

**DRAFT ENVIRONMENTAL ASSESSMENT
FOR
PROPOSED WITHIN-BANKS DISPOSAL AREAS, SMALL BOAT ACCESS
CHANNELS AND DIVERTER JETTIES
BLACK WARRIOR-TOMBIGBEE RIVERS, ALABAMA**

1.0 INTRODUCTION

This environmental assessment was prepared utilizing a systematic, interdisciplinary approach integrating the natural and social sciences and the design arts with planning and decision making. The proposed action and its alternatives are evaluated in multiple contexts for short-term and long-term effects and for adverse and beneficial effects. This assessment indicates the effects on the human environment are well known and do not involve unique or unknown risk. It is not anticipated that this is a precedent-setting action, nor does it represent a decision in principle about any future consideration.

1.1 LOCATION

Black Warrior-Tombigbee (BWT) River system, Baldwin, Choctaw, Clarke, Greene, Hale, Jefferson, Marengo, Mobile, Sumter, Tuscaloosa, Walker, and Washington Counties, Alabama (reference Figure 1).

1.2 PROPOSED ACTION

The BWT River system provide for a channel 9 feet deep and 200 feet wide extending from the mouth of the Tombigbee River 45 miles above Mobile to the vicinity of Birmingham via the Tombigbee River and Black Warriors Rivers to mile 430.4 (waterway miles above Mobile) on the Sipsey Fork, mile 429.6 on the Mulberry Fork, and mile 407.8 on the Locust Fork. The existing project provides for maintenance activities and maintenance dredging of the federally authorized navigation channel. Existing within-bank disposal practices call for dredging to be performed at a depth of 9 feet plus 4 feet of advanced maintenance, with an additional 2 feet of allowable overdepth and 3 feet of disturbance below low water through use of hydraulic pipeline or mechanical dredge typically executed between May and December.

Existing small boat access channel practices consist of maintenance dredging the mouths of the small boat access channels on an as-needed basis to a channel depth of approximately 4-4 ½ feet at mean low water typically executed between May and December by either a clamshell dredge, bucket dragline, floating trackhoe (swamp buggy), or hydraulic pipeline dredge into open-water or within-bank disposal sites.

The proposed action consists of designation and disposal into twelve new within-bank disposal areas and eighteen new small boat access channels along the BWT River system. The proposed within-banks disposal areas are and the initial dredging and disposal activities of the small boat access channels are identified in Tables 1 and 2 respectively. Figures 2-29 illustrate the proposed locations of the proposed within-bank disposal areas. The proposed within-banks

disposal areas will include the placement of dredged material through the use of hydraulic pipeline or mechanical dredge at irregular intervals after the initial placement. Each site requires 1-20 days for completion of dredging and is typically executed between May and December.

The mouths of the proposed small boat access channels would be dredged on an as-need basis to a channel depth of approximately 4-4 ½ feet and approximately 30 feet wide at mean low water. Each proposed site would require 1-7 days during May through December for completion of maintenance and dredging. A clamshell dredge, bucket dragline, floating trackhoe (swamp buggy), or small hydraulic pipeline dredge is used to maintain these channels. Disposal would be in approved open-water or within-bank disposal sites.

In addition, the US Army Corps of Engineers, Mobile District (USACE) is proposing to construct diverter jetties at Jackson Bar which is located on the right descending bank between approximately River Miles 90.5 and 92.5 and upstream of the Norfolk Southern Railroad Bridge along the Tombigbee River (reference Figure 30). The kicker and kicker tie back jetties will require approximately 90,000 to 105,000 cubic yards of riprap. Initial implementation would include construction of the kicker and kicker tie-back. The kicker will provide the most initial benefit. In addition to the kicker, dredging of the adjacent pilot channel through the within-banks disposal area will be required to provide the authorized navigation channel clearances. The kicker would be constructed with the appropriate size rip-rap and backfill material. The structure needs a bulkhead or bank stabilization to extend upstream and downstream insuring bank stability. The bulkhead would extend upstream and downstream of the kicker and kicker tie back jetty abutments and be sized with the appropriate rip-rap to ensure bank stability. The upstream extended length of the bank stabilization would be approximately 60 ft upstream of each jetty abutment. Likewise the downstream extended length would be approximately 110 ft downstream of each jetty abutment. The kicker's toe, tie back dike, and bulkhead ends must be keyed sufficiently in the bank to minimize structure failure. Once complete the area behind the kicker would be used as dredge disposal. The back filling of the kicker will provide stability and a new disposal area.

Once the kicker is in place the site can be monitored to determine the need for the additional transverse dikes. If the dikes are required then they would be constructed in a multi-staged approach (up to three stages). Each stage would be of equal dike length. Between the stages time would be given to evaluate the effectiveness of the dikes in their current lengths.

Dimensions

[1] Transverse Dikes:

- Up to 350 ft long
- 10 ft top width
- 1:2 side slopes
- Spaced 750 ft apart
- First dike upstream of bridge starts 300 ft upstream
- Finish elevation is 11 ft NAVD88

[2] Kicker

- Starts 2500 ft upstream of bridge

- 1570 ft long
- Tie back dike 2550 ft upstream of bridge
- Top width 10 ft
- Finish elevation 11 ft NAVD88
- Toe of kicker is 400 ft off right bank
- Pilot channel adjacent to kicker

Table 1: Proposed Within-Bank Disposal Areas

River Mile	Length (feet)	Bank	Dredged Material (approx. cubic yards)	Frequency (approx. years)
38.5-38.8	1,584	Right	15,000	30
39.2-39.9	3,696	Right	15,000	30
41.0-42.0	5,280	Left	15,000	30
73.7-74.4	3,696	Right	35,000	2
96.5-96.7	1,056	Left	15,000	2
99.5-99.9	2,112	Left	20,000	2
145.0-145.5	2,640	Right	15,000	30
160.5-161.5	5,280	Right	15,000	30
166.2-166.8	3,168	Right	15,000	30
185.2-185.8	3,168	Right	50,000	30
328.8-328.9	528	Left	28,000	4
329.4-329.7	1,584	Right	35,000	5

Table 2: Proposed Small Boat Access Channels

River Mile	Bank	Dredged Material (est. cubic yards)	Frequency (approx. years)
41.1	Right	1,150	2-10
213.9	Right	2,500	2-10
214.2	Left	1,400	2-10
215.0	Left	750	2-10
220.3	Right	700	2-10
220.6	Right	800	2-10
Cutoff	Right	2,400	2-10
279.4	Left	1,500	2-10
280.1	Left	1,925	2-10
337.4	Right	500	2-10
371.0	Left	500	2-10
377.3	Left	500	2-10
381.1	Left	1,575	2-10
381.3	Left	2,825	2-10
381.5	Left	1,700	2-10

Table 2 Con't

403.7	left	500	2-10
404.1	left	500	2-10
385.4	left	1,500	2-10

1.3 PURPOSE AND NEED

Operation and maintenance on the BWT and its tributaries provides for development of navigation, flood control, power, and recreation. The within-banks disposal areas were proposed due to recently identified bars building with the potential to impede navigation at those areas in the river. In some cases the proposed within-banks disposal areas are located directly next to existing within-banks disposal areas. Utilizing existing disposal areas would be inefficient due to distance from the recently identified bars. If existing sites are available within an efficient distance, utilizing the existing sites would negatively impact capacity by increasing amount and frequency of dredging events beyond what was originally planned for at those sites. The proposed within-banks disposal areas are necessary to maintain adequate capacity based on dredging amounts and frequency requirements for the respective bars. The material that would be placed at the proposed disposal areas could also help stabilize the bank at those locations. In addition, the proposed action will provide small boat access to hundreds of acres of public use areas or backwater areas which support large open water areas for recreation and fisheries, as well as improving water circulation and water quality. The backwater areas, particularly at the junction with the main river channel are subject to periodic sedimentation, hence reducing water circulation, water quality, and boat/fish access into the backwater areas.

Navigation along the Jackson Bar section of the Tombigbee River is hazardous due to the location of the Norfolk Southern Railroad Bridge relative to the bend and the accreting sand bar. The diverter jetties are the initial component of the recommended alternative that the USACE Engineer Research and Development Center (ERDC) developed and modeled to correct the hazard at Jackson Bar.

1.4 AUTHORITY

The existing BWT River system was authorized for navigation by various River and Harbor Acts from 1884 through 1960.

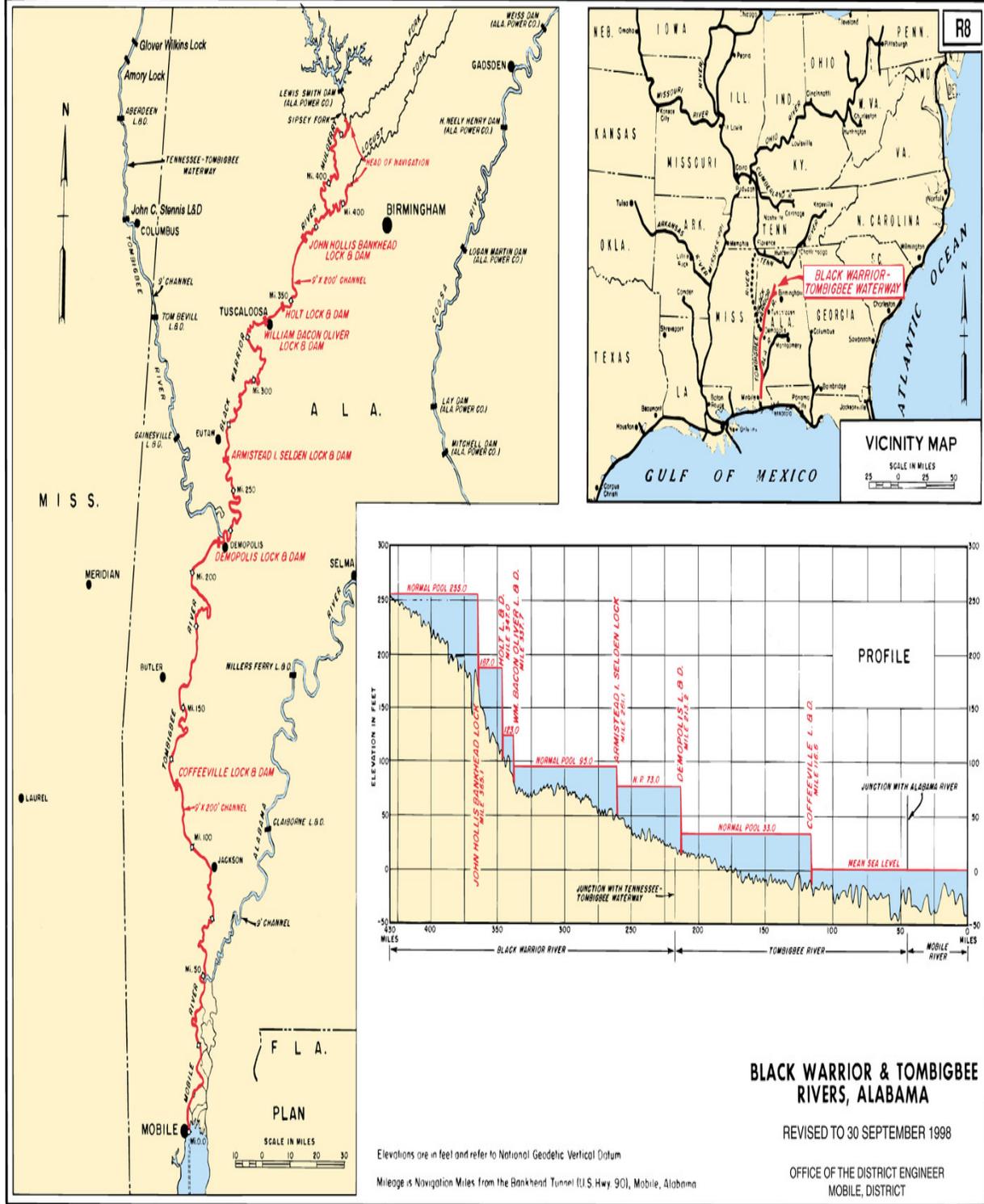


Figure 1: Vicinity Map



Proposed Within Banks Disposal Areas (BWT)

1 inch = 500 feet

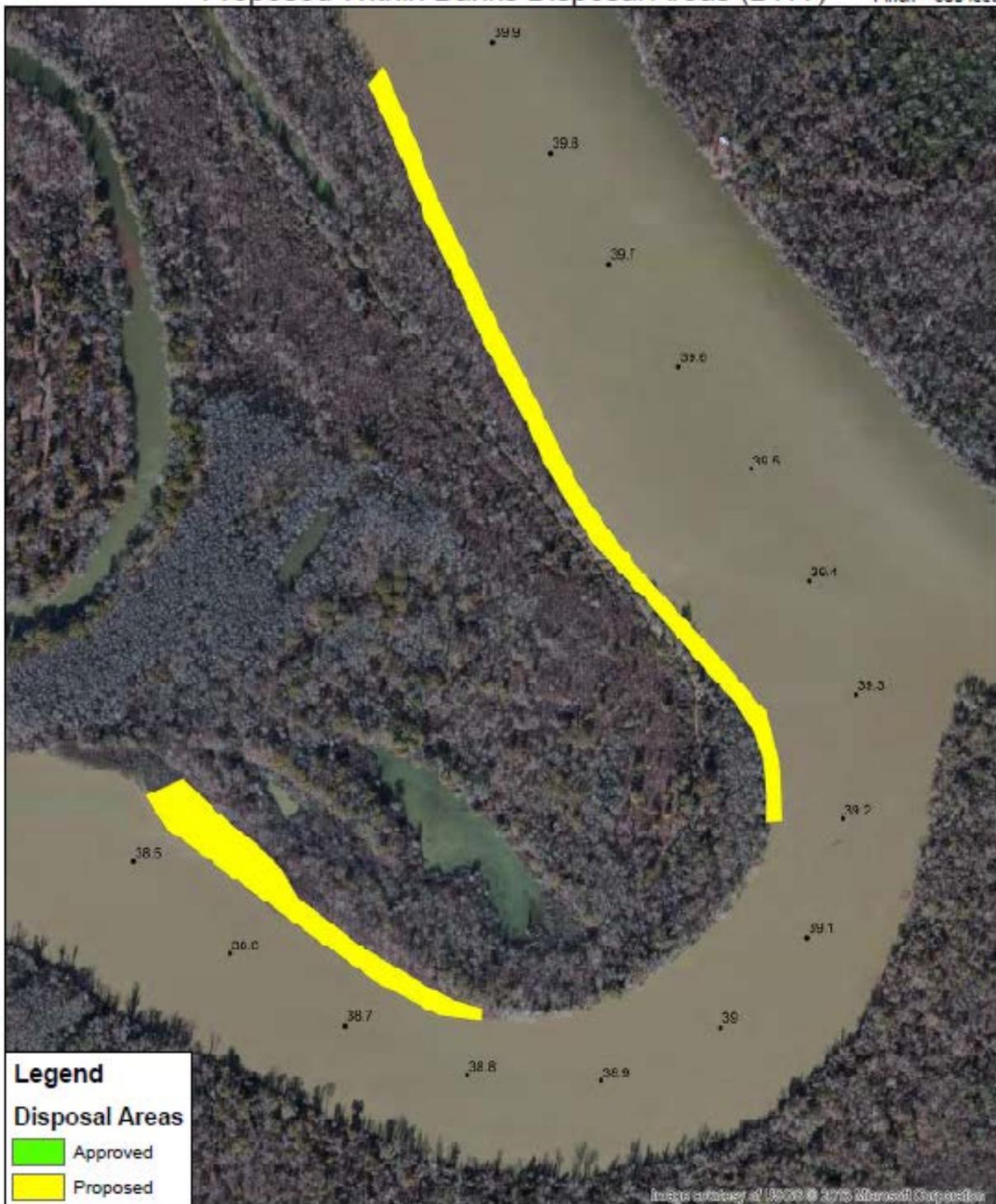


Figure 2: Proposed Within-Banks Disposal Area 38.5 – 38.8 and 39.2 – 39.9



Proposed Within Banks Disposal Areas (BWT)

1 inch = 600 feet

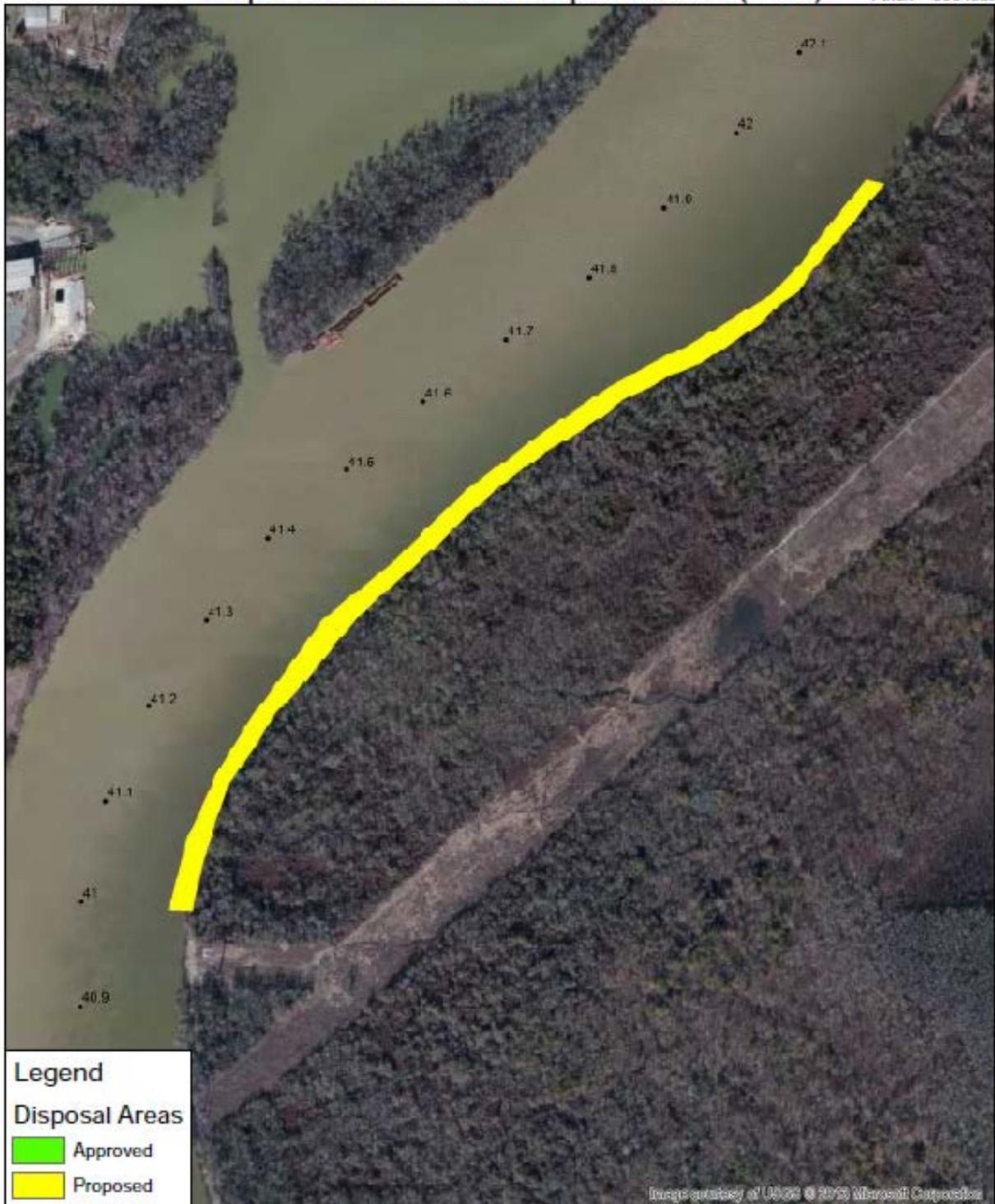


Figure 3: Proposed Within-Banks Disposal Area 41.0 – 42.0



Proposed Within Banks Disposal Areas (BWT)

