk-informed decision, as described in EC 1165-2-214, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR: Type I is generally for decision documents and Type II is generally for implementation products.

(a) Type I IEPR. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and an biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all the underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-214.

(b) Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

(4) Policy and Legal Compliance Review. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the Chief of Engineers. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

(5) Cost Engineering Agency Technical Review and Cost Certification. The Cost Engineering Appendix of the GRR will undergo ATR. The Cost Reviewer, designated by the Cost MCX, will serve as an ATR team member. The Cost MCX will provide certification of the total project cost for the final GRR.

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is the National Deep Draft Navigation Planning Center of Expertise (DDNPCX).

The RMO will coordinate with the Cost MCX to conduct ATR of cost products.

3. STUDY INFORMATION

a. Work Product. The objective of the GRR is to document the results of an updated analysis of the Survey Report on Mobile Harbor completed in 1980. The GRR will provide an evaluation of the economics and environmental effects based on current policies, criteria, and guidelines. A Supplemental Environmental Impact Statement (SEIS) will be prepared in accordance with the Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) to analyze potential impacts from the improvements to Federal navigation channel and subsequent placement of dredged material.

The GRR, together with the 1981 Chief's Report on Mobile Harbor, will provide the factual basis for entering into a Project Partnership Agreement (PPA). A PPA is a legally binding agreement between the Federal government and the non-Federal sponsor, the Alabama State Port Authority (ASPA), for construction of a navigation project. It describes the project and describes the responsibilities of the Government and non-Federal sponsor in cost-sharing and execution of project work. The Mobile Harbor GRR outlines the cost-sharing for design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R)during the 50 year period of analysis. After the GRR is approved at SAD, a PPA will be prepared for execution between the Corps and the non-Federal sponsor, the ASPA.

b. Study/Project Description. The Mobile Harbor Federal navigation project is located in southwest Alabama. The port of Mobile is the 12th largest port in terms of tonnage in the United States. Its primary commodities have been coal, crude oil, and petroleum products; however, the port has seen a large increase in steel commodities due to the recently completed $4.6 billion steel facility that was constructed just north of Mobile. In addition, the port also expects to see increased container ship traffic in 2016 when the airbus assembly plant begins production.

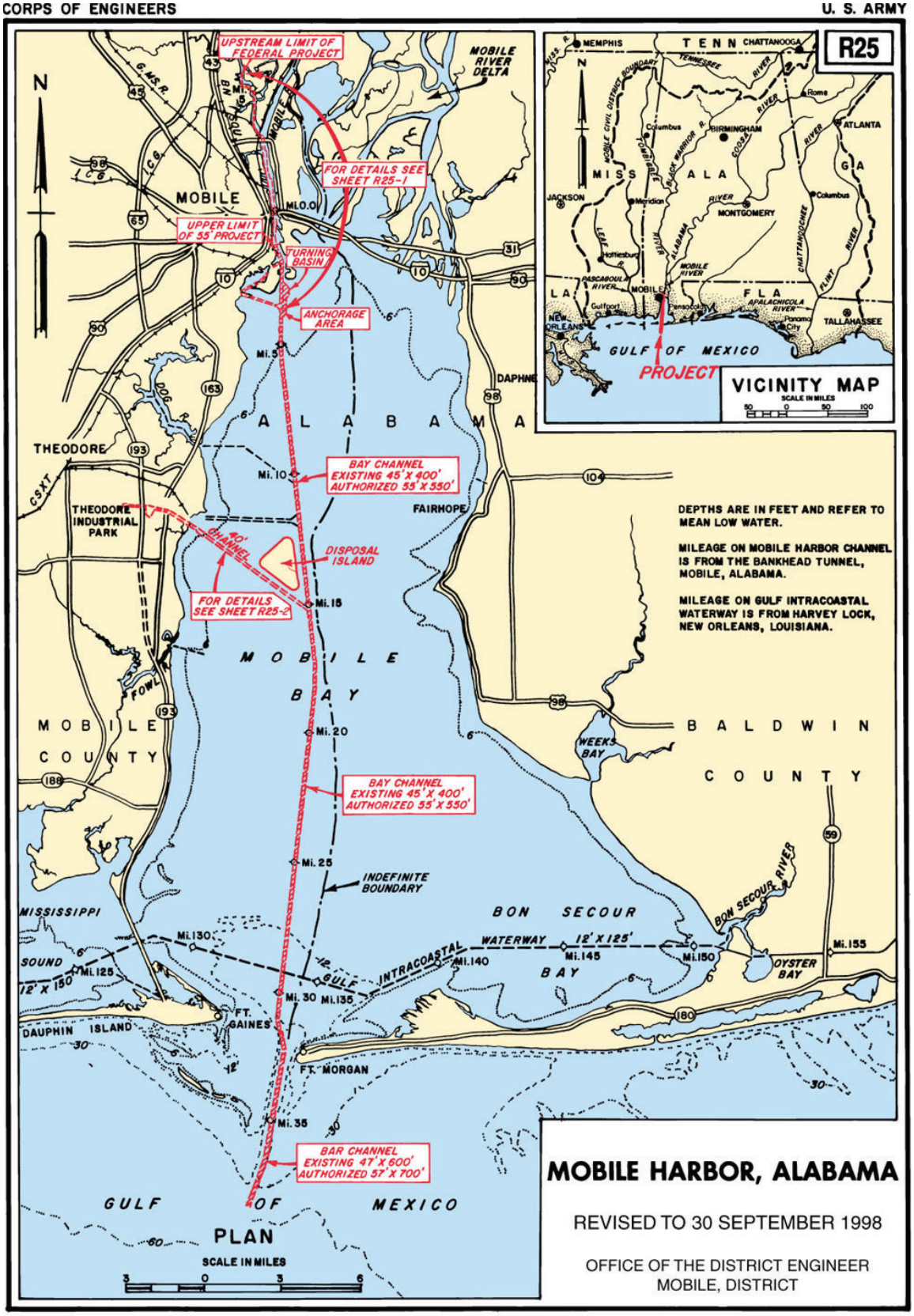
The Chief's Report on Mobile Harbor, Alabama was approved on 18 November 1981. The Report included deepening and widening of the channel, an anchorage and turning basin, and a dredged material placement site.

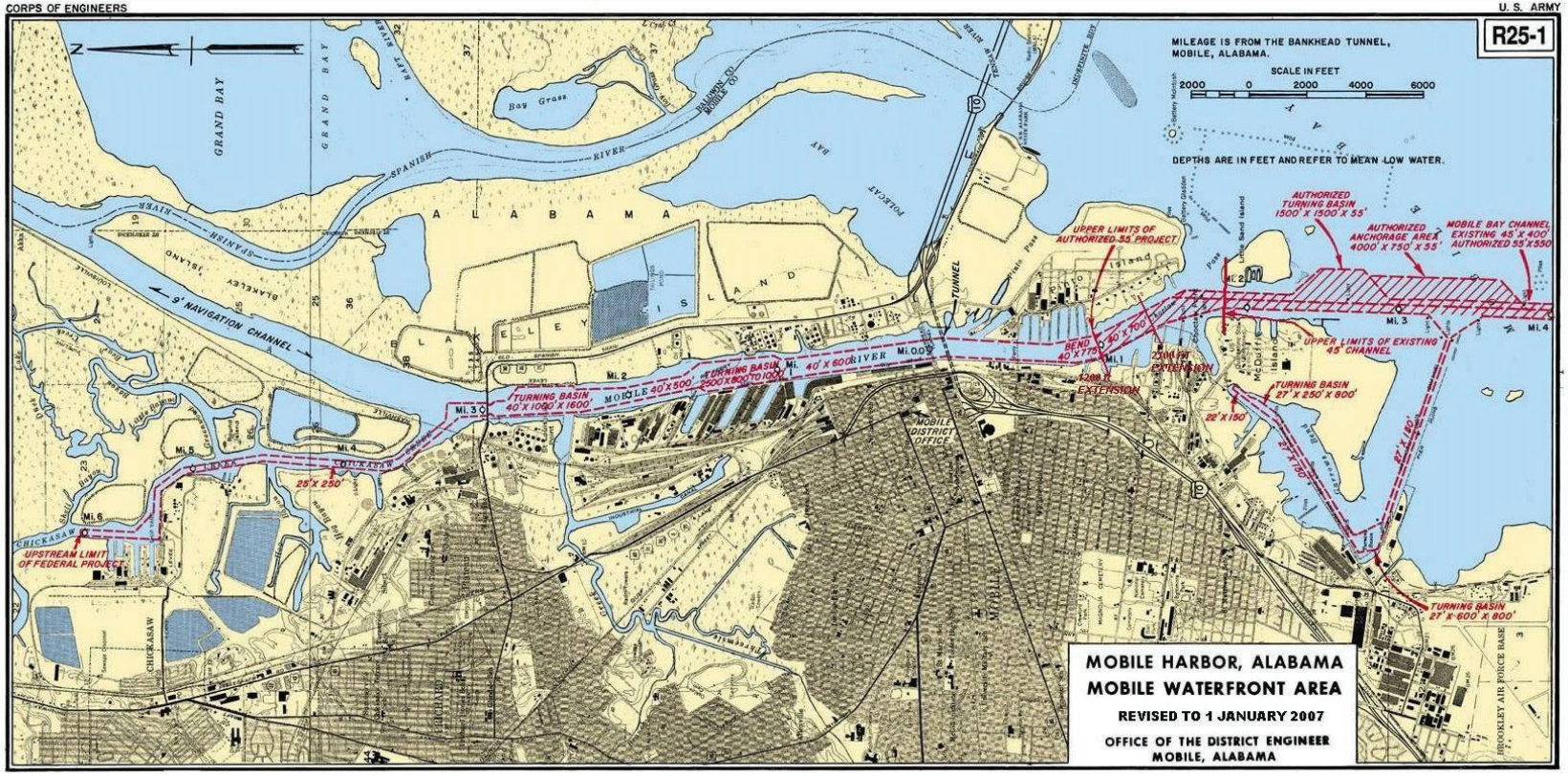
Based on the sponsor's request to pursue channel widening and deepening in Mobile Harbor within the limits of the original authorization and because of the changed conditions since the 1980 Survey Report, Mobile District has determined an update is needed to the Report. The update will provide reevaluation of the economics and environmental effects against current policies, criteria, and guidelines. This report will also ensure that the design will accommodate current ship sizes and that adequate capacity for dredged material placement is available. This project was authorized by Section

201 of the 1986 Water Resources Development Act (WRDA). No additional Congressional authorization will be needed in order to implement the GRR.

Figures R25 and Figure R25-1 show the authorized limits of the Mobile Harbor Federal Navigation Channel.

CORPS OF ENGINEERS U. S. ARMY




CORPS OF ENGINEERS
U. S. ARMY
R25-1
MILEAGE IS FROM THE BANKHEAD TUNNEL, MOBILE, ALABAMA.
SCALE IN FEET
2000 0 2000 4000 6000
DEPTHS ARE IN FEET AND REFER TO MEAN LOW WATER.
GRAND BAY
SPANISH RIVER
ALABAMA
BLAKELEY ISLAND
9' NAVIGATION CHANNEL
TUNNEL
UPPER LIMITS OF AUTHORIZED 55 PROJECT
AUTHORIZED TURNING BASIN 1500' X 1500' X 55'
AUTHORIZED ANCHORAGE AREA 4000' X 750' X 55'
MOBILE BAY CHANNEL EXISTING 45' X 400' AUTHORIZED 55' X 550'
UPPER LIMITS OF EXISTING 45' CHANNEL
TURNING BASIN 27' X 250' X 800'
TURNING BASIN 27' X 600' X 800'
BEND 40' X 775'
TURNING BASIN 40' X 1000' X 1600'
MOBILE 40' X 500'
TURNING BASIN 40' X 600' RIVER
CHICKASAW
25' X 250'
UPSTREAM LIMIT OF FEDERAL PROJECT
MOBILE DISTRICT OFFICE
MOBILE
CHICKASAW
BROOKLEY AIR FORCE BASE
MOBILE HARBOR, ALABAMA
MOBILE WATERFRONT AREA
REVISED TO 1 JANUARY 2007
OFFICE OF THE DISTRICT ENGINEER
MOBILE, ALABAMA

c. Factors Affecting the Scope and Level of Review.

This section discusses the factors affecting the risk informed decisions on the appropriate scope and level of review. The discussion is intended to be detailed enough to assess the level and focus of review and support the PDT, PCX, and vertical team decisions. Factors affecting the risk informed decisions on the appropriate scope and level of review include the following:

- *If parts of the study will likely be challenging (with some discussion as to why or why not and, if so, in what ways – consider technical, institutional, and social challenges, etc.);*

  This GRR is an update of an authorized Survey Report. The report will include a reevaluation of the economics and environmental aspects of the project to ensure that it meets current policies, criteria, and guidelines. The report will also ensure that the design will accommodate current and forecasted ship sizes and that environmental impacts associated with the improvement project are analyzed in accordance with NEPA. The updated document will then serve to support a PPA by outlining the construction and cost-sharing requirements. Historically, Dauphin Island residents have raised concerns with the Federal navigation project's potential disruption of the natural sediment transport along the Alabama coast and have previously requested that sandy dredge material be placed directly on the beach. The SEIS will analyze channel widening and deepening impacts to the estuarine and coastal sediment transport processes. In addition, the SEIS will address the suitability of the dredged material to meet ocean disposal criteria and for other beneficial uses.

- *A preliminary assessment of where the project risks are likely to occur and what the magnitude of those risks might be (e.g., what are the uncertainties and how might they affect the success of the project);*

  Project risks include potential changes to the estuarine and coastal sediment transport processes, water quality changes, suitability of dredged material per the Marine Research Protection and Sanctuaries Act criteria to be disposed offshore, insufficient ship traffic to economically justify the project, and OMRR&R costs. These risks could impact the ability to implement the proposed work;

- *If the project is likely to have significant economic, environmental, and/or social effects to the Nation (with some discussion as to why or why not and, if so, in what ways);*

  The widening and deepening of the channel will provide beneficial economic effects to the Nation by reducing shipping time and cost because larger ships will not be required to wait at dock or offshore while another ship is in the channel. Local concern of the existing Federal channel's effects on littoral sand transport along the Alabama Coast, potential water quality changes, and suitability of dredge material as well as dredged material placement options will be addressed. Past studies, such as the *Survey Report on Mobile Harbor including the Final Environmental Impact Statement* (1980) and the *ERDC/CHL TR10-8 Channel Dredging and Geomorphic Response at and Adjacent to Mobile Pass, Alabama* (2010), have characterized natural sediment transport and budgets within the project area. Based on existing legal agreements, if the dredge material contains suitable sandy material, it will be placed within an existing dredged material placement area known as the Sand Island Beneficial Use Area. All other dredged material will be disposed in other approved areas.

- *If the project likely involves significant threat to human life/safety assurance (with some discussion as to why or why not and, if so, in what ways – consider at minimum the safety assurance factors described in EC 1165-2-214 including, but not necessarily limited to, the consequences of non-performance on project economics, the environmental and social well-being [public safety and social justice; residual risk; uncertainty due to climate variability, etc.;*

  This project does not add significant threat to human life/safety assurance. This project only considers the widening and deepening of an existing navigation channel. All work currently performed during operations will remain the same with only an increase in the volume of dredging and maintenance.

- *If the project/study is likely to have significant interagency interest (with some discussion as to why or why not and, if so, in what ways);*

  The project will have significant interagency interest because of the potential for environmental impacts on salinity and various natural resources due to the increased channel dimensions. The GRR will be coordinated with the appropriate agencies which will include organizing Interagency Working Group meetings on a regular basis to discuss agency concerns and potential mitigation requirements. Formal agency consultations will also be conducted to assure the project meets all of the applicable environmental laws and regulations.

- *If the project/study will be highly controversial (with some discussion as to why or why not and, if so, in what ways);*

  This project considers the widening and deepening of the existing ship channel. All work currently performed during operations will remain the same but with an increase in the volume of dredging and maintenance. As noted above, there is local concern that the existing Federal channel has affected littoral transport of sand and has impacted nearby Dauphin Island.

- *If the project report is likely to contain influential scientific information or be a highly influential scientific assessment (with some discussion as to why or why not and, if so, in what ways);*

  The project report does not contain influential scientific information and is not a highly influential scientific assessment.

- *If the information in the decision document or proposed project design will likely be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices (with some discussion as to why or why not and, if so, in what ways);*

  The information in the GRR is not based on novel methods, does not use innovative materials or techniques, does not present complex challenges, is not precedent setting, and is not likely to change prevailing practices.
- *If the proposed project design will require redundancy, resiliency, and/or robustness (with some discussion as to why or why not and, if so, in what ways – see EC 1165-2-214, Appendix E, Paragraph 2 for more information about redundancy, resiliency, and robustness); and*

The project design is not expected to require any additional redundancy, resilience, or robustness.

- *If the proposed project has unique construction sequencing or a reduced or overlapping design construction schedule (with some discussion as to why or why not and, if so, in what ways).*

  The construction schedule and sequencing is unknown at this time. There is potential for unique construction sequencing or construction schedule due to environmental or construction constraints.

d. Risk Informed Decisions on Appropriate Reviews. The following questions shall be explicitly considered, in accordance to EC 1165-2-214 paragraph 15b:

(1) Does it include any design (structural, mechanical, hydraulic, etc)?
Yes.

(2) Does it evaluate alternatives?
Yes. Ship Simulation and CADET modeling will be used to optimize the channel improvement feature and Harborsym will be used to evaluate the economic benefits of variations of deepening and widening. Additionally, hydrodynamic, water quality, and sediment transport modeling will be utilized to evaluate the potential environmental impacts of deepening and widening.

(3) Does it include a recommendation?
Yes, the report will include a recommendation.

(4) Does it have a formal cost estimate?
Yes; the cost estimate included within the report will be certified by the Cost MCX.

(5) Does it have or will it require a NEPA document?
Yes, an SEIS will be prepared.

(6) Does it impact a structure or feature of a structure whose performance involves potential life safety risks?
No.

(7) What are the consequences of non-performance?
If the recommended project is built and fails, no lives are at risk. If the recommended project is not built, no lives will be at risk but there will be negative economic effects.

(8) Does it support a significant investment of public monies?
Yes.

(9) Does it support a budget request?
Yes.

(10) Does it change the operation of the project?
No, however, the current channel dimensions currently maintained will be deepened and widened.

(11) Does it involve excavation, subsurface investigations (drilling or sampling or both), or placement of soil?
Yes, the dredging operations will disturb the bay bottom in an effort to establish and maintain the required width and depth. Subsurface investigations may also be performed in support of the development of the GRR.

(12) Does it affect any special features, such as cultural resources, historic properties, survey markers, etc, that should be protected or avoided?

Channel modifications are not expected to impact any cultural resources or historic properties. If additional dredged material placement sites are needed, cultural resource investigations will have to be conducted.

(13) Does it involve activities that trigger regulatory permitting such as Section 404 or stormwater/NPDES related actions?

New dredge material excavated during dredging operations may contain some level of contaminants. The dredged material will be tested to determine the presence of possible contaminants. The suitability of sediments will be determined for possible disposal/placement alternatives including upland, open water within-bay, and ocean disposal. A 404(b)(1) evaluation will be used to determine compliance with Section 404 of the Clean Water Act regulating the placement of dredged or fill materials in waters of the United States. In addition, compliance with Section 103 of the MPRSA will be demonstrated to show that material being taken to the Ocean Dredged Material Disposal Site (ODMDS) meets the ocean dumping criteria.

(14) Does it involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos?

No.

(15) Does it reference use of or reliance on manufacturers' engineers and specifications for items such as prefabricated buildings, playground equipment, etc?

No.

(16) Does it reference reliance on local authorities for inspection/certification of utility systems like wastewater, stormwater, electrical, etc?

No.

(17) Is there or is there expected to be any controversy surrounding the Federal action associated with the work product?

As noted above, there is local concern that the existing Federal channel has affected littoral transport of sand and is impacting nearby Dauphin Island.

e. In-Kind Contributions. Products and analyses provided by the non-Federal sponsor as in-kind services are subject to DQC and may be subject to ATR and IEPR.

No in-kind products to be provided by the Non-Federal sponsor are expected at this time. However, if any Lands, Easements, Rights-of-Way, Relocations (LERR) are to be provided by the Non-Federal sponsor in conjunction with the project, in-kind credits may be allowable.

4. DISTRICT QUALITY CONTROL (DQC)

a. Documentation of DQC. All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC will be conducted by the SAM Mobile Harbor GRR PDT, SAM independent reviewers, as well as chiefs of relevant key disciplines, where each of the reviewers will review the documents for accuracy. SAM will engage the appropriate regional CoPs to ensure reviews are done in a timely manner by qualified experts. All reviewers are listed in Attachment 1. All DQC comments and responses will be documented by the senior planner. The comment and response package, along with the DQC signature sheet, will be part of the report's transmittal package under the "Peer Review" section, and will be provided to the Agency Technical Review Team.

b. Products to Undergo DQC. The GRR and SEIS will undergo DQC at draft report and final report stage..

c. Required DQC Expertise. The SAM Mobile PDT consists of key disciplines relevant to Deep Draft Navigation Planning: Navigation, Operations, Geotechnical, Hydraulics, Environmental, Navigation Plan Formulation, Legal, Cost, Real Estate, and Economics. DQC reviewers consist of non-PDT experts and experts in the supervisory chain of the same disciplines.

5. AGENCY TECHNICAL REVIEW (ATR)

a. Products to Undergo ATR. The GRR and SEIS will undergo ATR at the draft and final report stage. The Cost Appendix and all associated materials will be provided to the cost reviewer. All ATR reviewers will be listed in Attachment 1.

b. Required ATR Team Expertise. It is expected that the ATR Team would generally reflect the major technical disciplines of the Mobile Harbor GRR PDT. As such, it is expected that the ATR team would consist of the following disciplines: Plan Formulation, Navigation Operations, Geotechnical, Hydraulics, Environmental, Cost, Real Estate, and Economics.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead will be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as the reviewer for another discipline. The ATR Lead will be from a District outside the MSC.
Plan Formulator	The plan formulator should be a senior water resources planner with experience in navigation projects and associated planning reports and documents.
Economics	Expertise in economics appropriate for a GRR level to verify trends and commodities within the affected Port. Knowledge of procedures for deep draft navigation and containership analysis. Knowledge of tools employed for economic analysis, including Harborsym, risk analysis and multiport analysis.
Environmental Resources	Expertise in NEPA compliance. Knowledge of all applicable environmental laws and regulations. Expert in coastal and estuarine habitats and associated natural and cultural resources and environmental impacts of harbor deepening, as well as, familiarity with dredged material disposal and offshore dredge material disposal sites.
Geotechnical Engineering	Expertise in geotechnical considerations and USACE guidance related to the classification, dredging, and disposal of material for deep draft navigation projects.
Hydraulic Engineering	The hydraulic reviewer should have knowledge of USACE guidance related to engineering requirements for the deep

	draft navigation studies. In addition the reviewer should have expertise in conducting hydrodynamic model studies of navigable waterways to assess whether or not hydrodynamic modeling analyses and conclusions are reasonable. The reviewer should be experienced with ADCIRC, STWAVE, CE-QUAL-ICM, SEDZLJ, MPFATE and/or similar models.
Cost Engineering	Expertise in cost engineering requirements for deep draft navigation studies including the development of parametric (Class 4), construction costs (i.e. MCACES costs) using MII Cost Estimating Software, dredging costs using Corps of Engineers Dredge Estimating Program (CEDEP), Corps issued Total Project Cost Summaries (TPCS) , and formal cost risk analyses using Abbreviated Risk Analysis (ARA) or the Crystal Ball software for projects over $40,000,000.
Navigation Construction/Operations	Expertise in O&M requirements associated with design of deep draft navigation projects.
Real Estate	Expertise in implementation of deep draft navigation projects. Specifically navigational servitude and non-federal sponsor acquisition of beneficial use sites, facility/utility relocation.

c. Documentation of ATR. DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

(1) The review concern – identify the product's information deficiency or incorrect application of policy, guidance, or procedures;
(2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not be properly followed;
(3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and
(4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially where there appears to be incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the District, RMO, and MSC), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work reviewed to date, for the draft report, and final report. A sample Statement of Technical Review is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

a. Decision on IEPR.

After a preliminary assessment, it has been determined that a Type I IEPR will need to be performed for the feasibility report decision document for the following reasons:

(1) Several mandatory triggers appear to be met, including:

- The estimated cost of the project is anticipated to exceed the $200M ceiling.
- A Supplemental Environmental Impact Statement (SEIS) will be performed.
- As is typical for a project study of this nature and scope, it is anticipated that there may be a public dispute involving some stakeholders regarding the size, nature, or effects of the Project, or regarding the economic or environmental cost or benefits of the Project.

(2) In addition, since the project is not routine and an SEIS will be performed, there is no exclusion applicable to the study.

b. Products to Undergo Type I IEPR. Draft Report and SEIS

c. Required Type I IEPR Panel Expertise. The following provides a description of the proposed panel members and expertise. The proposed four member panel includes the necessary expertise to assess the engineering, environmental, and economic adequacy of the decision document, as required by EC 1165-2-214, Appendix D. The Outside Eligible Organization (OEO) will determine the final participants on the panel. The following table lists the suggested types of disciplines that might be included on the panel. The following disciplines are recommended based on the high risk factors as described in the risk register.

IEPR Panel Members/Disciplines	Expertise Required
Plan Formulation	This individual will be a scientist from academia, public agency, non-governmental entity, or an Architect-Engineer or Consulting Firm with a minimum 10 years demonstrated experience in evaluating and comparing alternative plans for USACE.
Economics	The Economics Panel Member will have knowledge of procedures for deep draft navigation and containership analysis. Knowledge of tools employed for economic analysis, including HarborSym, risk analysis multiport analysis and trade forecasts.
Environmental	Knowledge of all applicable environmental laws and regulations Expert in coastal, and estuarine habitats and associated natural resources and the environmental impacts of harbor deepening as well as a familiarity with dredged material disposal and Offshore Dredge Material Disposal Sites.
Engineering	Hydraulic Engineer – Knowledge of USACE guidance related to engineering requirements for the deep draft navigation studies. Knowledge of coastal processes to evaluate the impacts of deepening and/or widening the navigation channel on hydrodynamics, water quality, sediment transport, ship wake induced erosion, and channel design. Geotechnical Engineer - An understanding of the behavior of aquifers and soils, as well as the classification, dredging, and disposal of material for deep draft navigation projects.

d. Documentation of Type I IEPR. The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO), per EC 1165-2-214, Appendix D. Panel comments will be compiled by the OEO and should address the adequacy and acceptability of the economic, engineering and environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in Section 5.c above. The OEO will prepare a final Review Report that will accompany the publication of the final decision document and shall:

- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions; and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

The final Review Report will be submitted by the OEO no later than 60 days following the close of the public comment period for the draft decision document. USACE shall consider all recommendations contained in the Review Report and prepare a written response for all

recommendations adopted or not adopted. The final decision document will summarize the Review Report and USACE response. The Review Report and USACE response will be made available to the public, including through electronic means on the internet.

7. POLICY AND LEGAL COMPLIANCE REVIEW

Office of Water Project Review (OWPR), Policy and Policy Compliance Division, HQUSACE (aka CECW-PC) performs HQUSACE policy compliance reviews for decision documents that MSCs cannot approve under delegated authority (see ER 1165-2-502). OWPR is also responsible for the final policy compliance review. This will be a final checkpoint on the need for an ASA(CW) policy exception.

District and Division Counsel are responsible for ensuring the legal sufficiency of each decision document. Legal review should begin early in the study process. Legal certification is required prior to release of the draft decision document for public review, and legal review must continue as the final report is developed, with specific focus on changes in the decision document.

8. COST ENGINEERING AND ATR MANDATORY CENTER OF EXPERTISE (Cost MCX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost MCX, located in the Walla Walla District. The Cost MCX will assist in determining the expertise needed on the ATR team and Type I IEPR team and in the development of the review charge(s). The Cost MCX will also provide the Cost Engineering certification. The RMO is responsible for coordination with the Cost MCX.

9. MODEL CERTIFICATION AND APPROVAL

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models will be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

a. Planning Models. The following planning models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
Regional Economic System (RECONS)	RECONS is a modeling tool that estimates jobs, income, sales and value added associated with Corps Civil Works and ARRA spending, as well as stemming from effects of additional economic activities.	Certified
HarborSym	HarborSym is a planning level simulation model designed to assist in economic analyses of coastal harbors. With user-provided input data, the model calculates vessel interactions within the harbor and cost associated with the ocean voyage of vessels.	Certified

b. Engineering Models. Ship simulation modeling will be conducted at ERDC. Cost Estimating Dredge Estimating Program (CEDEP) will be utilized.

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study
MPFATE - Multiple Placement Fate of Dredged Material	MPFATE was developed under the Corps' Dredging Research Program (DRP) (Hales 1995) and was formerly known as Open Water Disposal Area Management Simulation (ODAMS) program (Moritz and Randall 1995).). MPFATE is a site management tool that bridges the gap between the Short Term FATE of dredged material (STFATE) model and the Long Term FATE of dredged material (LTFATE). It will be used to study the disposal of material in the ODMDS.
STFATE – Short Term Fate of Dredged Material	STFATE simulates the placement of a single load of dredged material STFATE models conventional placement (bottom dumping) where the vast majority of the dredged material released from a barge or hopper dredge descends rapidly to the bottom in a relatively high density jet known as the convective descent phase. The dynamic collapse phase begins when the jet impacts the bottom. The more dense material immediately deposits, while the less dense particles are spread outward as a density flow when the vertical energy is transferred into horizontal momentum. Over time the less dense material also deposits. It will be used to study the disposal of material in the ODMDS.
LTFATE – Long Term Fate of Dredged Material / Geophysical Scale Transport Modeling System (GSMB)	The SEDZLJ module within LTFATE and the GSMB predicts the long term stability (days to years) of dredged material mounds. The LTFATE model combines hydrodynamics (waves, currents, and tides) and sediment transport algorithms from SEDZLJ to predict the stability of dredged material mounds. It is a multi-grain (sand, silt, clay) transport model that includes a three-dimensional representation of the sediment bed. It will be used to

	study the disposal of material in the ODMDS and to evaluate changes sediment transport within the Navigation channel and surrounding Mobile Bay due to channel modifications.
Delft 3D	Delft 3D is a multi-dimensional suite of hydrodynamic, sediment transport, and morphologic modules for estuarine and coastal environments. The FLOW module of Delft3D is a multi-dimensional hydrodynamic and transport simulation program which calculates non-steady flow and transport phenomena resulting from tidal and meteorological forcing on a curvilinear, boundary fitted grid or spherical coordinates. The MOR module computes sediment transport (both suspended and bed total load) and morphological changes for an arbitrary number of cohesive and non-cohesive fractions. Both currents and waves act as driving forces. An essential feature of the MOR module is the dynamic feedback with the FLOW and WAVE modules, which allow the flows and waves to adjust themselves to the local bathymetry and allows for simulations on any time scale from days (storm impact) to centuries (system dynamics). It will be used to evaluate shoaling due to littoral transport and to assess the potential changes to the transport system due to channel modifications.
Advance Circulation Model (ADCIRC) 2DDI (2003)	Finite element 2-D hydrodynamic model; the version 2DDI is vertically-integrated and solves a vertically-integrated continuity equation for water surface elevation; no storm or hurricane windfield models or statistical analysis tools are included with model, they must be acquired separately; ADCIRC performs well using Vince Cardone's planetary boundary layer model windfields; statistical analyses using ADCIRC model storm surge simulations are compatible with the USACE Empirical Simulation Technique (EST) as well as joint probability methods. It will used to assess changes to the storm surge due to the deepening of the entrance channel.
CH3D-WES-Muliti-block Hydrodynamic Model (CH3D-WS-MB)	CH3D-WES-MB is a 3-D, multi-block hydrodynamic module of the GSMB. The model performs baroclinic hydrodynamic computations on a non-orthogonal curvilinear or boundary-fitted grid. Physical processes impacting circulation and vertical mixing that are modeled include tides, wind, wave radiation stress gradients, density effects (salinity and temperature), freshwater inflows, turbulence, and the effect of the earth's rotation. The boundary-fitted coordinate feature of the model provides grid resolution enhancement

	necessary to adequately represent the deep navigation channels and irregular shoreline configurations of the flow system. It will be utilized to simulate current and elevation within Mobile Bay and will provide forcing to the sediment transport and water quality models for assessment of changes due to the channel modifications.
Adaptive Hydraulic Modeling (ADH)	ADH is a state-of-the-art Adaptive Hydraulics Modeling system. It is capable of handling both saturated and unsaturated groundwater, overland flow, three-dimensional Navier-Stokes flow, and two- or three-dimensional shallow water problems. ADH contains other essential features such as wetting and drying and wind effects. It will be used to provide model forcing in the Ship/Tow Simulator to evaluate the safety of ship maneuverability of the alternatives.
STWAVE – Steady State spectral WAVE	STWAVE simulates depth-induced wave refraction and shoaling, current-induced refraction and shoaling, depth- and steepness-induced wave breaking, diffraction, parametric wave growth because of wind input, and wave-wave interaction and white capping that redistribute and dissipate energy in a growing wave field. It will be used to provide model forcing in the sediment transport, water quality and Ship/Tow Simulator models.
(CE-QUAL-ICM)	State-of-the-art hydrodynamic model used to simulate aquatic systems. The GSMB WQ module CE-QUAL-ICM is a multi-dimensional, time variable eutrophication and water quality model developed by the US Army Engineer Research and Development Center. CEQUAL-ICM uses an unstructured grid, finite volume modeling approach, within which mass is conserved. The model contains a suite of over 30 individually activated water quality constituents including multiple forms of nitrogen, phosphorus, organic carbon, algae and benthic algae. It will be used to investigate eutrophication and living resources water quality changes within the estuary due to the channel modifications.
ERDC Ship/Tow Simulator	The Ship/Tow Simulator features two bridges set up for real-time ship maneuvering, and were specifically developed for evaluating navigation channel designs, modifications, and safety issues. Located at the U.S. Army Engineer Research and Development Center, Coastal and Hydraulics Laboratory, the accurately portray currents, wind and wave conditions, shallow water effects, bank forces, ship handling, ship to ship interaction (in a meeting and passing or overtaking and passing situation), fender forces, anchor forces, and tug assistance. It will be used to evaluate the safety of ship maneuverability of the alternatives.