1 inch = 500 feet

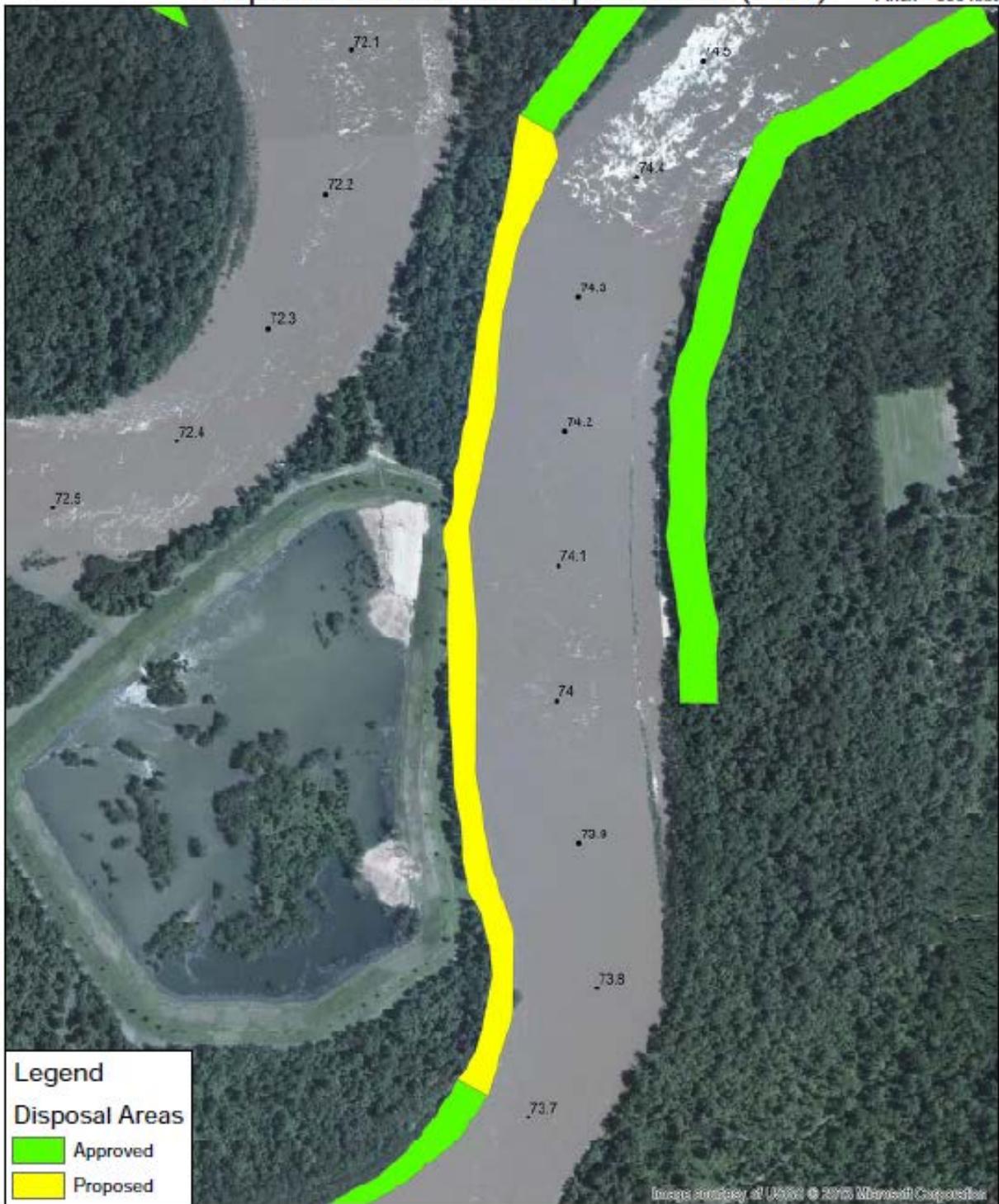


Figure 4: Proposed Within-Banks Disposal Area 73.7 -74.4



Proposed Within Banks Disposal Areas (BWT)

1 inch = 500 feet



Figure 5: Proposed Within-Banks Disposal Area 96.5 – 96.7



Proposed Within Banks Disposal Areas (BWT)

1 inch = 500 feet

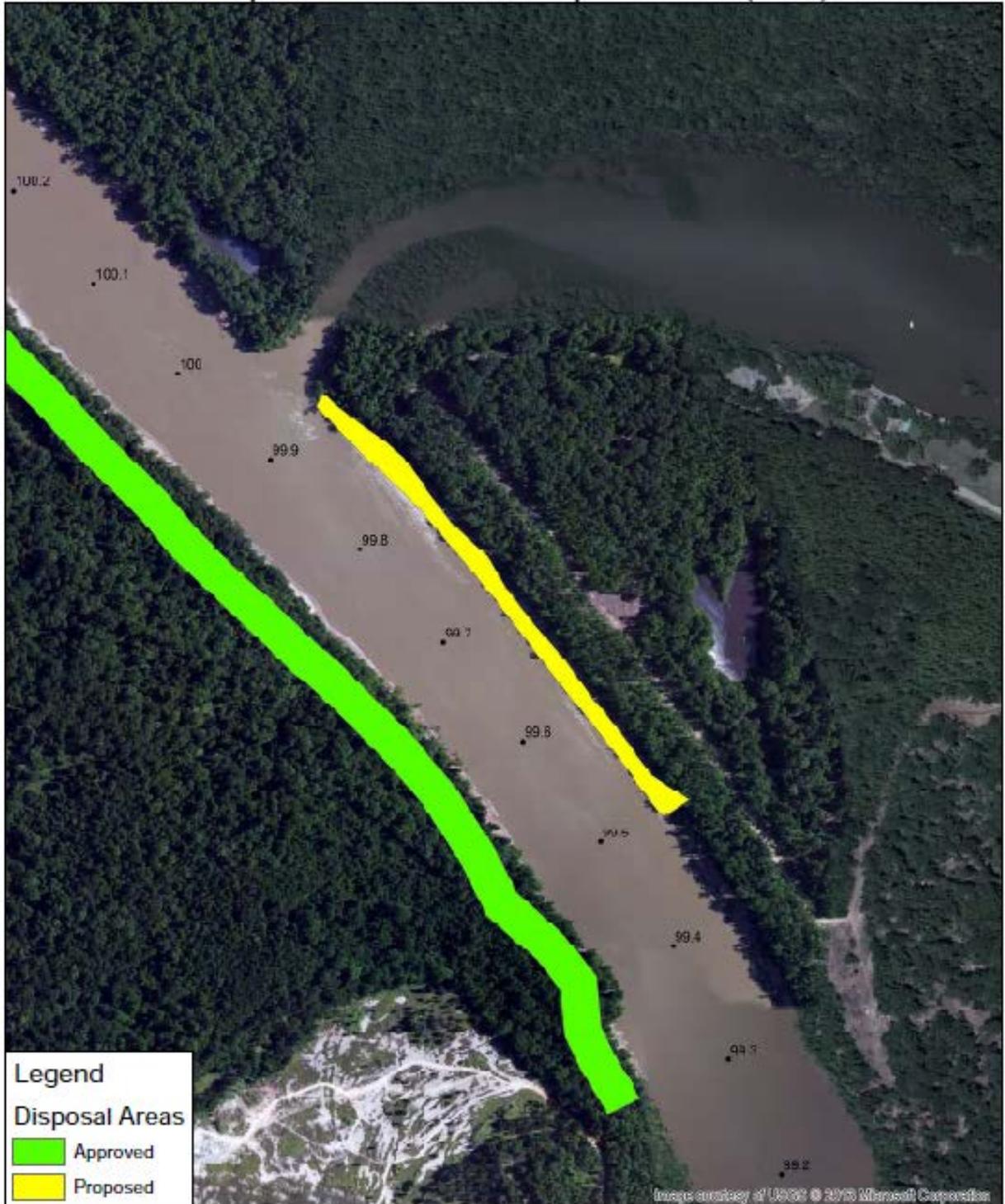


Figure 6: Proposed Within-Banks Disposal Area 99.5 – 99.9



Proposed Within Banks Disposal Areas (BWT)

1 inch = 500 feet

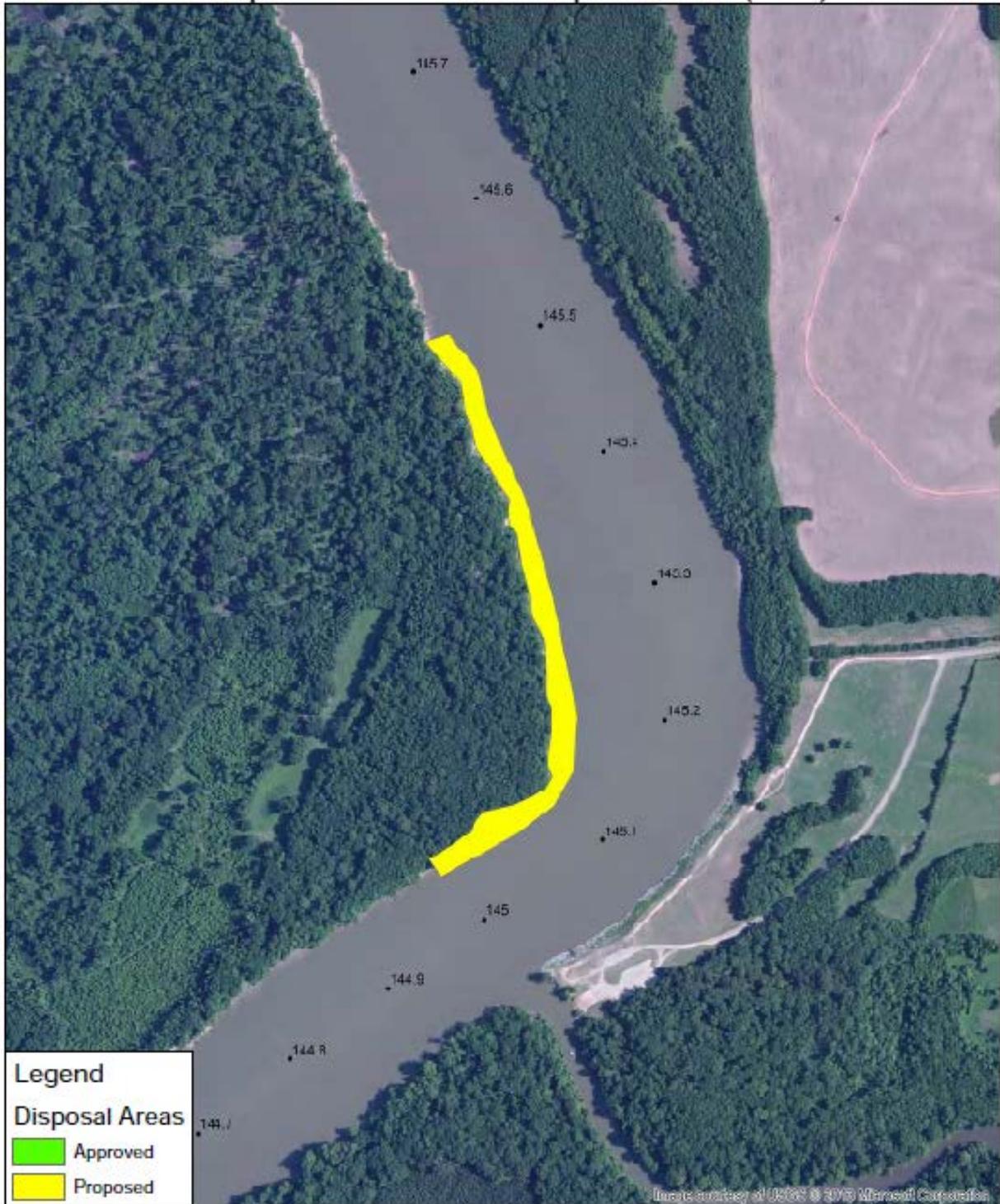


Figure 7: Proposed Within-Banks Disposal Area 145.0 – 145.5



Proposed Within Banks Disposal Areas (BWT)

1 inch = 600 feet

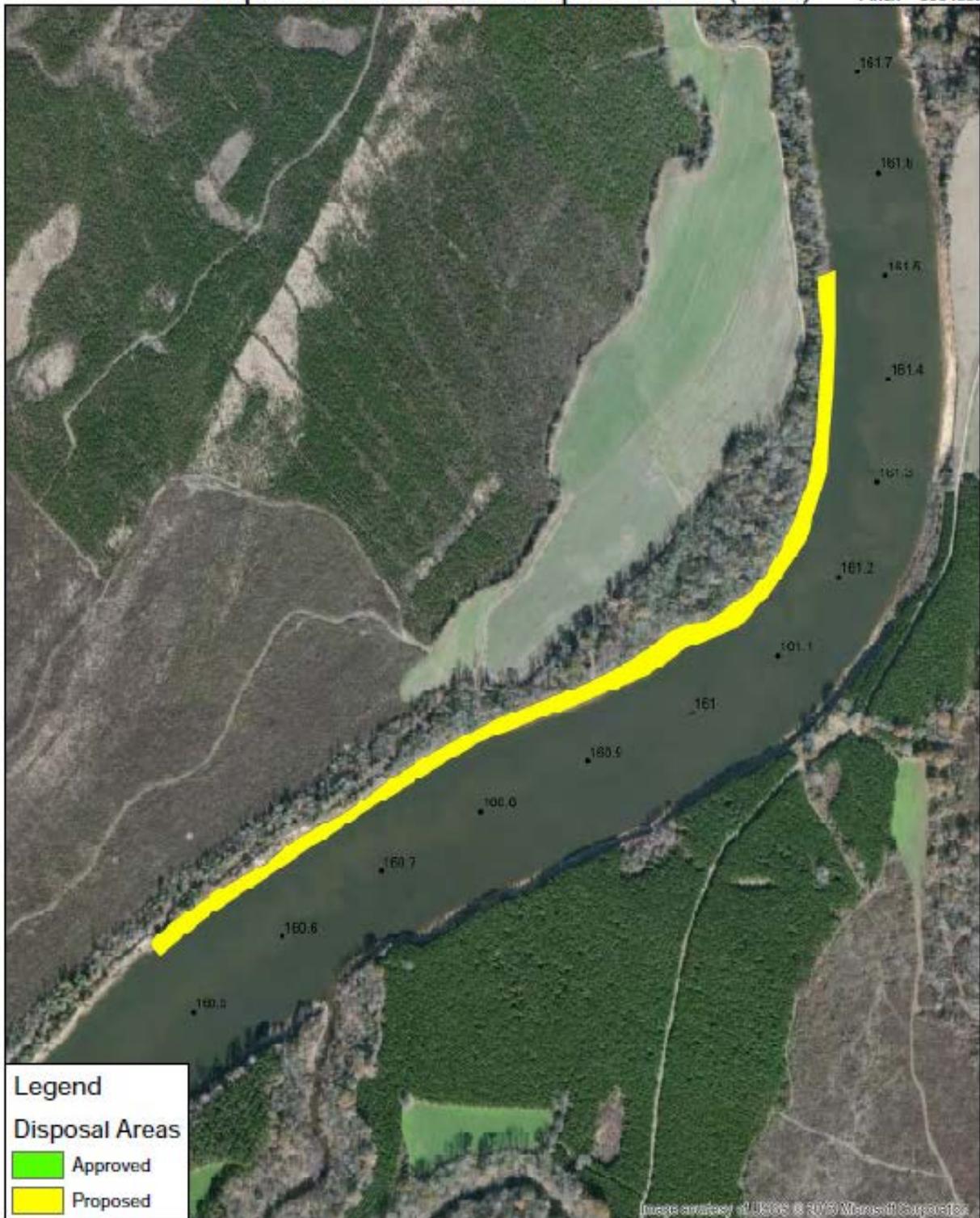


Figure 8: Proposed Within-Banks Disposal Area 160.5 – 161.5



Proposed Within Banks Disposal Areas (BWT)

1 inch = 500 feet

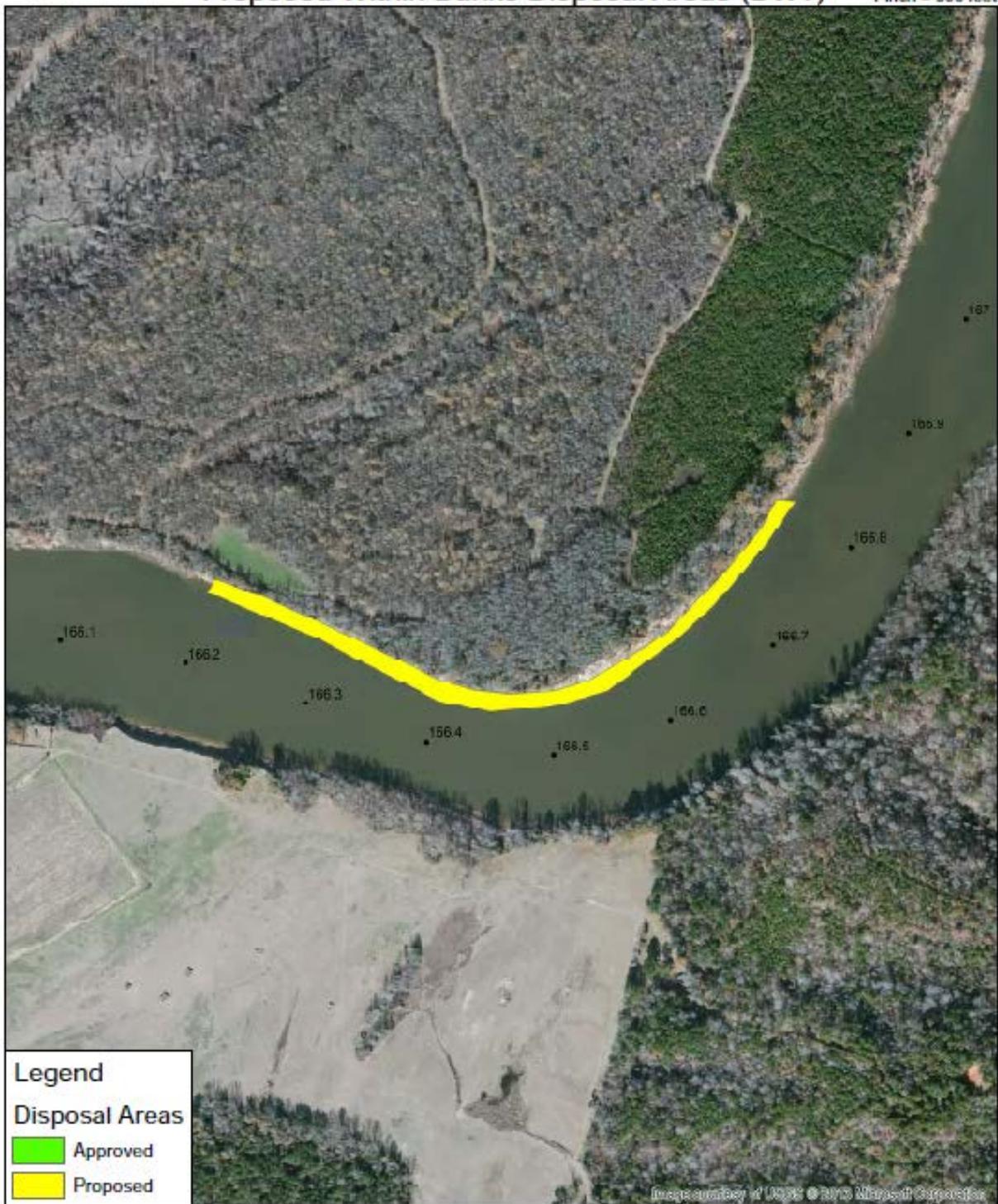


Figure 9: Proposed Within-Banks Disposal Area 166.2 – 166.8



Proposed Within Banks Disposal Areas (BWT)