Channel Design and Evaluation Tool (CADET)	Probabilistic risk analysis techniques to evaluate the accessibility of channel reaches for multiple vessel geometries, loading, and wave conditions.

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost. ATR of the draft document is planned for July 2018 and the final report in February 2019. The estimated cost for this effort is $95,000.

b. Type I IEPR Schedule and Cost. Type I IEPR of the GRR and SEIS is planned for July 2018. It is estimated to cost $225,000.

c. Model Certification/Approval Schedule and Cost. All models to be used have been certified in accordance with EC 1105-2-412, Planning: Assuring Quality of Planning Models, and Enterprise Standard (ES)-08101, Software Validation for the Hydrology, Hydraulics, and Coastal Community of Practice.

11. PUBLIC PARTICIPATION

A NEPA/Scoping Meeting was held 12 January, 2016. The public was invited to comment on the Draft SEIS during the public review period in accordance with NEPA and the Coastal Zone Management Program. The public comment period for the Draft SEIS is currently scheduled from 19 July 2018 to 04 September 2018. These comments, along with ATR, IEPR, and MSC comments, will be incorporated before finalizing the SEIS.

12. REVIEW PLAN APPROVAL AND UPDATES

The South Atlantic Division Commander is responsible for approving this Review Plan, including by delegation within the MSC. The SAD Commander's approval reflects vertical team input (involving District, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the work product. Like the PMP, the Review Plan is a living document and may change as the study progresses. Mobile District is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last SAD Commander approval will be documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) must be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the SAD Commander's approval memorandum, should be posted on the Mobile District's webpage. The latest Review Plan should also be provided to the RMO and SAD.

13. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this review plan can be directed to the following points of contact:

- Mobile District Project Manager, (b)(6) (b)(6)
- Review Management Organization, DDNPCX, (b)(6) (b)(6)
- South Atlantic Division Senior Plan Formulator, (b)(6) (b)(6)

ATTACHMENT 1: TEAM ROSTERS

PROJECT DELIVERY TEAM (PDT)

Discipline	Agency/Org Code	Team Member Name and Contact Information
Lead Planner	USACE-SAJ, CESAJ-PD-PN	(b)(6)
Real Estate	USACE-SAM, CESAM-RE-P	
Economics	National Deep Draft Navigation Planning Center of Expertise	
Navigation Operations	USACE-SAM, CESAM-OP-TN	
Cost Estimating	USACE-SAM, CESAM-EN-E	
Hydraulic Design	USACE-SAM, CESAM-EN-HH	
Ship Simulation	ERDC, CEERD-HN-ND	
Environmental (NEPA)	USACE-SAM, CESAM-PD-EC	
Cultural Resources	USACE-SAM, CESAM-PD-EI	
Geotechnical	USACE-SAM, CESAM-EN-GG	
Plan Formulation	USACE-SAM, CESAM-PD-FP	
Office of Counsel	USACE-SAM, CESAM-OC	
Engineering Technical Lead	USACE-SAM, CESAM-EN-H	
Project Manager	USACE-SAM, CESAM-PM-CM	

INDEPENDENT DISTRICT QUALITY CONTROL (DQC) REVIEWERS

Title	Agency	Name
Economics	USACE-SAM, CESAM-PD-FE	(b)(6)
Navigation Operations	USACE-SAM, CESAM-OP-TN	
Cost Estimating	USACE-SAM, CESAM-EN-TC	
Hydraulic Design	USACE-SAM, CESAM-EN-H	
Environmental (NEPA)	USACE-SAM CESAM-PD-EC	

Geotechnical	USACE-SAM, CESAM-EN-GG	(b)(6)
Real Estate	USACE-SAM, CESAM-RE	

ATR TEAM (Draft Report)

Discipline/Expertise	**Name**	**District/Division**
DDNPCX ATR Manager	(b)(6)	Mobile/SAD
District ATR Coordinator	TBD	
Agency Technical Review Team		
ATR Team Leader/Plan Formulation	TBD	
Cost MCX	TBD	
Economics	TBD	
Navigation Dredging	TBD	
Environmental	TBD	
Geotech	TBD	
Hydraulic Design	TBD	
Real Estate?		

*****The composition of the ATR review team members is being developed. This document will be updated to reflect the review team members once known*****

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the *<type of product>* for *<project name and location>*. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-214. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks[sm].

SIGNATURE _____ Date _____
Name
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ Date _____
Name
Project Manager
Office Symbol

SIGNATURE _____ Date _____
Name
Architect Engineer Project Manager[1]
Company, location

SIGNATURE _____ Date _____
Name
Review Management Office Representative
Office Symbol

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: *Describe the major technical concerns and their resolution.*

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

SIGNATURE _____ Date _____
Name
Chief, Engineering Division
Office Symbol

SIGNATURE _____ Date _____
Name
Chief, Planning Division
Office Symbol

[1] Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

Report Summary
for
Mobile Harbor, Mobile, Alabama
Integrated General Reevaluation Report with Supplemental Environmental Impact Statement

1.0 Stage of Planning Process

The Mobile District is conducting a General Re-evaluation study of Mobile Harbor at Mobile, Alabama. Work on the feasibility analysis began in November 2015. Currently, the Mobile District has developed information for the Tentatively Selected Plan (TSP) milestone. The TSP Milestone meeting is scheduled for 28 March 2018.

A charette was held with vertical team members and agencies on 28-29 January, 2015, where decisions logged included: 1) there is a Federal interest and 2) the Project Delivery Team (PDT) should pursue a 3x3x3 exemption. A 3x3x3 exemption was granted on 09 October, 2015 and an Amendment to the Design Agreement was executed on 09 November, 2015. Environmental representatives mailed a Notice of Intent (NOI) to publish a Supplemental Environmental Impact Statement (EIS) on 11 December, 2015. The NOI to prepare an SEIS appeared in the Federal Register on 23 December, 2015. The PDT held a Public Scoping Meeting on 12 January, 2016. An Alternative Milestone meeting was held with the vertical team on 16 Feb 2016. The cost for the study is estimated to be $7.8M with an expected execution time of 48 months.

2.0 Study Authority

Improvements to Mobile Harbor were most recently reauthorized in Section 201 of the Water Resources Development Act of 1986 (PL 99 – 662, Ninety-ninth Congress, Second Session), which was approved 17 November 1986, and subsequently amended by Section 302 of the Water Resources Development Act of 1996, to read:

> *(a) "AUTHORIZATION OF CONSTRUCTION - The following projects for harbors are authorized to be prosecuted by the Secretary substantially in accordance with the plans and subject to the conditions recommended in the respective reports designated in this subsection:*
>
> *The project for navigation, Mobile Harbor, Alabama: Report of the Chief of Engineers, dated November 18, 1981, at a total cost of $451,000,000, with an estimated first Federal cost of $255,000,000 and an estimated first non-Federal cost of $196,000,000."*

The report referenced by this authorization recommended the following improvements to the Federal project:

a. Deepen and widen entrance channel over the bar to 57 by 700 feet, a distance of about 7.4 miles.
b. Deepen and widen Mobile Bay Channel from mouth of bay to south of Mobile River, 55 by 550 feet, a distance of about 27.0 miles.
c. Deepen and widen an additional 4.2 miles of Mobile Bay Channel to 55 by 650 feet.
d. Provide 55-foot deep anchorage area and turning basin in vicinity of Little Sand Island.
e. Deepening the Mobile River channel to 55 feet to a point about 1 mile below the Interstate 10 and U.S. 90 highway tunnels.

2.1 Additional Study Guidelines

No study specific phase guidance has been provided

3.0 Non-Federal Sponsor

The Project Sponsor is the Alabama State Port Authority (ASPA).

4.0 Purpose and Need

This report is an interim response to the study authorization. The report will examine the costs and benefits as well as the environmental impacts of increasing the dimensions of the existing Federal project within its authorized limits. As the volume of cargo has grown, which results in increased vessel calls, and as larger vessels call on the port, inefficiencies have increased causing vessels to experience delays leaving and arriving at port facilities as well as being unable to fully utilize their capacity. The purpose of the study will be to determine what improvements can be made for safety and efficiency of harbor users.

4.1 Federal Interest

The channel for Mobile Harbor has a long history of Federal involvement stretching back to the 1880's. Traditionally, Mobile Harbor's ranking as a global trading port is consistently in the top twelve nationally; however, in 2016, Mobile Harbor was ranked the 10th largest port in the nation in terms of tonnage with 58 million tons of cargo moved through the port. To reduce inefficiencies which have occurred as traffic has increased, improvements to the harbor are needed that reasonably maximize net economic benefits consistent with protecting the environment.

5.0 Study Scope

The study scope encompasses the study area described in paragraph 5.1 and project area identified in paragraph 5.2. The feasibility study includes (1) a survey of existing and future conditions; (2) an evaluation of related problems and opportunities; (3) development of potential alternatives; (4) evaluation of alternatives; (5) a comparison of costs, benefits,

adverse impacts, environmental acceptability, and feasibility of those alternatives; and, (6) identification of a Recommended Plan. Information for the analysis came from land and hydrographic surveys, hydrodynamic surveys, available water quality information, socio-economic projections, sediment sampling, and numerous other data collection efforts. The study includes data from previous studies augmented with information from the ASPA, Mobile Harbor Bar Pilots, commercial shippers, Federal, state, and local resource agencies, as well as Geographic Information System (GIS) mapping of significant resources and features. Analyses conducted for this feasibility study include forecasts of waterborne cargo volumes, traffic patterns and vessel fleets, and evaluation of the need for navigation system improvements over a 50-year period of analysis. The study considers a range of structural measures within the harbor that could address inefficiencies within the system. The study concentrates on potential changes to water-based transportation system components that are within the scope of the study authority described previously. Throughout this study, the main factors influencing the total cargo throughput of Mobile Harbor revolve around land-based factors such as population growth, industrial and manufacturing changes, and regional maritime shipping trends limited by the capacity of the land-based infrastructure to process it.

5.1 Study Area

Mobile Harbor, Alabama, is located in the southwestern part of the state, at the junction of the Mobile River with the head of Mobile Bay. The port is about 28 nautical miles north of the Bay entrance from the Gulf of Mexico and 170 nautical miles east of New Orleans, Louisiana. The current dimensions of the existing navigation channel are: 47 feet deep by 600 feet wide across Mobile Bar and 45 feet deep by 400 feet wide in the bay and 45 feet deep by 730 feet wide in the Mobile River to a point about 1 mile below the Interstate 10 highway tunnels. The channel then becomes 40 feet deep and proceeds north over the Interstate 10 and U.S. 90 highway tunnels to the Cochrane/Africatown Bridge. The Mobile River, on which the Alabama State Port Authority facilities are located, is formed some 45 miles north of the city with the joining of the Alabama and Black Warrior/Tombigbee Rivers. The Mobile River also serves as the gateway to international commerce for the Tennessee/Tombigbee Waterway. In the southern region of Mobile Bay, access can be gained to the Gulf Intracoastal Waterway which stretches from St. Marks, Florida, to Brownsville, Texas. Figures 1 and 2 show the authorized limits of the Mobile Harbor Federal Navigation Channel.

5.2 Project Area

The project area encompasses the primary Federal navigation channel within the harbor, including the 47 foot deep bar channel and the 45 foot deep navigation channel through the bay and into the Mobile River as well as the turning basin near Little Sand Island. Included are any shorelines and extensions of the water bodies and disposal areas that are potentially

impacted by channel enlargement alternatives as well as the ocean dredged material disposal site (ODMDS). A map of the project area is shown on Figure 3.

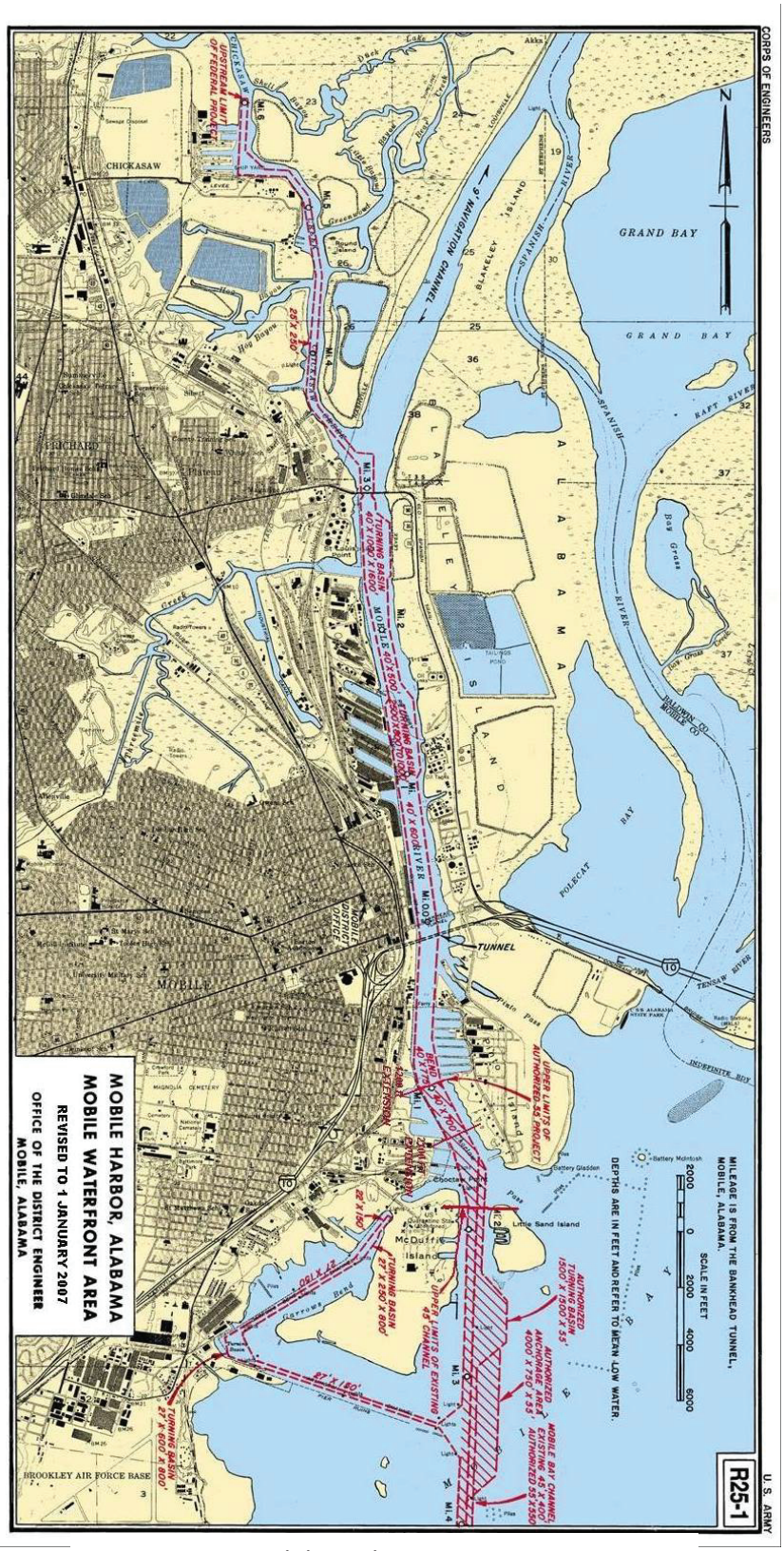


Figure 1 Mobile Harbor Navigation Project

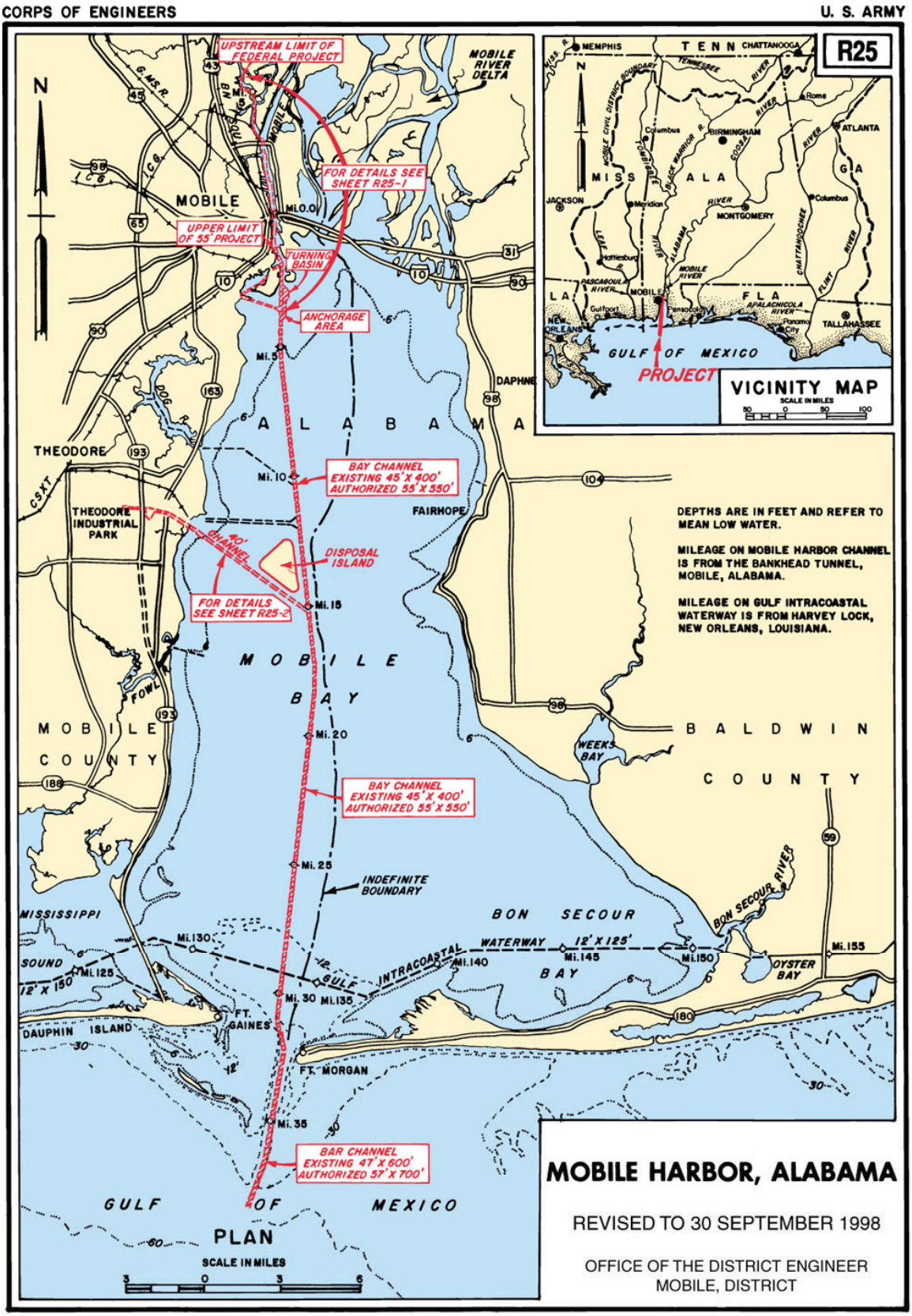


Figure 2 Mobile Harbor Navigation Project

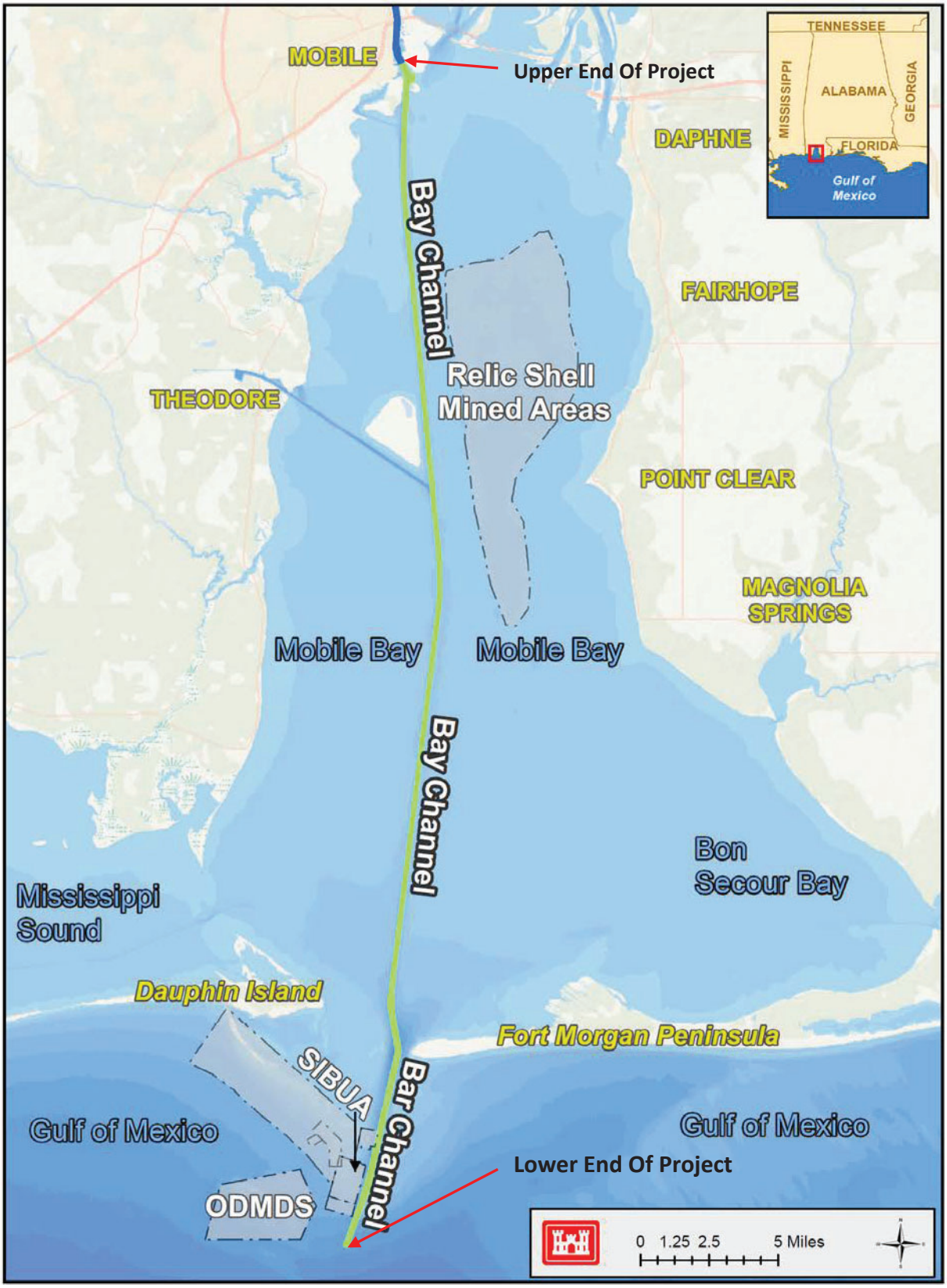


Figure 3 Project Area Map

6.0 Prior Reports and Existing Water Projects

Department of the Army, Assistant Secretary of the Army (Civil Works). (1986). *A Report of the Chief of Engineers, Department of the Army, on Mobile Harbor, Alabama, Together with Other Pertinent Reports 99th Congress, 2d Session, House Document 99-241.* Washington: U.S. Government Printing Office.

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U.S. Army Corps of Engineers. (2004). *Final Environmental Impact Statement for Choctaw Point Terminal Project, Mobile, Alabama.* Mobile: U.S. Army Corps of Engineers, Mobile District.
U.S. Environmental Protection Agency. (1982). *Environmental Impact Statement (EIS) for the Pensacola, FL., Mobile, AL., and Gulfport, MS. Dredged Material Disposal Site Designation (Including Appendix A).* Washington: U.S. Environmental Protection Agency.

Construction of Mobile Harbor to its current depth and width was completed in FY94. The construction was limited to less than the authorized dimensions because the sponsor did not have the funds to construct to the fully authorized depth. A 1300-foot extension in the river channel was completed in 2000. A 1200-foot and a 2100-foot extension in the river channel were completed in FY08. The Turning Basin construction was completed in Aug 2010.

7.0 Problems/Opportunities

The following problems and opportunities have been identified by the sponsor and the PDT for this study.

7.1 Problem Identification

The principal navigation problem is larger vessels are experiencing transportation delays and inefficiencies due to insufficient channel depth and width. This problem is a result of increasing number and size of vessels entering and departing the port. The Alabama State Port Authority (ASPA) has added two new facilities at the lower end of the Mobile River (at the upper portion of Mobile Bay) -- the Choctaw Point container terminal and the Pinto Island Terminal. Both facilities have increased the amount of traffic into the port. The existing channel depths and widths limit vessel cargo capability, restrict many vessels to one-way traffic and in some reaches limit transit operations to daylight only. Therefore, evaluation of deepening and widening the Bar and Bay channels over a combined distance of approximately 37 miles to their fully authorized dimensions through a GRR is being conducted. The GRR is investigating channel improvement alternatives within the authorized dimensions of the Mobile Harbor Federal Navigation Project that could be capable of increasing channel efficiency by alleviating harbor delays and improving cargo capacity through sound, cost effective and environmentally acceptable means.

7.2 Opportunities

Since 2000, the total value of international trade has risen by over 40 percent and it is becoming a larger part of our national economy. The combined value of foreign trade (imports and exports) represented 13 percent of Gross Domestic Product (GDP) in 1990, rising to nearly 22 percent in 2006. If this trend continues, it is projected that the value of U.S. foreign trade will be equivalent to 35 percent of the Nation's GDP in 2020 and 60 percent in 2030. Marine

transportation will become even more important to our economy as 95 percent of America's foreign trade is moved by ship. The bottom line: to sustain expected growth, it is estimated the U.S. must expand its overall port capacity by 10 percent annually. This would require port expansion, mainly on the West Coast, Gulf Coast and South Atlantic. That is the equivalent of adding capacity equal to the Port of Oakland every year.

Mobile Harbor's ranking as a global trading port is consistently in the top twelve nationally. In 2016, Mobile handled a total of 58 million tons of commerce making it the 10th largest port in the United States in terms of total tonnage. Based on the most recent five years of available data (2012 – 2016), foreign shipments averaged 33.1 million short tons. Coal shipments have varied over the period, but remain the largest commodity with 36% of total commerce. Of the total, petroleum products averaged about 23% of the total and crude materials being 12% of total shipments. Primary manufactured goods accounted for 19% of total shipments and chemicals and farm products accounting for 5% and 3% of total shipments.

Shipping trends for Mobile Harbor show adherence to projections for growth in ship size, in all three dimensions, draft, beam, and length. As economies of scale and improved vessel technologies have driven ship sizes larger, the world's port infrastructure must be expanded in channel depths and widths and terminal capacity to accommodate larger ships. The number of ports able to handle larger vessels around the world is growing, and, most importantly, the Panama Canal has expanded lock capacity to handle ships of 25% greater draft (up to 50 ft), 52% greater beam (up to 160 feet), and 30% greater length (up to 1250 feet). Ships have been under construction for several years to take advantage of the increased canal capacity realized with the 2016 opening of the new Panama Canal locks.

There is opportunity to bring the forecasted volume of goods into the harbor on fewer ships and reducing delays resulting in in transportation cost savings. Particularly important is the great increase in the deployment of those vessels, which is occurring now and expected to continue with the Panama Canal Expansion Project completed in 2016. These larger vessels, commonly referred to in the shipping industry as the "Super Post-Panamax" vessels, are expected to comprise greater percentages of vessel fleet composition over the next several decades.

The McDuffie coal shipments are currently utilizing Cape/Post-Panamax size vessels. At the current channel depth, vessels cannot fully utilize vessel capacity. Coal shippers forecast that availability of deeper draft vessels along with the expanded Panama Canal will increase the US coal competitiveness in Asia.

In addition to the economic opportunities afforded by a larger channel, there also exists safety and potentially environmental opportunities. Hazards of traffic moving in and out of the port as well as navigation features of the channel would be improved by a larger channel. There is also potential for beneficial use of sediment material that would be obtained from the channel dredging.

8.0 Planning Goals/Objectives

The National or Federal objective of water and related land resources planning is to contribute to National Economic Development (NED) consistent with protecting the nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. This objective is the project goal for this effort. Planning objectives of this study involved using as much available information as possible as well as new information to evaluate improvements for Mobile Harbor to efficiently and safely accommodate larger vessels while preserving natural and recreational resources that may be impacted by navigation improvements. Specific planning objectives for the General Reevaluation Report for Mobile Harbor were:

(1) Determine if sufficient delays and other commercial navigation benefits exist to deepen and widen the Federal system of channels from existing project depths of 45 and 47 feet to depths of 55 and 57 feet and existing project widths of 400 and 600 feet to 550 and 700 feet;

(2) Evaluate components which would improve project safety and efficiency for the design vessel;

(3) Determine if the proposed components meet the needs of future commercial ship navigation requirements;

(4) Identify environmental and cultural resources in the study area and potential impacts from deepening or widening to those resources;

(5) Review the impact of proposed components on the existing harbor maintenance and future dredged material management plans; and

(6) Identify the NED plan for Mobile Harbor, which most efficiently and safely accommodates larger vessels while preserving the environment.

8.1 Planning Constraints

The formulation of alternatives to address the study objective is limited by planning constraints. Constraints are statements of effects that the alternative plans should avoid. Constraints are

designed to avoid undesirable changes between without and with-project future conditions. Constraints could include resources, legal, or policy constraints. Constraints which are applicable to this study, are:

a. Avoid or minimize to the extent practicable negative environmental impacts to:

    1. Protected species
    2. Essential Fish Habitat
    3. Existing Natural Resources (marshes, wetlands, submerged aquatic vegetation, and bay bottoms)
    4. Cultural Resources

b. Avoid or minimize to the extent practicable negative impacts to coastal and sediment transport processes
c. Avoid or minimize to the extent practicable shoreline erosion
d. There must be adequate disposal area capacity
e. Dredge material for ODMDS and open water placement must meet state and Federal suitability criteria

9.0 Inventory and Forecast

Mobile Bay has been recognized as a nationally significant estuary of the United States. The Mobile Bay and the Mobile Tensaw river delta supports a diverse set of fish and wildlife habitats including: bogs, bottomland hardwoods, freshwater and hardwood swamps, freshwater wetlands, maritime forests, pine savanna, submerged aquatic vegetation (SAV), tidal and brackish water marshes and oyster reefs. These habitats are present along the northern, eastern and western shores and upper and lower part of the Bay.

At the outset of the study, key uncertainties were identified and the PDT determined actions to address these uncertainties. As the study has progressed the actions to address the initial key uncertainties have been either eliminated or reduced. The key uncertainties at this time consist of the following:

<u>a. Unknown/unidentified cultural resource discovery could impact construction cost.</u>

Potential Impacts: There is the potential for discovery of culturally significant sites throughout the project area. Even though Section 106 coordination was conducted as part of the 1986 authorization, technology used at that time may not have captured all existing resources. Because the majority of the work will be performed within the limits of the existing maintained channel, it was decided that additional surveys will only be performed within the limits of the

channel widening. In regards to placement locations, the relic shell mined area is considered a highly disturbed area because of the mining operations that existed up until 1982. Additional survey will not be required within this area. SHPO consultation will be conducted for all proposed placement areas (SIBUA, ODMDS, Relic Shell Mined Area).

Uncertainties: Discovery of new historically significant sites and resources may add additional coordination above and beyond what was conducted during the last authorization. These activities could impact the cost, overall schedule, and delay construction.

Planning Decisions: Continue with current cultural resource investigations and associated consultations. Now that the TSP has been selected and the final widening and beneficial use options have been determined, activities will began to assess the need for additional cultural resources surveys and Section 106 coordination will proceed.

b. Sediment testing has not been performed on the entirety of the project area. Limited data is available.

Potential Impacts: Because sediment testing is delayed until the Preconstruction, Engineering, and Design Phase, testing results may indicate the presence of contaminants which could result in restricting disposal methods and hopper dredging load sizes being taken to the ODMDS. Such restrictions would result in significant cost and scheduling impacts over what is presented in the GRR and SEIS.

Uncertainties: Estimating costs on new work material disposal when using hopper dredges is based largely upon hopper volume capacity. If sediment testing reveals the presence of contaminants, the hopper load capacities going to the ODMDS could be significantly restricted causing significant uncertainties in disposal costs and project scheduling. This could also limit the type of beneficial use opportunities.

Planning Decisions: Some new work sediment testing was conducted in the lower bay channel during the LRR activities and results of that testing did not reveal any concerning presence of contaminants. Based on results of regular testing of maintenance sediments and that the new work material in other parts of the channel have not been exposed to modern-day conditions, it is believed that the risk has been reduced for the GRR by performing the sediment testing during PED.

c. Although significant geotechnical data is available, investigations have not been performed on the entirety of the project area.

Potential Impacts: Assumptions of the soil properties could differ from the actual soil properties present within the alignment of the channel alternatives under consideration. A misrepresentation of soil types could lead to changes in construction cost estimates due to possible changes in the required dredge equipment, placement area locations, and estimated production rates during dredging operations. Although these possible impacts are accounted for in the abbreviated risk analysis, the magnitude of those changes could exceed the current contingency.

Uncertainties: Geotechnical data is available for a large portion of the channel alignment; however, there are no borings outside the channel in the location of the widener. In addition, borings for bar channel show no available sand in sufficient quantity for beneficial use near Dauphin Island (e.g., placement in the Sand Island Beneficial Use Area). The currently assumed placement location for all material in the proposed widener and bar channel is the Ocean Dredge Material Disposal Site (ODMDS), due to the assumed material characteristics (i.e., intermixed silts and clays). This assumption could change, however, if suitable quantities of sand are located in the future channel alignment.

Planning Decision: The risk will be reduced by performing a limited geotechnical investigation of 15 borings to better characterize the material properties in the widener and bar channels.