1 inch = 500 feet

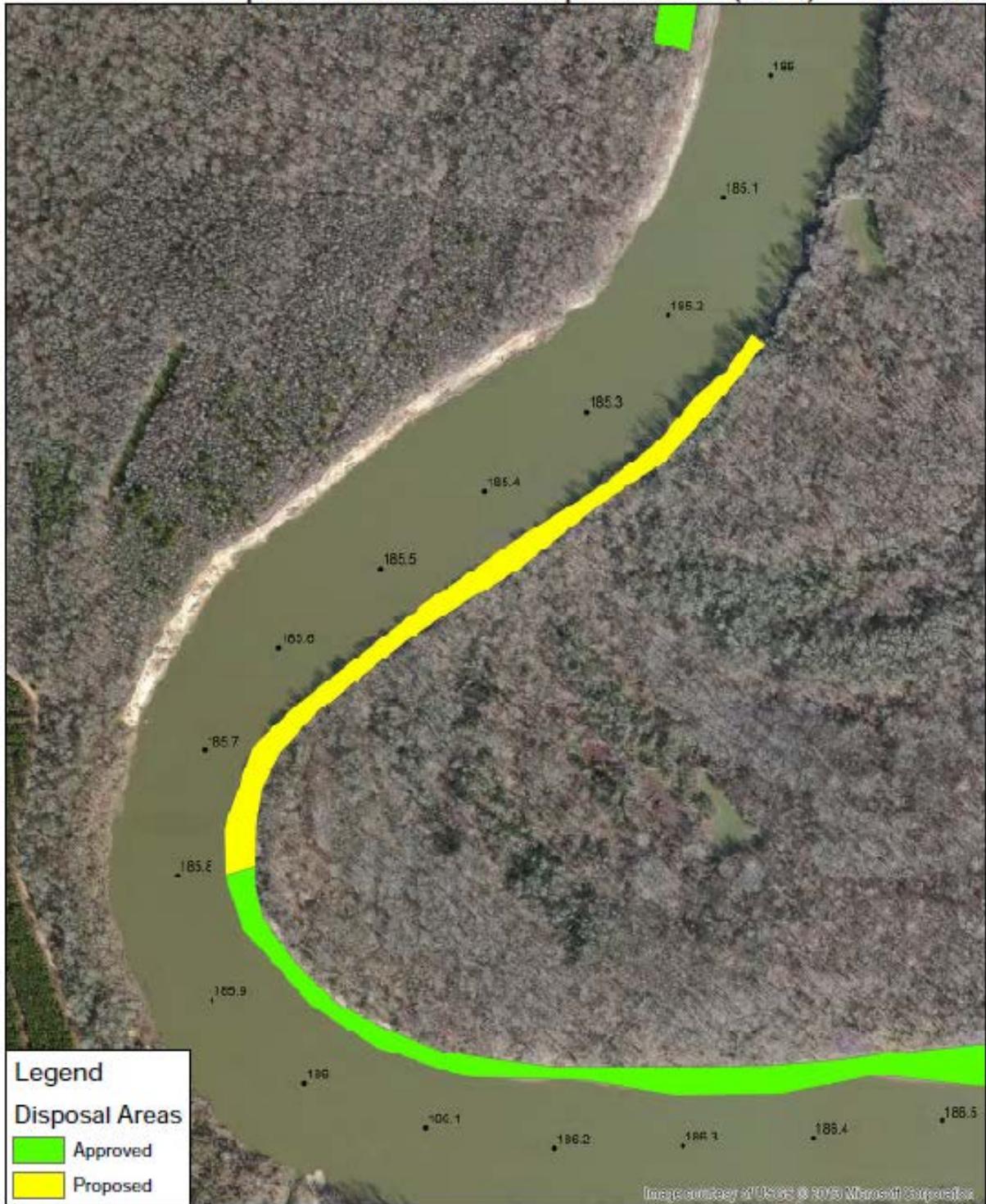


Figure 10: Proposed Within-Banks Disposal Area 185.2 – 185.8



Proposed Within Banks Disposal Areas (BWT)

1 inch = 600 feet

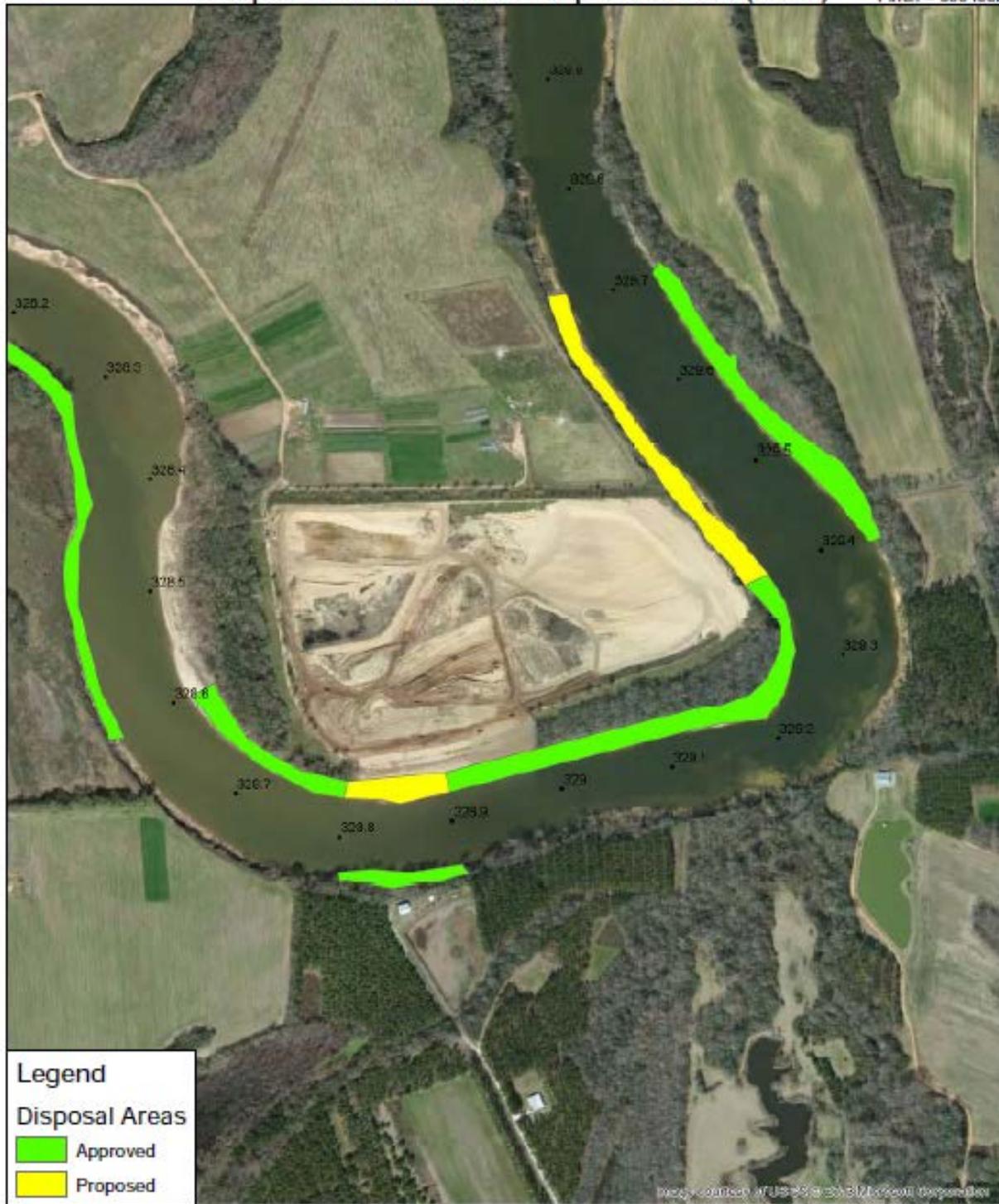


Figure 11: Proposed Within-Banks Disposal Areas 328.8 – 328.9 and 329.4 – 329.7



Mt. Vernon Landing (RM 41.1)

1 inch = 300 feet



Figure 12: Proposed Small Boat Access Channel Mt Vernon Landing 41.1



Slough-WMA (RM 213.9)

1 inch = 300 feet

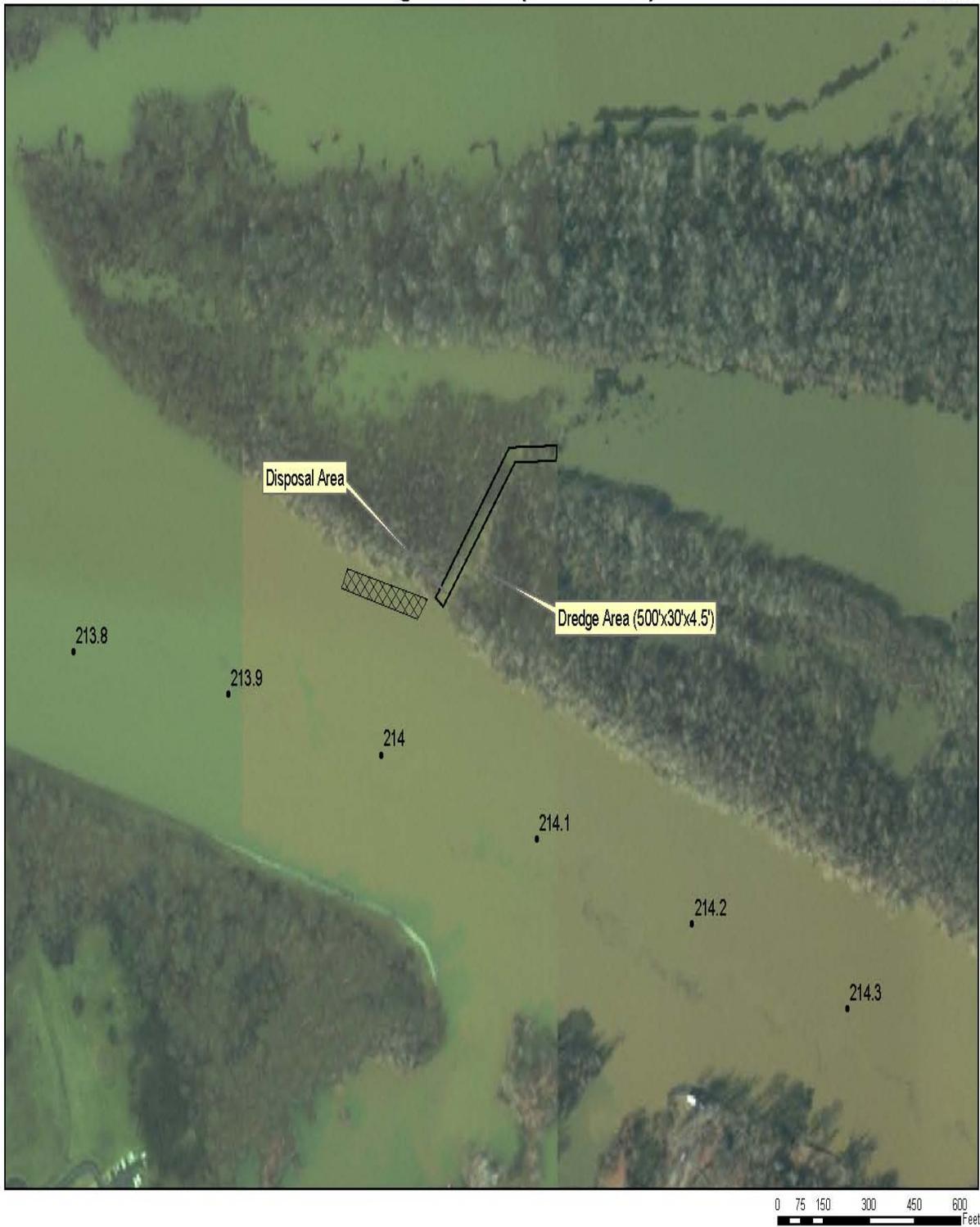


Figure 13: Proposed Small Boat Access Channel Slough-WMA 213.9



Foscue Creek PUA (RM 214.2)

1 inch = 200 feet

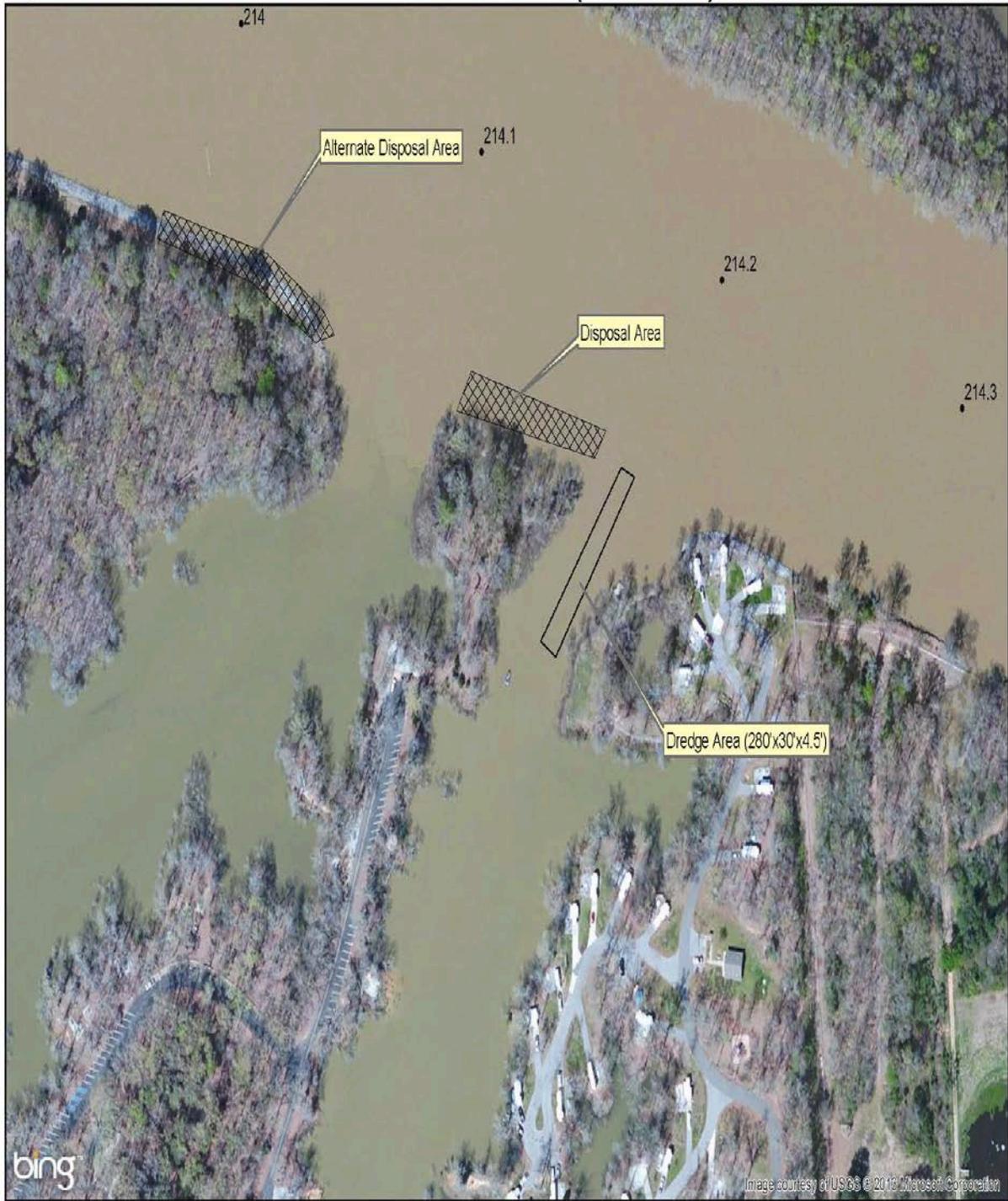


Figure 14: Proposed Small Boat Access Channel Foscue Creek PUA 214.2



Grain Elevator Slough (RM 215)

1 inch = 300 feet



Figure 15: Proposed Small Boat Access Channel Grain Elevator Slough 215



Devils Run (RM 220.3)

1 inch = 300 feet



0 75 150 300 450 600 Feet

Figure 16: Proposed Small Boat Access Channel Devils Run 220.3



Slough @ 220.6 (RM 220.6)

1 inch = 300 feet



Figure 17: Proposed Small Boat Access Channel Slough 220.6



Damsite PUA (Selden Spillway Cutoff)

1 inch = 300 feet



Figure 18: Proposed Small Boat Access Channel Damsite PUA (Selden Spillway Cutoff)



Slough @ 279.4 (RM 279.4)

1 inch = 300 feet



19: Proposed Small Boat Access Channel Slough 279.4



Martin Slough Upper (RM 280.1)

1 inch = 300 feet

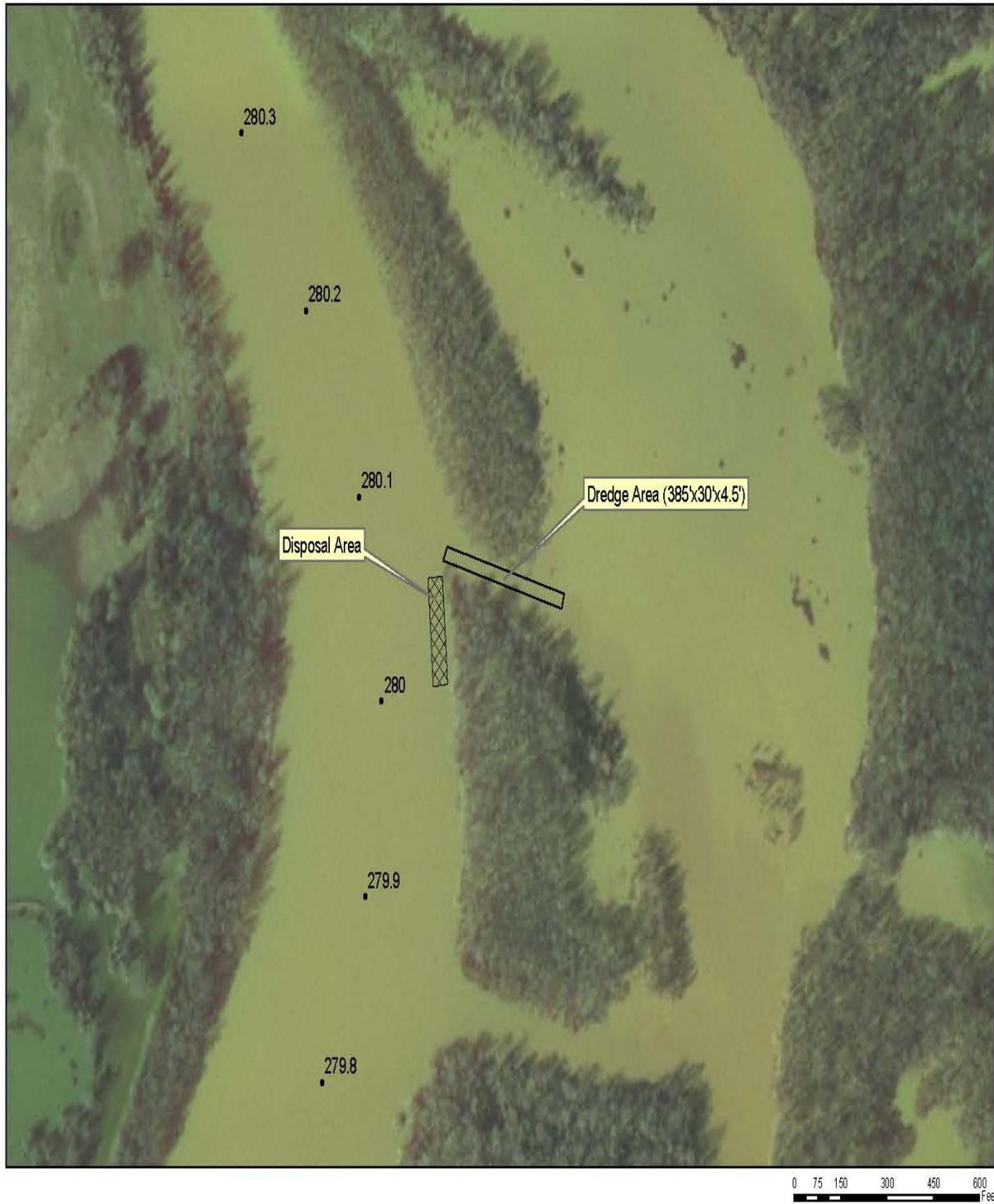


Figure 20: Proposed Small Boat Access Channel Martin Slough 280.1



Mill Creek Boat Ramp (RM 337.4)