<u>d. It is not known if there is adequate disposal capacity in the existing ODMDS for constructing and maintaining the project improvements.</u>

Potential Impacts: Although beneficial options will be explored, it is assumed a significant amount of new work material will be taken to the ODMDS. The Mobile District is in the process of coordinating with EPA regarding the re-designation of the Mobile ODMDS. It is a possibility that the ODMDS may be down-sized thus limiting the disposal capacity.

Uncertainties: EPA has provided a smaller 4.7 nmi^2 ocean disposal site which would not have the disposal capacity for constructing and maintaining the channel modifications. The Mobile District is actively coordinating with EPA in pursuit of expanding the ODMDS to 24 nmi^2. Progress on this effort is pending a USACE determination on cultural resource survey requirements. When this internal decision has been made, the expansion of the ODMDS can be finalized. The effort will require a Section 106 consultation and a modification to the Mobile Harbor Water Quality Certification. However, the timeframe of the expanded ODMDS is not known. Once the larger ODMDS is made available, there will be sufficient disposal capacity.

Planning Decisions: Tolerate the risk and proceed. The necessary analysis has been performed for the expanded ODMDS and determined that the site will have the disposal capacity necessary for construction of project and future maintenance. It is anticipated that the expanded ODMDS will be available at the time of construction and that the associated risk is tolerable.

e. Detailed ship simulations performed during PED phase could impact channel design.

Potential Impacts: Feasibility Level Ship Simulations using vessels that most closely matched the study's design vessels were conducted to evaluate varying channel widths for a two-way traffic area in lower Mobile Bay, a bend easing at the mouth of the Bay, and the turning basin near Little Sand Island (see Figures 1 and 2 for spatial reference). The specific design vessels for this study did not exist in ERDC's existing ship library; therefore, to limit monetary and resource commitments, information for vessels that most closely matched the study's design vessels were used to for the Feasibility Level Ship Simulations. Further simulations are recommended to be conducted during PED using the actual design vessels to confirm the TSP channel configuration, which could lead to refinements/revisions in the channel design (e.g., required length/width of the two-way passing area, size of the expanded turning basin, etc.).

Uncertainties: A Feasibility Level Screening Simulation Program (FLSSP) was conducted during the study to evaluate two areas of interest: (1) the turning basin near Little Sand Island and (2) the channel segment in lower Mobile Bay which includes a bend easing connected to a two-way traffic area (see Figure 4). For all simulations, the channel depth was increased from 45-ft (47-ft at entrance channel) to 51-ft (53-ft at entrance channel). Two different channel widths were screened for the passing area (500-ft and 550-ft). Each passing lane width spanned approximately 5 miles; however, evaluations were made during simulations for passing in lesser distances. All proposed passing lane testing included bend easing on the inside at buoys 18 and 21. The width increase of the bends in the simulations were based on design guidance, with width increases of approximately 185 ft at buoy 18 and 50 ft at buoy 21. The Little Sand Island Turning Basin was deepened to 51-ft for proposed testing with evaluations including a 100 ft expansion of the turning basin to the south.

The recommended design vessel for the study [i.e., a containership (1100-ft x 158-ft x 48-ft)] was not in the Engineering Research and Development Center's (ERDC) ship library, therefore, replacement ships were chosen for testing. For passing, the MSC Daniella 2 (1200-ft x 159-ft x 50-ft) was chosen as a replacement ship to closely match beam, which is vital to passing. In addition a variety of passing scenarios were tested that did not include the design vessel, but were used to assist in identifying passing rules for HarborSym. For the turning basin, the Humber Bridge (1102-ft x 150-ft x 46-ft) was chosen as a replacement ship to match length,

which is essential to turning. The purpose of a FLSSP was to screen proposed alternatives using lower resolution databases to limit monetary and time commitments while still providing vital insight of the proposed alternatives moving forward. The lower resolution databases were quicker and less costly to develop, and easier to quickly manipulate during the course of testing. This method allowed for discussion after the completion of each simulated run, the implementation of modifications, and the re-simulation of runs as necessary. By allowing for quick manipulation, the suggested adjustments were made during the testing week and then tested with the same group of pilots. Conclusions drawn from actual data however, are limited due to the use of these lower resolution databases. Additional evaluations would be necessary during PED utilizing the design vessel(s) and higher resolution databases, which may result in refinements to channel dimensions. If refinements are needed, the most likely outcomes are an increase in the required length of the two way traffic area (i.e., to a distance greater than 3 miles) and a possibly decrease in the size of the expanded turning basin; however, the exact magnitude of those refinements will not be known until additional simulations are conducted in PED.

Planning Decision: Tolerate the risk and proceed using the results of FLSSP study to inform plan selection during the study. Conduct more detailed ship simulations with the actual design vessels during PED.

f. Potential exists that there are unknown/unmarked pipelines within the limits of the proposed channel modifications.

Potential Impacts: Significant cost and schedule delay implications if pipeline relocations are required as a result of channel modifications.

Uncertainties: Currently, there are no known facility or utility relocations required in connection with the proposed project boundaries. Coordination has taken place between USACE Real Estate Division and state agencies and utility companies to verify utility locations.

Planning Decision: Continue with current research and analysis to confirm that locations and depths of pipelines are not impacted in relation to project footprint.

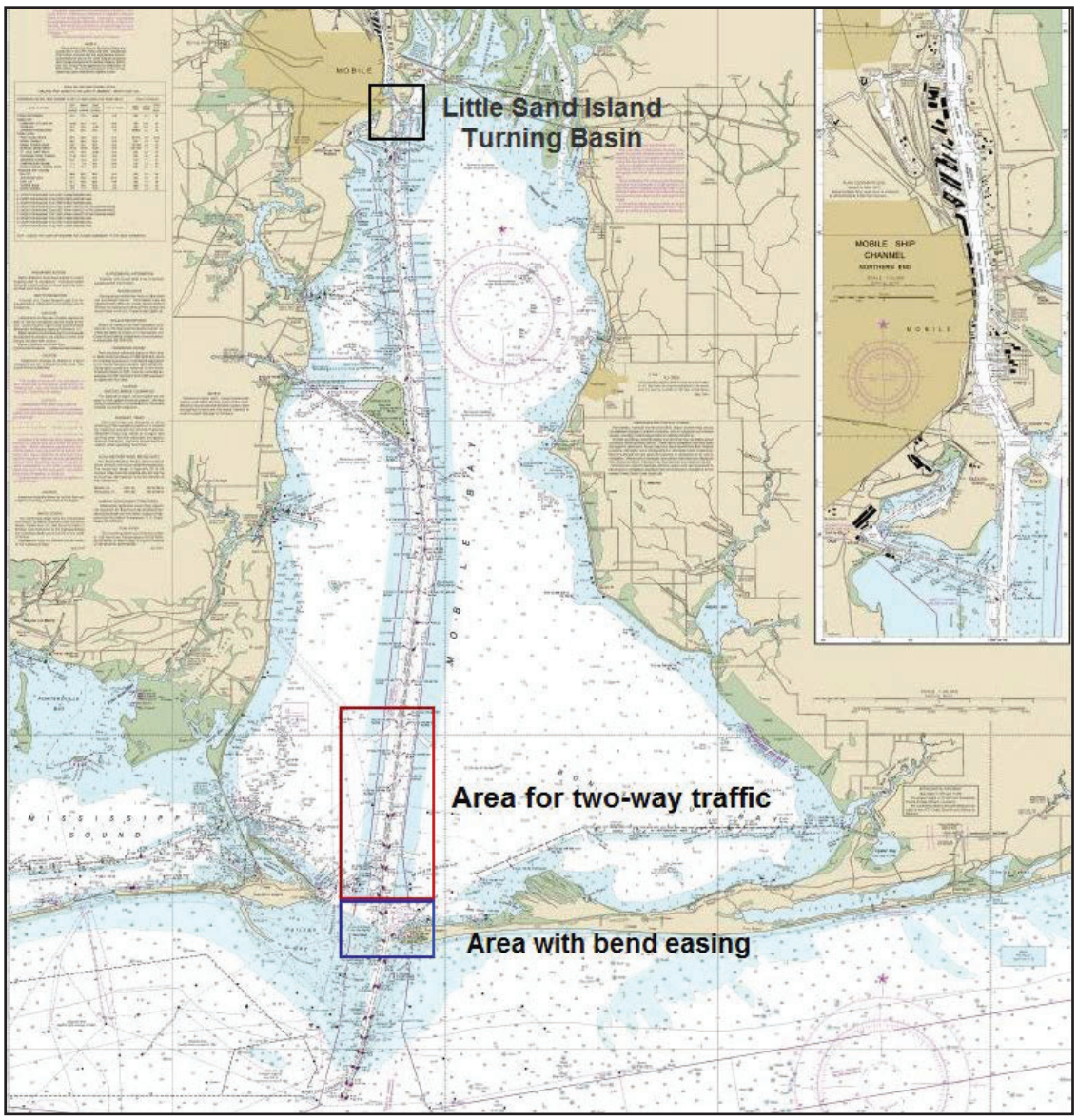


Figure 4 Channel Areas Evaluated in the FLSSP Study

g. Public acceptance of the environmental or shoreline impacts could affect project schedule.

Potential Impacts: There has been an effort by some property owners of Dauphin Island to have the Corps, as part of this study, include placing sand on the shoreline of the island. This is based on their view that the existing Mobile Harbor Project has caused erosion of the island's shoreline. Should they conclude at some point to seek injunctive relief, the timing of such action could delay completion of the study or impact future stages of work including construction. This issue has been previously litigated and settled with the Dauphin Island

Property Owner's Association. Delays would most likely impact project implementation costs. Results of the SEIS may also lead to legal objection with the same impact.

Uncertainties: There is no certainty that the parties expressing concerns at this time will seek any injunctive relief. Pending an analysis on wake impacts, it is uncertain whether there will be additional individuals concerned about any additional perceived project caused impacts. Likewise, the findings of the SEIS may not be accepted by the public.

Planning Decision: Continue with the current analysis utilizing the best available data and techniques to assure that we have adequately addressed those items of public concern. Continue with a robust public involvement process including coordinating agencies, NGO's, focus groups, and concerned public. To the extent practical, address concerns and comments that have been received in an appendix to the main report.

h. The vessel generated wave energy (i.e., ship wake) assessment is not complete at this time.

Potential Impacts: Coordination of specific mitigation measures (if necessary) and the identification of those costs cannot begin until the assessment is complete. However, possible mitigation was identified as a risk in the abbreviated cost risk analysis; therefore, mitigation costs are currently included in the project cost estimates. The team does not think mitigation, if needed, will exceed the amount included in the current estimates.

Uncertainties: Since the assessment is ongoing, the potential impacts to habitats, environments, and/or shorelines in Mobile Bay as a result of relative differences in larger commercial vessel generated wave energy (VGWE) is unknown at this time.

Planning Decision: Finish the analysis to determine if any mitigation is required. If so, coordinate with proper entities (e.g., resource agencies, NGOs, etc.) to identify possible mitigation measures and update the project costs accordingly. Include the details of the analysis, effects, mitigation measures, and associated costs in the draft feasibility report prior to release for public comment in the summer of 2018.

10.0 Formulating Alternative Plans

The USACE plan formulation process identifies existing and anticipated problems and opportunities to develop planning objectives. It then identifies and refines specific measures that could be combined to assemble alternative plans that comprehensively meet the planning objectives. These alternatives are then repeatedly screened, refined, and

compared with each other to identify the alternative that best balances the many factors that need to be considered to make a prudent decision.

During their repeated refinement, the alternatives are designed to be complete, effective, efficient, and acceptable in an effort to maximize overall benefits and minimize costs and adverse impacts. To select a plan, the alternatives are compared with each other from the perspectives of the National Economic Development (NED), Regional Economic Development (RED), Environmental Quality (EQ), and Other Social Effects (OSE) accounts to identify and recommend the alternative that provides the best and most balanced solutions, considering all four accounts.

The USACE began implementing the modernization of its planning program in 2012. The initiative applies a risk-based approach to shorten schedules and reduce the cost to complete the study process by eliminating non-essential activities while still producing reports that make and adequately support prudent recommendations. The risk-based process concentrates on collecting and presenting information related to the factors that most influence the decisions being considered and minimizing the collection and reporting of information that does not meaningfully influence the decisions and recommendations. When appropriate, it also uses assumptions, professional judgment, and/or estimates instead of acquiring new data to support the decision-making process after considering the relative likelihood, nature, and magnitude of the impacts to the overall decision and the associated environmental, social, and economic consequences. With this in mind, the project delivery team (PDT) determined that the study would identify the potential alternatives, develop an initial array, narrow that array into a focused array of alternatives, and narrowing that array into the final array of alternatives. As the focused array of alternatives was being analyzed, the PDT would also determine which of the considered alternatives would most likely bracket the maximum dimensions that would be implemented for the purpose of evaluating the environmental impact analysis. The results of analyses on the focused array would be screened to narrow the alternatives to a final array of alternatives. From that array, additional screening would narrow the plans to the likely alternative that could be considered as the TSP.

10.1 Management Measures and Screening of Measures

A management measure is a feature or activity that can be implemented at a specific geographic site to address one or more planning objectives. They are generally categorized as structural or nonstructural. Preliminary alternatives are formulated and refined by combining, adapting, and scaling management measures to best address the four criteria from the Principles and Guidelines:

Completeness. Extent to which the alternative provides and accounts for all necessary investments or actions to ensure realization of the planning objectives

Effectiveness. Extent to which the alternative contributes to achieving the planning objectives

Efficiency. Extent to which the plan is the most cost-effective means of addressing the specified problems and realizing the specified opportunities, consistent with protecting the nation's environment

Acceptability. The extent to which the alternative plans are acceptable in terms of applicable laws, regulations and public policies

In accordance with 40 CFR 1502.14, the USACE will "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives eliminated from detailed study, briefly discuss the reasons for their having been eliminated." For this GRR, a reasonable alternative is defined as an alternative that meets the objectives of the study and is under USACE jurisdiction to implement. A measure that could be implemented by others can be considered as long as it meets the objectives on its own or it can be a component of an alternative that meets the objectives in a way that is complete, effective, efficient, and acceptable.

Basic structural measures identified to be considered for Mobile Harbor include deepening the channel, widening the channel, and bend easing in the bar channel, and modifying the turning basin. Nonstructural measures that could be considered include relocation of navigation aids, use of tugs, lightering, topping-off offshore, and scheduling. Table 1 presents the measures that were considered for this study.

Table 1 – Measures Considered

Structural Measures	Non-Structural Measures
• Deepening • Widening • Bend Easing • Passing Lanes • Meeting Areas • Turning Basin	• No-Action • Relocation of buoys • Additional tugs • Light-loading • Lightering • Topping-off offshore • Scheduling

The Mobile Harbor GRR included evaluation of a future "without" project condition that would not include any changes to the current channel dimensions. The PDT screened the measures

considered to develop an initial array of alternatives to be analyzed to develop a focused array of alternatives. The initial array of alternatives is displayed in Table 2.

Table 2 – Initial Alternatives

Initial Alternatives		
Structural Measures		**Non-Structural Measures**
Depth	Width	Nonstructural alternatives will match nonstructural measures.
• 46 ft to 55 ft in 1 ft increments (48 ft to 57 ft in Bar Channel) • Turning Basin Depth to match channel depth	▪ 500 ft and 550 ft in Bay Channel ▪ Widen full channel length ▪ 700 ft in Entrance Channel ▪ Bend easing	

For the stated evaluation criteria, there would be a significant amount of analysis required to fully evaluate the entire range of deepening and widening alternatives. Based on guidance from the Corps' SMART Planning initiative, the number of alternatives to be analyzed were reduced considering information developed in previous study efforts, a planning Charette held in January 2015, and vertical coordination. After discussions within the PDT, it was determined that nonstructural measures alone would not achieve the planning objectives. An array of structural measures were identified to address the planning objectives and included modifications to the Bay and Entrance Channels and bend easing.

10.2 Array of Alternative Plans

The PDT determined that the best approach to achieve the project objectives would be to examine the array of structural measures including the existing condition, channel deepening, two widths and three lengths of wideners. The results of this analysis would develop a focused array of alternatives. The deepening alternatives considered for evaluation would range from useable drafts from 47 to 52 feet in the Bay Channel and 49 to 54 feet in the Bar Channel. Widening measures would evaluate adding 100 or 150 feet of width in the Bay Channel. The length of the widening components to be analyzed for economic justification would have length increments of 5, 10, and 15 miles. In addition to these alternatives, bend easing in the Bar Channel and increased depths of the turning basin to match deepening alternatives would be considered.

Based on historical vessels calling Mobile Harbor, few had design drafts greater than 52 feet. Data showed an increase in vessels calling Mobile Harbor with design drafts of 52 feet or less. Therefore, alternatives with depths greater than 53 feet were screened from further analysis. The depth of 46 feet was also screened from further analysis because the protocol in deep draft navigation projects is typically a minimum of two feet greater than the existing channel depth.

The analysis to this point also demonstrated the potential construction cost of each initial alternative. The study sponsor used the cost data to determine the range of cost that could be suitable for their cost share. The sponsor indicated that deepening to 50 feet appeared to be the maximum that they could support. It should be noted at this point that the sponsor's desire to not deepen below 50 feet led our benefit analysis to utilize the categorical exemption to the NED plan per paragraph 3-2b(10) of ER 1105-2-100.

Based on this information and in coordination with the sponsor, for environmental impact analysis, the PDT determined that the maximum project dimensions that could reasonably be expected would be a 50 foot deep channel (with an additional two feet in the Bar channel) added width of 100 feet for five miles for a widener with 50 foot depth with bend easing and turning basin modification. This information was provided to the engineering and modeling team for their development of the environmental impact analysis.

It was determined through ship simulation that bend easing was not a separable element but those changes would be necessary from a safe operations standpoint for the deepening alternatives. The turning basin would also be deepened to match any deepening alternative but ship simulation also found that some modification of the turning basin was needed to assure safe operations.

An analysis of the remaining initial deepening and widening alternatives was conducted using rough order magnitude costs and benefits that the team considered an appropriate level of detail. As this analysis progressed, the results helped shape the focused array of alternatives that would utilize more refined cost and economic data. It was found that each of the deepening alternatives had positive net benefits. It was also found that widening 5 miles of the channel with an additional width of 100 feet had negative net benefits. Based on this result widening lengths greater than 5 miles and widths greater than 100 feet would likely not be economically feasible for the depths being considered and therefore were dropped from consideration. Review of the 5 mile widening results and previously conducted ship simulation suggested that 100 feet of widening with a 3 mile length might be acceptable and economically feasible.

With the above considerations, the focused array of alternatives to be considered is shown in Table 3.

Table 3 – Focused Alternatives

Measure	Alternatives			
Deepening	47	48	49	50
Widening	Additional 100 feet of width for 3 miles for each depth alternative			
	Additional 100 feet of width for 5 miles for each depth alternative			

Note: Each depth alternative would include two feet of additional depth in the bar channel.

11.0 Evaluation and Comparison of Array of Alternative Plans

Alternative plans are evaluated by applying numerous, rigorous criteria. Per the *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies*, as stated in the previous section, four general criteria are considered during alternative plan screening: completeness, effectiveness, efficiency, and acceptability.

There are also specific technical criteria related to engineering, economics, and the environment, which also need to be considered in evaluating alternatives. These are:

Engineering Criteria:

- The plan must represent a sound, acceptable, safe, efficient and reliable engineering solution.

Economic Criteria:

- The plan must contribute benefits to NED.
- Tangible benefits of a plan must exceed economic costs.
- Each separable unit of improvement must provide benefits at least equal to costs.

Environmental Criteria:

- The plan will fully comply with all relevant environmental laws, regulations, policies, and executive orders.
- The plan represents an appropriate balance between economic benefits and environmental sustainability.
- The plan has been developed in a manner that is consistent with the USACE Environmental Operating Principles (EOPs).

Adverse impacts to the environment is being avoided to the extent practicable. In cases where adverse effects cannot be avoided, mitigation must be provided based on the guidance in ER 1105-2-100, paragraph C-3(d)(1), and Memorandum dated 31 August 2009 Implementation Guidance for Section 2036(a) of WRDA 2007-Mitigation for Fish and Wildlife and Wetland Losses.

Following determination of the focused array, the PDT further refined the cost and economic data to provide information needed to meet the technical criteria above to narrow alternatives to a final array to determine the plan that could be considered as the Tentatively Selected Plan (TSP). Cost and economic data for the focused array is presented in Table 4.

Table 4 – Cost and Economic Data for Focused Array

Preliminary Project Cost ($M)				
Measure	Depth (Feet)			
	47	48	49	50
Deepening	195.69	271.84	347.32	429.74
Deepening and Widening 100 ft for 3 miles	204.39	282.04	359.42	434.34
Deepening and Widening 100 ft for 5 miles	207.89	286.34	365.22	449.34

Preliminary Project Net Benefits ($M)				
Measure	Depth (Feet)			
	47	48	49	50
Deepening	13.7	21.2	28.7	34.0
Deepening and Widening 100 ft for 3 miles	13.9	21.3	28.8	33.9
Deepening and Widening 100 ft for 5 miles	13.5	19.9	28.3	33.5

The refined data indicated that the 5 mile widener would not be feasible for the depths being considered therefore it was eliminated from further consideration. Similarly, the 3 mile widener at the 50 foot depth was also found to benot economically feasible and was therefore eliminated from further consideration. Based on the project objectives and sponsor input, both deepening and widening were to be desired outcomes. The 50 foot depth alternative could not be combined with a complimentary economically feasible widener and therefore, with concurrence from the sponsor, was eliminated from further consideration. Combining the results of the refined cost and economic data for the remaining depth and widening alternatives that satisfy the project objectives and sponsor preference defined the values for consideration as a TSP in the final array of alternatives. The results are provided in Table 5.

Table 5 – Final Array of Alternatives

Combined Measures Preliminary Project Cost and Net Benefits ($M)			
	Alternative (Depth in Feet)		
	47	48	49
Cost	204.39	282.04	359.42
Net Benefit	13.9	21.3	28.8

Note: Each depth alternative would include two feet of additional depth in the bar channel.

Risk informed planning requires transparency in the estimation of values. Table 6 shows the range of net benefits for deepening and widening, as shown all deepening alternatives are positive. The 49' deepening alternative has the highest possible net benefits.

Table 6 – Benefit Uncertainty Analysis

Alternative	Minimum	Quartile 1	Median	Quartile 3	Maximum	Avg Net Benefits
47 Foot Deepening	$7,797M	$9,738M	$13,630M	$17,590M	$20,531M	$13,690M
48 Foot Deepening*	$15,018M	$17,369M	$20,402M	$25,591M	$28,245M	$21,203M
49 Foot Deepening	$22,231M	$24,990M	$27,165M	$33,583M	$35,950M	$28,717M
49 Foot Widening	-$920,700	-$29,400	$74,000	$148,200	$275,700	$56,800

Alternative	Minimum	Quartile 1	Median	Quartile 3	Maximum	BCR
47 Foot Deepening	2.0	2.3	2.8	3.3	3.7	2.8
48 Foot Deepening*	2.4	2.6	2.9	3.4	3.6	3.0
49 Foot Deepening	2.6	2.8	3.0	3.4	3.6	3.1
49 Foot Widening	-0.5	1.0	1.1	1.2	1.4	1.1

Based on the results of the foregoing, the plan that best satisfies the project objectives and sponsor desire is the 49 foot alternative. This plan has greater net benefits than smaller scale plans (47 and 48 foot), and, considering categorical exemption from the NED plan per paragraphs 3-2b(10) of ER 1105-2-100, a sufficient number of alternatives were analyzed to insure that net benefits do not maximize at a scale smaller than the 49 foot plan.

12.0 Tentatively Selected Plan

The Tentatively Selected Plan was developed through an iterative process that evaluated the cost and benefit of alternatives selected for consideration. The costs for each alternative included a contingency amount to allow for possible mitigation costs depending on the outcome of the environmental impact analyses. The alternatives considered were those that the PDT identified as possibly fulfilling the identified needs for modifying the project and satisfying NED goals and complying with applicable laws and regulations. The alternatives had varying dimensions in depth, width, and length of widening. As the iterative process progressed the number of alternatives were narrowed based on evaluation criteria until one alternative was found to best satisfy the various evaluation criteria.

The alternative that best meets the project objectives includes: deepening the existing channel an additional 4 feet (existing 45 feet channel in the bay to 49 feet and exiting 47 feet channel in the bar to 51 feet); adding an additional 100 feet of widening for a distance of three miles beginning at the upper end of the bend area at the 49 foot depth; including bend easing with the deepening at the upper end of the bar channel; and, modification to the Choctaw Pass turning basin to ensure safe operation at the 49 foot depth.

Disposal Considerations

- **Placement Locations.** New work material for the proposed channel modifications will be placed in three locations. These are the Relic Shell Mined Area, Sand Island Beneficial Use Area (SIBUA), and the Ocean Dredged Material Disposal Site (ODMDS).

- **Relic Shell Mined Area.** The Shell Mined Area is located generally northeast of Gaillard Island on the eastern side of the ship channel. The proposed placement within this site is the result of beneficial use discussions with the cooperating agencies where it was suggested that Mobile District conduct open bay thin-layer placement in areas of historic relic shell mining operations.. One of the primary concerns expressed by the

- group were the areas in the northeastern portion of the bay where oyster shell mining operations were conducted prior to 1982 to mine relic oyster shell deposits. These operations have resulted in an overall deepening of the bay bottom in that area. A map of the relic shell mined area is shown in Figure 5.

  The potential placement areas have been laid out in sections where there were disturbances with 15-foot depths or greater based on surveys from 1960/61 and 1984/87. These areas encompass approximately 4,100 acres and, assuming a layered placement in these areas, it has been calculated that there is capacity for approximately 5.5 MCY. Existing depths within these sites generally range from 10 to 14 feet. Although volume estimates are based on an average thickness of approximately 1.5 feet, it is anticipated that placement would be accomplished with a maximum thickness of approximately 3 feet due to the characteristics of the new work material. Placement of dredged material into portions of this area would not only potentially help to increase the ecologically productivity of the bay bottom areas, but in general, would also keep the sediment within the sediment transport system. This disposal area has been coordinated with the cooperating agencies during the agency scoping process. Once the exact volumes and locations of placement have been determined, these activities will be included in obtaining the required WQC and other agency coordination.

- **Sand Island Beneficial Use Area (SIBUA).** In the 1996 WRDA, authority was given to the Corps to modify disposal practices for beneficial use of dredge material from the ODMDS. The Mobile District then partnered with the Alabama Department of Environmental Management (ADEM) to designate an area on the western side of the Bar Channel in which suitable material could be placed when any opportunity arose. Designation of the Sand Island Beneficial Use Area (SIBUA) was completed in 1998 and placement of the sandy bar channel maintenance material at this site became the preferred disposal option from that portion of the channel.

  On March 6, 2000, the Dauphin Island Property Owners' Association (DIPOA) filed a lawsuit in the United States Court of Federal Claims styled Dauphin Island Property Owners' Association, et al. vs. United States, No. 00-115-L (Fed. Cl.). In accordance with the terms of the addendum to the Settlement Agreement, the Corps would continue to conduct its maintenance dredging practices to deposit material dredged from the Bar Channel in the SIBUA and/or the Feeder Berm Disposal Area ("the alternate disposal areas"), *subject to* (i) channel shoaling that materially adversely affects or could reasonably be expected to materially adversely affect shipping traffic before the routine, scheduled dredging cycle occurs; (ii) the absence of competitive bid proposals

from operators owning equipment capable of disposing material in the alternate disposal areas (i.e., where disposal in these alternate disposal areas would thus violate the "least costly" restriction imposed by applicable laws); (iii) currently unforeseen negative consequences from repeated use of these alternate disposal areas are discovered; (iv) a change in the law, certifications, authorizations, or regulations that prohibits the deposit of such material in these two disposal areas; or (v) identification and authorization by the Corps of a more beneficial area for Dauphin Island.

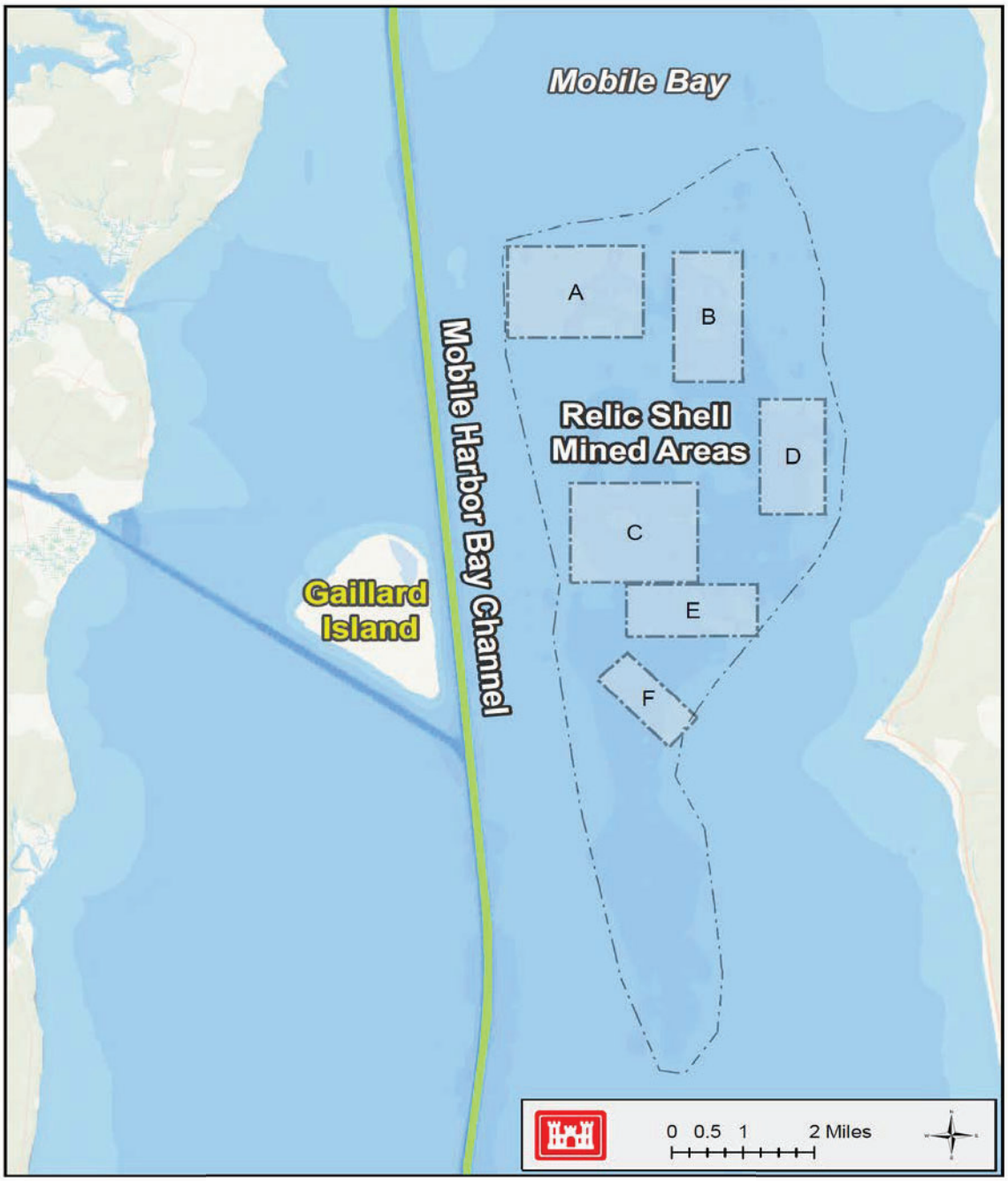


Figure 5 Relic Shell Mined Area

As part of this study, bathymetric change analysis and coastal sediment transport modeling indicated that material moving out of the SIBUA moves at a slower rate than what is needed to ensure adequate disposal capacity for the anticipated increase of maintenance material within the bar channel. As such, it will be necessary for the Mobile District to pursue modifications to extend the site beyond the existing boundaries of SIBUA that meet the requirements of the settlement and provide sufficient movement of material and capacity for new work and maintenance material. Currently, an analysis is being conducted to determine the location and size of the expanded footprint to ensure future capacity in the site. It is anticipated that the expansion of the SIBUA will extend its boundaries to include areas within the Sand Island-Pelican Island complex. When the expansion dimensions have been determined, the necessary coordination actions will be conducted to modify the WQC. Is should be understood that the proposed expansion is being conducted under O&M and not as part of this study.

Any suitable bar channel new work material dredged in sufficient quantity to warrant placement within the SIBUA will be accomplished accordingly. Based on existing geotechnical information, it is anticipated that the new work material does not contain enough suitable material to warrant placement within SIBUA.

- **Ocean Dredged Material Disposal Site (ODMDS).** The 1986 WRDA Authorization of the Mobile Harbor Project required that, for reasons of environmental quality, all dredged material from the project shall be placed within open waters of the Gulf of Mexico in accordance with all provisions of Federal law. Since that time, 1994 and 1996 WRDA Authorizations included language that allowed placement options of suitable material in the SIBUA as well as open water (thin layer) placement within the bay adjacent to the channel. The majority of dredged material from the proposed channel modifications, an estimated 27MCY, will be placed in the ODMDS. The existing Mobile ODMDS is 4.75 square nautical miles (nmi^2). The Mobile District is pursuing a modification to expand the ODMDS to 24 nmi^2 to meet the future needs of O&M and new work material. Coordination with EPA on the expansion is in progress pending a USACE determination on cultural resource survey requirements. Once the expansion is finalized, Section 106 consultation will be conducted and a modification of the WQC will be pursued to include the updated ODMDS.

12.1 Systems/Watershed Context

The Mobile Harbor is contained primarily in Mobile Bay with portion into the Gulf of Mexico and the Mobile River. Mobile Bay has been recognized as a nationally significant estuary of the United States since 1995, with the designation as one of 28 National Estuary Programs established by the EPA. The Mobile Bay watershed is the sixth largest river basin in the United States and the fourth largest in terms of streamflow. It drains water from three-fourths of Alabama as well as portions of Georgia, Tennessee and Mississippi into Mobile Bay. Both the Mobile River and Tensaw River empty into the northern end of the Bay. Several smaller rivers: Dog River, Deer River, and Fowl River, on the western side of the Bay and the Fish River on the eastern side also empty into the Bay, making it an estuary. A feature of all estuaries is a transition zone, where the freshwater from the rivers mixes with the tidally-influenced salt water of the Gulf of Mexico.