1 inch = 300 feet



Figure 21: Proposed Small Boat Access Channel Mill Creek Ramp 337.4



Gwin's Slough (RM 371.0)

1 inch = 300 feet



Figure 22: Proposed Small Boat Access Channel Gwin's Slough 371.0



Smith Camp (RM 377.3)

1 inch = 200 feet



Figure 23: Proposed Small Boat Access Channel Smith Camp 377.3



Camp Oliver Lower (RM 381.1)

1 inch = 500 feet



Figure 24: Proposed Small Boat Access Channel Camp Oliver Lower 381.1



Camp Oliver Middle (RM 381.3)

1 inch = 500 feet



Figure 25: Proposed Small Boat Access Channel Camp Oliver Middle 381.3



Camp Oliver Upper (RM 381.5)

1 inch = 500 feet

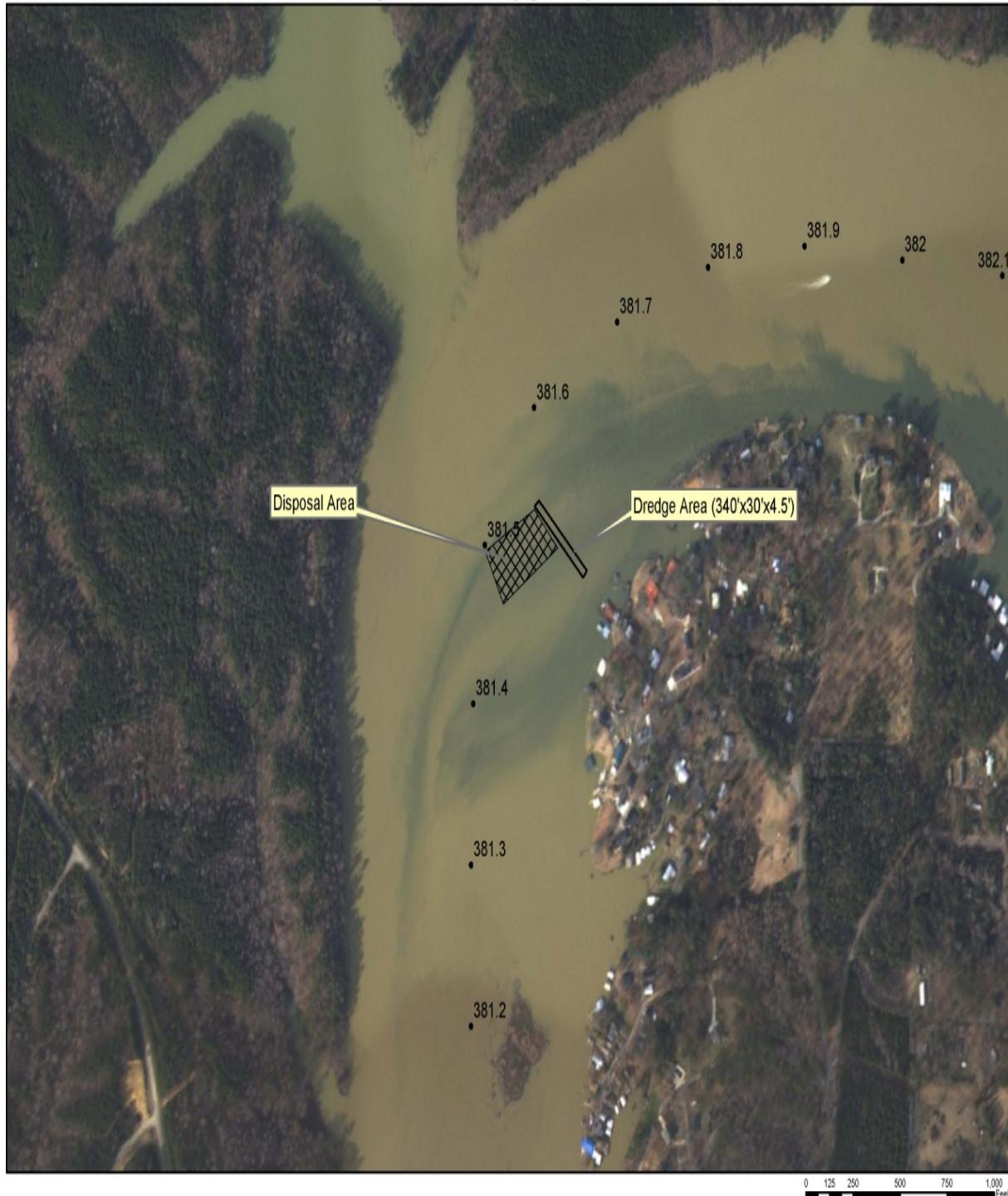


Figure 26: Proposed Small Boat Access Channel Camp Oliver Upper 381.5



Howton's Camp (RM 385.4)

1 inch = 300 feet



Figure 27: Proposed Small Boat Access Channel Howton's Camp 385.4



Riverlawn Slough Lower (RM 403.7)

1 inch = 300 feet



Figure 28: Proposed Small Boat Access Channel Riverlawn Slough Lower 403.7



Riverlawn Slough Upper (RM 404.1)

1 inch = 300 feet



Figure 29: Proposed Small Boat Access Channel Riverlawn Slough Upper 404.1



Figure 30: Jackson Bar Diverter Jetties

2.0 ENVIRONMENTAL SETTING WITHOUT THE PROJECT

2.1 GENERAL ENVIRONMENTAL SETTING

The Black Warrior-Tombigbee River Waterway receives the drainage of the Black Warrior River and the Tombigbee River. The basin extends southerly from the divide of the Tennessee River in northwest Alabama and is bounded on the east by basins of the Coosa, Cahaba, and Alabama Rivers and on the west by the upper Tombigbee and the Pascagoula drainage systems. The Black Warrior River is formed by the junction of the Locust and Mulberry Forks approximately 20 miles west of Birmingham and flows southwestward 45 miles to Tuscaloosa and thence southward 120 miles to its mouth at Demopolis. From its head above the John Hollis Bankhead Lock and Dam, the Black Warrior falls 182 feet in 4 pools to its junction at Demopolis with the Tombigbee River 216 miles above Mobile. From Demopolis, the Tombigbee falls an additional 76 feet in 2 pools, providing a total lift of 257 feet over a waterway distance of 463 miles from its point of origin to its confluence with the Alabama River some 45 miles north of Mobile.

2.2 SIGNIFICANT RESOURCES DESCRIPTION

2.2.1 FISHERY RESOURCES

There are approximately 136 species of fishes known to exist in the main stream and tributaries of the Black Warrior-Tombigbee drainage system. Sport species include catfish (*Ictalurus spp.*), bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), spotted bass (*Micropterus punctulatus*), striped bass (*Morone saxatilis*), white crappie (*Pomoxis annularis*), and sunfish (*Lepomis spp.*). Other species are buffalo (*Ictiobus bubalus*), drum (*Aplodinotus grunniens*), minnows, shiner, chub, shad, gars, carp (*Cyprinus carpio*), Alabama shad (*Alosa alabamae*), striped mullet (*Mugil cephalus*), Gulf sturgeon (*Acipenser oxyrinchus desotoi*), and the Atlantic needlefish (*Strongylura marina*).

Sport fishery is popular among anglers of all ages within the river basin. There are several fishing tournaments and rodeos hosted by various organizations annually.

2.2.2 WILDLIFE RESOURCES

The forested areas along the BWT Rivers provide excellent habitat for game species such as white-tailed deer (*Odocoileus virginianus*), squirrels (*Sciurus spp.*), and turkey (*Meleagris gallopavo*). Open land games species include quail (*Colinus virginianus*), Eastern cottontail rabbit (*Sylvilagus floridanus*), and doves (*Columbigallina passerina*). Other species common to the areas are Other game animals in the basin include raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), fox (*Vulpes vulpes*), bobcat (*Felis rufus*), snipe (*Capella gallinago*), armadillo (*Dasypus novemcinctus*), beaver (*Castor canadensis*), rat (*Rattus norvegicus*), mouse (*Mus spp*), chipmunk (*Tamias spp*), shrew (*Sorex araneus*), mole (*Condylura spp, Parascalops spp, Scalapus spp*), bat (*Myotis spp, Lasiurus spp, Eptesicus spp, Tadarida spp*), and woodcock (*Scolopax minor*).

2.2.3 LAND USE

Land use patterns of the project areas generally include unforested land along the riverbanks and open water.

2.2.4 WETLANDS

Palustrine marshes, swamps and bottomland hardwoods are common adjacent to the Black Warrior and Tombigbee Rivers and its tributaries. Generally, the habitat quality of these areas is high. The proposed small boat access channels located in the lower watershed lie within freshwater emergent wetlands and those in the upper watershed lie within lakes with sloping banks.

2.2.5 FLOODPLAIN

The proposed project is located within the elevation of the 100-year floodplain.

2.2.6 VEGETATION

Vegetation along the BWT waterway include oak (*Quercus* spp.), sweetgum (*Liquidambar styraciflua*), beech (*Fagus grandifolia*), hickory (*Carya* spp.), elm (*Ulmus* spp.), yellow poplar (*Liriodendron tulipifera*), hackberry (*Celtis occidentalis*), magnolia (*Magnolia virginiana*), mulberry (*Morus* spp.) red bay (*Persea borbonia*), black willow (*Salix nigra*), cottonwood (*Populus deltoides*), box elder (*Acer negundo*), sycamore (*Cephalanthus occidentalis*), giant cutgrass (*Zizaniopsis milicea*), cattail (*Typha* spp.) maidencane (*Panicum hemitomon*), water hyacinth (*Eichornia crassipes*), water primrose (*Ludwigia* spp.), alligatorweed (*Alternanthera philoxeroides*) and water willow (*Justicia americana*). Note that the dredging and disposal areas are located in open water and therefore the proposed project areas are unvegetated.

2.2.7 ENDANGERED AND THREATENED SPECIES

Threatened and endangered species known to occur in the Counties comprising the proposed project areas are the bald eagle (*Haliaeetus leucocephalus*), wood stork (*Mycteria americana*), red-cockaded woodpecker (*Picoides borealis*), piping plover (*Charadrius melodus*), Black Warrior waterdog (*Necturus alabamensis*), flattened musk turtle (*Sternotherus depressus*), gopher tortoise (*Gopherus polyphemus*), Gulf sturgeon (*Acipenser oxyrinchus desotoi*), Alabama sturgeon (*Scaphirhynchus suttkusi*), southern clubshell (*Pleurobema decisum*), inflated heelsplinter (*Potamilus inflatus*), ovate clubshell (*Pleurobema perovatum*), triangular kidneyshell (*Ptychobranthus greeni*), stirrupshell (*Quadrula stapes*), fine-lined pocketbook (*Lampsilis altilis*), American chaffseed (*Schwalbea americana*), West Indian manatee (*Trichechus manatee*), hawksbill sea turtle (*Eretmochelys imbricate*), leatherback sea turtle (*Dermochelys coriacea*), Kemp's ridley sea turtle (*Lepidochelys kempii*), green sea turtle (*Chelonia mydas*), Alabama red-belly turtle (*Pseudemys alabamensis*), eastern indigo snake (*Drymarchon corais couperi*), black pine snake (*Pituophis melanoleucus lodingi*), heavy pigtoe (*Pleurobema mtaitianum*), Orangenacre mucket (*Lampsilis pervalis*), Alabama moccasinshell (*Medionidus acutissimus*), Mitchell's satyr butterfly (*Neonympha mitchellii mitchellii*), Indiana bat (*Myotis sodalists*), gray bat (*Myotis grisescens*), southern acornshell (*Epioblasma othcaloogensis*), upland combshell (*Epioblasma metastriata*), dark pigtoe (*Pleurobema furvum*), watercress darter (*Etheostoma nuchale*), Cahaba shiner (*Notropis cahabae*), goldline darter (*Percina aurolineata*), vermilion darter (*Etheostoma chermocki*), rush darter (*Etheostoma phytophilum*), Georgia rockcress (*Arabis Georgiana*), Mohr's Barbara button (*Marshallia mohrii*), Gentian pinkroot (*Spigelia gentianoides*), Tennessee yellow-eyed grass (*Xyris tennesseensis*), Georgia aster (*Symphotrichum georgianum*), cylindrical lioplax (*Lioplax cyclostomaformis*), plicate rocksnail (*Leptoxis plicata*), round rocksnail (*Leptoxis ampla*), and white fringeless orchid (*Platanthera integrilabia*).

2.2.8 CULTURAL RESOURCES AND HISTORIC PROPERTIES

Numerous cultural resource studies have been conducted along the Black Warrior and Tombigbee Rivers. Probably the earliest scientific investigations of archeological sites were conducted by Clarence Bloomfield Moore, associated with the Philadelphia Academy of Natural Sciences. Working from his flat-bottomed steamer Gopher, Moore located and excavated at sites along the Tombigbee and Black Warrior Rivers in 1901, 1905, and 1907. Since then,

archeologists have performed numerous surveys and excavations documenting human occupation in the area. Since the completion of the FSFEIS for the maintenance of the Black Warrior and Tombigbee Rivers, multiple major cultural resource studies have been performed on this river system for the Mobile District. In addition, the University of Alabama and the University of South Alabama have conducted academic research projects along the Tombigbee River gathering data, including datable carbon samples, from eroded portions of archaeological sites within the banks of the river. These research projects have increased our knowledge of the culture history of southeastern Alabama and the river basin. The reports for these studies describe in detail the prehistoric and historic cultural setting for both the Black Warrior and Tombigbee Rivers.

Mobile District Archaeologists conducted background research for each of the 12 within bank disposal areas, 18 small boat access channels and the proposed Jackson Jetties project. This background research included a review of the Alabama Archaeological Site File, the Alabama Phase I Surveyed Space website, the National Register of Historic Places, and Mobile District submerged cultural resources files. As a result of this review cultural resources potentially eligible for listing on the National Register of Historic Places were identified within the area of potential effect for 6 of the 12 within bank disposal sites and at the location of the proposed Jackson Jetties project. No previously recorded cultural resources were identified within the area of potential effect for the 18 small boat access channel sites and associated disposal areas. The cultural resources identified include prehistoric, proto historic, and historic archaeological sites spanning thousands of years of human occupation along the BWT. A report documenting the background research conducted by the Mobile District will be provided to the Alabama State Historic Preservation Officer for review and comment. The Mobile District will also consult with Federally recognized Tribes with ancestral ties to the BWT.

2.2.9 NAVIGATION

The BWT Rivers are federally maintained navigation channels that are actively used for barge navigation. The barge navigation channel is maintained by the operation of the locks and dams on the rivers and by routine channel dredging/disposal operations.

2.2.10 RECREATION

Recreation at the dredging and disposal sites is water dependent. Boating, fishing, hunting, camping, water skiing, etc. are recreational opportunities common to the proposed project sites. Recreational opportunities are afforded through the maintenance of the small boat access channels by providing access to hundreds of miles of boating, fishing and hunting.

2.2.11 WATER QUALITY

The BWT is classified for fish and wildlife purposes for its entire length. Certain areas of the river are classified for public water supply, these reaches include: one mile downstream and five miles upstream from U.S. Highway 43, Bankhead Lock and Dam to the Junction of Locust and Mulberry Forks, Sayre Water Supply Intake to the county road between Hayden and county line, the junction of Locust and Mulberry Forks to Burnt Cane Creek (9 miles below Cordova), Frog

Ague Creek (Cordova) to the junction of Mulberry, the junction of Mulberry and Sipse Forks to Lewis Smith Dam. In 1983, an analysis was performed to analyze dissolved oxygen, temperature, pH, conductivity, alkalinity, turbidity, Kjeldahl nitrogen, nitrate-nitrite nitrogen, total ammonia nitrogen, total phosphorus, ortho phosphorus, calcium, magnesium, hardness, iron manganese, zinc, lead, chromium, cadmium, barium, nickel, copper, arsenic, mercury, total organic carbon pesticides and polychlorinated biphenyls (PCB's) and the results indicated no significant water quality issues.

2.2.12 AIR QUALITY

The Air Quality Index (AQI) is an index for reporting daily air quality. According to the 2013 AQI report for Baldwin, Jefferson, Mobile, Sumter and Tuscaloosa Counties, the median AQI for each county was good with reported readings at or below 50, above which AQI reports are considered moderate (EPA, 2014). Reports for Choctaw, Clarke, Greene, Hale, Marengo, Walker and Washington Counties were not available for generation.

2.2.13 NOISE

The proposed project areas are located along the riverbanks. Noise levels are low to moderate depending on recreational activities that may be occurring within the project areas.

2.2.14 AESTHETICS

The scenery of the within-banks disposal areas and diverter jetties are located along unforested riverbanks. There are also forested lands located adjacent to proposed project areas. While the scenery of the small boat access channels are dominated by vegetated river banks with the exception of Mt. Vernon Landing, Foscoe Creek UA, Damsite PUA, and Mill Creek PUA which are located near boat launches where vegetation has been removed. All access areas face the open water of the Black Warrior River as well as backwater sloughs.

2.2.15 HAZARDOUS, TOXIC AND RADIOLOGICAL WASTE

The proposed project sites are water bottoms of the State of Alabama. None of the locations proposed for dredging or as dredged material disposal sites are known to have supported, generated or to have received hazardous wastes, hazardous materials, solid wastes, or petroleum products. The project locations are rural and there are no industries sited nearby.

There is no electricity at the sites and therefore no threats from PCB are at the sites. There are no underground storage tanks located in the proposed project areas.

2.2.16 SOCIOECONOMICS

According to the US Census Bureau website, the 2013 population estimates as well as percentage of change from 2010 for the BWT River system counties are as follows: Baldwin County 195,500 an increase of 7.3%; Choctaw County 13,426 a decrease of 3.1%; Clarke County 25,207 a decrease of 2.4%; Greene County 8,744 a decrease of 3.3%; Hale County

15,406 a decrease of 2.2%; Jefferson County 659,479 an increase of 0.2%; Marengo County 20,155 a decrease of 4.2%; Mobile County 414, 079 an increase of 0.3%; Sumter County 13,361 a decrease of 2.9%; Tuscaloosa County 200,821 an increase of 3.2%; Walker County 65,998 an increase of 1.5%; and Washington County 16,877 a decrease of 4.0% .

The median household incomes for these counties (listed in the order above) in 2010 were \$50,706; \$35,123; \$30,954; \$23,777; \$29,409; \$45,415; \$34,515; \$42,973; \$22,655; \$43,996; \$37,408; and \$42,256 respectively. However, these counties had approximately 13.3%; 20.2%; 26.4%; 32.9%; 27.7%; 17.0%; 22.8%; 19.5%; 26.0%; 38.1%; 19.2%; 19.8%; and 17.1% of individuals living below the poverty level respectively (US Census Bureau, 2014).

Employers in these counties include manufacturer shipment, merchant wholesalers, retail sales, accommodations and food service sales, minority-owned firms, women-owned firms, and private nonfarm establishments (US Census Bureau, 2014).

2.2.17 PRIME AND UNIQUE FARMLAND

There are no prime or unique farmlands located within or near the proposed project area.

3.0 ALTERNATIVES TO THE PROPOSED ACTION

3.1 NO ACTION

With the No Action Alternative, the proposed within-banks disposal areas, proposed small boat access channels and construction of diverter jetties at Jackson Bar would not occur. The proposed within-banks disposal areas are necessary to maintain adequate capacity based on dredging amounts and frequency requirements for the respective bars. The material that would be placed at the proposed disposal areas would help stabilize the bank at those locations. The proposed small boat access channels are necessary to provide access to tributaries, channels, and boat ramps. As well, the construction of the diverter jetties at Jackson Bar section of the Tombigbee River is needed due to a hazard caused by the bridge being located in the bend of the river and the accreting sand bar. Therefore this alternative was not further considered.

4.0 POTENTIAL ENVIRONMENT IMPACTS

4.1 FISHERY RESOURCES

Fishery resources would not be impacted by the proposed dredging and disposal operations for the within-bank disposal areas, small boat access channels and diverter jetties.

4.2 WILDLIFE RESOURCES

Wildlife resources would not be impacted by the dredging and disposal operations of the within-banks disposal areas, small boat access channels and diverter jetties due to these areas being unforested riverbanks and open water areas.

4.3 LAND USE

The proposed project does not change land use of the area and is consistent with State, area wide and local plans and programs for land use in the area. The use of land subsequent to the proposed project would be in accordance with their present use.

4.4 WETLANDS

The proposed project areas include open water disposal areas or within banks sites adjacent to existing disposal areas. The proposed disposal areas are located outside of wetland habitats by design and their use will not result in the placement of fill material in wetlands.

The proposed action takes place in waters of the United States. Per the small boat access channels dredging study of 1995 referenced above, “Emergent wetlands could be negatively impacted when an SBAC area is initially opened up because the wetland environment would then have to adjust to fluctuating water levels. However, rising and falling water levels would create a new cyclic aquatic environment in the wetland which would result in ecosystem adjustment.”

4.5 FLOODPLAIN IMPACTS

The proposed project areas occur in open water disposal or within banks sites along the BWT. The proposed dredging and disposal activities would not result in impacts to the floodplain.

4.6 VEGETATION

There would be no impacts to vegetation by the proposed project areas.

4.7 ENDANGERED AND THREATENED SPECIES

Federally listed species with potential to occur in the proposed action areas include the Gulf sturgeon, Alabama sturgeon, southern acornshell, southern combshell, Coosa moccasinshell, southern pigtoe, orange-nacre mucket, inflated heelsplitter and Alabama moccasinshell.

The USACE coordinated with the U.S. Fish and Wildlife Service (FWS) regarding the species potentially affected by the continued and new dredging disposal efforts of the newly proposed within-banks disposal areas and construction of diverter jetties as well as existing previously approved dredging locations, within-bank disposal areas, upland disposal areas and small boat access channels along the BWT River. On March 5, 1993 the FWS issued a Biological Opinion (BO) for Maintenance Dredging of the BWT Rivers for impacts to the inflated heelsplitter. This BO was revised in 1998 and amended in 2002 through the coordination process. In a letter dated December 20, 2013, the FWS recommended review of the level of incidental take authorized through the amended BO to ensure take would not be exceeded by the current proposal. The USACE believes the current proposal will not exceed the level of incidental take authorized through the amended BO. In addition, surveys will need to be conducted for the mussel at the proposed within-banks disposal areas and previously approved within-banks disposal areas if

these sites have not be used in the past six years. In this letter, the FWS also concurred with our determination that avoiding dredging in the Federal navigation channel and small boat access channels during the period of March through May would minimize impacts to Gulf sturgeon.

4.8 CULTURAL RESOURCES AND HISTORIC PROPERTIES

The Mobile District has determined that 6 of the 12 within banks disposal areas will require avoidance and or monitoring plans to ensure that there are no significant impacts to cultural resources. Avoidance plans will be developed for all cultural resources that are indentified within or in close proximity of the proposed within banks disposal areas. Monitoring plans will be developed and the sites will be monitored to ensure that adverse effects associated with the proposed action are not occurring. These effects may be due to increased access, erosion, or deposition. These plans will be coordinated with the Alabama SHPO and interested federally recognized Tribes.

No previously recorded cultural resources were identified within the area of potential effect for the 18 small boat access channel sites and associated disposal areas. The Mobile District has determined no historic properties affected by the proposed action as per 36 Code of Regulation 800.4(d)(1). This project will not have a significant impact on cultural resources.

The Jackson Jetty project is in the preliminary stages and finalized construction drawings are not available for review. Background research shows that the proposed work area between river miles 90.5 to 92.5 has a high sensitivity for cultural resources. Prior to construction a terrestrial and submerged phase I cultural resources assessment will be required. The results of these phase I surveys and the Mobile District's effects determination will be provided to the SHPO and interested federally recognized Tribes for comment and review. If cultural resources eligible for listing on the National Register of Historic Places are identified as a result of these phase I cultural resources surveys appropriate avoidance, monitoring, testing, mitigation plans, and or memorandum of agreements will be developed and provided to the appropriate agencies for review and comment.

4.9 NAVIGATION

Navigation would be temporarily impacted during the operation and maintenance activities at each site. However, normal navigation would resume upon completion of the proposed project.

4.10 RECREATION

The proposed project would not adversely affect any components of the National Wild and Scenic River System; the National Trails System; and does not impact any parks, parklands, ecologically critical areas, or other areas of ecological, recreational scenic, or aesthetic importance.

There will be beneficial opportunities for the recreational facilities (boat ramps and camping areas) because they would have increased availability upon completion of the proposed project.

4.11 WATER QUALITY

Impacts to water quality that result from the project would be short-term, minor and reversible. Increased suspended sediments and turbidity would occur during the execution of the dredging efforts. These conditions would subside upon completion of the work.

Current water quality certification exists for previously approved dredging locations, within-bank disposal areas, upland disposal areas and small boat access channels along the Black Warrior-Tombigbee River. Coordination has begun to obtain water quality certification of these newly proposed within-bank disposal areas, proposed diverter jetties as well as newly proposed small boat access channels to be included in the recertification of the current water quality certification.

4.12 AIR QUALITY

There may be short-term and minimal impacts to air quality in the immediate vicinity of the proposed project. These impacts would be temporary increases in particulates and emissions from the dredging equipment. These impacts would subside upon completion of the work.

4.13 NOISE IMPACTS

There would be no permanent noise impacts associated with the proposed dredging and disposal action. Noise impacts would be temporary, associated with the dredging process, and cease upon completion of the action.

4.14 AESTHETICS

There would be no permanent aesthetic impacts associated with the proposed dredging and disposal action. Aesthetic impacts would be temporary, associated with the dredging process, and revert to pre-project conditions upon completion of the action.

4.15 HAZARDOUS, TOXIC AND RADIOLOGICAL WASTE

The proposed project would not result in the generation, transport, treatment, storage or disposal of hazardous or toxic wastes.

4.16 SOCIOECONOMICS

The proposed project would provide some economic benefits to the area. Economic benefits can be realized through temporary employment of laborers and support of local businesses for the purchase/rental of equipment and supplies.

4.17 PRIME AND UNIQUE FARMLAND

All activities proposed as part this project would occur within ordinary high water of the BWT River system. No prime or unique farmland would be impacted by the proposed project.

4.18 PUBLIC SAFETY AND HEALTH

There would be no impacts to public safety and health associated with this action.

4.19 PROTECTION OF CHILDREN

The EO 13045, Protection of Children from Environmental Health Risks and Safety Risks (21 April 1997), recognizes a growing body of scientific knowledge that demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because children's bodily systems are not fully developed; because children eat, drink, and breathe more in proportion to their body weight; because their behavior patterns may make them more susceptible to accidents. Based on these factors, the President directed each Federal agency to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. The President also directed each Federal agency to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. The recommended plan does not pose any disproportionate environmental health risk or safety risk to children.

4.20 ENVIRONMENTAL JUSTICE

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations (11 February 1994) requires that Federal agencies conduct their programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under such programs, policies, and activities because of their race, color, or national origin. The recommended plan will not create disproportionately high or adverse human health or environmental impacts on any low-income populations of the surrounding area.

4.21 CUMULATIVE EFFECTS

The CEQ regulations define cumulative impacts as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other action" 40 C.F.R. § 1508.7. Actions considered in the cumulative impacts analysis include implementation of the recommended plan and other Federal, State, Tribal, local or private actions that impact the resources affected by the recommended plan.

Within the project area, various past Federal, State, and private actions have impacted the BWT River system habitat and natural flow regime including construction of the USACE dams, urban development, agricultural activities, navigation channel maintenance dredging and disposal, small impoundments and railroad bridges.

There would be no significant cumulative effects posed by the proposed action.

5.0 ANY IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS WHICH WOULD BE INVOLVED SHOULD THE RECOMMENDED PLAN BE IMPLEMENTED

Any irreversible or irretrievable commitments of resources involved in the proposed action have been considered and are either unanticipated at this time, or have been considered and determined to present minor impacts.

6.0 ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Any adverse environmental effects which cannot be avoided should the recommended project be implemented are expected to be minor individually and cumulatively.

7.0 THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The proposed project constitutes a short-term use of man's environment and is not anticipated to affect long-term productivity.

8.0 COORDINATION

As required by the National Environmental Policy Act, the USACE, Mobile District coordinated this project with various local, state and Federal agencies. During the early stages of development, the U.S. Fish and Wildlife Service, Alabama Department of Conservation and Natural Resources, Alabama Department of Environmental Management (ADEM) and Alabama State Historic Preservation Officer, were solicited (Appendix A, Coordination Letters) for their comments and/or concerns regarding this proposed project. Appendix B contains the public notice. Additionally, water quality certification is being obtained from ADEM. Final coordination is on-going.

Coordination with the general public was accomplished by making the Draft EA and 404(b)(1) Evaluation Report available through means of a joint public notice being placed on the USACE, Mobile District website and mailing to interested parties and publication of legal notices in newspapers in the vicinity of the work. The notice was published XXXX and informed the interested parties that a 30-day comment period would begin on the date of publication. The legal notice described the proposed project and solicited comments on it were published in the Mobile Press Register, The Birmingham News, and The Tuscaloosa News. The legal notices were published on or around XXXX and also had a 30-day comment period. Interested parties were further advised that they could obtain a copy of the draft documents by calling or e-mailing the request to the USACE, Mobile District contact person identified in the public notice as well as downloading from the USACE, Mobile District web site:

<http://www.sam.usace.army.mil/Missions/PlanningEnvironmental/EnvironmentalAssessments.aspx>.

REFERENCES

U.S. Army Corps of Engineers. 1995. Small Boat Access Channel Dredging Study, Black Warrior and Tombigbee Rivers and the Tennessee-Tombigbee Waterway in Alabama. Mobile District.

U.S. Army Corps of Engineers. 1987. Final Supplement to the Final Environmental Impact Statement, Black Warrior and Tombigbee Rivers, Alabama (Maintenance). Mobile District.

U.S. Army Corps of Engineers. 1976. Final Environmental Impact Statement, Black Warrior and Tombigbee Rivers, Alabama (Maintenance). Mobile District.

U.S. Census Bureau. 2000. State and County Quick Facts (<http://quickfacts.census.gov/qfd/states/01000.html>) Accessed August 2014.

U.S. EPA AirData. Air Quality Index (<http://www.epa.gov/airdata>) Accessed March 2014.

U.S. Fish and Wildlife Service, 20 December 2013. Letter to Mr. Brian A. Zettle, U.S. Army Corps of Engineers, Mobile District.

Sharp, J.A., and Scott, S.H. 2013. Training Structure Study for Jackson Bar: U.S. Army Corps of Engineers, Engineer Research and Development Center, ERDC/CHL TR-1X-DRAFT.

APPENDIX A: COORDINATION



DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

November 13, 2013

REPLY TO
ATTENTION OF:

Inland Environment Team
Planning and Environmental Division

Mr. N. Gunter Guy, Jr.
Commissioner of Conservation
Alabama Department of Conservation and Natural Resources
64 North Union Street
Montgomery, Alabama 36130

Dear Mr. Guy:

The U.S. Army Corps of Engineers (USACE), Mobile District is coordinating water quality recertification of the operation and maintenance of the Federal navigation project and small boat access channels on the Black Warrior and Tombigbee (BWT) river system, Alabama. Tables identifying historic and proposed changes to dredging locations, within-banks disposal areas, above bank disposal areas, and small boat access channels and dredged material disposal sites are enclosed (Enclosures 1 - 4). No changes from the historic Federal navigation channel dredging dimensions are proposed. However, navigational miles were updated to match current GIS data, river bank locations were corrected and some small boat access channel names were updated or changed to match slough names on the BWT navigation charts or match colloquial names used by boaters and river users. In addition, the USACE is proposing to construct jetties at Jackson Bar on the Tombigbee River in Jackson, Alabama due to navigation hazards (see enclosed project description).

Federally-listed threatened and endangered species with ranges within the BWT river system are:

Bald eagle (*Haliaeetus leucocephalus*), wood stork (*Mycteria americana*), red-cockaded woodpecker (*Picooides borealis*), piping plover (*Charadrius melodus*), Black Warrior waterdog (*Necturus alabamensis*), flattened musk turtle (*Sternotherus depressus*), gopher tortoise (*Gopherus polyphemus*), Gulf sturgeon (*Acipenser oxyrinchus desotoi*), Alabama sturgeon (*Scaphirhynchus suttkusi*), southern clubshell (*Pleurobema decisum*), inflated heelsplinter (*Potamilus inflatus*), ovate clubshell (*Pleurobema perovatum*), triangular kidneyshell (*Ptychobranhus greeni*), stirrupshell (*Quadrula stapes*), fine-lined pocketbook (*Lampsilis atilis*), American chaffseed (*Schwalbea americana*), West Indian manatee (*Trichechus manatee*), Perdido Key beach mouse (*Peromyscus polionotus trissyllepsis*), Alabama beach mouse (*Peromyscus polionotus ammobates*), hawksbill sea turtle (*Eretmochelys imbricate*), leatherback sea turtle (*Dermochelys coriacea*), Kemp's ridley sea turtle (*Lepidochelys kempii*), green sea turtle (*Chelonia mydas*), Alabama red-belly turtle (*Pseudemys alabamensis*), eastern indigo snake (*Drymarchon corais couperi*), black pine snake (*Pituophis melanoleucus lodingi*),

heavy pigtoe (*Pleurobema taitianum*), Orangenacre mucket (*Lampsilis pervalis*), Alabama moccasinshell (*Medionidus acutissimus*), Mitchell's satyr butterfly (*Neonympha mitchellii mitchellii*), Indiana bat (*Myotis sodalists*), gray bat (*Myotis grisescens*), southern acornshell (*Epioblasma othcaloogensis*), upland combshell (*Epioblasma metastrata*), dark pigtoe (*Pleurobema furvum*), watercress darter (*Etheostoma nuchale*), Cahaba shiner (*Notropis cahabae*), goldline darter (*Percina aurolineata*), vermilion darter (*Etheostoma chermocki*), rush darter (*Etheostoma phytophilum*), Georgia rockcress (*Arabis Georgiana*), Mohr's Barbara button (*Marshallia mohrii*), Gentian pinkroot (*Spigelia gentianoides*), Tennessee yellow-eyed grass (*Xyris tennesseensis*), Georgia aster (*Symphyotrichum georgianum*), cylindrical lioplax (*Lioplax cyclostomaformis*), plicate rocksnail (*Leptoxis plicata*), round rocksnail (*Leptoxis ampla*), and white fringeless orchid (*Platanthera integrilabia*).

Species potentially affected by the continued or new dredging and disposal efforts and proposed jetties include the Gulf sturgeon, Alabama sturgeon, southern acornshell, southern combshell, Coosa moccasinshell, southern pigtoe, orange-nacre mucket and Alabama moccasinshell. Consistent with the previous coordination with the US Fish and Wildlife Service, we propose to avoid dredging in the Federal navigation channel and small boat access channels March-May to minimize potential impacts on the Alabama sturgeon and the Gulf sturgeon. We solicit your recommendations for locations of vulnerable mussel beds and additional actions that would prevent impacts to these species.

We would appreciate the Alabama Department of Conservation and Natural Resources comments on any other aspect of this proposal. If you have any questions, please contact Ms. Velma Diaz at 251-690-2025 or by email at velma.f.diaz@usace.army.mil.

Sincerely,

Brian A. Zettle
Acting Chief, Environment and Resources
Branch

Enclosures



DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

November 13, 2013

REPLY TO
ATTENTION OF:

Inland Environment Team
Planning and Environmental Division

Mr. Bill Pearson
Field Supervisor
U.S. Fish and Wildlife Service
1208-B Main Street
Daphne, Alabama 36526

Dear Mr. Pearson:

The U.S. Army Corps of Engineers (USACE), Mobile District is coordinating water quality recertification of the operation and maintenance of the Federal navigation project and small boat access channels on the Black Warrior and Tombigbee (BWT) river system, Alabama. Tables identifying historic and proposed changes to dredging locations, within-banks disposal areas, above bank disposal areas, and small boat access channels and dredged material disposal sites are enclosed (Enclosures 1- 4). No changes from the historic Federal navigation channel dredging dimensions are proposed. However, navigational miles were updated to match current GIS data, river bank locations were corrected and some small boat access channel names were updated or changed to match slough names on the BWT navigation charts or match colloquial names used by boaters and river users. In addition, the USACE is proposing to construct jetties at Jackson Bar on the Tombigbee River in Jackson, Alabama due to navigation hazards (see enclosed project description).

We have utilized your office web site (<http://www.fws.gov/daphne/es/specieslst.html>) to update the list of threatened and endangered species potentially occurring in the BWT since the previous consultation for this action in 2008. Federally-listed threatened and endangered species with ranges within the BWT river system are:

Bald eagle (*Haliaeetus leucocephalus*), wood stork (*Mycteria americana*), red-cockaded woodpecker (*Picoides borealis*), piping plover (*Charadrius melodus*), Black Warrior waterdog (*Necturus alabamensis*), flattened musk turtle (*Sternotherus depressus*), gopher tortoise (*Gopherus polyphemus*), Gulf sturgeon (*Acipenser oxyrinchus desotoi*), Alabama sturgeon (*Scaphirhynchus suttkusi*), southern clubshell (*Pleurobema decisum*), inflated heelsplinter (*Potamilus inflatus*), ovate clubshell (*Pleurobema perovatum*), triangular kidneyshell (*Ptychobranthus greeni*), stirrupshell (*Quadrula stapes*), fine-lined pocketbook (*Lampsilis altilis*), American chaffseed (*Schwalbea americana*), West Indian manatee (*Trichechus manatee*), hawksbill sea turtle (*Eretmochelys imbricate*), leatherback sea turtle (*Dermochelys coriacea*), Kemp's ridley sea turtle (*Lepidochelys kempi*), green sea turtle (*Chelonia mydas*), Alabama red-belly turtle (*Pseudemys alabamensis*), eastern indigo snake (*Drymarchon corais couperi*), black pine snake (*Pituophis melanoleucus lodingi*), heavy pigtoe (*Pleurobema taitianum*),

Orangenacre mucket (*Lampsilis pervalis*), Alabama moccasinshell (*Medionidus acutissimus*), Mitchell's satyr butterfly (*Neonympha mitchellii mitchellii*), Indiana bat (*Myotis sodalist*), gray bat (*Myotis grisescens*), southern acornshell (*Epioblasma othcaloogensis*), upland combshell (*Epioblasma metastriata*), dark pigtoe (*Pleurobema furvum*), watercress darter (*Etheostoma nuchale*), Cahaba shiner (*Notropis cahabae*), goldline darter (*Percina aurolineata*), vermilion darter (*Etheostoma chermocki*), rush darter (*Etheostoma phytophilum*), Georgia rockcress (*Arabis Georgiana*), Mohr's Barbara button (*Marshallia mohrii*), Gentian pinkroot (*Spigelia gentianoides*), Tennessee yellow-eyed grass (*Xyris tennesseensis*), Georgia aster (*Symphotrichum georgianum*), cylindrical lioplax (*Lioplax cyclostomaformis*), plicate rocksnail (*Leptoxis plicata*), round rocksnail (*Leptoxis ampla*), and white fringeless orchid (*Platanthera integrilabia*).