It was within this context that as this study began that the District met with interested agencies in a charrette to discuss issues and concerns that needed to be considered as the study progressed to insure that impact to resources were avoided, minimized or mitigated. Follow-up meetings have been held periodically as data was being collected, as models were being developed, and as results of the impact assessment became available. Participating agencies are:

- Alabama State Port Authority (ASPA)
- Alabama Dept. of Environmental Management (ADEM), Mobile Field Office
- ADEM, Water Quality Branch
- Alabama Dept. of Conservation and Natural Resources (ADCNR), Marine Resources Division (MRD)
- Geological Survey of Alabama (GSA)
- U.S. Fish and Wildlife Service (FWS)
- National Marine Fisheries Service (NMFS), Habitat Conservation Division (HCD)
- Environmental Protection Agency (EPA Region 4)
- Mobile Bay National Estuary Program (MBNEP)
- U.S. Geological Survey (USGS)

12.2 Environmental Operating Principles

The general environmental criteria for projects of this nature are identified in Federal environmental statutes, executive orders, planning guidelines, and the U.S. Army Corps of Engineers Environmental Operating Principles (EOP). It is the national policy that ecosystem restoration, particularly that which results in conservation of fish and wildlife resources, be given equal consideration with other study purposes in the formulation and evaluation of alternative plans. The basic guidance during planning studies is to assure that care is taken to preserve and protect significant ecological and cultural resources, and to conserve natural resources. These efforts also should provide the means to maintain and restore, as applicable, the desirable qualities of the human and natural environment. Formulation of alternative plans should avoid damaging the environment to the extent practicable and contain measures to minimize or mitigate unavoidable environmental damages. Consistent with laws and policy, alternative plans formulated should avoid damaging the environment to the extent practicable and contain measures to minimize or mitigate unavoidable environmental impacts.
EOPs have been established for evaluation of water resource projects and have been implemented throughout the study process to ensure conservation, environmental preservation, and restoration is considered at the same level as economic issues. These principles are: 1) Strive to achieve environmental sustainability, 2) Consider environmental consequences, 3) Seek balance and synergy, 4) Accept responsibility, 5) Mitigate impacts, 6) Understand the environment, and 7) Respect other views. The following criteria were used to address environmental impacts during the evaluation of alternatives:

- Protection, preservation, and improvement of the existing fish and wildlife resources along with the protection and preservation of coastal and offshore habitat and water quality;
- Consideration in the project design of the least disruptive construction techniques and methods;
- Protection and preservation of endangered and/or threatened species, critical habitat, and essential fish habitat (EFH); and
- Preservation of significant historical and archeological resources through avoidance, if possible, or data recordation if destruction of the resources is necessary.

13.0 Key Social and Environmental Factors and Mitigation Actions

The intent of the environmental component is to assess the potential impacts within the study area considering the aquatic resources throughout the area. These resources consist of wetlands, submerged aquatic vegetation, oysters, benthic invertebrates, and fish. The baseline of the resources were determine and mapped using historical and current information obtained from the state resource agencies and field data collection efforts. Salinity tolerances for each

of the resources were derived using information gathered from accepted research literature. Hydrodynamic, water quality, and sediment transport models were utilized to predict changes in currents, water quality parameters, and sedimentation are key components to predict and provide the basis to conduct accurate habitat impacts assessments. Outputs from the models were then used to assess the potential impacts to the aquatic resources comparing existing conditions to post-project conditions. A sea level rise scenario of 0.5 meters was also considered in the impact analysis. Potential impacts resulting from the actions are used as a means to determine any necessary mitigation requirements.

The results of the resource assessments indicate that after comparing the baseline conditions and water quality thresholds across the five aquatic resources, there are no major impacts anticipated considering the post-project conditions. Project impacts remain negligible under 0.5 meter sea level rise scenario.

13.1 Stakeholder Perspectives and Differences

An initial agency scoping meeting was held December 9, 2015 with the cooperation Federal and state support agencies to develop the issues of concern to be considered during the environmental impact analysis process. Subsequent follow up meetings were conducted with the agencies to provide an overview of the study approach being applied for modeling and aquatic resources assessments for the study. These meetings provided opportunities for the agencies to identify and discuss their concerns during the course of the study. As the study progressed the PDT presented the deepening and widening alternative that was selected in which the initial modeling would be conducted as well as updates on the progress of the modeling and aquatic resources assessments. The latest agency meeting presented preliminary results for the modeling efforts and aquatic resources impact assessments. Based on the minor predicted impacts on the aquatic resources of consideration relating to changes in the hydrodynamics, water quality, and sediment transport, the cooperating agencies in attendance felt that mitigation measures would not be necessary. However, the group recommended that the results of the ship wake analysis currently underway be fully considered for potential effects on shorelines and resources before a final determination is made on mitigation requirements.

In additional to the agency scoping meeting, two meeting were held with the support agencies specifically addressing beneficial use (BU) opportunities associated with the disposal of the new work material. The meetings were instrumental in the process of identifying realistic beneficial use opportunities associated with the proposed widening and deepening activities. Through these meetings, the agencies provided their input and support for the potential placement options that factor into the least cost options, specifically placement in the relic oyster shell

mining areas and the Sand Island/Pelican Island complex. Both of which are now included as the placement areas for the project.

As required by the NEPA guidelines, a public scoping process was conducted at the initiation of the GRR study. The scoping process allowed public input into the development of issues and alternatives to be considered during the NEPA analysis. Minutes compiled from the initial scoping process has been made available to the public and used as guidance for the NEPA analyses. In addition to the scoping process, two other public meetings were held to keep the public informed on the study's progress and provide the opportunity for the public to express their concerns. Several focus group meetings were held with the environmental justice communities, seafood industry, and environmental organizations. These meetings allowed those groups to provide their specific concerns outside of a public forum. An additional public meeting will be scheduled upon the release of the draft GRR for public review. These meetings are being conducted in efforts to ensure that activities associated with the study will be compatible to other Federal programs and plans.

13.2 Environmental Compliance

An integrated SEIS is being prepared to meet NEPA requirements. In support of this effort, the USEPA, NMFS, USFWS, ADEM, ADCNR, ASPA, and other appropriate Federal and state agencies have been asked to be cooperating agencies and are actively participating in the NEPA process.

In addition to conducting impact assessments, coordination with the appropriate resource agencies are being initiated for threatened and endangered species, essential fish habit, and cultural resources. Testing of the new work material will conducting during PED to ensure that the sediment meets the ocean disposal criteria.

The study is gathering and analyzing local and regional information for use in the preparation of the Environmental Justice, Air Quality and Noise sections of the SEIS and Cumulative Impacts. Cumulative impacts are the results of those incremental past, present and foreseeable future actions that individually may be minor but collectively are significant. Thus, environmental conditions to consider include, but are not limited to: biological resources (water & sediment quality, flora/fauna, etc.), physical resources, sediment transport processes, air quality, sea level & climate changes, noise, socio-economic impacts and environmental justice.

14.0 Project Implementation

Project sponsor is the Alabama State Port Authority.

15.0 Timeline

The schedule for the Mobile Harbor GRR is as follows.

Amended Design Agreement Signed	09 NOV 2015
Alternatives Milestone	17 FEB 2016
Intermediate Review and Screening of Alternatives	18 APR 2017
Tentatively Selected Plan Milestone	28 MAR 2018
Release Draft SEIS for Review	12 JUN 2018
Agency Decision Milestone	16 NOV 2018
Division Engineer Transmittal	21 MAY 2019
Release Final SEIS for Review	08 JUN 2019
GRR Approval	04 NOV 2019

From: (b)(6)
To: (b)(6) @uscg.mil
Cc: (b)(6)
Subject: Coast Guard Meeting - Mobile Harbor GRR
Date: Thursday, April 12, 2018 8:25:00 AM
Attachments: 22 Feb 2018 Public Meeting.pdf

Mr. (b)(6),
I'm the Project Manager with the Mobile District Corps of Engineers on the Mobile Harbor General Reevaluation Report. This is a study evaluating the potential for modifications to the Mobile Harbor Navigation Channel. The attached slide presentation provides a little background on the current status of the study.

Our regulations require that we consult with you and ensure that we understand your views on navigation channel safety, ship maneuverability, navigation traffic management, navigation operational restrictions, and optimum placement of aids to navigation and we incorporate that input into the design.

We have consulted with the Coast Guard throughout the study process and felt this would be a good time to have another meeting with you to provide an update and make sure that you are okay with our approach. (b)(6) USCG, had last attended a meeting back in March 2017 when we were performing ship simulations within the channel.

Do you have time for a meeting in the next month or so to go over the project with us?

(b)(6)

-----Original Message-----
From: (b)(6) @uscg.mil]
Sent: Thursday, March 02, 2017 11:57 AM
To:
Cc: (b)(6)
Subject: [EXTERNAL] FW: Tabletop Exercise, Ship Simulation

(b)(6)

Nice talking with you. See you Monday.

Vr,

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, February 08, 2017 10:06 AM
To: (b)(6)
Subject: FW: Tabletop Exercise, Ship Simulation

fyi

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, February 08, 2017 9:45 AM
To: Wilks, Fannie L LT
Cc: (b)(6)
(b)(6) Compher, Robert CDR; Chris Brock
Subject: Tabletop Exercise, Ship Simulation

LT Wilks,
Are you available to attend a tabletop exercise to ensure vessel safety/meeting in Mobile Harbor scheduled for Monday, March 06 from 1-4pm? We may need assistance on Aids to navigation.

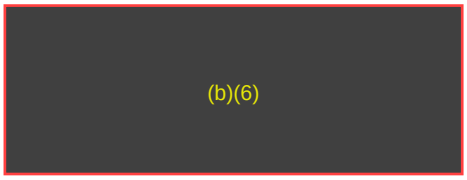
(b)(6)

-----Original Message-----
From: Tarrant, Stanley A LT [mailto:Stanley.A.Tarrant@uscg.mil]
Sent: Tuesday, October 11, 2016 8:45 AM
To: (b)(6)
Cc (b)(6)
(b)(6)
(b)(6) @uscg.mil>; Wilks, Fannie L LT <Fannie.L.Wilks@uscg.mil>; Compher, Robert CDR <Robert.C.Compher@uscg.mil>
Subject: [EXTERNAL] RE: Request to Relocate Ship Wake Gage to USCG Mobile Channel G Range Rear Light

Good morning Sir,

I have permanently transferred to Coast Guard Atlantic Area (b)(6) I have copied my successor, LT Fannie Wilks, the new Sector Mobile Waterways Manager as well CWO (b)(6) the current AtoN Officer at Sector Mobile.

V/R,
LT Stanley A. Tarrant



-----Original Message-----
From: (b)(6)
Sent: Tuesday, October 11, 2016 9:18 AM
To: Tarrant, Stanley A LT
Cc: (b)(6)
Subject: RE: Request to Relocate Ship Wake Gage to USCG Mobile Channel G Range Rear Light

LT Tarrant,
See e-mail forwarded below. Do you know how to get the approval that we need to relocate our remote terminal unit (RTU) to the USCG Mobile Channel G Range Rear Light?

-----Original Message-----
From: (b)(6)
Sent: Monday, October 03, 2016 3:12 PM
To: (b)(6)
(b)(6)
Subject: Request to Relocate Ship Wake Gage to USCG Mobile Channel G Range Rear Light
Importance: High

(b)(6)

We would like to relocate our remote terminal unit (RTU) at Buccaneer Yacht Club closer to the channel on USCG Mobile Channel G Range Rear Light. We will need to reach out to the USCG to obtain permission to install equipment on their structure. The RTU includes a Capacitance Wave Sensor monitoring at 30Hz, a Vector ADV monitoring velocity near the bed at the same frequency along with a video system to detect motion in the vicinity of the gage to monitor ship wake for the Mobile Harbor General Reevaluation Study. I have attached a map showing the location of the USCG Mobile Channel G Range Rear Light we would like to utilize along with a picture of the RTU unit we would install if permission is obtained. We have a few more weeks of data collection left so we would like to move this unit as soon as possible. Any assistance you can provide in coordination with the USCG would be greatly appreciated. Please let me know if you have any questions or concerns.

Update on the Mobile Harbor General Reevaluation Report

COL James DeLapp
DISTRICT COMMANDER

22 February 2018

US Army Corps of Engineers

U.S.ARMY

MOBILE HARBOR DEEPENING AND WIDENING

"Modernizing the Port of Mobile is necessary because 2/3rds of the Port of Mobile's vessel traffic today is restricted or delayed directly impacting shipper costs and competitiveness."

- James K. Lyons, ASPA Director

Full Service Seaport
- ✓ 10th Largest in the U.S.
- ✓ 58M+ Tons of Cargo Handled Port-wide

Growth Steadily Climbs
- ✓ Record 2017 20% Container Growth
- ✓ Ranked #2 Steel Port in U.S.
- ✓ Ocean Carriers continue to add service

Strong Exporter of U.S Materials and Goods

Contributes Significantly to the Economy
- ✓ 153,000+ Jobs
- ✓ $25.1B in economic value

GENERAL REEVALUATION REPORT SCHEDULE

US Army Corps of Engineers

U.S.ARMY

- Identify study objectives
- Define problems & opportunities
- NEPA scoping
- Inventory & forecast
- Formulate alternative plans
- Evaluate alternatives & identify reasonable array

- Develop the “Future without Project Condition”
- Analyze, evaluate and compare alternatives to identify TSP
- Prepare the Draft Integrated GRR and SEIS
- Vertical team concurrence on tentatively selected plan
- Release Draft Integrated GRR/SEIS report review (Public, Agency, HQ)

- Respond to comments in the SEIS
- Agency consultation activities
- Agency endorsement of recommended plan
- Prepare the Final Integrated GRR and SEIS
- Final integrated report package transmitted to Corps Headquarters

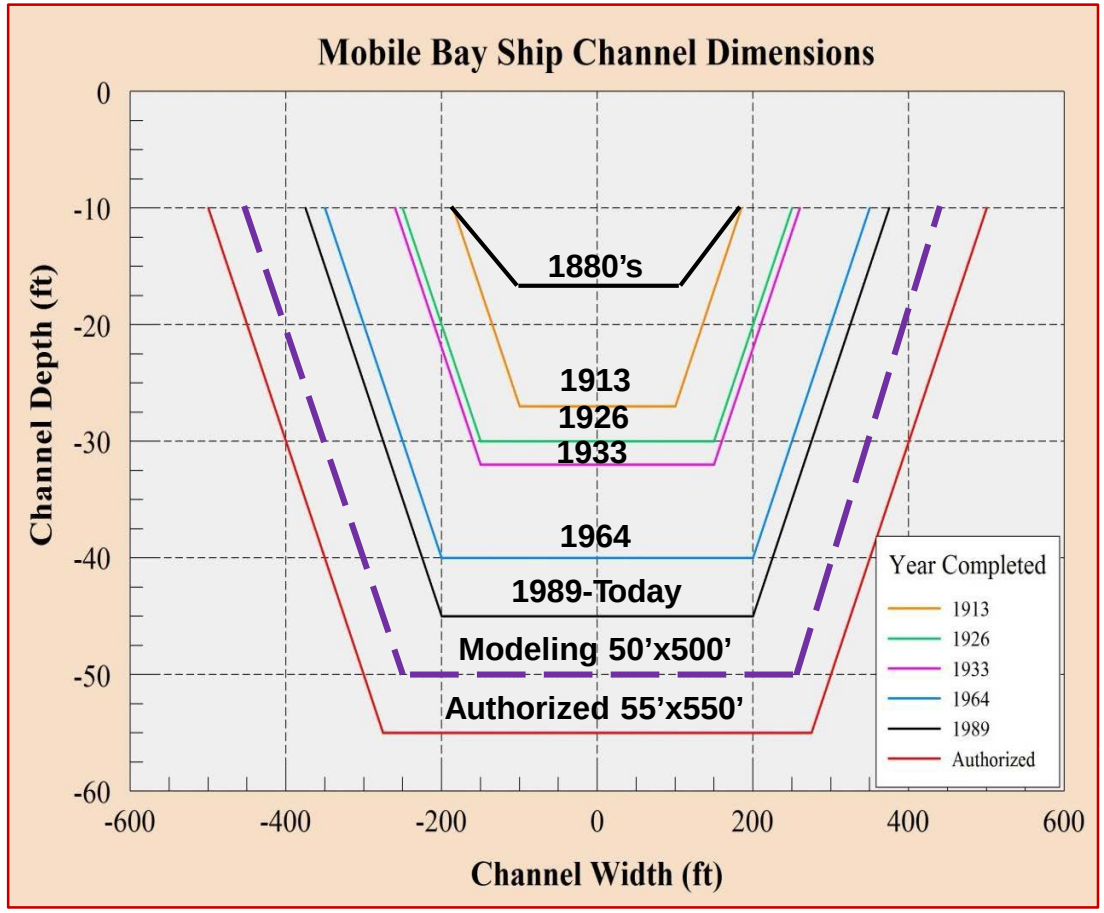
- Headquarters’ review of final report
- Final SEIS; Alabama state and Federal agency review
- GRR approval
- Record of Decision signed

MOBILE HARBOR GENERAL REEVALUATION REPORT

US Army Corps of Engineers

U.S.ARMY

4-year $7.8M STUDY
Began Nov 2015 Complete Nov 2019



Current Measures Under Consideration

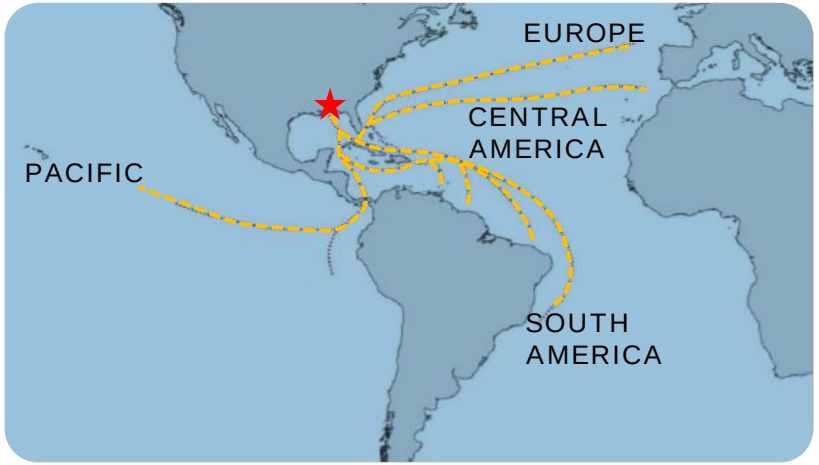
- Deepening: 48' to 50' (50' to 52' at entrance)
- Widener: 100' (3 miles)
- Bend Easing
- Turning Basin Modification

Tentatively Proposed Placement Locations

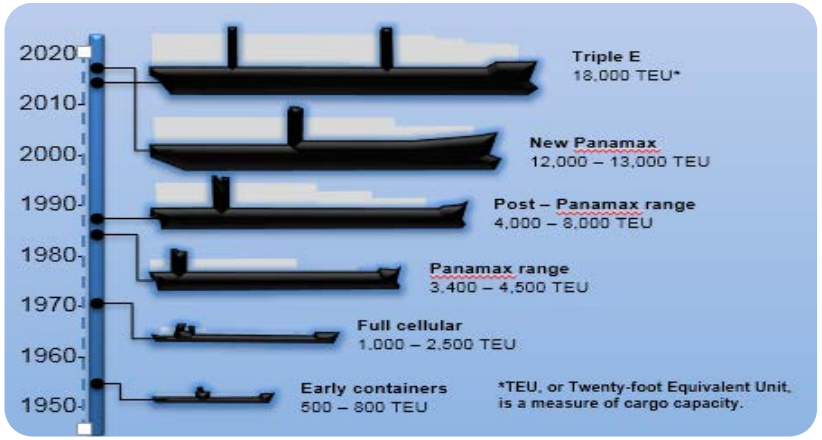
- Formerly mined relic shell area
- Sand Island Beneficial Use Area (SIBUA)
- Pelican/Sand Island Complex
- Ocean Dredged Material Disposal Area Site (ODMDS)

Release of Draft Supplemental Environmental Impact Statement scheduled for June 2018

ECONOMIC CONSIDERATIONS



Mobile Harbor Trade Routes



Evolution of container ships

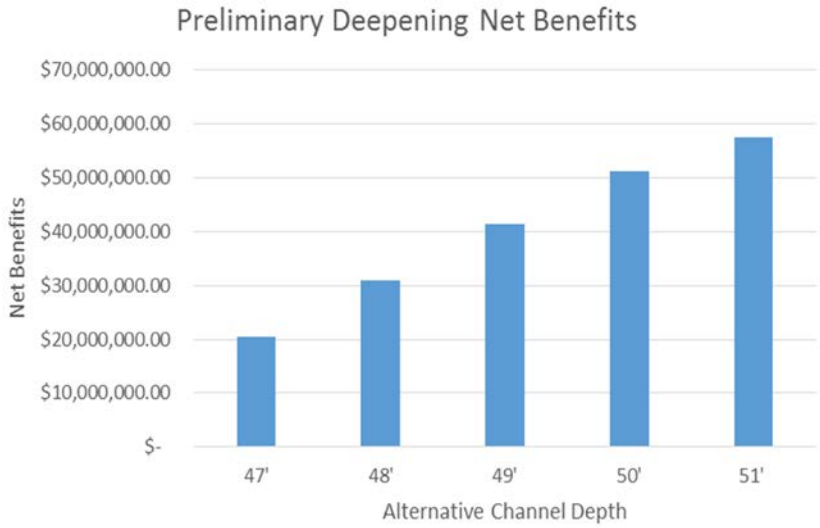
Post-Panamax ships make up 16% of the world's container fleet today, but carry 45% of the cargo. New Panamax ships are the largest that can pass through the new locks in 2016.

Concepts Behind Mobile Harbor Economic Analysis

- Growth is assumed only to the capacity of the facilities
- Deeper channels allow vessels to load more efficiently
- Channel widening reduces transit delays/wait times to gain efficiencies
- The project benefits are reduction in transportation costs

Major Components of Mobile Harbor Economic Analysis

- Commodity Forecast
- World Fleet Forecast
- Mobile Fleet Forecast
- Historic Vessel Calls



National Economic Development (NED) Plan maximizes net benefits at 51 foot depth

MOBILE BAY ENVIRONMENTAL IMPORTANCE

US Army Corps of Engineers

U.S. ARMY

Setting for Mobile Bay

- Shallow bay (≈ 9’), long deep channel
- 2nd largest delta, 4th largest drainage area in U.S.
- High biodiversity
- Fresh, brackish, estuarine & marine habitats
- National Estuary designation, 1995

Coastal Considerations

- Ongoing Studies
- Beneficial use of dredged material
- Effects on coastal processes

Impacts to Other Resources

- Close coordination with State and Federal Agencies (USFWS, EPA, ADEM, ADCNR, NMFS)
- Endangered Species
- Wildlife
- Commercial fisheries
- Recreational fishing
- Sea level rise
- Cultural resources

AQUATIC RESOURCES ASSESSMENT

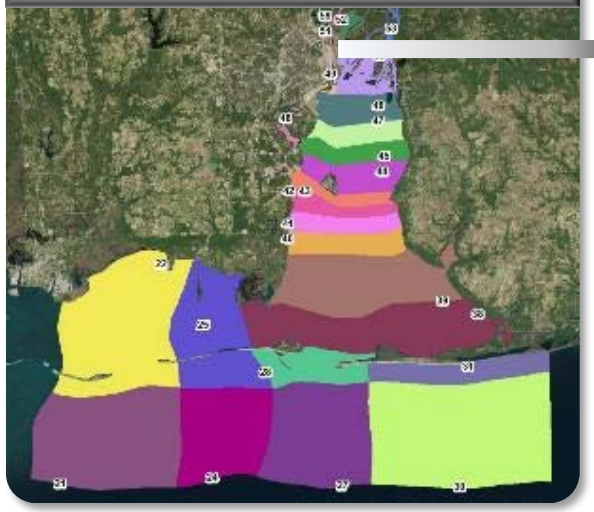
US Army Corps of Engineers

U.S.ARMY

Overview

- Assessing potential impacts to wetlands, submerged aquatic vegetation, benthic invertebrates, oysters, fish
- Model outputs compare water quality (salinity, dissolved oxygen) using existing and post-project conditions
- Sea level rise scenario - 0.5 meter intermediate projection per USACE guidance at Dauphin Island

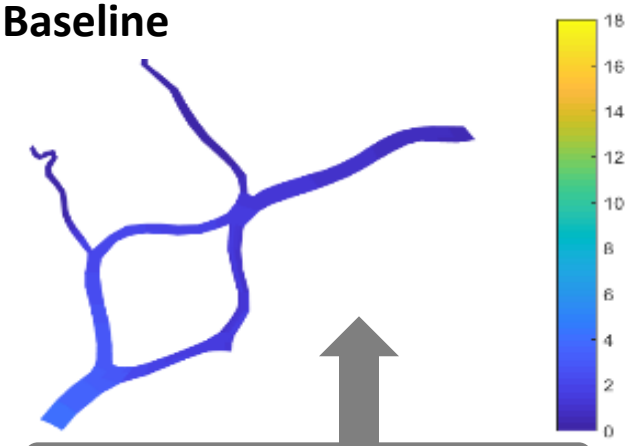
Model grid consists of 30 blocks & 48,000 cells



Model Block 54

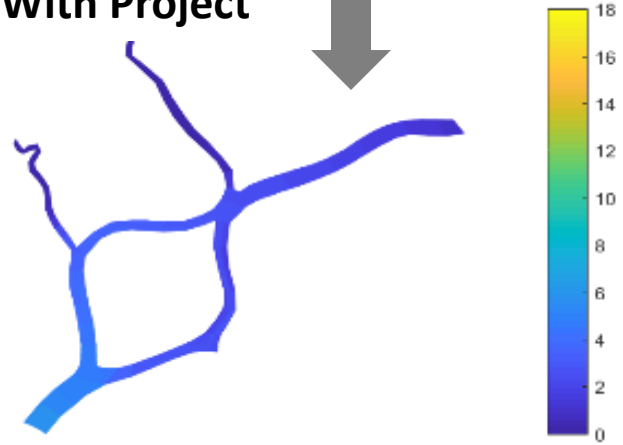
Mean Salinity - July 2010

Baseline



No Measurable Change

With Project



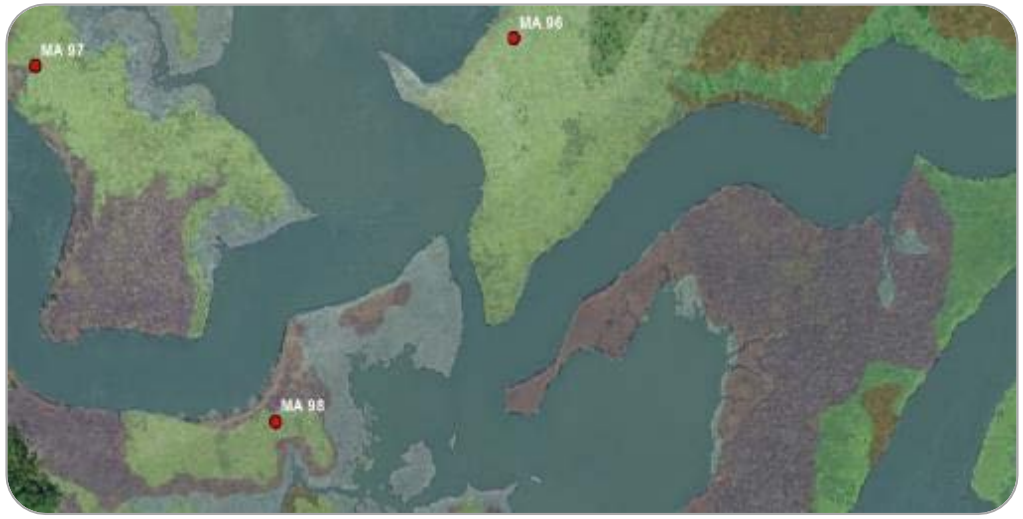
AQUATIC RESOURCES ASSESSMENT – WETLANDS

US Army Corps of Engineers

U.S. ARMY

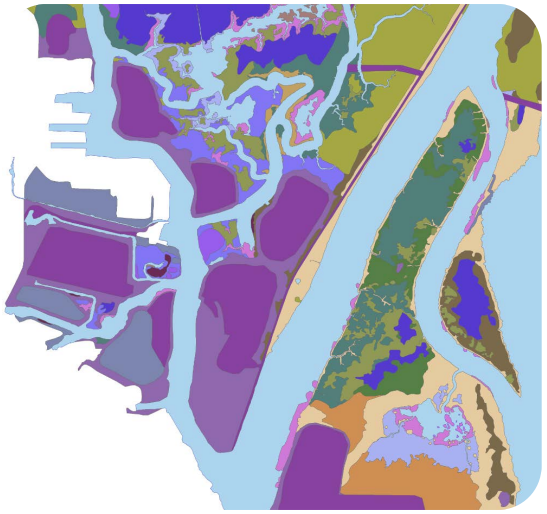
Approach

- Wetland mapping - 77,000 ac mapped; 43 community types; >800 on-site samples
- Assessed potential exceedance of salinity thresholds



Results

- **No wetland losses anticipated**
- All vegetation within acceptable environmental tolerance ranges
- All wetlands within ideal growth conditions
- Sea level rise will result in substantial inundation of existing wetlands
- Project impacts remain negligible under 0.5 meter sea level rise scenario



SUBMERGED AQUATIC VEGETATION (SAVs)

US Army Corps of Engineers

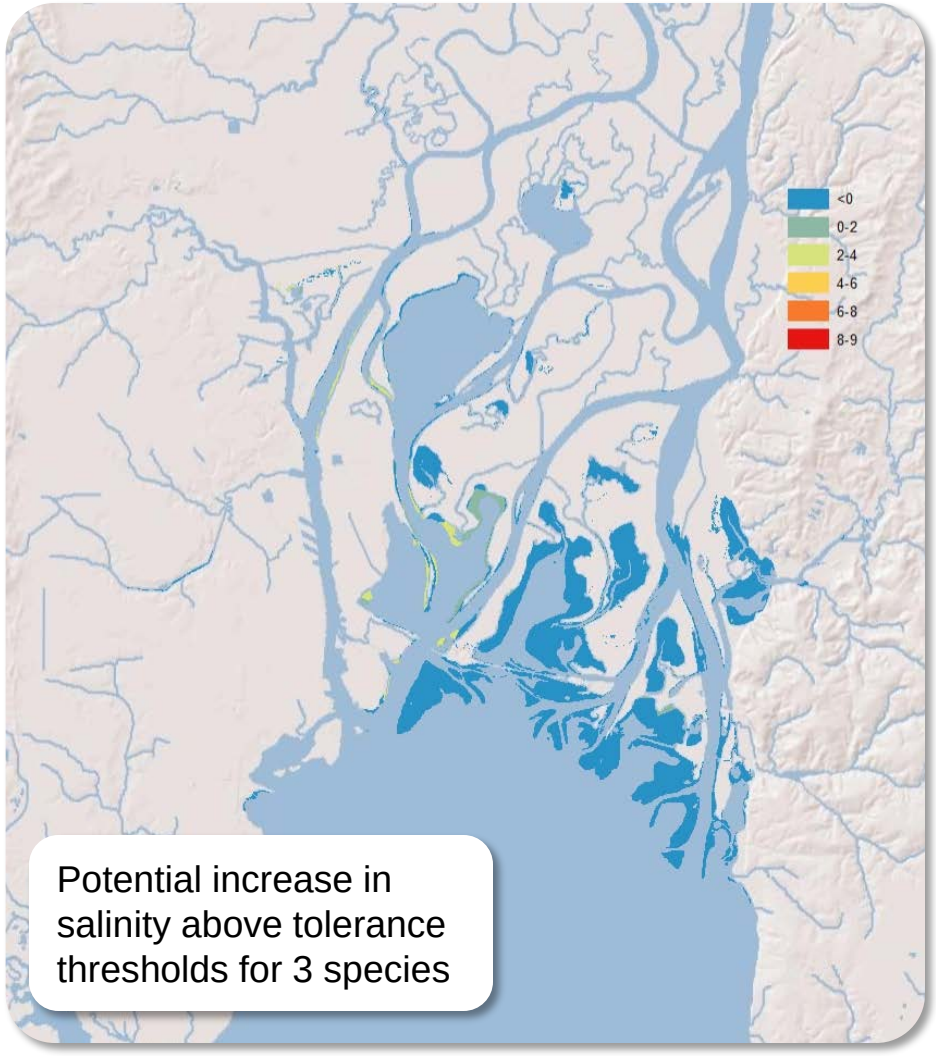
U.S. ARMY

Approach

- Mobile Bay SAV extent verified (>6,000 ac) across 55 community types
- Salinity tolerances established for each community and adjusted to local conditions

Results

- **No loss of SAV habitat expected**
- Sufficient dissolved oxygen present under all scenarios
- Under expected (average) salinity conditions few impacts expected for most species
- Potential stress of Eurasian watermilfoil (invasive species), water celery, and coon's tail for short duration
- No major differences seen between baseline and post-project conditions under sea level rise scenario