This species list has changed from our last public notice and we request confirmation on threatened and endangered species that have developed over the past five years that might be affected by the continued operation and maintenance of the BWT river system.

Species potentially affected by the continued or new dredging and disposal efforts and proposed jetties include the Gulf sturgeon, Alabama sturgeon, southern acornshell, southern combshell, Coosa moccasinshell, southern pigtoe, orange-nacre mucket and Alabama moccasinshell. Consistent with the previous coordination with your agency, we propose to avoid dredging in the Federal navigation channel and small boat access channels March-May to minimize potential impacts on the Alabama sturgeon and the Gulf sturgeon. We solicit your recommendations for locations of vulnerable mussel beds and additional actions that would prevent impacts to these species.

We would appreciate the U.S. Fish and Wildlife Service comments on any other aspect of this proposal. If you have any questions, please contact Ms. Velma Diaz at 251-690-2025 or by email at velma.f.diaz@usace.army.mil.

Sincerely,

Brian A. Zettle
Acting Chief, Environment and Resources
Branch

Enclosures

Table 1

Dredging Locations and Estimated Quantities of Material for the Black Warrior and Tombigbee Rivers

location	average quantity		potential range of quantity (in cubic yards)	dredging duration (in days)	
	Navigation mile	(in cubic yards)		frequency (in years)	
Tombigbee River					
Below Coffeeville Lock and Dam					
Day's Bar	62.4 - 64.2	33,957	0 - 33,957	6	5
Side Lake Bayou	64.2 - 66.0	28,000	10,000 - 50,000	32	3
Lower Slades Woodyard	66.0 - 66.8	23,000	10,000 - 50,000	32	2
Upper Slades Woodyard	66.8 - 67.6	25,000	10,000 - 50,000	32	2
Green Lake	67.6 - 68.3	65,590	13,164 - 175,076	5	7
Mile 69 Bar	68.3 - 69.4	37,148	6,480 - 64,846	4	6
Mile 70 Bar	69.4 - 70.7	40,285	0 - 40,285	32	5
Export/Bull Pen Bar	70.7 - 72.5	28,700	10,000 - 70,000	32	3
Berris Landing	72.5 - 73.8	63,734	0 - 63,734	32	2
Bachelors Landing	73.8 - 75.7	34,842	4,890 - 63,296	2	7
Oven Bluff Bar	76.7 - 77.9	32,575	29,144 - 36,036	16	5
Sunflower Cut-off	77.9 - 79.2	76,005	10,008 - 299,093	1	10
Lower George Gaines Bar	81.3 - 82.3	51,948	10,115 - 178,969	2	8
Upper George Gaines Bar	82.3 - 83.0	106,787	0 - 106,787	32	14
Salt Creek	83.0 - 84.0	42,143	17,443 - 95,299	8	7
Lower Bolans Woodyard	84.0 - 85.3	11,806	2,321 - 17,913	10	4
Singleton Bar	85.3 - 86.4	46,532	25,501 - 75,216	4	8
East Bassetts Bar	86.4 - 88.1	44,679	1,710 - 125,041	1	9
Blackwell's Bar	88.1 - 89.3	58,146	4,190 - 191,533	1	6
Alabama Electric CO-OP Bar	89.3 - 90.0	6,505	2,135 - 14,765	8	5
Jackson Bar	90.0 - 91.3	99,317	205 - 298,615	1	14
Lower Princes Bar	91.3 - 92.3	30,313	10,444 - 62,940	2	7
St. Elmo Bar	95.3 - 96.2	74,739	15,412 - 166,338	1	10
Old Lock #1 Entrance	99.8 - 100.2	17,833	4,778 - 50,629	2	3
Old Lock #1 Cut-off	99.8 - 101.1	19,755	6,000 - 29,922	3	5
Taular Creek	102.1 - 102.6	22,982	0 - 22,982	32	5
Peavy's/Ballfield Bar	102.6 - 104.1	75,614	252 - 367,830	2	14
Little McGrew Shoals	104.1 - 105.6	52,488	711 - 192,666	1	11
Waites Landing	106.0 - 107.6	38,630	10,453 - 87,265	1	17
Buena Vista Bar	107.6 - 109.7	76,834	7,187 - 444,536	1	13
Mile 110 Bar	109.7 - 110.9	194	0 - 194	6	2
Pinetree Bar	113.8 - 114.9	16,776	9,913 - 19,936	2	3
Coffeeville Lower Approach	116.0 - 116.6	25,133	515 - 101,890	1	9

Table 1 (cont'd)

location	navigation mile	average quantity (in cubic yards)	dredging duration (in days)		
			frequency (in years)		
			potential range of quantity (in cubic yards)		
Coffeeville Pool					
Coffeeville Upper Approach	116.6 - 118.2	147,770	54,248 - 241,292	16	14
Turkey Shoals	176.7 - 178.0	164,267	164,267 - 164,267	32	19
Lower Oakchia Bar	178.0 - 178.9	20,000	10,000 - 50,000	32	2
Upper Oakchia Bar	178.9 - 180.0	18,500	10,000 - 50,000	32	2
Four Mile Bar	183.5 - 185.6	25,000	5,000 - 75,000	32	3
Miles Shoals	185.6 - 186.2	53,193	53,193 - 53,193	32	10
Rainwater Bar	187.4 - 188.7	19,788	997 - 67,177	4	6
Smith's Island	188.7 - 189.4	44,343	16,674 - 139,782	2	6
Old Lock #3/Besteda	190.7 - 192.0	34,796	768 - 125,620	1	5
Lone Brothers Bar	192.4 - 193.2	38,939	3,165 - 108,485	2	8
Black Bluff	196.6 - 197.8	20,000	10,000 - 50,000	32	3
Indian Queen Bar	202.5 - 203.1	28,260	20,050 - 37,715	8	6
Demopolis Lower Approach	212.6 - 213.4	10,700	1,728 - 20,467	2	3
Demopolis Pool					
Demopolis Upper Approach	213.4 - 214.3	15,000	10,000 - 25,000	32	3
Black Warrior River					
Demopolis Pool					
Montgomery's Wreck Bar	254.0 - 254.8	11,000	46 - 21,954	16	8
Selden Lock Lower Approach	260.6 - 261.0	2,621	1,492 - 4,400	10	5
Warrior Pool					
Selden Lock Upper Approach	261.0 - 262.2	7,405	1,983 - 20,026	6	6
Sample Bluff	268.2 - 268.9	25,500	20,000 - 50,000	32	2
Stave Bluff Landing	268.9 - 270.5	3,000	2,000 - 10,000	32	1
Childs Ferry	272.1 - 272.9	20,000	10,000 - 50,000	32	2
Bartees Point	272.9 - 273.2	17,000	17,000 - 19,000	32	1
Broadnax Bar	274.0 - 274.3	20,000	10,000 - 50,000	32	2
Z Logan Bar	275.7 - 277.0	11,000	10,000 - 25,000	32	1
Jones Field Bar	279.6 - 280.3	20,100	20,100 - 20,100	32	2
Spencers Mill Creek	281.7 - 282.3	8,500	2,000 - 10,000	32	1
Mary H. Bar	282.3 - 283.2	14,200	8,000 - 50,000	32	1
Kings Cut-Off	290.5 - 291.0	6,000	10,000 - 50,000	32	4
Dropout/Old Lock #9 Bar	292.0 - 293.6	30,256	697 - 59,815	16	6
Hazzard Bar	293.6 - 294.4	22,000	10,000 - 50,000	32	2
Izzard Shoals	294.4 - 294.9	10,833	9,620 - 12,145	16	3

Table 1 (cont'd)

location	navigation mile	average quantity (in cubic yards)	dredging duration (in days)		
			frequency (in years)		potential range of quantity (in cubic yards)
			potential range of quantity (in cubic yards)		
Warrior Pool (cont')					
Willifords Landing	294.9 - 295.7	12,114	2,090 - 30,435	8	4
Grays Bluff	296.2 - 298.0	54,875	1,328 - 270,347	2	9
Burroughs Landing	298.0 - 299.0	66,291	1,225 - 179,789	1	10
Toxey Bend	299.0 - 300.0	28,000	10,000 - 50,000	32	3
Beals Landing	300.0 - 300.9	34,383	9,105 - 133,315	2	6
Hemphill Landing	300.9 - 301.3	40,000	27,000 - 70,000	32	3
Wildhorse Bar	301.3 - 302.0	20,400	17,900 - 23,981	10	4
Mud Bar	302.0 - 303.1	53,804	32,488 - 64,956	5	5
McGowan Bluff	303.1 - 304.5	8,943	2,628 - 13,555	8	3
Mile 305 Bar	304.5 - 305.0	9,491	8,056 - 10,926	16	3
Van Cleave/Lewis Bar	305.0 - 306.7	19,615	13,745 - 31,232	6	8
Big Sandy/Bald Bar	306.7 - 308.2	107,769	19,661 - 231,892	2	11
Sharpes Ferry Landing	308.2 - 308.5	20,000	10,000 - 50,000	32	2
Hull's Landing	308.5 - 310.0	37,796	17,453 - 72,039	2	7
Dillard's Duck Bar	310.6 - 311.4	29,407	17,103 - 39,874	6	4
Kings Mountain Bar	311.4 - 311.7	22,163	22,163 - 22,163	32	5
Little Sandy Creek	311.7 - 312.4	41,176	23,808 - 75,015	6	4
Little Log Shoals	312.4 - 314.2	78,816	17,829 - 192,245	2	10
Timothy Bar	314.2 - 315.1	23,879	911 - 56,458	4	8
Eagle Shoals	315.1 - 316.2	38,354	16,185 - 60,522	16	8
Gunn Chute Bar	316.2 - 316.7	35,099	11,506 - 51,810	6	7
Nelsons Bar	316.7 - 317.3	21,564	11,078 - 29,646	6	5
21 Mile Bar	317.3 - 318.4	59,842	3,907 - 230,030	3	9
Bozeman Bar	318.4 - 318.9	58,257	6,011 - 130,455	6	12
Wagon Wheel	318.9 - 320.4	21,743	8,724 - 34,762	16	4
Foster's Ferry Landing	321.0 - 321.7	20,457	2,795 - 38,799	5	4
Mile 323 Bar	322.5 - 323.5	51,328	33,274 - 69,381	16	11
Mile 324 Bar	323.5 - 324.4	40,959	8,985 - 116,163	5	5
North Star Wreck	324.4 - 325.1	24,451	10,262 - 44,240	2	6
Robinson Bend	325.1 - 326.1	54,272	9,085 - 117,588	2	8
Sanders Ferry	326.1 - 326.6	10,055	8,800 - 11,310	16	4
12 Mile Rock	326.6 - 327.7	15,125	4,050 - 25,654	5	5
Lower Ophelia Bar	328.4 - 329.3	27,880	17,910 - 48,252	4	7
Upper Ophelia Bar	329.3 - 329.8	36,964	1,902 - 65,339	3	6
Snows Drift Bar	329.8 - 330.8	22,547	1,873 - 64,569	3	7
Clements Bend	330.8 - 332.0	23,388	3,961 - 57,131	3	6
Carsons Bluff	332.0 - 332.7	25,791	10,581 - 41,001	16	10

Table 1 (cont'd)

location	navigation mile	average quantity (in cubic yards)	potential range of quantity (in cubic yards)	dredging duration (in days)	
				frequency (in years)	
Warrior Pool (cont')					
Mile 333 Bar	332.7 - 333.7	15,581	15,581 - 15,581	32	6
Blue Rock	332.7 - 333.7	15,600	10,000 - 75,000	32	4
Potato Creek Bar	333.7 - 334.2	25,193	14,156 - 36,229	16	6
Oliver Lock Lower Approach	337.7 - 337.7	20,000	10,000 - 50,000	32	2
Oliver Pool					
Oliver Lock Upper Approach	338.2 - 338.3	5,000	3,000 - 10,000	11	1
Bankhead Pool					
Franklin Ferry	380.0 - 381.7	24,500	10,000 - 50,000	32	3
Mulberry Fork					
Lynn Park (Site 1)	422.4 - 422.6	38,000	10,000 - 70,000	32	5
Lynn Park (Site 2)	426.7 - 427.1	19,500	10,000 - 50,000	32	2
Lynn Park (Site 3)	427.5 - 428.0	24,000	10,000 - 50,000	32	3
Lynn Park (Site 4)	428.5 - 428.7	14,500	10,000 - 50,000	32	1

Table 2*Diked Disposal Areas
for the Black Warrior and Tombigbee Rivers*

Navigation Mile	Site Designation	Descending Bank Location	County	Estimated Acreage for Disposal
73.0	A	right	Washington	70
78.2	C	left	Clarke	85
82.3	D-1	left	Clarke	74
86.0	E	right	Washington	42
87.0	E-2	left	Clarke	50
88.5	F	right	Washington	57
89.0	G	right	Washington	3
90.8	H	left	Clarke	47
91.5	I	right	Washington	55
96.0	J	left	Clarke	102
104.0	N	right	Washington	80
104.2	O-1	left	Clarke	25
104.3	O	left	Clarke	25
104.4	O-2	left	Clarke	23
104.4	P	right	Washington	21
104.7	Q	right	Washington	24
105.0	R	left	Clarke	110
107.7	V	right	Washington	29
108.0	W	right	Washington	12
108.0	V-1	right	Washington	6
108.0	X-2	left	Clarke	36
108.3	X	right	Washington	27
108.3	X-3	left	Clarke	30
108.3	X-4	left	Clarke	42
109.0	Z	right	Washington	40
109.1	AA	left	Clarke	100
116.0	AC	right	Choctaw	112
191.1	CA-1	right	Sumpter	68
261.7	BC	right	Greene	22
279.6	BF	right	Greene	40
297.0	BA	right	Tuscaloosa	43
298.5	AD	left	Tuscaloosa	66
300.0	AE	right	Tuscaloosa	99
307.6	AF	right	Tuscaloosa	85
312.7	AG	left	Tuscaloosa	166
318.0	BG	left	Tuscaloosa	55
324.1	BE-1	right	Tuscaloosa	40
324.5	BE-2	right	Tuscaloosa	20
329.0	BD	right	Tuscaloosa	55

Table 3*Approved and Proposed Within-Banks Disposal Areas for the Black Warrior and Tombigbee Rivers*

Navigation Miles	Descending Bank Location	Estimated Acreage
* 38.5 – 38.8	Right	2.7
* 39.2 – 39.9	Right	6.4
* 41.0 – 42.0	Left	9.0
62.1 – 62.9	Right	5.5
63.1 – 63.9	Left	7.3
64.2 – 65.0	Right	7.4
65.1 – 67.0	Left	12.4
67.3 – 67.9	Right	5.5
67.5 – 68.5	Left	9.1
68.3 – 69.5	Right	12.5
70.2 – 70.5	Right	2.2
70.8 – 72.1	Left	12.4
72.6 – 73.7	Right	9.5
* 73.7 – 74.4	Right	6.4
74.0 – 74.7	Left	7.3
74.4 – 75.3	Right	8.3
75.3 – 75.9	Left	5.5
76.2 – 76.5	Right	3.6
77.0 – 77.4	Left	5.1
77.3 – 77.7	Right	3.8
77.6 – 77.8	Left	2.0
77.9 – 78.5	Right	8.4
78.6 – 79.2	Left	5.5
79.2 – 80.4	Right	10.1
80.4 – 82.3	Left	13.4
82.1 – 82.9	Right	7.8
83.1 – 84.1	Right	9.1
84.4 – 85.3	Left	12.0
85.3 – 86.8	Right	7.2
86.7 – 87.3	Left	6.9
87.4 – 88.4	Left	9.1
88.0 – 89.1	Right	9.7
90.0 – 90.9	Right	7.7
90.2 – 91.1	Left	8.1
91.3 – 92.2	Right	8.7
93.2 – 93.6	Right	3.6
94.3 – 96.5	Left	20.1
* 96.5 – 96.7	Left	1.8
95.0 – 95.5	Right	6.0
97.0 – 97.5	Right	4.7
97.9 – 98.7	Left	7.6
* 99.9 – 99.5	Left	3.6
99.3 – 101.1	Right	16.0
101.9 – 103.1	Left	11.3
102.4 – 102.7	Right	2.4
103.4 – 104.6	Right	14.5
104.3 – 105.8	Left	18.6
104.9 – 105.5	Right	5.5
106.0 – 106.5	Right	4.6
106.5 – 107.0	Left	5.1
107.3 – 109.3	Right	17.2
108.9 – 110.6	Left	17.7
111.3 – 112.3	Left	12.0
112.8 – 113.3	Right	6.0

Table 3 (cont'd)

Navigation Miles	Descending Bank Location	Estimated Acreage
113.6 – 114.4	left	7.6
114.6 – 115.0	right	6.0
115.1 – 116.1	right	9.2
116.0 – 116.5	left	21.2
116.9 – 117.1	right	1.7
* 145.0 – 145.5	right	4.5
* 160.5 – 161.5	right	9.0
* 166.2 – 166.8	right	5.5
176.5 – 176.9	right	3.3
176.8 – 177.5	left	5.9
177.2 – 178.5	right	9.7
178.3 – 179.9	left	16.2
179.0 – 181.0	right	18.2
182.5 – 183.2	right	8.0
183.5 – 184.9	right	12.7
183.5 – 185.0	left	14.3
* 185.2 – 185.8	right	5.5
185.8 – 186.7	right	8.8
187.1 – 187.4	right	3.6
187.5 – 188.3	left	8.9
187.9 – 189.2	right	10.7
188.9 – 190.0	left	12.9
190.0 – 190.6	right	7.2
190.9 – 192.6	right	16.8
190.9 – 191.6	left	6.8
192.6 – 193.3	left	9.5
194.0 – 194.3	right	3.6
194.8 – 195.1	right	3.6
195.5 – 195.9	right	4.8
196.6 – 198.4	left	19.0
199.2 – 200.8	left	17.4
201.8 – 203.3	left	15.0
203.6 – 204.0	right	4.8
210.9 – 212.0	left	13.2
212.5 – 213.4	right	20.0
213.8 – 214.2	right	4.5
252.2 – 253.4	right	11.3
260.7 – 260.9	left	1.7
260.7 – 260.8	right	1.7
260.8 – 261.0	right	2.7
268.2 – 268.5	left	3.6
268.6 – 269.3	right	8.1
270.0 – 270.7	left	3.7
272.1 – 272.6	left	3.3
272.9 – 273.4	right	4.0
274.1 – 274.4	left	2.1
275.7 – 276.1	right	5.0
275.8 – 276.1	left	2.2
276.9 – 277.1	right	2.0
277.3 – 277.6	right	3.0
278.0 – 278.5	left	5.0
279.1 – 279.3	right	2.4
279.4 – 279.7	left	2.6
279.4 – 279.8	right	4.4

Table 3 (cont'd)

Navigation Miles	Descending Bank Location	Estimated Acreage
280.1 – 280.2	right (old channel)	1.0
280.1 – 280.4	left (old channel)	2.4
281.2 – 281.4	left	2.4
281.8 – 282.0	right	1.4
281.8 – 282.3	left	3.4
282.1 – 283.0	right	5.6
283.0 – 283.4	left	3.7
290.4 – 290.7	left	1.7
290.7 – 290.9	right	2.4
291.1 – 291.9	left	9.6
293.0 – 293.8	right	10.5
293.7 – 294.2	left	4.8
294.2 – 294.5	right	2.4
294.5 – 294.7	left	1.5
294.8 – 295.0	right	2.8
295.0 – 295.2	left	2.1
295.5 – 296.1	right	5.0
296.3 – 296.7	left	2.2
296.7 – 297.5	right	8.3
297.6 – 299.0	left	13.8
297.6 – 298.6	right	9.0
298.9 – 300.6	right	15.8
300.4 – 302.1	left	13.3
302.1 – 302.7	right	5.1
303.3 – 304.4	right	9.3
303.7 – 304.0	left	3.1
304.4 – 305.0	left	7.7
305.1 – 305.6	right	4.2
305.6 – 306.7	left	9.4
306.7 – 307.7	right	10.5
307.6 – 308.4	left	8.4
307.8 – 308.3	right	5.9
308.5 – 308.7	right	2.8
308.5 – 309.1	left	5.3
308.9 – 310.1	right	14.0
310.7 – 310.8	right	1.7
310.6 – 311.0	left	4.4
311.3 – 312.3	right	8.6
312.4 – 314.5	left	19.2
314.5 – 314.7	right	2.8
314.7 – 315.3	left	6.3
315.3 – 315.9	right	4.1
316.0 – 317.0	right	8.3
317.5 – 318.3	left	8.3
318.3 – 319.1	right	7.6
319.4 – 319.7	left	3.6
320.4 – 321.4	left	10.6
321.1 – 321.4	right	3.1
321.6 – 332.1	left	5.5
322.3 – 322.6	right	3.3

Table 3 (cont'd)

Navigation Miles	Descending Bank Location	Estimated Acreage
322.5 – 323.3	left	6.4
323.9 – 324.8	right	14.0
323.5 – 323.9	left	3.1
324.7 – 324.9	left	1.8
325.0 – 325.6	left	4.8
325.4 – 326.5	right	12.0
326.6 – 327.5	left	7.6
327.3 – 328.1	right	7.2
328.2 – 328.6	left	3.3
328.6 – 328.8	right	2.5
328.8 – 383.9	left	2.6
329.1 – 329.4	right	3.5
*329.4 – 329.7	right	2.1
329.4 – 329.7	left	2.1
330.0 – 330.4	right	4.2
330.5 – 331.2	left	6.4
331.2 – 332.6	right	12.7
331.9 – 332.2	left	2.4
332.8 – 333.1	right	3.6
333.2 – 334.0	left	6.6
333.8 – 334.2	right	2.8
334.3 – 334.9	right	3.6
334.6 – 334.7	left	2.0
335.0 – 335.8	right	10.8
335.9 – 336.3	left	4.8
337.1 – 338.2	right	11.5
366.0 – 366.4	center	27.0

* Proposed within-banks disposal areas.

Table 4

*Small Boat Access Channels
of the Black Warrior and Tombigbee Waterway*

Navigation Miles	Location of Descending Bank	Area Name or Area Type	Type of Disposal for Dredged Material	Estimated Quantity of Dredged Material (in cubic yards)	Existing WQC
Mobile River					
41.1	right	Mt. Vernon Landing	Within-Banks	1150	No
Tombigbee River					
99.9	left	Lock 1 PUA*	Within-Banks	300	Yes
108.5	left	Satilpa Creek	Within-Banks	300	Yes
110.0	right	Sinta Bogue	Within-Banks	200	Yes
113.9	right	Seyouyah Creek	Within-Banks	250	Yes
115.4	left	Ulkanush Creek	Within-Banks	300	Yes
117.5	right	Service PUA* Ramp	Within-Banks	575	Yes
118.3	right	Campground Slough	Within-Banks	400	Yes
119.0	right	Bladen Springs Landing	Open-Water	200	Yes
119.2	right	Slough – NWR	Within-Banks	100	Yes
119.6	right	Slough – NWR	Within-Banks	300	Yes
120.7	right	Turkey Creek	Within-Banks	200	Yes
123.2	right	Okatuppa Creek	Within-Banks	200	Yes
124.4	right	Choctaw NWR (Wrights Landing)	Within-Banks	675	Yes
125.1	left	West Bend PUA*	Within-Banks	175	Yes
125.3	left	Adrian House Slough	Within-Banks	400	Yes
125.8	right	Lenoir Landing PUA* (Tallawampa Creek)	Within-Banks	735	Yes
126.1	right	Oil Dock Slough	Within-Banks	600	Yes
126.3	right	Osage Bar Slough	Within-Banks	300	Yes
127.2	left	Sellers Landing Slough	Within-Banks	100	Yes
127.9	left	Slough	Within-Banks	300	Yes
128.4	left	Slough	Within-Banks	350	Yes
128.5	right	Slough	Within-Banks	300	Yes
130.1	right	Salt and Copper Creeks	Within-Banks	50	Yes
130.5	right	Two Sloughs	Within-Banks	400	Yes
131.0	left	Cowans Gin	Within-Banks	350	Yes
131.4	right	Slough	Within-Banks	300	Yes
134.9	left	Slough	Within-Banks	250	Yes
136.5	left	Woods Bluff PUA*	Within-Banks	50	Yes
141.2	right	McCarty's Ferry PUA*	Within-Banks	1000	Yes
142.3	right	Emery Creek (Melton Spring Branch)	Within-Banks	300	Yes
145.0	left	Bashi Creek PUA*	Within-Banks	250	Yes

Navigation Miles	Location of Descending Bank	Area Name or Area Type	Type of Disposal for Dredged Material	Estimated Quantity of Dredged Material (in cubic yards)	Existing WQC
Tombigbee River (cont'd)					
147.2	left	Big Bunny Creek	Within-Banks	150	Yes
153.3	right	Wahalak Creek	Within-Banks	300	Yes
156.3	right	Tusahoma Landing	Within-Banks	400	Yes
157.9	right	Sucarbowa Creek	Within-Banks	300	Yes
160.6	left	Horse Creek	Within-Banks	300	Yes
165.1	right	Ezell Landing	Within-Banks	200	Yes
165.7	right	Slough	Within-Banks	350	Yes
167.4	right	Tuckabum Creek	Within-Banks	400	Yes
168.6	right	Lock 2 PUA*	Within-Banks	200	Yes
170.4	left	Beaver Creek	Within-Banks	200	Yes
173.7	right	Kemps Landing	Within-Banks	200	Yes
174.3	right	Slough	Within-Banks	350	Yes
175.5	left	Slough	Within-Banks	400	Yes
175.6	left	Slough	Within-Banks	300	Yes
175.9	right	Kinterbish Creek	Within-banks	250	Yes
186.0	left	Lost Creek Landing	Within-Banks	400	Yes
187.4	left	Chickasaw Bogue	Within-Banks	6600	Yes
190.8	right	Old Lock # 3	Open-Water	200	Yes
190.8	left	6 Mile Creek, Old Lock #3	Within-Banks	900	Yes
193.9	right	Cotohaga Creek	Within-Banks	300	Yes
200.6	right	Sucarnoochee River	Within-Banks	800	Yes
207.5	left	Mill Creek	Within-Banks	200	Yes
210.0	right	Halls Creek	Within-Banks	300	Yes
213.7	right	Dam Warning Sign Slough	Within-Banks	500	Yes
213.9	right	Slough - WMA	Within-Banks	2500	No
214.1	left	Foscue Creek	On Bank	675	Yes
214.2	left	Foscue Creek PUA*	On Bank	1400	No
215.0	left	Grain Elevator Slough	Within-Banks	750	No
215.2	left	Short Creek (Whitfield Canal)	Within-Banks	340	Yes
216.1	left	Demopolis City Landing	Within-Banks	3000	Yes
216.6	left	Lock 4 PUA* Ramp	Within-Banks	1300	Yes
216.8	left	Culpeppers Slough	Within-Banks	625	Yes
Black Warrior River					
217.7	right	Daub's Swamp	Within-Banks	400	Yes
218.1	left	Slough	Within-Banks	600	Yes
218.5	right	Runaway Branch PUA*	Within-Banks	780	Yes
218.7	right	Bridge Slough (Watson #1)	Within-Banks	775	Yes
218.9	right	Corps Slough (Watson #2)	Within-Banks	825	Yes
219.1	right	Kelly's Slough	On Bank	1150	Yes
219.4	left	Slough	Within-Banks	800	Yes
Black Warrior River (cont'd)					
219.5	left	Slough	Within-Banks	300	Yes

Navigation Miles	Location of Descending Bank	Area Name or Area Type	Type of Disposal for Dredged Material	Estimated Quantity of Dredged Material (in cubic yards)	Existing WQC
219.8	left	Slough	Within-Banks	800	Yes
220.1	right	Dead Lake Slough	Within-Banks	400	Yes
220.3	right	Devil's Run	Within-Banks	700	No
220.6	right	Slough	Within-Banks	800	No
220.8	right	Two Sloughs	Within-Banks	280	Yes
221.0	left	Slough	Within-Banks	200	Yes
221.4	right	Slough	Within-Banks	400	Yes
221.5	left	Slough	Within-Banks	200	Yes
221.6	left	Slough	Within-Banks	200	Yes
222.2	left	Slough	Within-Banks	200	Yes
222.8	left	French Creek	Within-Banks	1300	Yes
223.1	right	Slough	Within-Banks	400	Yes
223.4	left	Slough	Within-Banks	300	Yes
224.4	left	Slough below Taylor's Bar	Within-Banks	250	Yes
224.9	left	Powerline Slough	Within-Banks	3300	Yes
225.5	right	Backbone Slough	Within-Banks	800	Yes
225.6	right	Backbone Creek PUA*	Within-Banks	5500	Yes
225.8	right	Haint Hole (Corps)	Within-Banks	2450	Yes
226.0	right	Bottleneck Slough	Within-Banks	1525	Yes
226.3	left	Yellow Creek (Arcola*)	Within-Banks	4325	Yes
227.1	left	Slough	Within-Banks	600	Yes
227.3	left	Slough	Open-Water	2170	Yes
228.1	right	Slough	Within-Banks	300	Yes
228.6	left	Slough	Within-Banks	1200	Yes
228.8	right	Slough	Within-Banks	400	Yes
229.0	right	Johnson Branch	Within-Banks	4250	Yes
229.3	right	Willow Creek Slough	Within-Banks	3560	Yes
230.7	left	Lime Kiln Creek	Within-Banks	800	Yes
231.1	left	Big Prairie Creek	Within-Banks	1450	Yes
231.7	right	Outlaw Creek Slough	Within-Banks	1505	Yes
231.8	right	Slough	Within-Banks	400	Yes
232.0	left	Lock 5 PUA*	Within-Banks	350	Yes
232.5	left	Candy Landing	Within-Banks	250	Yes
232.6	left	Jacks Branch	Within-Banks	1800	Yes
233.3	left	Buzzard's Roost Slough	Within-Banks	350	Yes
233.7	left	Drakes Landing	Within-Banks	300	Yes
233.8	left	Camp House Slough	Within-Banks	1200	Yes
234.4	left	Old Tindell's Ferry	Within-Banks	400	Yes
234.8	left	Slough	Within-Banks	400	Yes
235.0	left	Slough	Within-Banks	525	Yes
Black Warrior River (cont'd)					
235.2	left	Sycamore Slough (Area 19)	Within-Banks	1790	Yes
235.5	left	Twin Oaks Slough	Within-Banks	1045	Yes
236.0	left	Slough	Within-Banks	400	Yes

Navigation Miles	Location of Descending Bank	Area Name or Area Type	Type of Disposal for Dredged Material	Estimated Quantity of Dredged Material (in cubic yards)	Existing WQC
236.5	left	Slough	Within-Banks	400	Yes
237.6	left	Slough	Within-Banks	400	Yes
237.8	left	Slough	Within-Banks	995	Yes
238.4	left	Slough	Within-Banks	400	Yes
239.2	right	McIntyres Shoal Slough	Within-Banks	1315	Yes
240.7	right	Clemens Slough (Area 18)	Open-Water	1635	Yes
242.4	right	Slough	Within-Banks	665	Yes
242.6	right	Slough	Within-Banks	300	Yes
242.7	right	Slough	Within-Banks	300	Yes
244.1	left	Limestone Creek	Within-Banks	445	Yes
245.7	left	Slough	Within-Banks	100	Yes
248.4	right	Hines Mill Creek	Within-Banks	3215	Yes
249.2	right	Needham Creek	Within-Banks	3965	Yes
250.2	left	Slough	Within-Banks	300	Yes
251.0	left	Hines Creek	Within-Banks	250	Yes
252.3	left	Lock 6 PUA* Ramp	Within-Banks	400	Yes
252.4	left	Slough	Within-Banks	200	Yes
253.0	left	Slough	Within-Banks	2955	Yes
255.4	right	Dollarhide Creek	Within-Banks	400	Yes
256.4	right	Slough	Within-Banks	400	Yes
256.7	right	Slough	Within-Banks	300	Yes
257.3	right	Slough	Open-Water/Within-Banks	300	Yes
257.8	left	Wright's Creek	Open-Water/Within-Banks	300	Yes
259.0	left	Presley Ford Branch	Open-Water/Within-Banks	300	Yes
Cutoff	right	(Selden) Damsite PUA*	Within-Banks/On Bank	2400	No
262.1	right	Lock 7 West PUA* Ramp	Within-Banks	485	Yes
262.6	left	Lock 7 East* (Bee Branch)	Within-Banks	600	Yes
262.7	right	Slough	Open-Water	1150	Yes
263.9	left	Clear Creek (Jennings Ferry PUA*)	On Bank	2600	Yes
264.6	left	Slough	Open-Water	400	Yes
265.0	right	Grinnel Pond Slough	Within-Banks	200	Yes
265.6	left	Slough	Open-Water/Within-Banks	300	Yes
266.1	right	Slough	Open-Water/Within-Banks	300	Yes
266.4	left	Big Brush Creek	Within-Banks	400	Yes
266.9	left	Slough	Open-Water/Within-Banks	300	Yes
267.3	left	Slough	Open-Water/Within-Banks	300	Yes
267.7	right	Finches Ferry PUA*	Within-Banks	810	Yes
Black Warrior River (cont'd)					
268.2	right	Slough	Open-Water	300	Yes
269.0	left	Slough	Open-Water/Within-Banks	760	Yes
269.4	left	Slough	Open-Water/Within-Banks	325	Yes
269.5	right	Minters Creek	Within-Banks	400	Yes
270.7	right	Whites Creek	Open-Water	720	Yes
274.3	right	Merriweather Landing	Open-Water	20	Yes

Navigation Miles	Location of Descending Bank	Area Name or Area Type	Type of Disposal for Dredged Material	Estimated Quantity of Dredged Material (in cubic yards)	Existing WQC
274.7	right	Z. Logan Landing	Open-Water/Within-Banks	450	Yes
275.6	left	Little Cypress Slough	Open-Water/Within-Banks	400	Yes
275.9	right	Slough	Within-Banks	1225	Yes
276.2	right	Z Logan Bar	Open-Water/Within-Banks.	300	Yes
276.6	left	Reedy Branch	Open-Water/Within-Banks	875	Yes
277.1	right	Slough	Within-Banks	200	Yes
277.2	left	Yellow Bluff	Open-Water/Within-Banks	300	Yes
277.9	left	Lock 8 PUA* Ramp	On Bank	1600	Yes
277.9	left	Slough	Open-Water/Within-Banks	400	Yes
278.8	left	Slough	Open-Water/Within-Banks	400	Yes
279.2	left	Five Mile Creek	Open-Water	1400	Yes
279.4	left	Slough	Within-Banks	1500	No
279.9	left	Martin Slough (lower)	Open-Water	2400	Yes
280.1	left	Martin Slough (upper)	Within-Banks	1925	No
282.0	right	Spencers Mill Creek	Open-Water/Within-Banks	900	Yes
282.8	left	Slough	Open-Water	400	Yes
283.4	right	Sims Creek	Open-Water/Within-Banks	300	Yes
283.8	left	Bohannon's Cut-Off	Open-Water	1100	Yes
284.1	right	Big Cypress Slough	Within-Banks	350	Yes
286.2	left	Gabriel's Creek	Open-Water	100	Yes
290.1	right	Buck Creek	Open-Water/Within-Banks	300	Yes
291.0	left	King's Cut-Off	Open-Water/Within-Banks	450	Yes
293.0	left	Elliotts Creek	Open-Water/Within-Banks	400	Yes
295.2	right	Williford's Landing	Open-Water/Within-Banks	500	Yes
295.6	left	Slough	Within-Banks	400	Yes
296.7	right	Grant Creek	Open-Water/Within-Banks	500	Yes
307.2	left	Big Sandy Creek	Open-Water/Within-Banks	400	Yes
311.6	left	Cunningham Branch	Open-Water/Within-Banks	300	Yes
312.0	left	Little Sandy Creek	Open-Water/Within-Banks	300	Yes
312.4	left	Big Creek	Open-Water	400	Yes
322.2	right	Slough	Open-Water/Within-Banks	400	Yes
326.6	right	Sanders Mill Creek	Within-Banks	300	Yes
333.5	right	Big Creek	Open-Water/Within-Banks	350	Yes
334.5	right	Potato Creek	Open-Water	350	Yes
334.9	right	Tater Hill Creek	Within-Banks	300	Yes
Black Warrior River (cont'd)					
337.4	right	Mill Creek PUA* Ramp	Within-Banks	500	No
339.4	right	Snows Creek	Open-Water	300	Yes
343.7	right	North River	Open-Water	200	Yes
346.3	left	Hurricane Creek	Within-Banks	300	Yes
346.9	right	Yellow Creek	Within-Banks	300	Yes
347.1	right	Jim Mack Branch	Within-Banks	200	Yes
347.2	left	Holt Lock & Dam	Within-Banks	200	Yes
347.3	left	Marina Slough	Open-Water	200	Yes
347.5	right	Deerlick Creek	Open-Water	200	Yes

Navigation Miles	Location of Descending Bank	Area Name or Area Type	Type of Disposal for Dredged Material	Estimated Quantity of Dredged Material (in cubic yards)	Existing WQC
348.0	left	Rock Quarry Ramp*	Within-Banks	300	Yes
348.3	left	Eagle Cove Marina	Within-Banks	200	Yes
348.5	left	Slough	Within-Banks	200	Yes
348.9	left	Slough	Within-Banks	200	Yes
348.9	right	Deerlick Boat Ramp*	Within-Banks	200	Yes
349.1	right	Slough	Within-Banks	200	Yes
349.4	left	Rocky Branch	Open-Water	200	Yes
349.5	left	Rocky Branch Boat ramp*	Open-Water/Within-Banks	300	Yes
350.0	right	Slough	Open-Water	200	Yes
350.4	right	Slough	Open-Water	200	Yes
350.8	right	Mitchell Neely Slough	Open-Water	200	Yes
351.0	left	Old Lock #14	Open-Water/Within-Banks	200	Yes
352.0	left	Brush Creek	Open-Water/Within-Banks	400	Yes
352.4	right	Slough	Open-Water	200	Yes
353.0	right	Slough	Open-Water	200	Yes
353.4	left	Daniel Creek	Open-Water/Within-Banks	400	Yes
354.0	left	Bluff Creek	Open-Water/Within-Banks	400	Yes
354.0	right	Slough	Open-Water	200	Yes
354.5	right	Laurel Branch	Open-Water/Within-Banks	300	Yes
355.0	right	Slough	Open-Water	200	Yes
356.0	left	Slough	Open-Water	200	Yes
356.0	right	Slough	Open-Water	200	Yes
356.3	left	Pegues Creek	Open-Water/Within-Banks	400	Yes
356.6	right	Slough	Open-Water	200	Yes
357.5	right	Lock 15 PUA*	Open-Water	300	Yes
358.0	left	Slough	Open-Water	200	Yes
359.1	right	Harolds Lake	Open-Water/Within-Banks	300	Yes
359.3	right	Allgood Branch Slough	Open-Water	200	Yes
360.2	right	Panther Branch Slough	Open-Water	200	Yes
361.5	left	Davis Creek	Open-Water	200	Yes
363.6	right	Blue Creek Boat Ramp*	Open-Water	200	Yes
363.8	left	Burchfield Branch PUA*	Open-Water/Within-Banks	400	Yes
Black Warrior River (cont'd)					
366.0	right	Watson Branch	Open-Water	200	Yes
366.3	right	Slough	Open-Water	200	Yes
366.8	right	Slough	Open-Water	200	Yes
367.0	right	Slough	Open-Water	200	Yes
367.0	left	Slough	Open-Water	200	Yes
367.5	right	Yellow Creek	Open-Water	200	Yes
367.5	left	Slough	Open-Water/Within-Banks	200	Yes
368.0	left	Dunn's Camp Boat Ramp	Open-Water	200	Yes
368.3	left	King's Camp Boat Ramp	Open-Water	200	Yes
368.4	right	The Suck	Open-Water	200	Yes
369.0	right	Steep Creek	Open Water	200	Yes
369.7	left	Slough	Open-Water/Within-Banks	300	Yes