Potential increase in salinity above tolerance thresholds for 3 species

AQUATIC RESOURCES ASSESSMENT – OYSTERS

US Army Corps of Engineers

U.S. ARMY

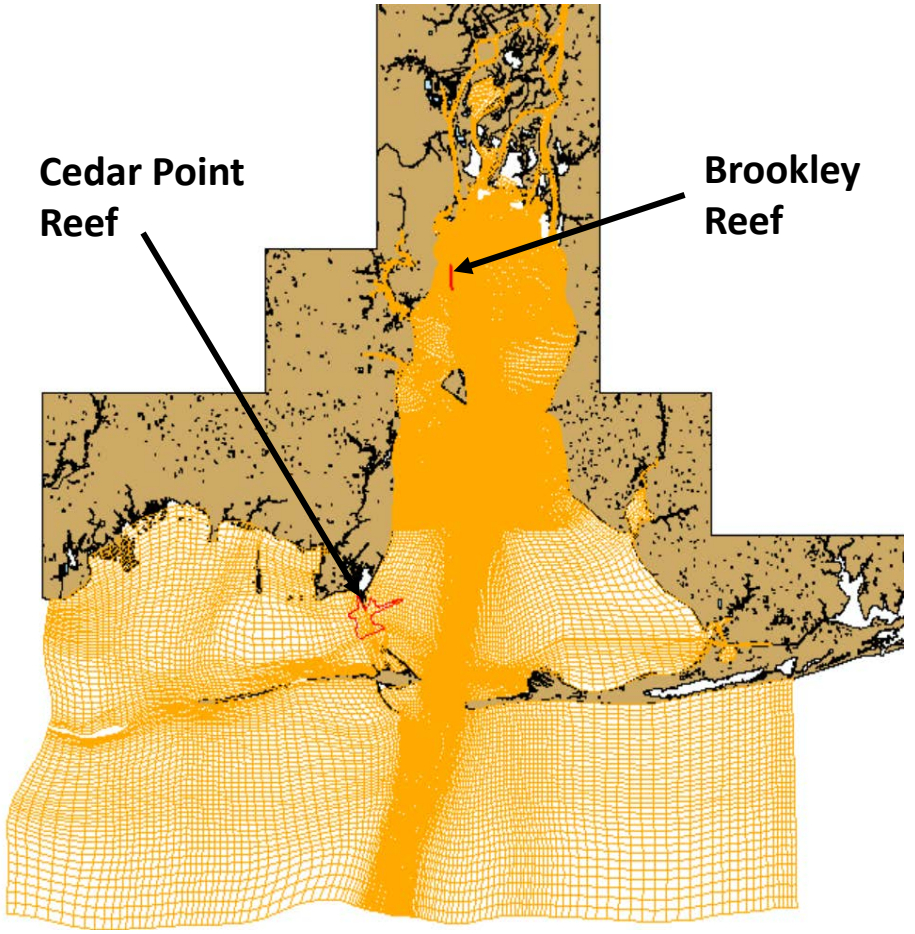
Approach

- 13 adult oyster reefs (>3600 ac) assessed for salinity and DO impacts
- Simulated oyster larval movement through integrated hydrodynamic, water quality, and larval tracking models

Results

- **Oyster larvae particle tracking displays 100% survivorship under all scenarios**
- Dissolved oxygen levels stay well above minimum oyster tolerances
- Salinity stays within oyster tolerance ranges
- Oyster model predicts no increase in larvae flushing out of Mobile Bay
- Sea-level rise scenario predicts no oyster mortality

Oyster Larvae Tracking Domain



AQUATIC RESOURCE ASSESSMENT – BENTHICS

US Army Corps of Engineers

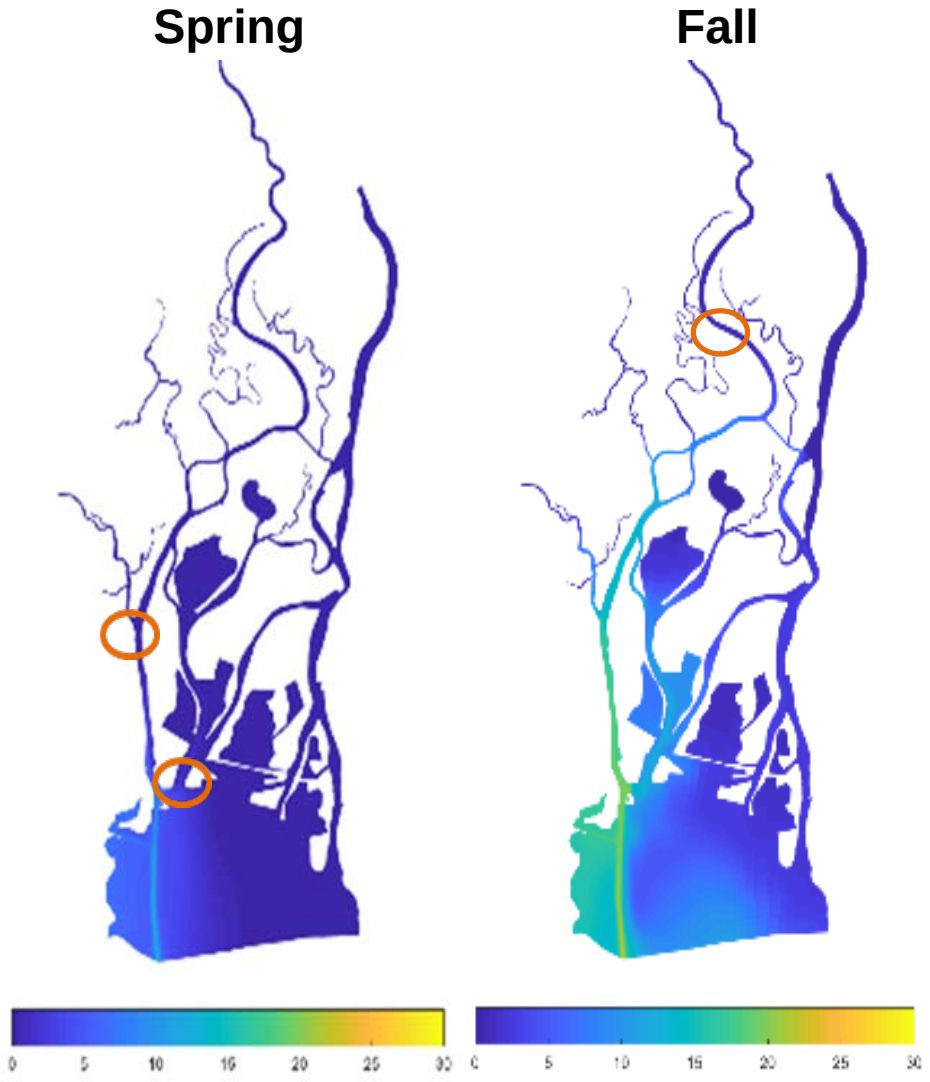
U.S. ARMY

Approach

- 240 samples taken in freshwater, transitional, and upper bay habitats
- Locations of changes in invertebrate communities identified

Results

- **Community transitions from saline to freshwater will remain similar to baseline conditions.**
- Degree of freshwater (river) inputs dictates species transition locations
- Impacts to fish via prey availability appear negligible



AQUATIC RESOURCES ASSESSMENT – FISH

US Army Corps of Engineers

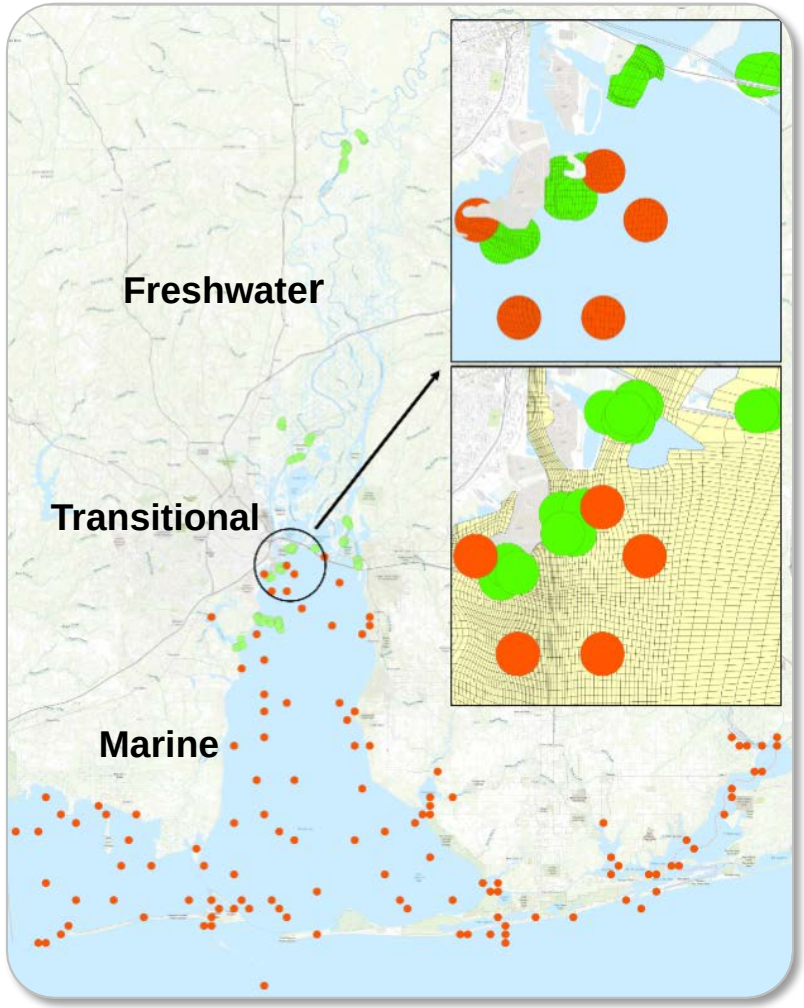
U.S.ARMY

Approach

- Data obtained from AL Marine Resources (2005-2015) and supplemented by USACE
- 98,000 individual fish, 140 species
- Linked salinity and abundance of community members

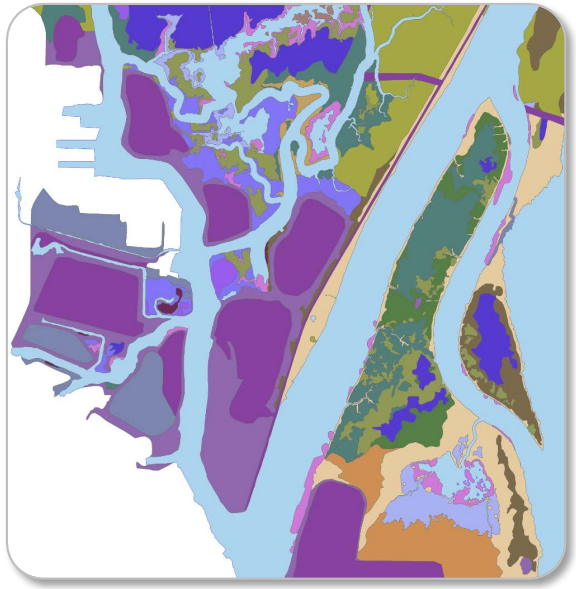
Results

- **No impacts expected due to salinity for:**
  - ✓ Freshwater species
  - ✓ Freshwater species entering estuary
  - ✓ Resident estuary species
  - ✓ Marine species entering estuary
  - ✓ Marine species



AQUATIC RESOURCES ASSESSMENT – SUMMARY

- **No major impacts (i.e., loss of resources) anticipated for:**
  - ✓ **Wetlands**
  - ✓ **SAV**
  - ✓ **Oysters**
  - ✓ **Benthic Invertebrates**
  - ✓ **Fish**
- Project impacts remain negligible under 0.5 meter sea level rise scenario



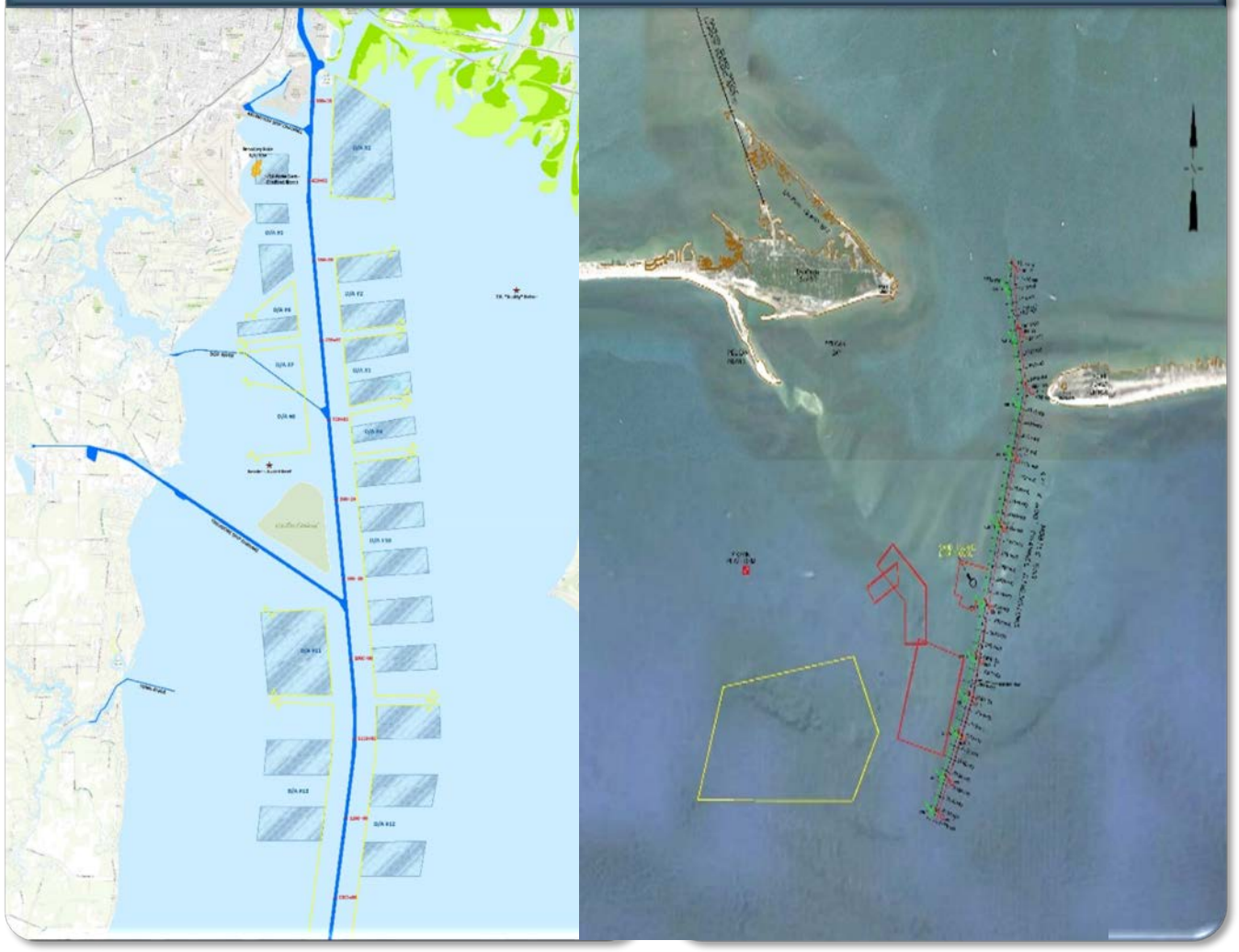
DREDGED MATERIAL PLACEMENT

US Army Corps of Engineers

U.S.ARMY

New Work Placement

Maintenance Dredging



ENGINEERING ANALYSIS – SEDIMENT TRANSPORT

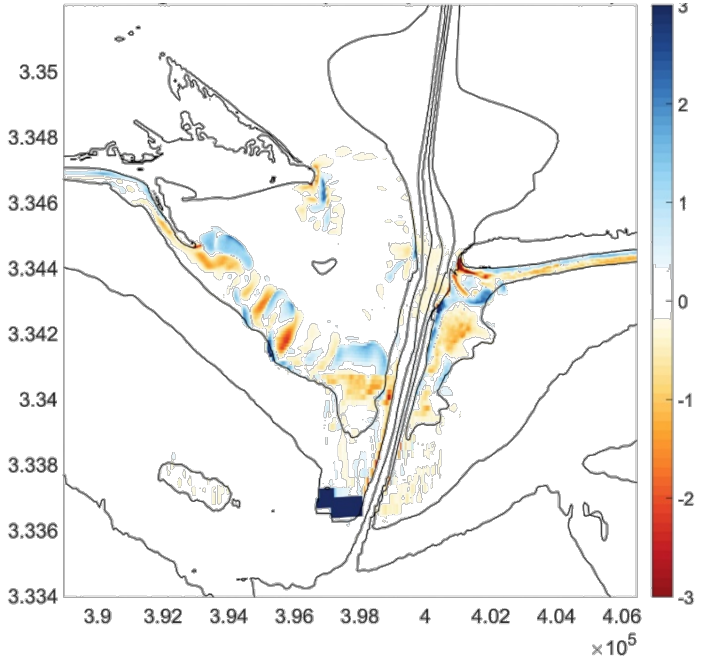
US Army Corps of Engineers

U.S.ARMY

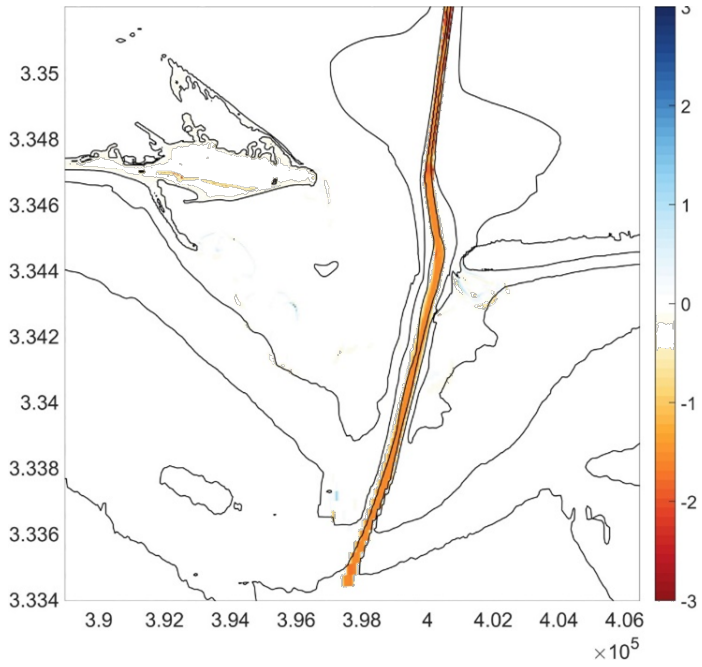
- Increases in average annual shoaling of 5-20% estimated within the navigation channel.
- Minimum bed level changes between with project and existing conditions estimated in the bay and ebb-tidal shoal.

Mobile Pass Sediment Transport Modeling (Delft 3D)

With Project Condition 10 Year Simulation
Bed Level Change (+/- Erosion/Deposition, m)

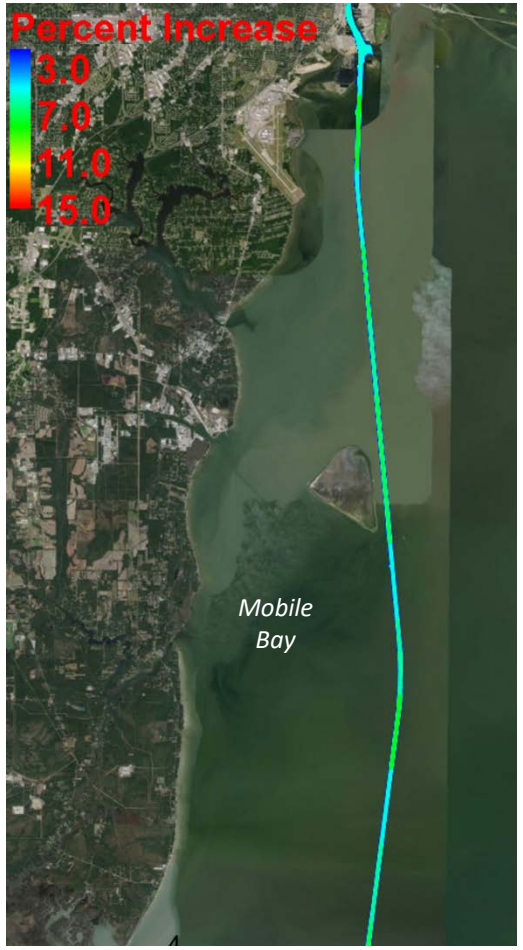


With Project – Existing Condition
Bed Level Change (+/- Erosion/Deposition, m)



Mobile Bay Sediment Transport Modeling (SEDZLG)

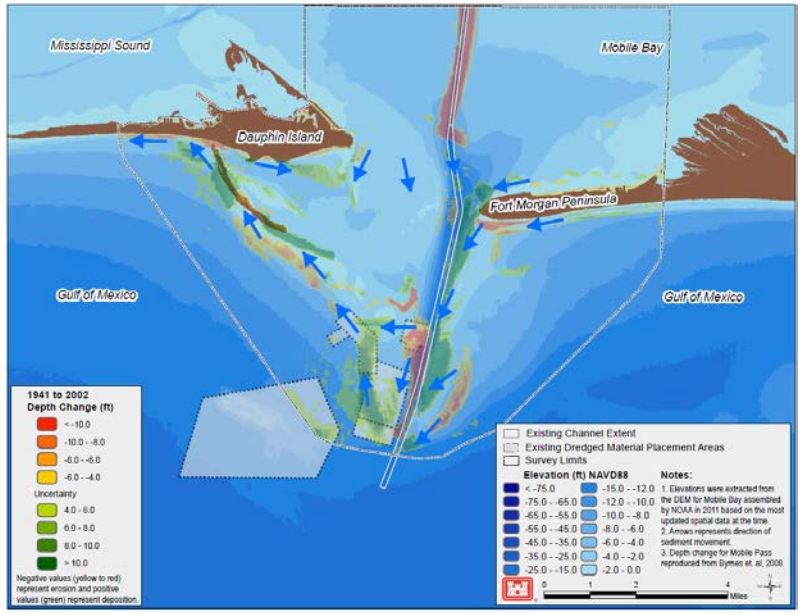
With Project Simulation
Percent Increase in Channel Shoaling



ENGINEERING ANALYSIS – MOBILE PASS EVOLUTION

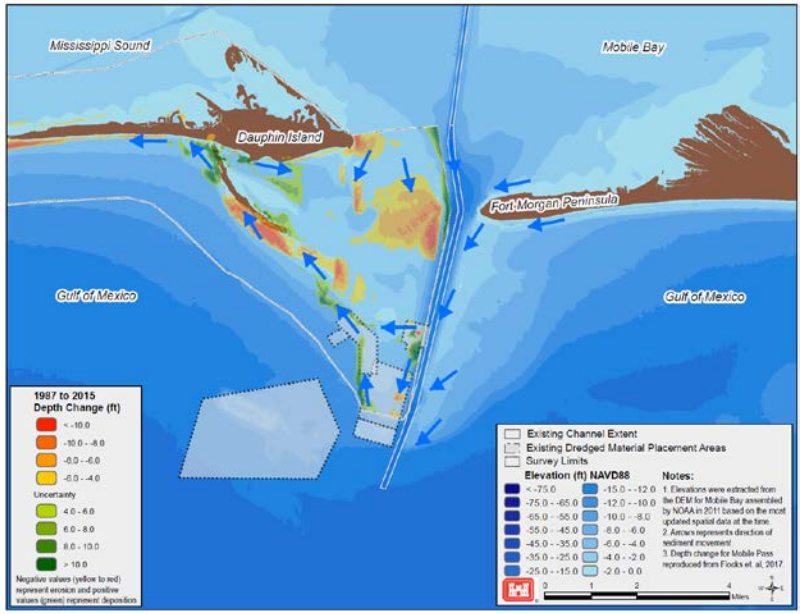
Short and long term representation of sediment movement along the ebb-tidal shoal. Three quadrants showing how sand moves along the system.

Mobile Pass Bed Level Change 1941 to 2002 (+/- Erosion/Deposition, ft)



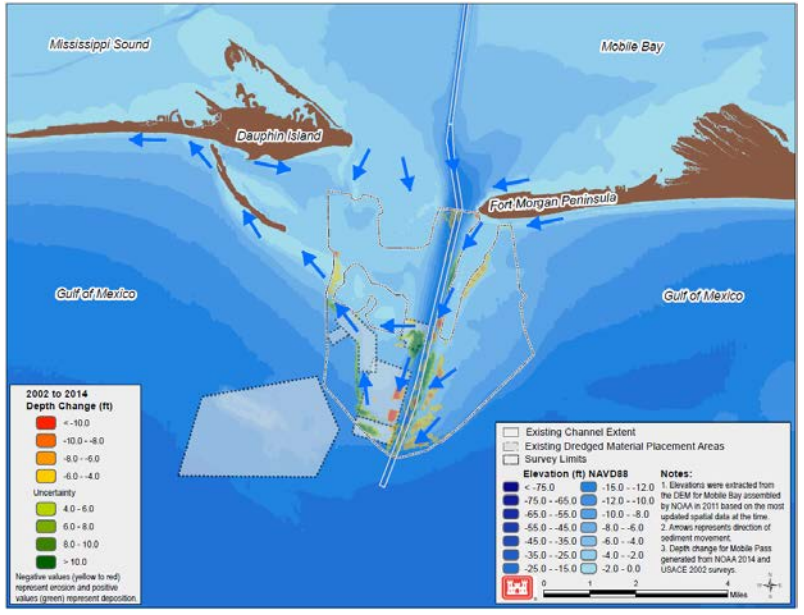
Depth change reproduced from Byrnes et. al, 2008 "Evaluation of Channel Dredging on Shoreline Response at and Adjacent to Mobile Pass, Alabama"

Mobile Pass Bed Level Change 1987 to 2015 (+/- Erosion/Deposition, ft)



Depth change reproduced Flocks, et. al, 2017 "Analysis of Seafloor Change around Dauphin Island, Alabama, 1987–2015" Open-File Report 2017–1112.

Mobile Pass Bed Level Change 2002 to 2014 (+/- Erosion/Deposition, ft)

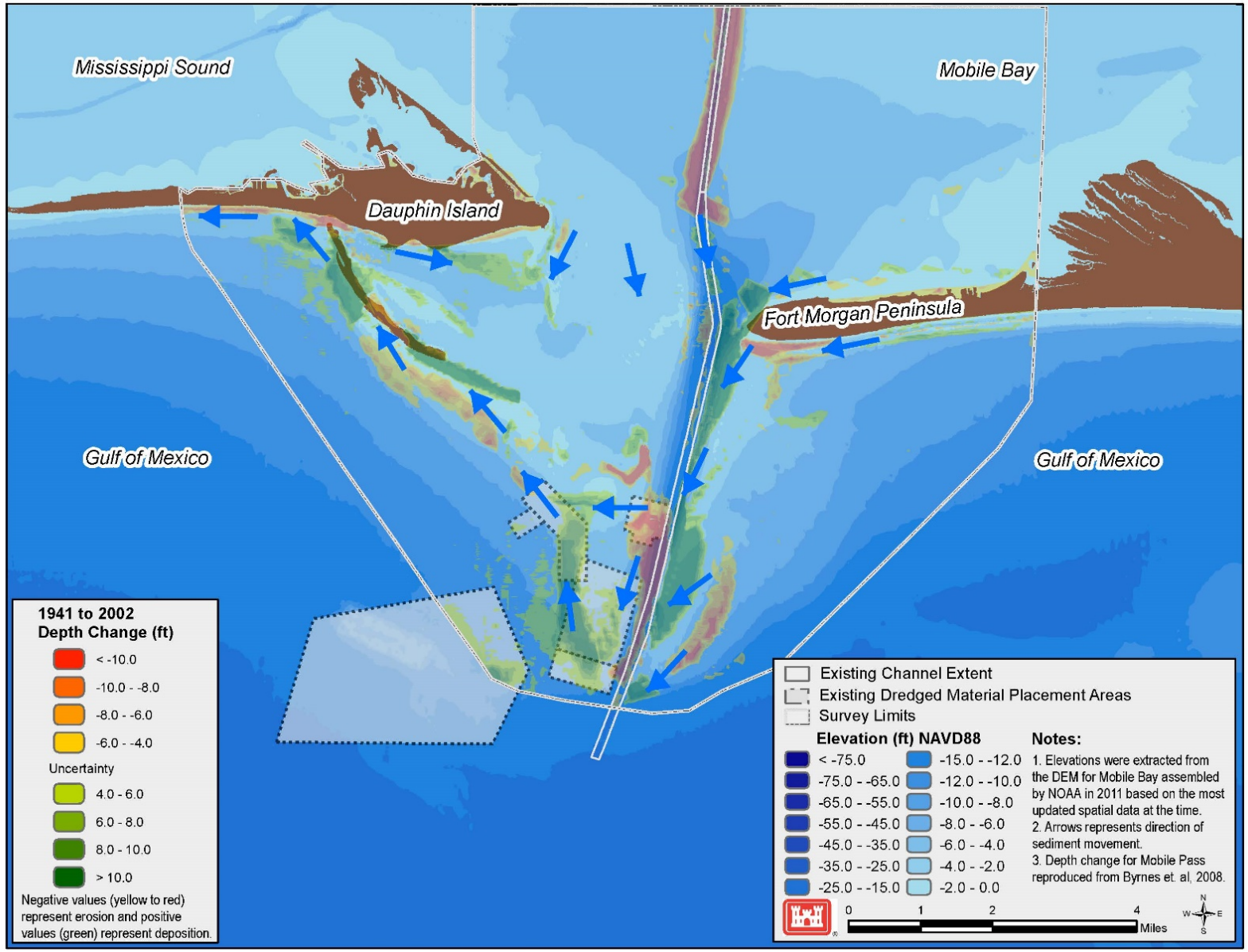


Depth change generated from USACE 2002 and NOAA 2014 surveys.

Mobile Pass Bed Level Change 1941 to 2002
(+/- Erosion/Deposition, ft)

US Army Corps of Engineers

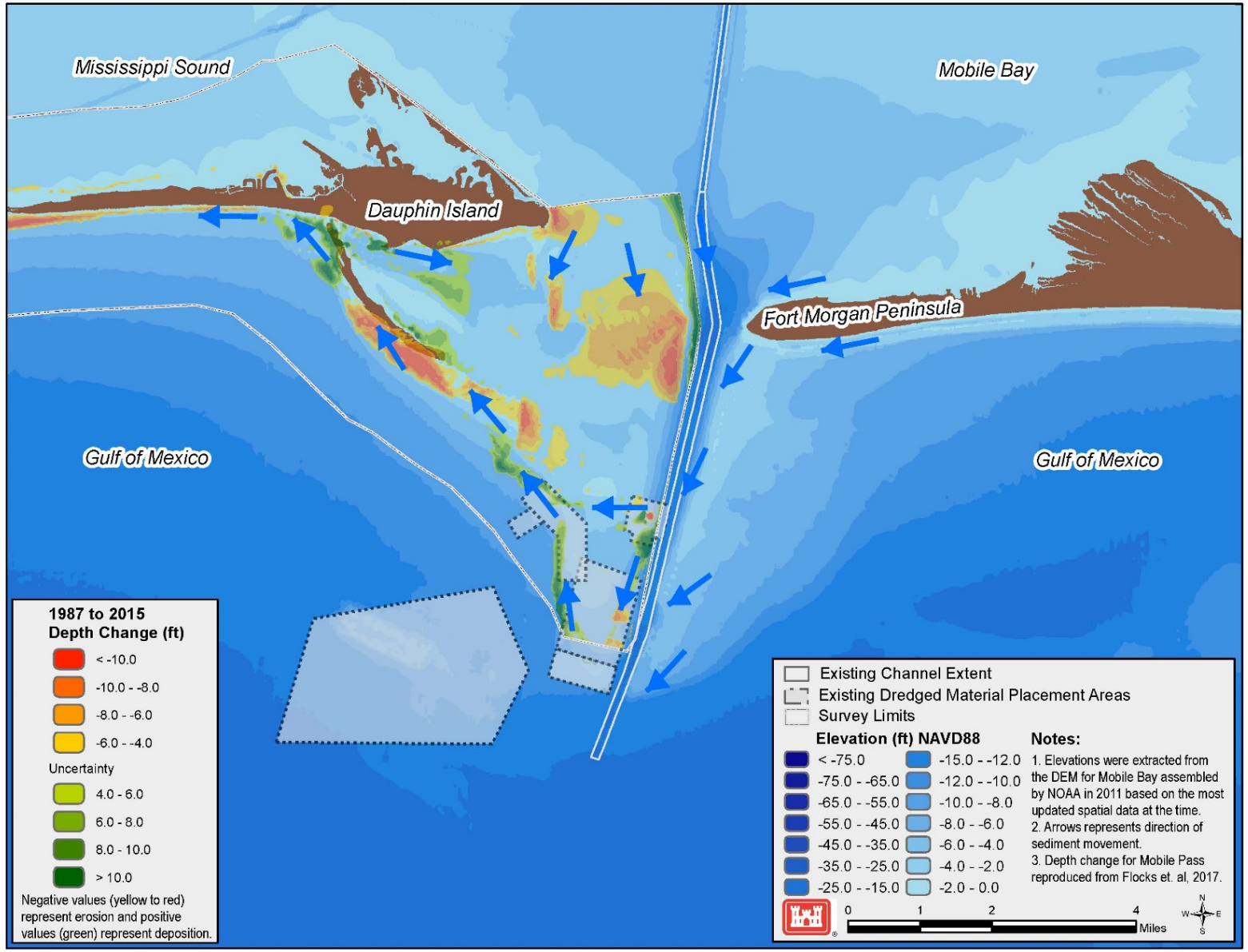
U.S. ARMY



Mobile Pass Bed Level Change 1987 to 2015
(+/- Erosion/Deposition, ft)

US Army Corps of Engineers

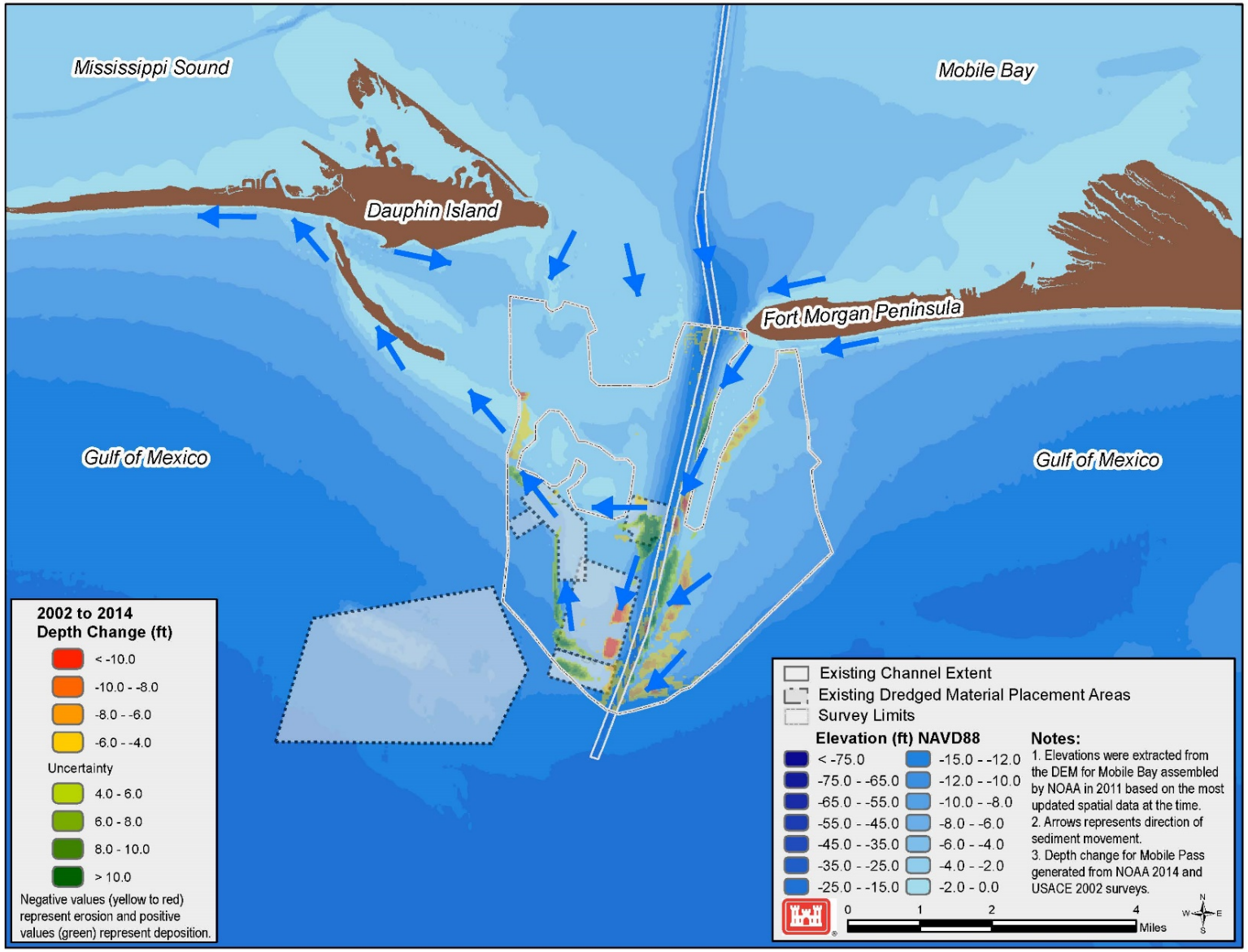
U.S. ARMY



Mobile Pass Bed Level Change 2002 to 2014
(+/- Erosion/Deposition, ft)

US Army Corps of Engineers

U.S.ARMY



IN CONCLUSION…

US Army Corps of Engineers

U.S.ARMY

Summary

- Study is evaluating depth of 48 to 50 foot with a 100 foot, 3-mile widener
- Data collection and engineering models complete
- Preliminary analysis indicates that habitat impacts appear to be minimal
- Alternate placement sites are being considered for bar channel maintenance material

What's Next

- Initiate mitigation analysis
- Finalize proposed project dimensions
- Update engineering/economic costs based on mitigation assessments
- Present Tentatively Selected Plan
- Complete Draft Report with SEIS
- Release Draft Report June 2018

MOBILE DISTRICT CONTACTS

US Army Corps of Engineers

U.S. ARMY

Internet and Social Media

sam.usace.army.mil

facebook.com/**usacemobile**

twitter.com/**usacemobile**

Instagram.com/**usacemobile**

flickr.com/photos/**usacemobile**

Phone, Email, Mailing Address

Public Affairs Office (General Information)
(251) 690-2505

E-mail: MobileHarborGRR@usace.army.mil

Postal Mail:
U.S. Army Corps of Engineers
Mobile District
P.O. Box 2288
Mobile, AL 36628-0001

From:	
To:	(b)(6)
Cc:	
Subject:	FW: Court Reporter for Feb 22 Public Meeting
Date:	Thursday, April 12, 2018 10:14:00 AM
Attachments:	20180222 Public Hearing.pdf

(b)(6): Attached is the Court Reporter Record of the February 22 Public Meeting. Is this okay to place on the website as is?

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, March 12, 2018 9:25 AM
To: (b)(6)
(b)(6)
Subject: [Non-DoD Source] FW: Court Reporter for Feb 22 Public Meeting

Please see attached

Pages 2 through 82 redacted for the following reasons:
- -
POSTED TO GRR PAGE

From:
To: (b)(6)
Cc:
Subject: RE: Draft Email, Mobile Harbor GRR, Delegation of Approval Authority
Date: Thursday, April 12, 2018 9:58:00 AM

(b)(6) and I looked at it and made a few suggested edits. We changed sentence to state (b)(5) (b)(5) (b)(5) Revised language as follows:

(b)(5)

-----Original Message-----
From: (b)(6)
Sent: Thursday, April 12, 2018 8:45 AM
To: (b)(6) (b)(6)
Cc: (b)(6) (b)(6)
Subject: RE: Draft Email, Mobile Harbor GRR, Delegation of Approval Authority

(b)(6) Per our discussion, District will review and get back to you as soon as possible.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, April 11, 2018 3:44 PM
To: (b)(6) (b)(6)
Cc: (b)(6)
Subject: Draft Email, Mobile Harbor GRR, Delegation of Approval Authority

(b)(6) and (b)(6)

Below, please see our proposed text for an email from South Atlantic Division to (b)(6) at the Office of Water Project Review. (b)(6) would help us communicate SAD's recommendation to HQUSACE staff.

Draft email:

(b)(5)

Please review the draft email for accuracy and let me know if I need to make any changes.

Thanks!

(b)(6)

From: (b)(6)
To:
Cc:
Subject: RE: Draft Email, Mobile Harbor GRR, Delegation of Approval Authority
Date: Thursday, April 12, 2018 8:44:00 AM

(b)(6) Per our discussion, District will review and get back to you as soon as possible.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, April 11, 2018 3:44 PM
To: (b)(6)
CESAM CESAD (US) <David.P.Newell@usace.army.mil>
Cc: (b)(6)
Subject: Draft Email, Mobile Harbor GRR, Delegation of Approval Authority

(b)(6) and (b)(6)

Below, please see our proposed text for an email from South Atlantic Division to (b)(6) at the Office of Water Project Review. (b)(6) would help us communicate SAD's recommendation to HQUSACE staff.

Draft email:

(b)(5)

Please review the draft email for accuracy and let me know if I need to make any changes.

Thanks!

(b)(6)

From:
To:
(b)(6)
Cc:

Subject: RE: Naming Conventions for the Report/Appendices - Mobile Harbor GRR
Date: Thursday, April 12, 2018 3:06:00 PM

All,
Per yesterday's discussion, please update the Mobile Harbor GRR names in the report as follows:
REVISE "Sand Island Beneficial Use Area Extension" to "Sand Island Beneficial Use Area Northwest Extension"
and,
"Widener" to "Widener for passing"

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Thursday, March 01, 2018 10:21 AM
To: (b)(6)

(b)(6)

Subject: Naming Conventions for the Report/Appendices - Mobile Harbor GRR

All,
For consistency, please use the following names for the harbor segments and placement sites within the Mobile

Harbor Report:
Choctaw Pass Turning Basin
Bay Channel
Bar Channel
Relic Shell Mined Area
Sand Island Beneficial Use Area (SIBUA)
Sand Island Beneficial Use Area Extension
Ocean Dredge Material Disposal Site (ODMDS)

(b)(6)

-----Original Appointment-----
From: (b)(6)
Sent: Wednesday, February 01, 2017 12:39 PM
To: (b)(6)

(b)(6)

Subject: Mobile Harbor GRR Bi-weekly Meeting
When: Wednesday, February 28, 2018 2:00 PM-3:00 PM (UTC-06:00) Central Time (US & Canada).
Where: MsCIP Conference Room

For those not in the district office, call-in Information is as follows:

USA Toll-Free:
Access Code:
Security Code:

All: The Mobile Harbor GRR bi-weekly meeting has been moved to Wednesdays at 2pm, beginning February 01, 2017. Please update your calendar accordingly. The purpose of the meeting remains to provide a brief update on the project, ensure all work is being performed, and ensure that the schedule is met.
Thanks,

(b)(6)


(b)(6)

From:	[redacted]
To:	(b)(6)
Subject:	Emailing: Mobile Harbor Main Report 04-02-2018.docx
Date:	Friday, April 13, 2018 10:30:00 AM
Attachments:	Mobile Harbor Main Report 04-02-2018.docx

Here's the report...Will try the link.

Your message is ready to be sent with the following file or link attachments:

Mobile Harbor Main Report 04-02-2018.docx

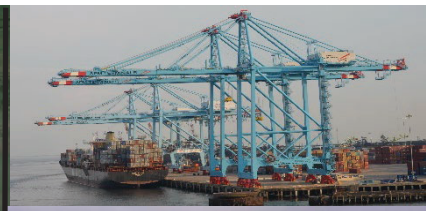
Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

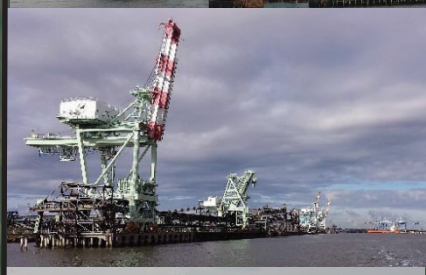
MOBILE HARBOR, MOBILE, ALABAMA

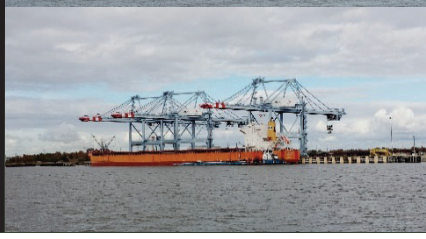
DRAFT

Integrated General Reevaluation Report With Supplemental Environmental Impact Statement

Month Year







US Army Corps of Engineers
Mobile District

ALABAMA STATE PORT AUTHORITY

Pages 3 through 96 redacted for the following reasons:
- -
(b)(5)

From: (b)(6)
To:
Cc:
Subject: FW: Letter from Mobile Environmental Justice Action Coalition
Date: Friday, April 13, 2018 9:37:00 AM
Attachments: Letter from MEJAC 04-02-2018.pdf

FYI

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Friday, April 13, 2018 9:31 AM
To:
Cc: (b)(6)
Subject: Letter from Mobile Environmental Justice Action Coalition

(b)(6),

FYI. Thought I had already seen the attached on an email but I've searched for it and apparently I was mistaken. We received this a couple of days ago.

(b)(6)

MOBILE ENVIRONMENTAL JUSTICE ACTION COALITION
POST OFFICE BOX 717 MOBILE, ALABAMA 36601
TELEPHONE: +1.251.308.5872 mejac.wordpress.com
RAMSEY SPRAGUE, PRESIDENT infomejac@gmail.com

U.S. Army Corps of Engineers
ATTN: PD-F
P.O. Box 2288
Mobile, AL 36628

RE: February 22, 2018 Public Meeting and EJ Focus Group follow up

To PD-F of the U.S. Army Corps of Engineers Mobile District:

In review of public statements from officials involved in the Mobile Harbor GRR Study it became apparent that our agency needed to both reiterate the concerns MEJAC and community members have raised about the scope of the Army Corps of Engineers GRR Study into the impacts of the proposed deepening and widening of the Mobile Harbor Ship Channel and to ask a few follow up questions based on our information shared at the public and focus group meetings. Some things are just being left out of the public discourse around the GRR Study and the projected activities.

At the Africatown EJ Focus Group meeting on September 28, 2017, Corps representatives explained that a baseline air quality evaluation of environmental justice communities would be developed and that the estimated impacts of the deepening and widening of the Mobile Harbor Ship Channel would be compared to it. It was also stated that there are currently scoped no more than three specific air modeling studies to answer specific questions.

During a lively exchange therein, Corps representatives succinctly restated concerns from community members about how the study's scope needed to analyze increases in emissions from products industries like bulk petrochemical storage and transmission from increased throughput due to the ability of products to move more quickly through port facilities owing to the deepening and widening project. To cap off that discussion, Mr. David Newell requested that Corps representatives documented their notes from the evening how the emissions captured in the models needed to reflect projected increases in commodities due to increased flow of traffic moving those commodities through port related facilities. Because of how dangerous petrochemical fumes are, this is a consideration of particular importance to residents and regional EJ community advocates, and we would like assurance that this will indeed be factored into the Corps' air quality studies and addressed in the analyses conducted for the Draft GRR and integrated supplement to the Environmental Impact Statement.

We would also like to reiterate a concern that MEJAC expressed in our February 11, 2016 public comment on the GRR Scoping Meeting that the baseline for each EJ community be reliable and that both the model and the baseline assess Clean Air Act criterion air contaminants. Our concerns with modeling for baseline assessment persists due to what many reasonable people would consider a dearth of information with which to guide a reliable air quality baseline. We are disappointed that actual monitors will not be employed to take actual measurements and feel like this is the only responsible way to truly assess the air quality impacts of the Alabama State Port Authority's current level

of activities and how the enlargment of the Mobile Harbor project could influence existing conditions.

At another point during the Africatown EJ Focus Group meeting on September 28, 2017, residents inquired about a follow up meeting with the EJ Focus Group participants in order to clearly communicate how the Corps responded to the concerns raised in the focus group settings. MEJAC would like to encourage this consideration as it would help ensure that directly impacted residents remain engaged participants in the project consideration process.

At the February 22, 2018 GRR Town Hall meeting, a MEJAC representative asked about the status of the other EJ focus group meetings similar to the one held in the Africatown community that are to be held for the Orange Grove and Down the Bay communities. The audience received assurances from the Corps that future EJ focus groups are planned. However, MEJAC has concerns about the impact of concerns from these communities will have on the SEIS since the Draft GRR is due to be completed in just a couple of months and those meetings have not even been scheduled. Down the Bay residents have expressed a great deal of concern to MEJAC, and we want to ensure that a reasonable amount of time is provided ahead of the focus group meeting to ensure their attendance.

Therefore, MEJAC requests the Corps to provide a detailed schedule as to how it proporses to conduct all remaining focus group meetings; perform all air quality and traffic studies; and incapsulate the results of these analyses into the Draft GRR and SEIS.

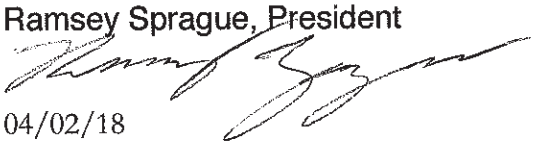
To reiterate in summation, our main questions in this letter are:

- If the GRR Study is limited to three air quality modeling studies, what questions will be answered by these studies?
- When will the public be brought to understand how the air quality baselines are being identified and assessed?
- What air quality pollutants will be analyzed in the baseline and projected with project assessments?
- How are with project air quality impacts, with respect to increased commodity traffic collateral emissions (i.e. hazardous petrochemical storage tank vapors, coal dust, diesel engine soot, etc.), being assessed?
- When will the future EJ focus group meeting dates be set?
- Will there be follow up meetings with EJ focus group participants to facilitate the best understanding of how and why the GRR responded to their questions and concerns?

Once again, MEJAC appreciates the opportunity to provide input, and we pray the Corps and all involved with the GRR Study will find relevance and importance in the concerns and questions raised by our agency and by the communities we serve.

Sincerely,

Ramsey Sprague, President



From: (b)(6)
To:
Cc:
Subject: 1935 Rivers and Harbor Act Discussion
Date: Monday, April 16, 2018 1:21:00 PM

(b)(6) (b)(5) the Mobile Harbor GRR TSP Milestone meeting was a discussion with (b)(6) on the 1935 Rivers and Harbor Act. Do you want me to set something up with you and (b)(6) or, do you have it? Just FYI.. (b)(5) this needs to happen prior to April 30.

From: (b)(6)
To:
Subject: FW: Additional Data needs
Date: Tuesday, April 17, 2018 7:51:00 AM
Attachments: Data Needs_April 16 2018.docx

(b)(6), Just FYI...We're working on responses to some of (b)(6) questions.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, April 16, 2018 4:21 PM
To: (b)(6)
Subject: FW: Additional Data needs

Let me know if we need to make any changes to these responses. I also added a couple more at the end that we did not discuss...

Transportation
Question 1: Will they shut down parts of the harbor during construction? Leading to fewer cargo transfers of hazmat?
Response 1: No shut downs anticipated. Barge will typically stop work and move out of the way for any vessel traffic

Question 2: Any road closures during construction or congestion due to work force?
Answer 2: None anticipated. Work force would not be significant enough to impact traffic.

Question 3: How will the construction and maintenance workforce arrive and depart … via car? And what is the timing, do they come and go each day, or do they stay on the dredging equipment (in the channel) for extended periods?
Answer 3: The crew boat is usually kept at dog river at a private marina, at times, the workers do stay extended periods on the dredge (usually large hoppers)

Air Quality
Question 4: Location of land-side construction staging area?
Answer 4: No land slide staging areas anticipated for this project

Socioeconomics & EJ
Question 5: What are the anticipated disruptions to business due to dredging operations?
Answer 5: None anticipated at this time

Question 6: What are the days / hours for construction?
Answer 6: Dredging operations typically occur 24 hours a day/ 7 days a week.

Question 7: What is the projected size of workforce needed for proposed project? Anticipated payroll?

Answer 7: Up to 24 people/dredge. Could be up to 3 dredges at one time operating in the channel. Anticipate 3 year construction duration (includes weather delays, construction at other sites during the year)

Question 8: Local or transient workers? Any housing needs?
Answer 8: Workers typically require temporary housing. Workforce follows dredge all over country.

Question 9: Any change to maintenance dredging operations as a result of proposed project?
Answer 9: Maintenance dredging would be accomplished prior to issuing contract for new work (maintenance is on-going in upper

Mobile District also needs to provide the following:

Public & Occupational Health & Safety
- Description of USACE internal safety programs and processes
- USACE policies relating to contractor site-specific health and safety plan

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, April 16, 2018 3:02 PM
To: (b)(6)
(b)(6)
Subject: [Non-DoD Source] RE: Additional Data needs

It really would have helped if I had included the list:)

(b)(6)

From: (b)(6)
Sent: Monday, April 16, 2018 3:47 PM
To: (b)(6)
Subject: Additional Data needs

As we are completing some of our sections, the attached data needs have been developed. We would appreciate your attention to these requests and forward any answers as soon as you have them (please do not wait until you have all or most of the responses … we want to get as much completed as possible, as quick as possible)

AECOM

10 Patewood Drive

Building 6, Suite 500

Greenville, SC 29615

T +1-864-234-3000

aecom.com

Built to deliver a better world

LinkedIn <Blockedhttp://www.linkedin.com/company/aecom_15656> Twitter <Blockedhttp://twitter.com/AECOM> Facebook <Blockedhttp://www.facebook.com/AecomTechnologyCorporation> Instagram <Blockedhttp://instagram.com/aecom>

Sea Level Rise – (b)(6) said they will update us by April 23

Economic Reports

- Martin & Associates Economic Report 2015 or later (the Port references this report in news releases)
- Alabama State Port Authority (ASPA) issued a report, "The Local and Regional Economic Impacts of the Port of Mobile" in 2012 that was referenced in the Mobile River Bridge Draft EIS. Does the Corps have this report, or can we get is from ASPA?
- Economic information or conclusions from the Corps economic studies may contain relevant info

Transportation

- Will they shut down parts of the harbor during construction? Leading to fewer cargo transfers of hazmat?
- Any road closures during construction or congestion due to work force?
- How will the construction and maintenance workforce arrive and depart … via car? And what is the timing, do they come and go each day, or do they stay on the dredging equipment (in the channel) for extended periods?

Air Quality

- Location of land-side construction staging area?

Socioeconomics & EJ

- What are the anticipated disruptions to business due to dredging operations?
- What are the days / hours for construction?
- What is the projected size of workforce needed for proposed project? Anticipated payroll?
- Local or transient workers? Any housing needs?
- Any change to maintenance dredging operations as a result of proposed project?
- Impact of Tax Revenues to Local Jurisdictions - does the Corps have this information already as part of their economic analysis?
- Any impact to Alabama Seafood Industry contributes approximately $461 million in revenue annually and 10,000 jobs? (Carol said: we need to see aquatic ecology impacts analysis to make that determination)

Utilities & Infrastructure

- Are turning basins infrastructure? How about the entire navigation system – is that already covered?
- Project boundary map would help this section be more precise
- Is there any infrastructure in the channel itself? Any underwater utilities?
- Drainage systems? Sewer?
- We assume transportation infrastructure is covered in transportation section, and the USACE is developing the navigation section – does that cover it?
- Used city of Mobile as the ROI for this section. Do we need other cities? Or just the area around the port?

Hazardous Materials

- Verify that the port does not handle hazardous materials
- Will they shut down parts of the harbor during construction? Leading to fewer cargo transfers of hazmat?

Public & Occupational Health & Safety

- Description of USACE internal safety programs and processes
- USACE policies relating to contractor site-specific health and safety plan

Noise

- Underwater noise – We pulled info from their draft GRR - Any recent updates from that draft that would change.
- PTS acoustic levels for both impulsive and non-impulsive sounds - We pulled info from their draft GRR. Are there any recent updates from that draft that would change

From: (b)(6)
To:
Subject: FW: Additional Data needs
Date: Monday, April 16, 2018 4:21:00 PM
Attachments: Data Needs April 16 2018.docx

Let me know if we need to make any changes to these responses. I also added a couple more at the end that we did not discuss...

Transportation
Question 1: Will they shut down parts of the harbor during construction? Leading to fewer cargo transfers of hazmat?
Response 1: No shut downs anticipated. Barge will typically stop work and move out of the way for any vessel traffic

Question 2: Any road closures during construction or congestion due to work force?
Answer 2: None anticipated. Work force would not be significant enough to impact traffic.

Question 3: How will the construction and maintenance workforce arrive and depart … via car? And what is the timing, do they come and go each day, or do they stay on the dredging equipment (in the channel) for extended periods?
Answer 3: The crew boat is usually kept at dog river at a private marina, at times, the workers do stay extended periods on the dredge (usually large hoppers)

Air Quality
Question 4: Location of land-side construction staging area?
Answer 4: No land slide staging areas anticipated for this project

Socioeconomics & EJ
Question 5: What are the anticipated disruptions to business due to dredging operations?
Answer 5: None anticipated at this time

Question 6: What are the days / hours for construction?
Answer 6: Dredging operations typically occur 24 hours a day/ 7 days a week.

Question 7: What is the projected size of workforce needed for proposed project? Anticipated payroll?
Answer 7: Up to 24 people/dredge. Could be up to 3 dredges at one time operating in the channel. Anticipate 3 year construction duration (includes weather delays, construction at other sites during the year)

Question 8: Local or transient workers? Any housing needs?
Answer 8: Workers typically require temporary housing. Workforce follows dredge all over country.

Question 9: Any change to maintenance dredging operations as a result of proposed project?
Answer 9: Maintenance dredging would be accomplished prior to issuing contract for new work (maintenance is on-going in upper

Mobile District also needs to provide the following:

Public & Occupational Health & Safety
- Description of USACE internal safety programs and processes
- USACE policies relating to contractor site-specific health and safety plan

(b)(6)

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, April 16, 2018 3:02 PM
To: (b)(6)
(b)(6)
Subject: [Non-DoD Source] RE: Additional Data needs

It really would have helped if I had included the list:)

(b)(6)

From: (b)(6)
Sent: Monday, April 16, 2018 3:47 PM
To: (b)(6)
Subject: Additional Data needs

As we are completing some of our sections, the attached data needs have been developed. We would appreciate your attention to these requests and forward any answers as soon as you have them (please do not wait until you have all or most of the responses … we want to get as much completed as possible, as quick as possible)

(b)(6)

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Sea Level Rise – (b)(6) said they will update us by April 23

Economic Reports

- Martin & Associates Economic Report 2015 or later (the Port references this report in news releases)
- Alabama State Port Authority (ASPA) issued a report, "The Local and Regional Economic Impacts of the Port of Mobile" in 2012 that was referenced in the Mobile River Bridge Draft EIS. Does the Corps have this report, or can we get is from ASPA?
- Economic information or conclusions from the Corps economic studies may contain relevant info

Transportation

- Will they shut down parts of the harbor during construction? Leading to fewer cargo transfers of hazmat?
- Any road closures during construction or congestion due to work force?
- How will the construction and maintenance workforce arrive and depart … via car? And what is the timing, do they come and go each day, or do they stay on the dredging equipment (in the channel) for extended periods?

Air Quality

- Location of land-side construction staging area?

Socioeconomics & EJ

- What are the anticipated disruptions to business due to dredging operations?
- What are the days / hours for construction?
- What is the projected size of workforce needed for proposed project? Anticipated payroll?
- Local or transient workers? Any housing needs?
- Any change to maintenance dredging operations as a result of proposed project?
- Impact of Tax Revenues to Local Jurisdictions - does the Corps have this information already as part of their economic analysis?
- Any impact to Alabama Seafood Industry contributes approximately $461 million in revenue annually and 10,000 jobs? (Carol said: we need to see aquatic ecology impacts analysis to make that determination)

Utilities & Infrastructure

- Are turning basins infrastructure? How about the entire navigation system – is that already covered?
- Project boundary map would help this section be more precise
- Is there any infrastructure in the channel itself? Any underwater utilities?
- Drainage systems? Sewer?
- We assume transportation infrastructure is covered in transportation section, and the USACE is developing the navigation section – does that cover it?
- Used city of Mobile as the ROI for this section. Do we need other cities? Or just the area around the port?

Hazardous Materials

- Verify that the port does not handle hazardous materials
- Will they shut down parts of the harbor during construction? Leading to fewer cargo transfers of hazmat?

Public & Occupational Health & Safety

- Description of USACE internal safety programs and processes
- USACE policies relating to contractor site-specific health and safety plan

Noise

- Underwater noise – We pulled info from their draft GRR - Any recent updates from that draft that would change.
- PTS acoustic levels for both impulsive and non-impulsive sounds - We pulled info from their draft GRR. Are there any recent updates from that draft that would change

From:
To: (b)(6)
Cc:
Subject: Mobile Harbor Description
Date: Monday, April 16, 2018 7:56:00 AM

(b)(6), Per discussion after last week's bi-weekly meeting, has the description similar to what (b)(6) provided in the e-mail below been sent to the team?

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Friday, April 13, 2018 10:11 AM
To: (b)(6)
Cc: (b)(6)
Subject: RE: General Questions

This is the TSP description. Once this is established, just refer to it as the TSP.

The TSP consists of deepening of the existing 45-foot Mobile Bay Channel to 49 feet with a 100-ft widening of a three-mile channel section (to a total width of 500 feet). For preparation of the draft GRR and draft Environmental Impact Statement, the District conducted extensive modeling of a "maximum potential impacts" scenario with potential environmental effects equal to or greater than the TSP (i.e. dredging to a depth of 50 feet with widening of a five-mile channel section by 100 feet). It should be noted that the actual TSP represents conditions less than the modeled channel dimensions.

(b)(6)

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Friday, April 13, 2018 9:43 AM
To
Cc (b)(6)
Subject: [Non-DoD Source] General Questions
Importance: High

For impact assessment, we have the No Action Alternative and the WHAT? How are we referring to the Proposed Action, so I can use it consistently in our section

For example,

Proposed Alternative – Increase channel depth to 50 feet with a Five Mile Widener in the lower Channel[ZK1]

In the impact analysis, are you calling out direct and indirect as separate discussions and labeled as such, or just integrating in to an overall impact discussion

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From:
To:
Cc: (b)(6)

Subject: Mobile Harbor GRR - IEPR
Date: Monday, April 16, 2018 8:04:00 AM

(b)(6),
Let me know what you need from us in order to get the IEPR for Mobile Harbor started. The anticipated start date is June 12, 2018.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Thursday, March 22, 2018 8:53 AM
To: (b)(6)
(b)(6)
Cc: (b)(6)
Subject: RE: Mobile Harbor GRR - PLS VIEW IN HTML FORMAT

Thanks, (b)(6)!

(b)(6), Welcome to the team...we'll get the funds set up shortly.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Thursday, March 22, 2018 8:46 AM
To:
Cc: (b)(6)
Subject: RE: Mobile Harbor GRR - PLS VIEW IN HTML FORMAT

(b)(6),

(b)(6) (MVN) will serve as the ATR Lead for subject study (cc'd on this email). Following is his CEFMS information. I believe he is available to call into the TSP meeting next week; I will forward him the invite. For ATR Lead of Draft Report review, he will receive $4K (then $4K again for final ATR). His participation in the TSP

and any other meetings (ADM, other?) will be at additional cost. Accordingly, would suggest going ahead and funding his efforts as ATR lead plus participation in next week's meeting (1/2 day's funding for the TSP milestone meeting plus getting up to speed on read aheads) or $4,500 total at this time. Please let me know if you have any questions or need additional information at this time. Thanks! (b)(6)

DISCIPLINE

LAST NAME

FIRST NAME

PHONE

Email

Division

CEFMS ORG CODE

TECH POC

TECH PHONE

FINANCIAL POC

FINANCIAL PHONE

ATR Lead

(b)(6)

(b)(6)

(b)(6)

CEMVN

(b)(6)

-----Original Message-----
From: (b)(6)

Sent: Monday, March 5, 2018 7:45 AM
To:
Cc: (b)(6)
Subject: FW: Mobile Harbor GRR

(b)(6) : Please create labor numbers specifically for (b)(6) as follows:

Mobile Harbor GRR ATR: $4,000

Mobile Harbor GRR IEPR: $5,000

-----Original Message-----

From: (b)(6)

Sent: Monday, February 26, 2018 8:36 AM

To: (b)(6)

Cc: (b)(6)
(b)(6)

Subject: RE: Mobile Harbor GRR

(b)(6) ,

I tried to summarize below. Please let me know if you have any questions.

TSP. Since much time has evolved since ATR lead activity occurred, I will need to replace the prior lead. At one point it was (b)(6) He's moved to a MSC position. Accordingly, that effort will begin as soon as funding is provided (see funding amount below...included with Draft Report ATR funding requirements).

Draft Report ATR. ATR of the draft report will occur after DQC is complete (assuming ATR start date of 12 June per below). A complete copy of the DQC comment response report and report revisions resulting from DQC will be required/provided to the ATR team prior to initiation of ATR. Typically I recommend that PDTs assume 45 days for ATR of the draft report (from start to completion - completion is when the ATR report and certification are sent from me to the PDT leads). Typically, we estimate $5K/reviewer for the Draft report ATR + $4,000 for the ATR lead + $4,000 for the DDNPCX Review Management Organization (RMO) (i.e., for me to form teams, coordinate scope, etc.). FYSA, ATR lead participation in milestone meetings, etc. is at an additional cost. After I identify the ATR lead, I'll have that person coordinate with you to provide their funding requirements for that meeting.

IEPR. Panel review would begin at same time as vertical/atr/public review of the draft report. Contract cost is running between $40-$70K, depending upon project/scope (the contract cost is 100% Federal cost and doesn't count against $3 million 3x3). DDNPCX RMO total costs average $22-27K, COR $4K, and IWR admin fee 6% of contract value (these costs are cost shared). Initial efforts for me to begin work on the scope, IGE, etc. is $5K. Once we complete the scoping phase and the contract is awarded, I will provide my detailed cost estimate for my efforts during the execution phase of the contract ($17-22K).

When funding is provided for DDNPCX RMO (for me), it is requested that separate labor numbers be provided for my ATR and IEPR activities. The line item on each charge labor code should identify the project name and the RMO efforts to be covered by those labor funds (e.g., Mobile Harbor RMO Draft Report ATR). By doing so, it enables the DDNPCX to track funding and project reporting metrics. Please go ahead and set up funds for me to begin ATR and IEPR activities ($4K and $5K, respectively).

CEFMS ORG CODE:

Amount: dependent upon activity (as noted above) Financial POC: (b)(6) Technical POC: (b)(6) Line item description: (as noted above)

Please send me a copy of the SAD approved Review Plan for my use in developing scoping documents/identifying ATR team. Please let me know if you have any questions.

Thanks,

(b)(6)

-----Original Message-----

From: (b)(6)

Sent: Wednesday, February 21, 2018 10:35 AM

To: (b)(6)

Cc: (b)(6)
(b)(6)

Subject: RE: Mobile Harbor GRR

(b)(6),

The TSP for Mobile Harbor is coming up March 28. Do we need to get ATR or IEPR teams started yet? We are scheduled for Public Release and ATR Review June 12.

-----Original Message-----

From: (b)(6)

Sent: Wednesday, October 11, 2017 7:11 AM

To: (b)(6)

Subject: RE: Mobile Harbor GRR

I am. I'd suggest getting back with me after the first of the year about both. We won't need to start the contracting process for IEPR until February/March. Likewise, for the ATR team, I probably won't start lining things up until Spring as workload tends to change. Lastly, when is your TSP Milestone Meeting planned? I assume you'll want the ATR team lead available for it. I don't recall off hand who that was but will ensure they're available once the date is confirmed.

Thanks for the heads up!

-----Original Message-----

From: (b)(6)

Sent: Tuesday, October 10, 2017 2:43 PM

To: (b)(6)

Subject: Mobile Harbor GRR

(b)(6),

We are planning to send out the Mobile Harbor GRR for ATR and IEPR Review in July 2018. Wanted to make sure that we have the people lined up and the contracts in place well in advance. Are you the right person to talk to about this?

From: Mobile Harbor GRR
To: (b)(6)
Cc: Mobile Harbor GRR
Subject: RE: [Non-DoD Source] RE: A Concerned Dauphin Island Citizen re Corps of Engineer Dredging of Mobile Bay and Mobile Pass Channel
Date: Monday, April 16, 2018 7:46:00 AM

(b)(6)
Thank you for your interest in the Mobile Harbor General Reevaluation Report and Supplemental Environmental Impact Statement. The Mobile District values your input and all comments received at our mobileharborgrr@usace.army.mil e-mail address will be addressed in the study report.

-Mobile Harbor GRR Project Delivery Team

-----Original Message-----
From: (b)(6)
Sent: Monday, April 16, 2018 6:48 AM
To:
Cc: (b)(6)
(b)(6)
Subject: [Non-DoD Source] RE: A Concerned Dauphin Island Citizen re Corps of Engineer Dredging of Mobile Bay and Mobile Pass Channel

Mr. Curtis Flakes
Planning and Environmental Division Chief
US Army Corps of Engineering
Mobile Division

The courtesy of a response to my email of March 15, and in particular answers to my summary questions, would be greatly appreciated.
Thank you.
(b)(6)
From: (b)(6)
Sent: Thursday, March 15, 2018 9:57 PM
To: (b)(6)
(b)(6)
Cc (b)(6)
(b)(6)
Subject: A Concerned Dauphin Island Citizen re Corps of Engineer Dredging of Mobile Bay and Mobile Pass Channel

To Whom It May Concern:
My name is (b)(6) and I am a Dauphin Island property owner of beachfront property which has been in my family for well over 50 years. The reason that I am writing to you is to express my grave concern with what I sincerely believe is the harmful effect that the dredging of Mobile Bay and the Mobile Pass Channel is having on the

topography of Dauphin Island – especially shoreline erosion. I have personally witnessed considerable loss of beach area and beautiful, protective sand dunes over these years and am now witnessing what I believe to be an accelerating pace of shoreline erosion. And if interested, I have pictures of the island dating from the 60's to current time which prove such.

A few months ago, upon learning of the Corps of Engineers Public Meeting which was held on February 22 at the Mobile Convention Center, I began preparing myself by reading/researching the considerable amount of available information on possible environmental effects of the Corps' dredging activities – e.g., previous and current on-going Corps-funded studies, academic papers, governmental directives, letters, lawsuits, etc. One document which I found most interesting, and which I did a deep-dive study of, was Channel Dredging and Geomorphic Response at and Adjacent to Mobile Pass, Alabama by Dr. Mark R. Byrnes, et al, dated September 2010. As you know, Dr. Byrnes concluded in that study:

Overall, net sediment transport from east-to-west between 1917/20 and 1986/2002 has been supplying sand quantities necessary to produce net deposition on the islands and shoals of the ebb-tidal delta, infill and nourish storm breaches and wash over surge channels on Dauphin Island, and promote growth of western end of the island, even though channel dredging has been active. Based on all available information, there appears to be no measurable negative impacts to ebb-tidal shoals or Dauphin Island beaches associated with historical channel dredging across the Mobile Pass Outer Bar.

According to dredging records, disposal procedures in recent years have been to place as much of the sand dredged from the outer bar channel as possible in the SIBUA (beneficial sand disposal area. Because there is no guarantee that sand bypassing and transport from the historical offshore disposal site will continue at rates shown in the sediment budget, it is recommended that procedures followed in recent years for disposal of bar channel sand in the SIBUA be continued for the life of the project.

After having over 50-years of first-hand experience in witnessing shoreline erosion of the Island, I found Dr. Byrne's conclusion both misleading and unfounded.

For example, the first underscored statement above states that there's sufficient sand being transported to produce a NET deposition on the Island. While that may be a true statement, it's very misleading. Let me explain. While the Island shoreline has unquestionably eroded over these years, the far west end of the Island has grown thus perhaps creating a NET deposition. Honestly, I'm not concerned with the uninhabited far west end of the Island. What I AM concerned with is the developed shoreline of the Island for which there has been a significant net erosion – not a net deposition!

Another example is the second underscored statement above which recommends that the Corps continue disposal of dredged sand in the current SIBUA area. I find this recommendation to be based on a speculative assumption that the current SIBUA disposal area is beneficial to Island restoration and a key contributor to the 'overall net deposition' claim made above. I couldn't find any hard evidence in Dr. Byrnes report that could substantiate this recommendation.

Being troubled by the conclusions of this report (as was Robert G. Dean's report, also funded by the Corps, wherein he was asked for his opinion on the draft version [2008] of Dr. Byrne's 2010 report, who was likewise troubled, i.e., "my Draft Report review and the review herein have raised valid questions regarding some of the arbitrary methodology applied and findings to the degree that I regard the findings inconclusive with regard to any impact of dredging and channel maintenance of Mobile Bay Entrance. Thus, I respectfully dissent from concurring "that the Corps' construction, operation and Maintenance Dredging Practices of and at the Channel have not resulted in at least Minimum Measurable Erosion of Dauphin Island's shoreline.)",

I reached out to Dr. Byrnes on multiple occasions prior to the February 22 meeting to solicit further information as to how his conclusions were reached. Dr. Byrnes was extremely helpful and cooperative, and we had great discussions surrounding the analyses, assumptions, theories, hypotheses, etc, of his study but in my last discussion with Dr. Byrnes (February 22),

Dr. Byrnes stated that it would be more beneficial to Dauphin Island shoreline restoration efforts to place dredged sediment from the bar channel, currently deposited at the disposal site, closer to the island for more direct incorporation into the littoral transport system. Although dredged sediment placed in the Sand Island Beneficial Use Area is expected to be transported toward and onto Dauphin Island, Dr. Byrnes indicated that it may take decades for sufficient quantities of recently dredged sand to make its way to the island from the current disposal area.

Dr. Byrnes view above, and my opinion based of the past 50 plus years of observations, seem to have been substantiated by the Corps itself in its revelation at the February 22 meeting that sands disposed at the SIBUA have been found to be accumulating at a rate greater than they are dispersing into the drift system which means that the current disposal location is essentially robbing Dauphin Island of the necessary sand to prevent and/or restore shoreline erosion. In fact, as Dr. Byrnes implies above, the current disposal area is so far South of the Island, and in

such deep water, that a limited amount of the disposed sand is making its way to Dauphin Island – and what IS making its way to the Island is mostly to the far west end and not to the middle (i.e., developed) part of the Island where it could contribute to shoreline restoration!

Lastly, it's my understanding that the Water Resources Development Act of 1996 (P.L. 104-303), Section 302, specifically gives authorization to the Mobile District Corps to change disposal of the dredged sand for environmentally acceptable alternatives for beneficial uses of dredged material and environmental restoration.'' Given this authorization, and in light of previous studies – e.g., the Corps-funded Feasibility Report for Beach Erosion Control and Hurricane Protection dated September 1978 in which it was concluded that if the dredged sand "could be placed directly onshore, or placed [nearshore littoral zone] so it could reenter the littoral drift system where waves and currents would distribute it and thereby contribute to stabilization of the littoral drive system, EROSION COULD BE REDUCED! The report also stated that "Implementation … is within the existing authority granted by the Congress to the Chief of Engineers for operation and maintenance of the existing Federal navigation project for Mobile Harbor."

In summary, my questions are as follows:

1. Does the Corps acknowledge that it has the authority to take action NOW (please, no more studies) to change the dredged sand disposition approach, including location, and
2. Will the Corps commit to giving serious consideration to the conclusion which Dr. Byrnes himself reached in my discussion with him on February 22 AND to the previous recommendations of Corps-funded studies- to dispose of the dredged sand:
    a. Directly on-shore at Dauphin Island, and/or
    b. At a disposal site closer to Dauphin Island, and in shallower water, than the current disposal site?

I am NOT opposed to Mobile Bay and Mobile Pass Channel dredging and understand that it's necessary for the Port of Mobile's competitiveness and future economic viability – BUT ONLY IF DONE IN A MANNER WHICH NOT ONLY PREVENTS FURTHER DAUPHIN ISLAND SHORELINE EROSION BUT ALSO CONTRIBUTES TO SHORELINE RESTORATION. The current dredged sand disposition approach may be beneficial to the Port of Mobile but must be changed if the protection and economic viability of another very important AL/Mobile County asset, Dauphin Island, is of concern to the Corps, the State of Alabama and the County of Mobile!

Sincerely,

(b)(6)

From:
To:
Cc:
(b)(6)
Subject: RE: COL Hogeboom Mobile Harbor GRR Overview Brief
Date: Monday, April 16, 2018 3:55:00 PM
Attachments: Hogeboom Briefing 17 Apr 2018.pptx

All: Attached are the Mobile Harbor Briefing slides for tomorrow's 9am meeting with Colonel Hogeboom. They are the TSP slides reduced to 15.

(b)(6)

-----Original Appointment-----
From: (b)(6)
Sent: Thursday, April 12, 2018 12:07 PM
To: (b)(6)
(b)(6) Yoder, Andrew P LTC USARMY CESAM (US)
Subject: COL Hogeboom Mobile Harbor GRR Overview Brief
When: Tuesday, April 17, 2018 9:00 AM-10:00 AM (UTC-06:00) Central Time (US & Canada).
Where: Executive Office Conf Room

Guys – this is the update I mentioned…bring COL Hogeboom up-to-speed on the GRR and what's driving the letter writing campaign. Thanks.
(b)(6)

MOBILE HARBOR GRR

With Integrated Supplemental Environmental Impact Statement

Update Briefing For
COL C. Patrick Hogeboom IV
Deputy Commander SAD
17 April 2018

"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."

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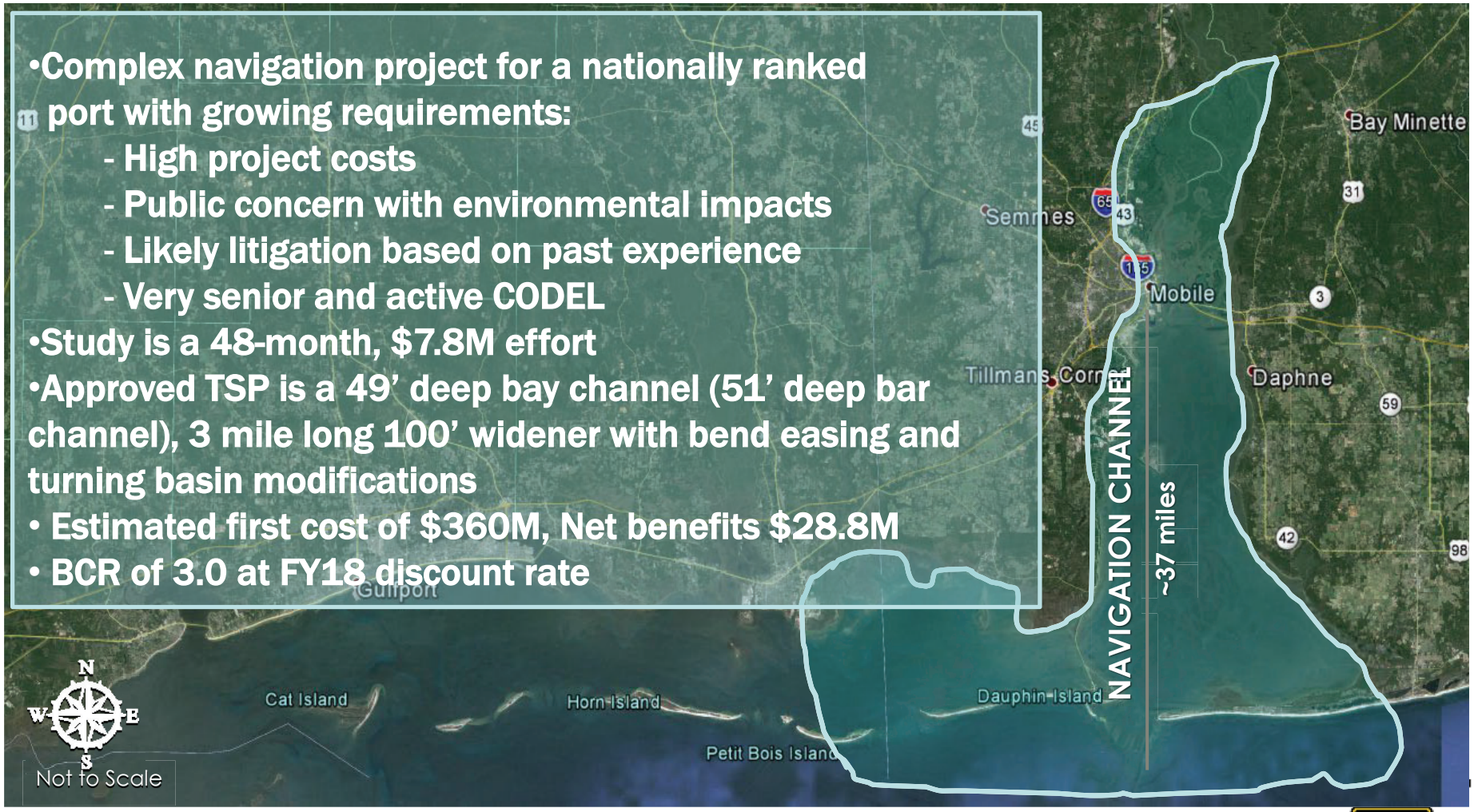
MOBILE HARBOR GRR
BOTTOM LINE UP FRONT



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MOBILE HARBOR GRR
BACKGROUND

"Modernizing the Port of Mobile is necessary because 2/3rds of the Port of Mobile's vessel traffic today is restricted or delayed directly impacting shipper costs and competitiveness."

- James K. Lyons, ASPA Director

Full Service Seaport
- ✓ 10th Largest in the U.S.
- ✓ 58M+ Tons of Cargo Handled Port-wide

Growth Steadily Climbs
- ✓ Record 2017 20% Container Growth
- ✓ Ranked #2 Steel Port in U.S.
- ✓ Ocean Carriers continue to add service

Strong Exporter of U.S Materials and Goods

Contributes Significantly to the Economy
- ✓ 153,000+ Jobs
- ✓ $25.1B in economic value

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MOBILE HARBOR GRR
AGENCY COORDINATION

- Charrette Jan 28-29, 2015
- Cooperating Agency Meetings Dec 2015, Mar 2016, Sep 2016, Feb 2017, Sep 2017, and Feb 2018
- Beneficial Use Meetings May 2016 and Jan 2018

GENERAL NATURE OF AGENCY CONCERNS

- **Effects on Physical Parameters**
  - Water circulation
  - Salinity
  - Dissolved Oxygen
  - Sedimentation
  - Shoreline Erosion
  - Storm Surge
- **Beneficial Use Opportunities**
- **Accurately Capturing Baseline Conditions**
- **Natural Resources**
  - Fisheries
  - Essential Fish Habitat
  - Submerged Aquatic Vegetation
  - Oysters
  - Marshes and Wetlands
  - Protected Species
  - Benthic Communities
  - Shoreline Erosion
- **Cultural Resources**

FEDERAL AND STATE COOPERATING AGENCIES

- Alabama Department of Environmental Management
- Alabama Department of Conservation and Natural Resources
- Alabama State Historic Preservation Office
- Alabama Department of Transportation
- Geological Survey of Alabama
- U.S. Fish and Wildlife Service
- NOAA National Marine Fisheries Service
- Environmental Protection Agency
- U.S. Geological Survey
- Federal Emergency Management Agency
- Mobile Bay National Estuary Program

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MOBILE HARBOR GRR
PUBLIC ENGAGEMENT

- Public scoping meeting Jan 2016
- Public Meetings Mar 2017, Sep 2017, and Feb 2018
- Focus Group Meetings with Seafood Interests, Environmental NGOs, Dauphin Island Interests, and Environmental Justice Communities
- Bi-weekly Updates, Quarterly Newsletters, Social Media, Listserv

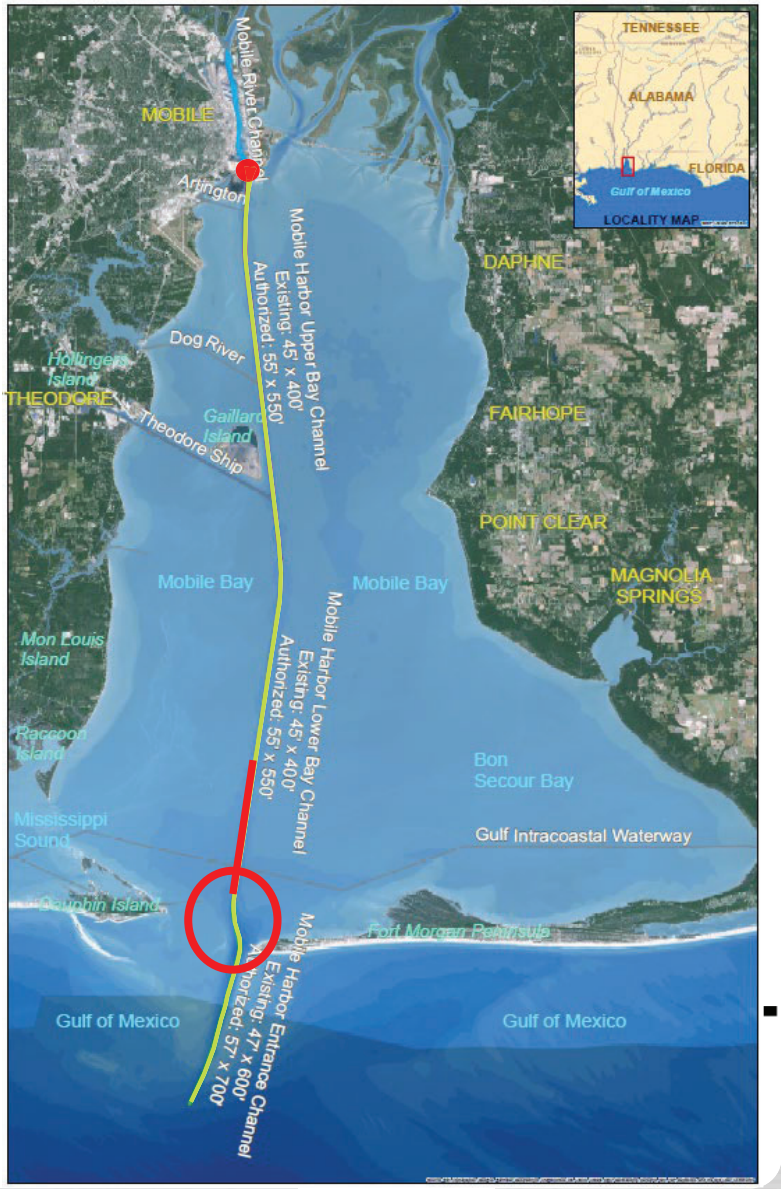
GENERAL NATURE OF PUBLIC COMMENTS

- Erosion impacts to Dauphin Island
- Placing material on eroding shorelines
- Interruption of coastal processes
- Reestablishment of sand transport to Dauphin Island
- Beneficial use of dredged material
- Impacts to wildlife
- Impact to oysters and other commercial fisheries
- Impacts to recreational fishing
- Creating unwanted islands
- Climate change
- Impacts to cultural resources
- Support for project

MOBILE HARBOR GRR
TENTATIVELY SELECTED PLAN

- ❑ Channel Deepening: 49 feet*
- ❑ Channel Widening: 3 mi. long, 100 ft wide*
- ❑ Turning Basin Modification
- ❑ Bar Channel Bend Easing

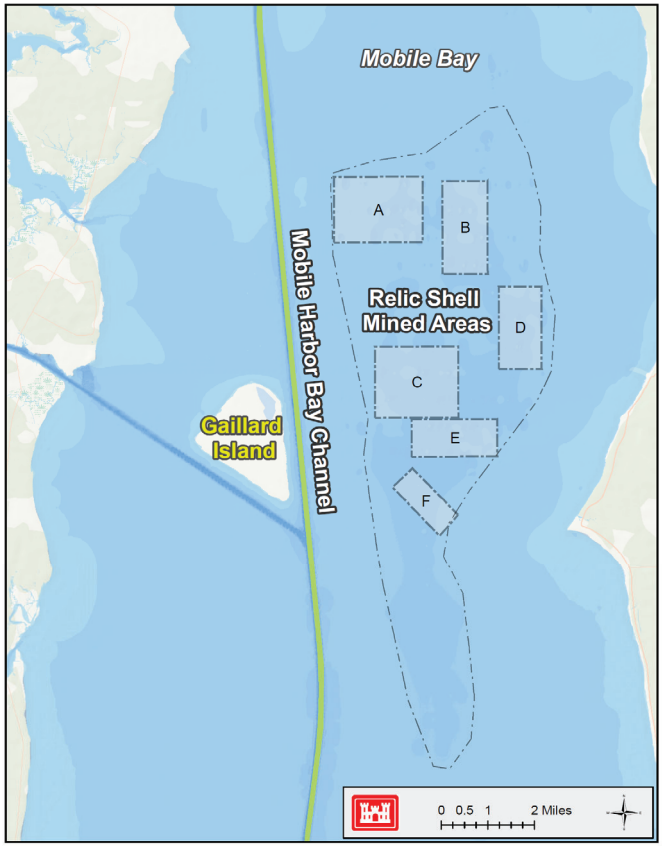
* Environmental impact analysis is based on a 50 foot depth and 100 foot widener for a distance of 5 miles

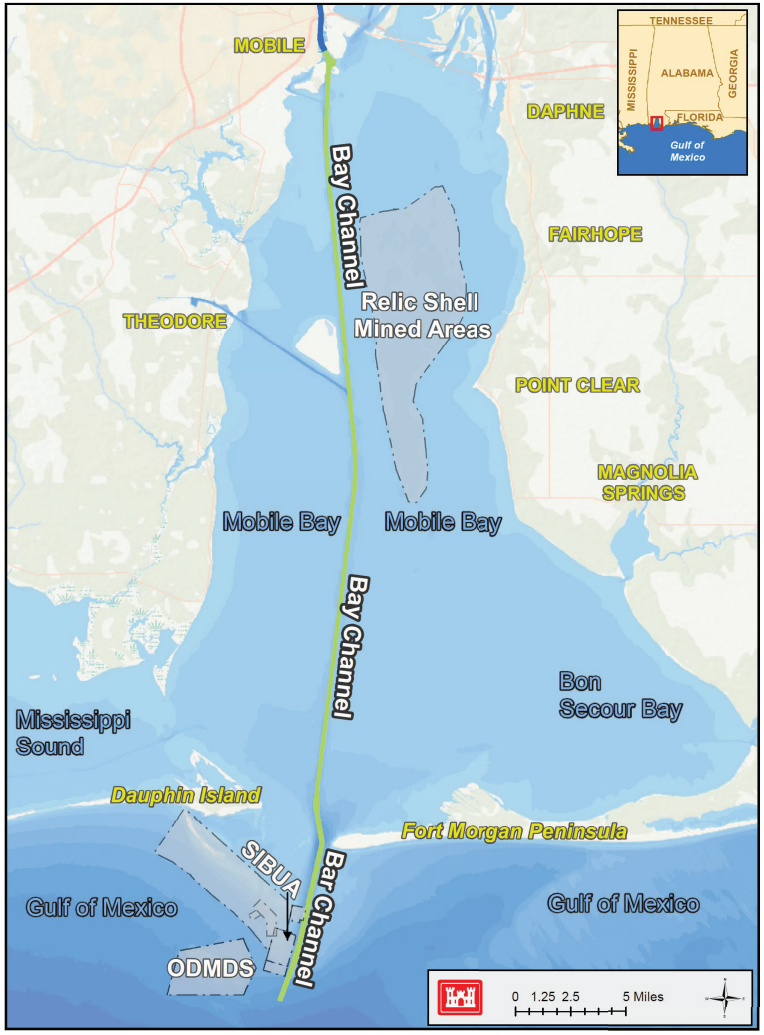


MOBILE HARBOR GRR
DREDGED MATERIAL PLACEMENT

Proposed Placement:

- ❑ Formerly mined relic shell area
- ❑ Sand Island Beneficial Use Area (SIBUA)
- ❑ Pelican/Sand Island Complex
- ❑ ODMDS





US Army Corps of Engineers

U.S.ARMY

MOBILE HARBOR

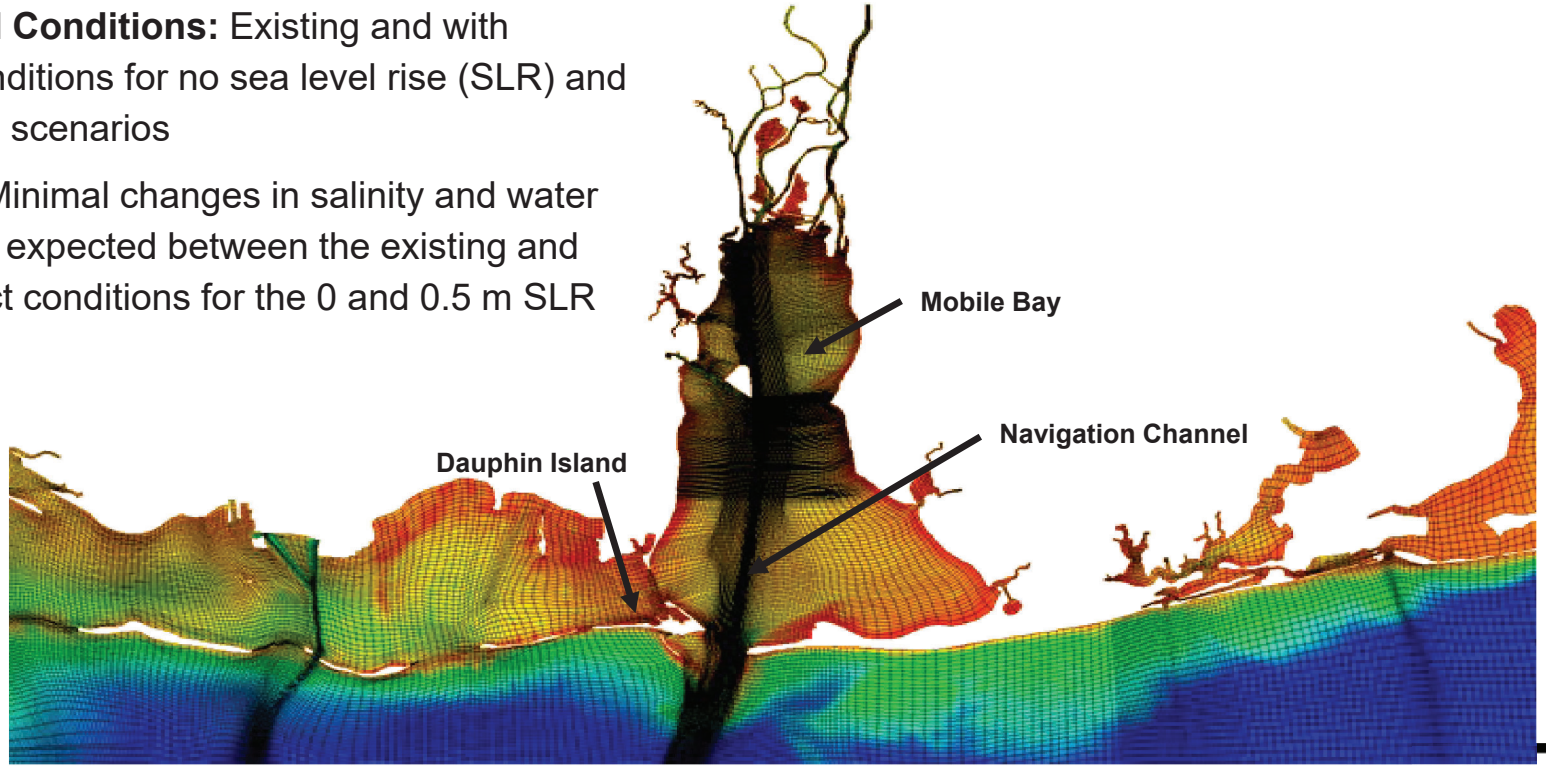
HYDRODYNAMIC & WATER QUALITY MODELING

Approach: Conduct hydrodynamic and water quality modeling to (1) characterize the physical conditions and processes of the study area and (2) determine the relative changes due to widening and deepening the channel (i.e., 5' deeper for the entire channel with a 100' wide x 5 mile long widener in the southern Bay).

Simulation Period: January 2010 – December 2010

Simulated Conditions: Existing and with project conditions for no sea level rise (SLR) and 0.5 m SLR scenarios

Results: Minimal changes in salinity and water quality are expected between the existing and with project conditions for the 0 and 0.5 m SLR cases.



Model Extents

US Army Corps of Engineers

U.S.ARMY

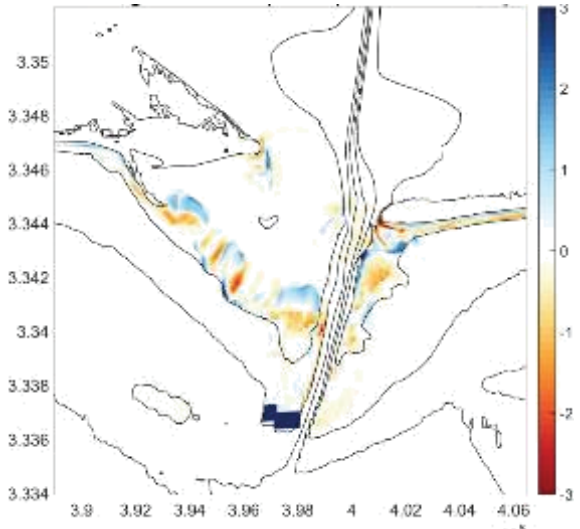
MOBILE HARBOR
SEDIMENT TRANSPORT MODELING

Approach: Conduct estuarine (fine-grained) and coastal (coarse-grained) sediment transport modeling to evaluate possible effects of widening and deepening the channel on sediment transport in Mobile Bay and on the ebb-tidal shoal/nearshore coastal areas.

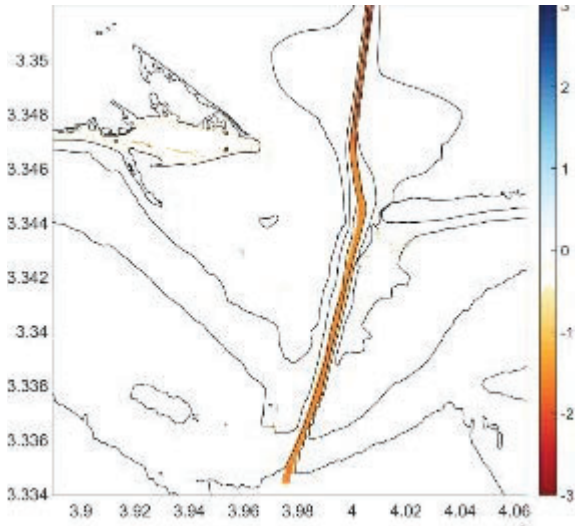
Simulation Period: Estuarine (January 2010 – December 2010)
Coastal (10-yr simulation derived from data spanning from 1998 – 2016)

Simulated Conditions: Existing and with project conditions for no sea level rise (SLR) and 0.5 m SLR scenarios

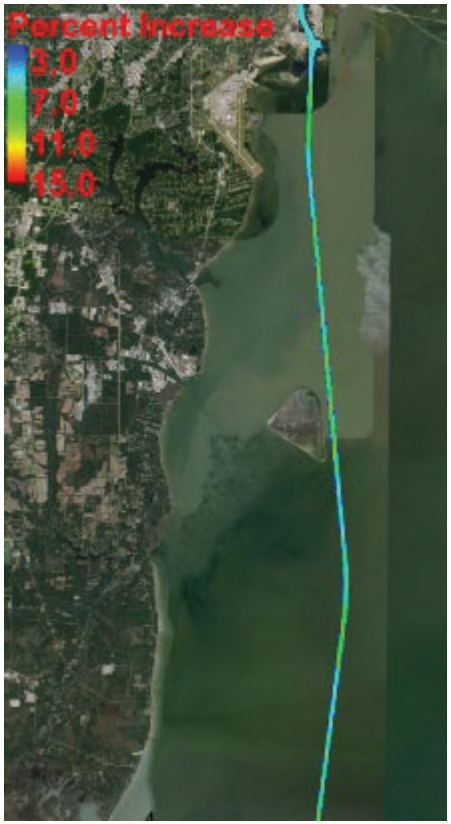
Results: Minimal bed level changes expected between the existing and with project conditions in the bay and on ebb-tidal shoal. Shoaling rates are expected to increase between 5 – 15%.



With Project Condition 10 Year Simulation
Bed Level Change (+/- Erosion/Deposition, m)



With Project – Existing Condition
Bed Level Change (+/- Erosion/Deposition, m)



With Project Simulation
Percent Increase in Channel Shoaling

US Army Corps of Engineers

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MOBILE HARBOR

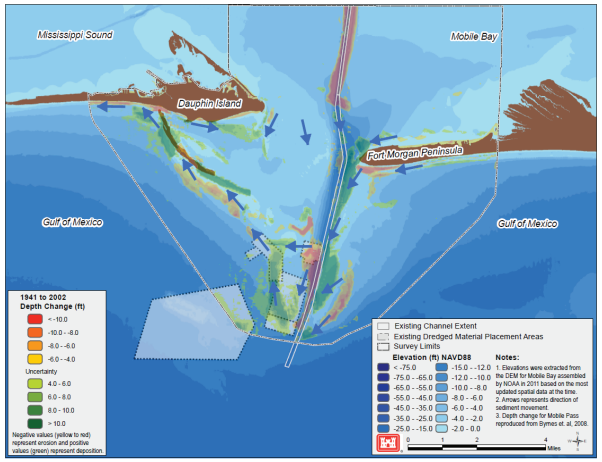
FUTURE MAINTENANCE MATERIAL PLACEMENT

Approach: Compare short and long-term changes in bathymetry to quantify sediment transport rates and identify transport pathways along the ebb-tidal shoal to determine if adequate disposal capacity exists for future maintenance material placement in the Sand Island Beneficial Use Area (SIBUA).

Analysis Period: 1941 – 2015

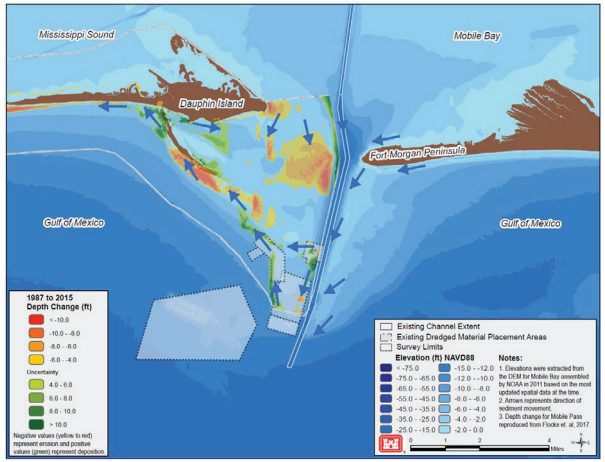
Results: Consistent sediment transport pathways are observed over the short and long-term periods. Material placed in SIBUA is in the active transport system; however, since placement in SIBUA was initiated in 1999, material has left the site at a lower rate than it has been placed in the site resulting in a need for expansion in the north/northwest direction to accommodate future needs.

Mobile Pass Bed Level Change 1941 to 2002



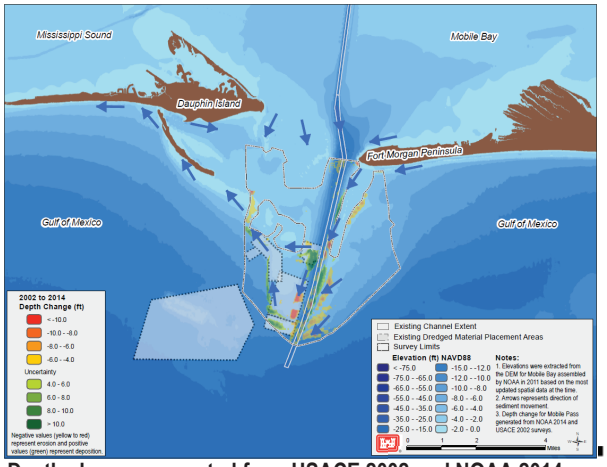
Depth change reproduced from Byrnes et. al, 2008 "Evaluation of Channel Dredging on Shoreline Response at and Adjacent to Mobile Pass, Alabama"

Mobile Pass Bed Level Change 1987 to 2015



Depth change reproduced Flocks, et. al, 2017 "Analysis of Seafloor Change around Dauphin Island, Alabama, 1987–2015" Open-File Report 2017–1112.

Mobile Pass Bed Level Change 2002 to 2014



Depth change generated from USACE 2002 and NOAA 2014 surveys.

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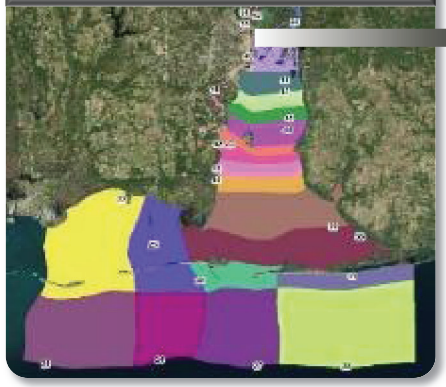
MOBILE HARBOR GRR
AQUATIC RESOURCES ASSESSMENT

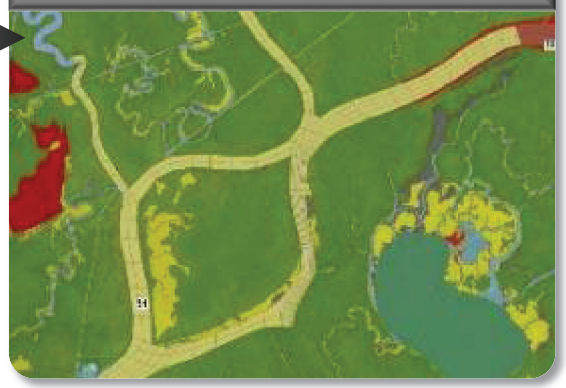
Overview

- Assessing potential impacts to wetlands, submerged aquatic vegetation, benthic invertebrates, oysters, fish
- Model outputs predicting changes in water quality (salinity, dissolved oxygen) comparing existing and post-project conditions
- Sea level rise scenario - 0.5 meter intermediate projection per USACE guidance at Dauphin Island

Model grid consists of 30 blocks & 48,000 cells

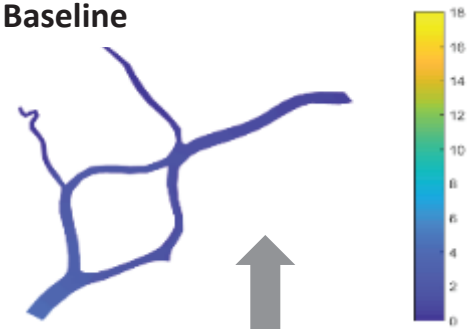


Model Block 54



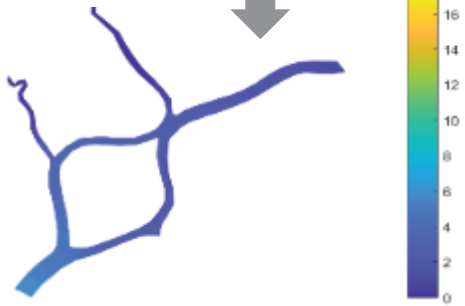
Mean Salinity - July 2010

Baseline



No Measurable Change

With Project



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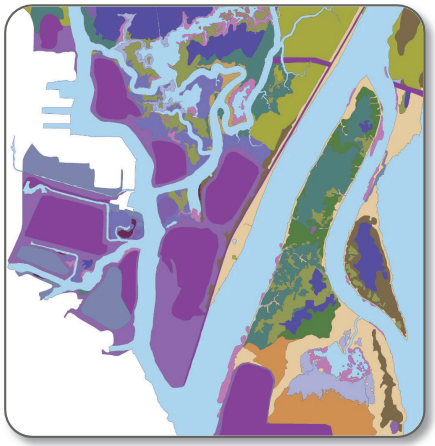
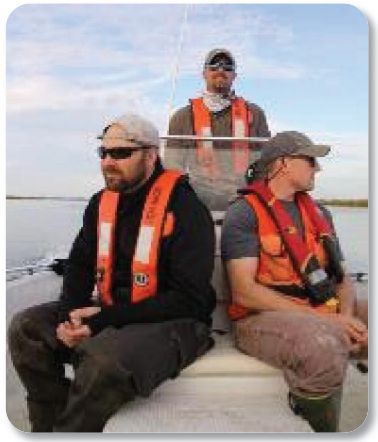
MOBILE HARBOR GRR
AQUATIC RESOURCES ASSESSMENT SUMMARY

- **No major impacts (i.e., loss of resources) anticipated for:**
  - ✓ **Wetlands**
  - ✓ **SAV**
  - ✓ **Oysters**
  - ✓ **Benthic Invertebrates**
  - ✓ **Fish**
- Project impacts remain negligible under 0.5 meter sea level rise scenario





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MOBILE HARBOR GRR
KEY RISKS/UNCERTAINTIES

Task	Risk Description	Risk Rating	Task	Risk Description	Risk Rating
Cultural Resource Surveys	(b)(5)		*Ship Simulations*	(b)(5)	
Sediment Testing			*Pipeline Crossings*		
Geotechnical data			*Vessel Generated Wave Energy (i.e., Ship Wake) Assessment*		
Disposal Capacity			*Public Acceptance*		

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MOBILE HARBOR GRR
WHAT'S NEXT

- DQC of DRAFT Report (May 2018)
- Vertical Team Teleconference for approval to release Draft Report (Jun 2018)
- Release Draft Report with NEPA for Public, Technical, Policy, and Legal Review (Jun 2018)
- Public Meeting on Draft Report (Jun 2018)
- Agency Decision Milestone (Nov 2018)

MOBILE HARBOR GRR

QUESTIONS?

US Army Corps of Engineers ®

U.S.ARMY

From: (b)(6)
To:
Subject: RE: Public Meeting on Dauphin Island
Date: Monday, April 16, 2018 8:51:00 AM

That works. Thank you.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, March 28, 2018 11:51 AM
To:
Cc: (b)(6)
Subject: RE: Public Meeting on Dauphin Island

Thanks! I will send (b)(6) the original copies via inter-office mail, unless he needs me to send them elsewhere.

(b)(6)

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, March 28, 2018 11:49 AM
To:
Cc: (b)(6)
Subject: RE: Public Meeting on Dauphin Island

(b)(6),
I think they are referring to the Public Meeting we held on Feb. 22nd to update the public on the Mobile Harbor GRR. I've included (b)(6) here. He's the project manager.

Thanks!

(b)(6)

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, March 28, 2018 11:40 AM
To: (b)(6)
Subject: Public Meeting on Dauphin Island

(b)(6),

Do you know anything about a public meeting held on Dauphin Island on February 22, 2018? The Regulatory Division has received comment letters in response to the meeting and I am trying to find out who to forward those to. The letters refer to issues surrounding dredging of the Outer Bar Channel by the Corps.

I have attached scanned copies of the letters for your information.

Thanks for any help with this!

(b)(6)

From:
To: (b)(6)
Cc:
Subject: FW: Mobile Harbor GRR Environmental Focus Group Meeting
Date: Tuesday, April 17, 2018 7:50:00 AM

(b)(6) : Can you send another invite like the one you sent below for an Environmental follow-on Meeting for Friday, May 11 at 1pm CT? It will go to the same people. If possible, it needs to go today.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, November 22, 2017 9:59 AM
To: (b)(6)

(b)(6)

Cc: (b)(6)

(b)(6)

Subject: Mobile Harbor GRR Environmental Focus Group Meeting

The U.S. Army Corps of Engineers (USACE), Mobile District is requesting your participation in an environmental focus group meeting for the Mobile Harbor General Reevaluation Report regarding the potential deepening and widening of the Mobile Harbor navigation channel. The meeting will be held at the Mobile District Office, 109 St. Joseph Street, Mobile, Alabama 36602, on Wednesday, December 13th at 3:00 PM. The meeting will provide the opportunity for those involved in environmental activities associated with Mobile Bay and its connected watersheds to hear about the environmental evaluations being conducted as part of the study and to provide your comments and concerns related to potential impacts of the project. Members of the project team will be on hand to discuss and answer questions related to the proposed project. This meeting provides the opportunity for organizations such as yours to share comments and concerns that will be considered in the preparation of the Supplemental Environmental Impact Statement. Due to a limited capacity of the meeting room, we are asking that only one representative from

your organization be in attendance. Please respond to let us know if your organization will be represented. For more information, on the proposed Mobile Harbor Federal Navigation Channel project, visit http://www.sam.usace.army.mil/.

Thank you and looking forward to meeting with you.

(b)(6)

(b)(6)

From: (b)(6)
To:
Cc:
Subject: RE: Draft Email, Mobile Harbor GRR, Delegation of Approval Authority
Date: Tuesday, April 17, 2018 10:45:00 AM

(b)(6)

We propose to change the sentence in the Explanation paragraph to state (b)(5) (b)(5) (b)(5) Proposed revisions as follows:

(b)(5)

-----Original Message-----
From: (b)(6)
Sent: Tuesday, April 17, 2018 10:40 AM
To: (b)(6) (b)(6)
Cc: (b)(6)
Subject: RE: Draft Email, Mobile Harbor GRR, Delegation of Approval Authority

Mobile team: any concerns? I want to get this up to HQ later today (Tuesday, 17 APR).

Respectfully,

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Thursday, April 12, 2018 9:45 AM
To: (b)(6) (b)(6)
Cc: (b)(6) (b)(6)
Subject: RE: Draft Email, Mobile Harbor GRR, Delegation of Approval Authority

(b)(6): Per our discussion, District will review and get back to you as soon as possible.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, April 11, 2018 3:44 PM
To: (b)(6) (b)(6)
Cc: (b)(6)
Subject: Draft Email, Mobile Harbor GRR, Delegation of Approval Authority

(b)(6) and (b)(6),

Below, please see our proposed text for an email from South Atlantic Division to (b)(6) at the Office of Water Project Review. (b)(6) would help us communicate SAD's recommendation to HQUSACE staff.

Draft email:

(b)(5)

Please review the draft email for accuracy and let me know if I need to make any changes.

Thanks!

(b)(6)

From: (b)(6)
To:
Subject: Re: Mobile Harbor GRR TSP Milestone Meeting - DRAFT Minutes (UNCLASSIFIED)
Date: Tuesday, April 17, 2018 10:19:58 AM

In meeting with COL Hogeboom...will call asap.

Sent from my BlackBerry 10 smartphone.
Original Message
From (b)(6)
Sent: Tuesday, April 17, 2018 10:16 AM
To (b)(6)
Subject: RE: Mobile Harbor GRR TSP Milestone Meeting - DRAFT Minutes (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Hi (b)(6) I'd like to have a followup discussion with you on several items as I did not attend.

Minutes in TSP milestone- see page (b)(5)
(b)(5) Some ither otems to discuss as well, thanks

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, April 9, 2018 6:19 PM
To: (b)(6)

(b)(6)

(b)(6)

Cc: (b)(6)

(b)(6)

Subject: Mobile Harbor GRR TSP Milestone Meeting - DRAFT Minutes

All: Attached are the DRAFT Minutes from the Mobile Harbor GRR TSP Milestone Meeting held March 28, 2018. Please review and let me know if you have any comments by COB Monday, April 16, 2018.

(b)(6)

-----Original Appointment-----

From: (b)(6)

Sent: Friday, March 02, 2018 2:54 PM

To: (b)(6)

(b)(6)

(b)(6)

Cc: (b)(6)

(b)(6)

Subject: Mobile Harbor GRR TSP Milestone Meeting
When: Wednesday, March 28, 2018 12:00 PM-2:00 PM (UTC-06:00) Central Time (US & Canada).
Where: Mobile District Employees - Executive Conference Room

All,
Please plan on attending the Tentatively Selected Plan Milestone Meeting for the Mobile Harbor GRR, Wednesday, March 28 at 1300hrs ET (1200hrs CT).

The Read-Aheads will be provided March 14.
Webinar and call-in information will be provided shortly.

(b)(6)

CLASSIFICATION: UNCLASSIFIED

From: (b)(6)
To:
Cc:
Subject: FW: Letter-Position of Dauphin Island Prop Owners Association - Mobile Harbor Dredged Material
Date: Wednesday, April 18, 2018 12:24:00 PM
Attachments: Briggs Ltr Matl Disposal from Mobile Harbor (21 Mar 18).pdf

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Please include in letters on Mobile Harbor.

(b)(6)

-----Original Message-----
From (b)(6)
Sent: Wednesday, April 18, 2018 12:22 PM
To: (b)(6)
(b)(6)
Cc: (b)(6)
(b)(6)
Subject: Letter-Position of Dauphin Island Prop Owners Association - Mobile Harbor Dredged Material

All:

Today, the SAD front office gave me the attached letter that BG Holland had received. It is a copy of the letter that was sent to COL DeLapp, so SAM likely has seen it.

I did not identify a need for SAD to provide any response, but please let me know if you conclude differently. Given the wide audience that received this letter and the fact that it follows other such letters, it would be helpful for SAM to share with SAD a copy of any response letter so we are prepared if there is further correspondence.

R/

(b)(6)

From the Desk of
Barton E. & Gina C. Briggs

March 21, 2018

Colonel Jon DeLapp, Commander Mobile District
United States Army Corps of Engineers
109 Saint Joseph Street
Mobile, AL 36602-3630

VIA UNITED STATES MAIL

Re: Disposal site for dredge material from the Mobile Outer Bar Ship Channel
Dear Colonel DeLapp:

I write to you as a member of the 3,300-member Dauphin Island Property Owners Association regarding the disposal of sand dredged from the outer bar of the Mobile Ship Channel. The Board of Directors has requested that I inform the United States Corps of Engineers of the Association's position in light of recent data disclosed by the Corps of Engineers to the public in a February 22, 2018 meeting at the Corps of Engineers offices in Mobile, Alabama.

The Association is highly concerned that the placement of beach quality sand dredged from the outer bar of the Mobile Ship Channel be in an area where it will return to the littoral drift and limit the significant erosion that has been occurring on Dauphin Island over the past several decades. As you are aware the dredge material is currently being deposited in the Sand Island Beneficial Use Area (SIBUA) at a water depth of approximately twenty-seven feet. At the February 22, 2018 Corps meeting, Corps representatives indicated the sand is leaving that area at about one-half the deposited rate. Consequently, the sand that the Corps of Engineers has been depositing in the SIBUA since 1999 is accumulating there, and only half the material dredged has left the SIBUA, leaving half the material at the disposal site. It is my understanding that approximately seven million cubic yards of sand remains in the SIBUA, and that area is nearing capacity.

These circumstances illustrate two concerns: 1) the sand is not returning to the littoral drift and having an opportunity to make its way to the beaches of Dauphin Island and 2) there now needs to be a different area for which the sand must be deposited as the SIBUA is nearing capacity. There have been discussions of extending the SIBUA area north and west, but still having the material deposited at a twenty-seven-foot depth.

The current problem of the sand not returning into the littoral drift will not be solved or affected by simply continuing to place the sand at such water depths. It is our understanding that coastal engineering science indicates an effective water depth that will return the vast majority of this sand to the littoral drift should be in twenty feet of water or less, possibly as shallow as ten to fifteen feet of water. The Association appreciates the fact that disposal in shallower waters may require additional costs because of the draft of the vessels currently being used to deposit the sand, and there may be a necessity to pump or otherwise deliver the sand to a water depth of less than twenty feet.

It is imperative the sand be deposited in an area of less than twenty feet in order to begin returning the entire volume of the newly dredged sand to the littoral drift. This concern is exacerbated by the fact that the Corps is proposing to widen and deepen the Mobile Ship Channel, and that event will cause an additional five to twenty percent of the sand in the littoral drift to be captured in the outer bar of the Mobile Ship Channel. That additional sand will also be dredged and should be returned to the drift. Moving the sand disposal site to an area of less than twenty feet will only begin to repair the extensive damage that has been done to Dauphin Island by the amount of sand that has been removed from the littoral drift and remains in the SIBUA. Hopefully the remaining sand in the SIBUA will after decades return to the littoral drift, but a continued practice of depositing dredged sand material in water depths above twenty feet would only contribute to the further demise of the beaches of Dauphin Island.

The Corps has been made aware of the value of Dauphin Island not only as a contributor to the regional economy, but also as a critical barrier island protecting the mainland from storm surges and damages because of hurricanes, tropical storms, and other natural calamities. It is important to the public that the geological integrity of the island remain intact to afford this protection.

As the Corps of Engineers has now publicly stated there is scientific data that the depositing of dredge material at the twenty-seven-foot depth has only allowed one-half of the sand over the last twenty years to have even the opportunity to return to the drift, it is imperative that changes be made in the dredge material disposal site. The only site that is acceptable to return this dredged material to the littoral drift is to deposit the sand would be in an area of less than a twenty feet depth.

We urge the Corps of Engineers to change the practices of the depositing of dredge material to the shallower areas so that they may benefit the public at large, the regional economy, the fisheries, the environment, and the safety of the citizens that live on Dauphin Island and the mainland of Mobile County. Serious consideration of these concerns by the Corps of Engineers will be deeply appreciated.

Very truly yours,

Bart & Gina Briggs
Dauphin Island Property Owners

cc:
Brigadier General Diana M. Holland, Commander, South Atlantic Division, U.S. COE
Lieutenant General Todd T. Semonite, Commanding General & Chief of Engineers, U.S. COE
The Honorable Richard Shelby, United States Senator
The Honorable Doug Jones, United States Senator
The Honorable Bradley Byrne, United States Congressman
The Honorable David Sessions, Alabama State Representative
The Honorable Bill Hightower, Alabama State Senator
The Honorable Sandy Stimpson, Mayor, City of Mobile
The Honorable Jeff Collier, Mayor, Town of Dauphin Island
The Honorable Terry Downey, Mayor, City of Bayou La Batre
The Honorable Jerry Carl, Commissioner, Mobile County
The Honorable Kay Ivey, Governor, State of Alabama

From:	
To:	(b)(6)
Cc:	
Subject:	FW: Mob Harbor - Draft REP and other docs
Date:	Wednesday, April 18, 2018 1:32:00 PM
Attachments:	10116-LITTLE-SAND-BOUNDARY.PDF MobileHarborGRR-REP(4-11-18).doc MobHarborStudy-UtilityCrossings(REV 4-11-18) (DRAFT).xlsx

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(b)(6) We are using the attached table for the utility crossings. Also attached is the current draft status of the Real Estate Appendix to make sure that your efforts are not overlapping...

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, April 18, 2018 1:31 PM
To: (b)(6)
Subject: Mob Harbor - Draft REP and other docs

(b)(6)

Pages 2 through 28 redacted for the following reasons:
- -
(b)(1)
(b)(5), (b)(7)(e)

From: (b)(6)
To:
Subject: FW: Reconvening of Mobile Harbor GRR Environmental Focus Group Meeting - 11 May 2018
Date: Thursday, April 19, 2018 2:44:00 PM

FYI

-----Original Message-----
From: (b)(6)
Sent: Tuesday, April 17, 2018 1:20 PM
To: (b)(6)
(b)(6)
Cc: (b)(6)
(b)(6)
Subject: Reconvening of Mobile Harbor GRR Environmental Focus Group Meeting - 11 May 2018

The U.S. Army Corps of Engineers (USACE), Mobile District is reconvening an environmental focus group meeting and requesting your participation for the Mobile Harbor General Reevaluation Report regarding the potential deepening and widening of the Mobile Harbor navigation channel. The meeting will be held at the Mobile District Office, 109 St. Joseph Street, Mobile, Alabama 36602, on Friday, 11th at 1:00 PM central. The meeting will focus on and provide the opportunity for those involved in environmental activities associated with Mobile Bay and its connected watersheds to hear about updated environmental evaluations that have been conducted as part of the study and to provide your comments and concerns related to potential impacts of the project. Members of the project team will be on hand to discuss and answer questions related to the proposed project. This meeting provides the opportunity for organizations such as yours to share comments and concerns that will be considered in the preparation of the Supplemental Environmental Impact Statement. Due to a limited capacity of the meeting room, we are asking that only one representative from your organization be in attendance. Please respond to let us know if your organization will be represented. For more information, on the proposed Mobile Harbor Federal Navigation Channel project, visit http://www.sam.usace.army.mil/.

Thank you and looking forward to meeting with you.

(b)(6)

(b)(6)

From: (b)(6)
To:
Cc:
Subject: Mobile Harbor GRR Questions/Docs
Date: Thursday, April 19, 2018 7:38:00 AM

(b)(6),

Can you provide the following for the Mobile Harbor GRR Report?

1.) Martin & Associates Economic Report 2015 or later (the Port references this report in news releases)

2.) Alabama State Port Authority (ASPA) issued a report, "The Local and Regional Economic Impacts of the Port of Mobile" in 2012 that was referenced in the Mobile River Bridge Draft EIS.

3.) Verify that the port does not handle hazardous materials

(b)(6)

From:
To: (b)(6)
Cc:
Subject: RE: Mobile Harbor GRR Questions/Docs
Date: Thursday, April 19, 2018 8:37:00 AM

(b)(6),
(b)(6) had sent us a list of questions for developing her portion of the EIS. She is, more or less, following a standard template for developing the EIS.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Thursday, April 19, 2018 8:32 AM
To:
Cc: (b)(6)
(b)(6)
Subject: [Non-DoD Source] Re: Mobile Harbor GRR Questions/Docs

(b)(6),

I can answer question 3. (b)(6) should be able to provide items 1 and 2. Can you give me the context of how question 3 was asked? It is extremely broad as worded.

(b)(6)
Sent from my iPad

> On Apr 19, 2018, at 7:39 AM, (b)(6) wrote:
>
(b)(6),
> Can you provide the following for the Mobile Harbor GRR Report?
> 1.) Martin & Associates Economic Report 2015 or later (the Port references this report in news releases)
> 2.) Alabama State Port Authority (ASPA) issued a report, "The Local and Regional Economic Impacts of the Port of Mobile" in 2012 that was referenced in the Mobile River Bridge Draft EIS.
> 3.) Verify that the port does not handle hazardous materials
>

(b)(6)

From:
To: (b)(6)

Subject: DQC Reviewers - Mobile Harbor GRR
Date: Friday, April 20, 2018 8:51:00 AM

All,
We are setting up the funds for the DQC Review of the Mobile Harbor GRR. Please let me know the DQC Reviewers for the following disciplines:
PD-EC, Environmental
PD-EC, Cultural
PD-FP, Plan Formulation
PD-FE, Economics
EN-HH, Coastal
EN-G, Geotech,
EN-E, Cost
RE, Real Estate
OP, Ops

Also, Let me know if I have overlooked a discipline or of any additional DQC review needs.

(b)(6)

From: (b)(6)
To:
Cc:
Date: Friday, April 20, 2018 8:15:00 AM
Attachments: CostShare523 20 APR 2018.pdf

(b)(6) : Good morning. Please see attached Mobile Harbor Cost Share.

(b)(6)

US ARMY CORPS OF ENGINEERS

CEFMS COST SHARE CONTROL RECORD CHANGE REQUEST

DATE: 20 APR 2018

CEFMS COST SHARE CONTROL NO: 523

PROJECT: Mobile Harbor

PPA%: FEDERAL 76 NON-FEDERAL 24

CURRENT SECTION 902 LIMIT (if applicable):

CHANGES TO COST SHARE CONTROL RECORD:

(Complete applicable areas)

	FROM	TO	
PROJECT EST END DATE	08 Nov 2016	04 Nov 2019	
TOTAL EST SHARED PROJECT COST	$7,800,000	$7,800,000	
FEDERAL AMOUNT	$5,930,000	$5,930,000	76%
SPONSOR CASH AMOUNT	$1,870,000	$1,870,000	24%
SPONSOR IN-KIND ESTIMATE			
SPONSOR LERRD ESTIMATE			
PROJECT MANAGER	David P. Newell		

REASON FOR CHANGE:

No changes

ATTACHMENTS:

DOCUMENTATION TO SUPPORT CHANGE:

- ❑ Letter or email to sponsor
- ❑ Letter or email from sponsor showing concurrence with change
- ❑ Amended Agreement
- ❑ Revised Project Management Plan (PMP), Jointly signed
- ❑ Composite Rate Worksheet, Jointly signed
- ❑ Project Cost Estimate, Jointly signed

APPROVAL SIGNATURES AND DATE:

PROJECT MANAGER _____ Date _____

CSCM _____ Date _____

From: (b)(6)
To:
Subject: RE: 05_SAD_Mobile Harbor GRR - 19 April 2018.docx
Date: Friday, April 20, 2018 9:54:00 AM

Thanks, (b)(6) ...

-----Original Message-----
From: (b)(6)
Sent: Friday, April 20, 2018 7:49 AM
To: (b)(6)
Subject: Fw: 05_SAD_Mobile Harbor GRR - 19 April 2018.docx

For your records

Sent from my BlackBerry 10 smartphone.
Original Message
From: (b)(6)
Sent: Friday, April 20, 2018 7:46 AM
To:
Cc: (b)(6)
Subject: RE: 05_SAD_Mobile Harbor GRR - 19 April 2018.docx

(b)(6),

$7.8M total Study costs, last number I had for IEPR was $225,000, that may have changed slightly, but this should be close.

7,800,000 - 225,000 = 7,575,000

Fed Share = 75%

7,575,000 * 0.75 = 5,681,250

5,681,250 + 225,000 = 5,906,250

Total FED = $5,906,250

Allocations to date in the TABLE = 3,712,500

$5,906,250 - 3,712,500 = $2,193,750

FY17 +CR Period Reprogramming Amount = 150,000 (rounded)

2,193,750 - 150,000 = 2,043,750

Everyone has been rounding that to $2.1M when talking Obligation Authority

FY2018 Work Plan Expressed Capability in CWIFD = $1,993,750

FY18 (28 March 2018) REP = 49,999

$2,043,750 - 49,999 = $1,993,750 (rounded) actual BTC as of 28 March.

V/R,
(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Friday, April 20, 2018 8:31 AM
To: (b)(6)
(b)(6)
Cc: (b)(6)
Subject: RE: 05_SAD_Mobile Harbor GRR - 19 April 2018.docx

(b)(6)- I added a table but can you check my numbers. We need to make sure all add up to the total study costs but I don't see that it does. How do my edits read?

-----Original Message-----
From: (b)(6)
Sent: Thursday, April 19, 2018 2:00 PM
To:
Cc: (b)(6)
(b)(6)
Subject: RE: 05_SAD_Mobile Harbor GRR - 19 April 2018.docx

Thanks(b)(6), spaced that one.

(b)(6) - If you'd like something more, just let me know.

V/R,
(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Thursday, April 19, 2018 1:56 PM
To:
Cc: (b)(6)
(b)(6)
Subject: RE: 05_SAD_Mobile Harbor GRR - 19 April 2018.docx

(b)(6),

Only thing I see is in paragraph 4 under STUDY BACKGROUND. The actual date for the TSP was 28 March 2018.

Thanks,

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Thursday, April 19, 2018 12:47 PM
To:
Cc: (b)(6)
Subject: 05_SAD_Mobile Harbor GRR - 19 April 2018.docx

See what you think. (b)(6)

V/R,
(b)(6)

From:
To:
Cc: (b)(6)

Subject: RE: DQC Reviewers - Mobile Harbor GRR
Date: Friday, April 20, 2018 10:00:00 AM

Got it...thank you!

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Friday, April 20, 2018 9:35 AM
To:
Cc: (b)(6)

(b)(6)

Subject: RE: DQC Reviewers - Mobile Harbor GRR

(b)(6) will serve as the geotech reviewer and (b)(6) will also review from a geology standpoint.
(b)(6) will be the HH reviewer.
(b)(6) will be the cost reviewer.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Friday, April 20, 2018 8:55 AM
To: (b)(6)

(b)(6)

Subject: RE: DQC Reviewers - Mobile Harbor GRR

Draft Report is scheduled to be provided to the DQC team on May 10 and comments due May 24.

(b)(6)

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Friday, April 20, 2018 8:51 AM
To: (b)(6)

(b)(6)

Subject: DQC Reviewers - Mobile Harbor GRR

All,
We are setting up the funds for the DQC Review of the Mobile Harbor GRR. Please let me know the DQC Reviewers for the following disciplines:
PD-EC, Environmental
PD-EC, Cultural
PD-FP, Plan Formulation
PD-FE, Economics
EN-HH, Coastal
EN-G, Geotech,
EN-E, Cost
RE, Real Estate
OP, Ops

Also, Let me know if I have overlooked a discipline or of any additional DQC review needs.

(b)(6)

From: (b)(6)
To:
Subject: RE: DQC Reviewers - Mobile Harbor GRR
Date: Friday, April 20, 2018 8:58:00 AM

Part of it. DQC will be under ADM.

-----Original Message-----
From: (b)(6)
Sent: Friday, April 20, 2018 8:56 AM
To: (b)(6)
Subject: RE: DQC Reviewers - Mobile Harbor GRR

Will this be separate from ADM?

-----Original Message-----
From: (b)(6)
Sent: Friday, April 20, 2018 8:52 AM
To: (b)(6)
Subject: FW: DQC Reviewers - Mobile Harbor GRR

Meant to cc you just to give you a heads up that we'll need to do this in the next couple of weeks.

(b)(6)

-----Original Message-----
From (b)(6)
Sent: Friday, April 20, 2018 8:51 AM
To: (b)(6)

(b)(6)

Subject: DQC Reviewers - Mobile Harbor GRR

All,
We are setting up the funds for the DQC Review of the Mobile Harbor GRR. Please let me know the DQC Reviewers for the following disciplines:
PD-EC, Environmental
PD-EC, Cultural
PD-FP, Plan Formulation
PD-FE, Economics
EN-HH, Coastal

EN-G, Geotech,
EN-E, Cost
RE, Real Estate
OP, Ops

Also, Let me know if I have overlooked a discipline or of any additional DQC review needs.

From:
To:
Cc: (b)(6)

Subject: RE: Funding for Mobile Harbor
Date: Friday, April 20, 2018 7:55:00 AM

(b)(6) : Please add funds as requested in the e-mail forwarded below.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, April 16, 2018 9:06 AM
To:
Cc: (b)(6)

(b)(6)

Subject: FW: Funding for Mobile Harbor

(b)(6) ,

Please add $20k for (b)(6) and $12k for (b)(6) on Mobile Harbor to finish report writing.

Thanks,

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, April 11, 2018 1:27 PM
To:
Cc: (b)(6)

(b)(6)

Subject: RE: Funding for Mobile Harbor

(b)(6) ,

All my funds for GRR are gone. I could use additional funds if there are still some. I was thinking a couple of weeks to wrap up the runs and report. Can we bump it to $20K to cover prepping for ADEM and EPA meeting? I have a feeling that that prepping for that will become higher priority once I have the draft done. If that isn't

available I can use whatever is.

Thanks,
(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, April 11, 2018 8:12 AM
To: (b)(6)
(b)(6)
Cc: (b)(6)
Subject: Funding for Mobile Harbor

Gentlemen,

I wanted to touch bases with each of you on the status of your funding as you are preparing the modeling report. Do any of you need additional funds to finish that effort? We're in the process of setting up new labor numbers since we are now past the TSP milestone but (b)(6) (the PM) would like to pay for the preparation of the ERDC modeling report out of the funds we had to get us to the TSP (i.e., your current labor numbers). Please let me know if you have any funding needs (and how much) to finish the draft report so I can make sure you're taken care of.

Thanks,
(b)(6)

From: (b)(6)
To:
Subject: RE: Funding for Mobile Harbor
Date: Friday, April 20, 2018 8:38:00 AM

ADM if not too difficult.

-----Original Message-----
From: (b)(6)
Sent: Friday, April 20, 2018 7:59 AM
To: (b)(6)
Subject: RE: Funding for Mobile Harbor

Assume this will be funded from TSP?

-----Original Message-----
From (b)(6)
Sent: Friday, April 20, 2018 7:56 AM
To: (b)(6)
(b)(6)
Cc: (b)(6)
(b)(6)
Subject: RE: Funding for Mobile Harbor

(b)(6) : Please add funds as requested in the e-mail forwarded below.

(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, April 16, 2018 9:06 AM
To:
Cc: (b)(6)
(b)(6)
Subject: FW: Funding for Mobile Harbor

(b)(6)

Please add $20k for (b)(6) and $12k for (b)(6) on Mobile Harbor to finish report writing.