Navigation Miles	Location of Descending Bank	Area Name or Area Type	Type of Disposal for Dredged Material	Estimated Quantity of Dredged Material (in cubic yards)	Existing WQC
369.9	right	Slough	Open-Water/Within-Banks	200	Yes
370.0	left	Slough	Open-Water/Within-Banks	200	Yes
370.2	left	Double Branch	Open-Water	200	Yes
370.3	right	Slough	Open-Water	200	Yes
370.6	left	Willow Stump Branch	Open-Water	200	Yes
370.7	right	Slough	Open-Water	200	Yes
371.0	left	Gwin's Slough	Open-Water	500	No
371.2	left	Lighthouse Slough	Open-Water	200	Yes
372.0	left	Big Shoal Creek	Open-Water	200	Yes
372.4	left	Slough	Open-Water	200	Yes
373.6	right	Camp Creek	Open-Water	200	Yes
374.0	right	Slough	Open-Water	200	Yes
374.8	left	Cold Branch	Open-Water	200	Yes
375.1	left	Little Shoal Creek	Open-Water	300	Yes
377.3	left	Smith Camp	Open-Water	500	No
377.6	right	White Oak Creek	Open-Water	200	Yes
378.0	right	Walker Co. Shoal Creek	Open-Water	200	Yes
378.2	right	Slough	Open-Water	200	Yes
378.3	left	Quinn's Landing	Open-Water	200	Yes
379.0	right	Slough	Open-Water	300	Yes
379.8	left	Hurricane Creek	Open-Water	300	Yes
380.5	right	Franklin Ferry Marina	Open-Water	200	Yes
381.1	left	Camp Oliver (lower)	Open-Water	1575	No
381.3	left	Camp Oliver (middle)	Open-Water	2825	No
381.5	left	Camp Oliver (upper)	Open-Water	1700	No
381.5	right	Short Creek	Open-Water	300	Yes
382.0	right	Slough	Open-Water/Within-Banks	300	Yes
382.1	left	Valley Creek	Within-Banks	300	Yes
382.3	right	Friley Creek	Within-Banks	300	Yes
Black Warrior River (cont'd)					
383.5	left	Slough	Open-Water	200	Yes
383.8	left	Taylors Ferry	Within-Banks	300	Yes
Mulberry Fork					
386.3	right	Slough	Within-Banks	400	Yes
386.5	right	Slough	Open-Water	200	Yes
387.2	right	White Branch Slough	Open-Water/Within-Banks	400	Yes
387.9	left	Slough	Open-Water	200	Yes
388.5	left	Bluff Creek	Open-Water/Within-Banks	300	Yes
389.1	left	Slough	Open-Water	200	Yes
389.2	left	Slough	Open-Water	200	Yes
389.5	right	Slough	Open-Water	200	Yes
389.6	left	Slough	Open-Water	200	Yes
390.0	left	Slough	Open-Water	200	Yes
390.1	right	Slough	Open-Water	200	Yes

Navigation Miles	Location of Descending Bank		Type of Disposal for Dredged Material	Estimated Quantity of Dredged Material (in cubic yards)	Existing WQC
	Area Name or Area Type				
	390.7	left			
390.9	right	Kisner Slough	Open-Water/Within-Banks	300	Yes
391.5	left	Slough	Open-Water/Within-Banks	300	Yes
391.9	right	Richardson Slough	Open-Water	200	Yes
392.2	left.	Slough	Open-Water	200	Yes
392.4	right	Lost Creek	Open-Water/Within-Banks	300	Yes
392.8	left	Slough	Open-Water/Within-Banks	300	Yes
393.7	right	Slough	Open-Water	200	Yes
393.8	right	Slough	Open-Water/Within-Banks	300	Yes
394.3	left	Slough	Open-Water	200	Yes
394.6	left	Slough	Open-Water	200	Yes
395.7	left	Slough	Open-Water/Within-Banks	300	Yes
395.9	left	Slough	Open-Water/Within-Banks	300	Yes
396.3	left	Slough	Open-Water	300	Yes
396.8	left	Slough	Open-Water	300	Yes
397.1	right	Slough	Within-Banks	300	Yes
397.3	left	Payne's Bend Slough	Open-Water/Within-Banks	300	Yes
397.4	right	Slough	Open-Water	200	Yes
399.3	left	Rattlesnake Creek	Open-Water/Within-Banks	400	Yes
399.5	left	Slough	Within-Banks	300	Yes
400.0	right	Slough	Open-Water	200	Yes
400.1	left	Slough	Open-Water	200	Yes
400.7	left	Slough	Open-Water	200	Yes
401.4	right	Slough	Open-Water/Within-Banks	300	Yes
402.3	right	Mosquito Creek	Open-Water/Within-Banks	400	Yes
402.8	right	Slough	Open-Water/Within-Banks	300	Yes
402.9	left	Slough	Within-Banks	300	Yes
Mulberry Fork (cont'd)					
403.0	right	Slough	Open-Water/Within-Banks	300	Yes
403.5	left	Slough	Open-Water	200	Yes
403.7	right	Slough	Open-Water	300	Yes
403.7	left	Riverlawn Slough (lower)	Open-Water	500	No
404.1	left	Riverlawn Slough (upper)	Open-Water	500	No
404.1	right	Slough	Open-Water	200	Yes
406.1	left	Slough	Within-Banks	300	Yes
406.7	left	Slough	Open-Water/Within-Banks	300	Yes
407.1	left	Burnt Cane Creek	Open-Water/Within-Banks	300	Yes
407.8	right	Slough	Open-Water/Within-Banks	300	Yes
407.8	left	Slough	Open-Water	200	Yes
408.5	right	Slough	Open-Water/Within-Banks	300	Yes
409.1	left	Slough	Within-Banks	300	Yes
409.1	right	Slough	Open-Water	200	Yes
410.0	right	Barton Creek	Open-Water/Within-Banks	300	Yes
411.2	left	Horse Creek	Open-Water/Within-Banks	300	Yes
413.1	right	Slough	Open-Water/Within-Banks	350	Yes

Navigation Miles	Location of Descending Bank	Area Name or Area Type	Type of Disposal for Dredged Material	Estimated Quantity of Dredged Material (in cubic yards)	Existing WQC
413.2	right	Slough	Open-Water/Within-Banks	300	Yes
416.0	right	Slough	Open-Wat.r/Within-Banks	300	Yes
416.0	right	Frog Ague Creek	Open-Water/Within-Banks	300	Yes
416.3	right	Cane Creek	Open-Water	300	Yes
418.9	left	Slough	Open-Water/thin-Banks	300	Yes
419.1	left	Slough	Open-Water/Within-Banks	300	Yes
419.3	left	Slough	Open-Water/Within-Banks	300	Yes
419.6	left	Slough	Open-Water/Within-Banks	300	Yes
422.4	right	Blackwater Creek	Open-Water	200	Yes
Locust Fork					
385.4	left	Howton's Camp	Open-Water	1500	No
385.8	right	Prescott Creek	Within-Banks	300	Yes
386.1	right	Slough	Within-Banks	300	Yes
386.4	left	Slough	Within-Banks	300	Yes
387.0	left	Gutter Branch	Open-Water/Within-Banks	300	Yes
387.4	left	Glaze Creek	Open-Water/Within-Banks	300	Yes
388.3	right	Slough	Within-Banks	300	Yes
388.7	left	Boat Ramp	Within-Banks	300	Yes
388.8	left	Slough	Open-Water	200	Yes
388.9	left	Boat Ramp	Open-Water	200	Yes
389.6	right	Slough	Open-Water/Within-Banks	300	Yes
390.3	left	Slough	Open-Water	200	Yes
391.6	right	Slough	Open-Water	200	Yes
391.8	left	Slough	Open-Water	200	Yes
Locust Fork (cont'd)					
392.0	left	Slough	Open-Water/Within-Banks	300	Yes
393.5	left	Slough	Open-Water	200	Yes
393.8	right	Slough	Open-Water	200	Yes
393.9	left	Slough	Open-Water/Within-Banks	300	Yes
394.5	right	Slough	Open-Water	200	Yes
394.5	left	Boat Ramp	Open-Water	200	Yes
395.1	left	Boat Ramp	Open-Water	200	Yes
395.8	left	Black Creek	Open-Water/Within-Banks	300	Yes
401.4	right	Slough	Open-Water	200	Yes
401.5	left	Slough	Open-Water	200	Yes
401.9	left	Slough	Open-Water/Within-Banks	300	Yes
402.1	left	Slough	Open-Water	200	Yes
402.8	left	Slough	Open-Water	200	Yes
402.9	left	Slough	Open-Water	200	Yes
403.1	left	Slough	Open-Water	200	Yes
403.6	left	Slough	Open-Water	200	Yes
405.4	left	Village Creek	Open-Water	200	Yes
219.1	right	Belmont PUA * Slough	On Bank	1000	Yes

Navigation Miles	Location of Descending Bank	Area Name or Area Type	Type of Disposal for Dredged Material	Estimated Quantity of Dredged Material (in cubic yards)	Existing WQC
Tombigbee River - Demopolis Pool					
219.4	right	Spidle Lake Slough	On Bank	800	Yes
220.9	left	Miller's Slough	Within-Banks	1200	Yes
221.1	left	Slough	Within-Banks	300	Yes
221.8	left	Slough	Within-Banks	300	Yes
222.7	right	Taylor Lake	Within-Banks	1000	Yes
226.8***	right	Slough	Within-Banks	350	Yes
227.2***	right	The Ravine-lower	Within-Banks	300	Yes
227.5***	left	Slough	Within-Banks	325	Yes
228.8***	right	Slough	Within-Banks	250	Yes
229.0***	right	Slough	Within-Banks	300	Yes
231.1***	left	Burdine Creek	Within-Banks	800	Yes
231.5***	left	Birdeye PUA *	Open-Water	400	Yes
232.2***	left	Slough	Within-Banks	350	Yes
233.7***	left	Slough	Within-Banks	300	Yes
234.3***	left	McConnico Creek (Forkland PUA*)	On Bank	300	Yes
234.5***	right	The Ravine-upper	Within-Banks	300	Yes
227.2	left	Parker's Camp Slough	Within-Banks	200	Yes
227.3	right	Slough	Within-Banks	200	Yes
227.4	left	Acorn Creek	Within-Banks	1150	Yes
227.9	right	Slough	Within-Banks	800	Yes
228.6	left	Slough	Within-Banks	3 00	Yes
228.9	left	Slough	Within-Banks	300	Yes
229.0	right	Trails End Slough	Within-Banks	1250	Yes
229.7	right	Slough	Within-Banks	350	Yes
230.6	right	Hayes Creek	Within-Banks	850	Yes
231.0	left	Slough	Within-Banks	200	Yes
231.4	left	Slough	Within-Banks	275	Yes
231.6	right	High Run Creek	Within-Banks	550	Yes
231.8	left	Slough	Within-Banks	300	Yes
232.1	left	Slough	Within-Banks	300	Yes
232.5	right	Slough	Within-Banks	400	Yes
232.6	right	Slough	Within-Banks	350	Yes
232.8	right	Slough	Within-Banks	400	Yes
232.9	left	Cobbs Creek	Within-Banks	2000	Yes
235.0	right	Slough	Within-Banks	400	Yes
235.1	right	Slough	Within-Banks	300	Yes
237.1	right	Slough	Within-Banks	300	Yes
237.2	right	Slough	Within-Banks	300	Yes
237.6	right	Slough	Within-Banks	300	Yes
238.0	left	Slough	Within-Banks	300	Yes
238.5	right	Slough	Within-Banks	300	Yes
239.7	left	Smith Branch	Within-Banks	300	Yes
240.7	right	Slough	Within-Banks	250	Yes

Navigation Miles	Location of Descending Bank	Area Name or Area Type	Type of Disposal for Dredged Material	Estimated Quantity of Dredged Material (in cubic yards)	Existing WQC
Tombigbee River - Demopolis Pool (cont'd)					
241.1	left	Slough	Within-Banks	400	Yes
241.5	right	Slough	Within-Banks	300	Yes
241.8	right	Luke's Landing Slough	Within-Banks	300	Yes
243.2	left	Taylor Creek	Within-Banks	800	Yes
243.3	left	Shed Branch	Within-Banks	300	Yes
243.6	left	Gum Pond Slough	Within-Banks	300	Yes
244.4	left	Boligee Creek	Within-Banks	800	Yes
246.7	left	Camp Spring Branch	Within-Banks	300	Yes
247.0	right	Slough	Within-Banks	350	Yes
247.7	right	Epes Landing Slough	Within-Banks	400	Yes
248.9	right	Factory & Jones Creeks	Within-Banks	200	Yes
251.7	left	Boligee Landing	Within-Banks	400	Yes
259.8	left	Brush Creek	Within-Banks	300	Yes
261.1	left	Trussells Creek	Within-Banks	300	Yes

* Indicates a public use area (PUA) and/or boat ramp operated by the Corps of Engineers

** Navigation miles from 217.0 (confluence of the Black Warrior and Tombigbee Rivers) north on the Tombigbee River have been established on conjunction with the development of the Tennessee-Tombigbee Waterway

*** These sites are within Rattlesnake Bend which is not in the navigation channel. Therefore, the mileages are river miles rather than navigation miles in the Tombigbee River arm of the Demopolis Pool.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
1208-B Main Street
Daphne, Alabama 36526

IN REPLY REFER TO:

2007-FA-0273

DEC 20 2013

Brian A. Zettle
U.S. Army Corps of Engineers
P.O. Box 2288
Mobile, AL 36628

Dear Mr. Zettle:

Thank you for letter of November 13, 2013, regarding coordination for recertification of the Maintenance Dredging Program for the Black Warrior-Tombigbee (BWT) Waterway in Alabama and its possible effects on federally listed species. The proposed project would involve the continued use of all previously approved within-bank and upland disposal sites, dredging reaches, small boat channels, and training works identified in the 1987 Final Supplement to the Final Environmental Impact Statement (FSFEIS). In addition the USACE is proposing to construct jetties at Jackson Bar on the Tombigbee River in Jackson, Alabama. This report is prepared under authority of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 Cr.S.C. 1531 et seq.)(ESA).

The Service concurs with your species list and wishes to inform you that since our previous five-year review of this project in 2008 there is a new location confirmed for the inflated heelsplitter mussel (*Potamilus inflatus*). The inflated heelsplitter is now known to occur in the stretch of the Tombigbee River immediately below the Demopolis Lock and Dam. On March 5, 1993 the Service issued a Biological Opinion (BO) on this project for impacts to the inflated heelsplitter. This BO was revised in 1998 and amended in 2002 through the coordination process. We recommend the Corps review the level of incidental take authorized through the amended BO to ensure take would not be exceeded by the current proposal. We also concur with your determination that avoiding dredging in the Federal navigation channel and small boat access channels during the period of March-May would minimize impacts to Gulf Sturgeon.

For further discussion, please contact Mr. Josh Rowell at (251) 441-5836.

Sincerely,

Dan Everson
Deputy Field Supervisor
Alabama Ecological Services Field Office

www.fws.gov

PHONE: 251-441-5181



FAX: 251-441-6222



DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, AL 36628-0001

July 3, 2014

REPLY TO
ATTENTION OF

Inland Environment Team
Planning and Environmental Division

Mr. Frank White
State Historic Preservation Officer
State of Alabama
Alabama Historical Commission
468 South Perry Street
Montgomery, Alabama 36130-0900

Dear Mr. White:

The U.S. Army Corps of Engineers, Mobile District (USACE) is proposing twelve new within-banks disposal areas along the Black Warrior-Tombigbee River system (BWT) in Alabama. There are numerous previously approved within-banks disposal areas along the Alabama River, but this letter and enclosed report is intended to only address the twelve newly proposed locations (Table 1). The proposed within-banks disposal areas are necessary to maintain adequate capacity based on dredging amounts and frequency requirements for the respective bars. In addition, the USACE is proposing to construct diverter jetties at Jackson Bar which is located on the right descending bank between approximately River Miles 90.5 and 92.5 along the Tombigbee River. The jetties will require approximately 65,000 to 70,000 cubic yards of riprap.

As per requirements outlined in Section 106 of the National Historic Preservation Act (NHPA), the USACE must consider the effects of the proposed action on historic properties. USACE Archaeologist Mr. Matt Grunewald, RPA, conducted background research on each of the new within-banks disposal areas and proposed jetty locations which included searches of the Alabama Archaeological Site File, the Alabama Phase I Surveyed space website, the National Register of Historic Places (NRHP) and USACE cultural resources files. The area of potential effect (APE) for each within banks disposal area is shown on the provided aerial photography and USGS 7.5 minute topographic maps. A general location map is provided for the proposed construction area for the jetties because construction plans have not been finalized.

As a result of this report, cultural resources were identified within close proximity of six of the within-banks disposal areas (Table 2) and the proposed jetty locations near Jackson, Alabama. The USACE has determined that management considerations including avoidance plans and/ or erosion monitoring will be necessary to avoid potential impacts to cultural resources at the within banks disposal locations.

The USACE has determined that prior to construction on the proposed jetties phase I cultural resources survey of the upland and submerged portions of the APE will be required. The results of these reports will be coordinated with the State Historic Preservation Officer (SHPO).

Based on the background study, no historic properties are located within the project APE at six of the proposed within-banks disposal areas (Table 2). Therefore, the USACE has determined **no historic properties affected** at these locations by the proposed undertaking as per 36 CFR 800.4(d)(1).

I. Description of the Undertaking – The proposed action consists of twelve new within-bank disposal areas along the BWT. The proposed within-banks disposal areas will include the placement of cubic yards of dredged material through the use of hydraulic pipeline or mechanical dredge every so many years after the initial placement. Each site requires 1-20 days for completion of dredging and is typically executed between May and December. Current dredging practices call for dredging to be performed at a depth of nine feet plus four feet of advanced maintenance, two feet of allowable over depth and 3 feet of disturbance.

In addition, the USACE is proposing to construct diverter jetties at Jackson Bar which is located on the right descending bank between approximately River Miles 90.5 and 92.5 along the Tombigbee River. The jetties will require approximately 65,000 to 70,000 cubic yards of riprap. Initial implementation would include construction of the kicker and kicker bulkhead. The kicker will provide the most initial benefit. In addition to the kicker, the adjacent pilot channel must be cut through the in-channel disposal to provide the authorized navigation channel clearances. The kicker would be constructed with the appropriate size rip-rap and backfill material. The structure needs a bulkhead to extend upstream and downstream insuring bank stability. The bulkhead would extend the entire length of the kicker and be sized with the appropriate rip-rap to ensure bank stability. The upstream extended length of the bulkhead would be no less than 20 ft. Likewise the downstream extended length would be no less than 40 ft. The kicker's toe, tie back dike, and bulkhead ends must be keyed sufficiently in the bank to minimize structure failure. Once complete the area behind the kicker would be used as dredge disposal. The back filling of the kicker will provide stability and a new disposal area.

Once the kicker is in place the site can be monitored to determine the need for the additional transverse dikes. If the dikes are required then they would be constructed in a multi-staged approach (up to three stages). Each stage would be of equal dike length. Between the stages time would be given to evaluate the effectiveness of the dikes in their current lengths.

Dimensions

[1] Transverse Dikes:

- 175 ft long
- 10 ft top width
- 1:2 side slopes

- Spaced 800 ft apart
- First dike upstream of bridge starts 350 ft upstream
- Finish elevation is 11 ft NGVD

[2] Kicker

- Starts 2700 ft upstream of bridge
- 1500 ft long
- Tie back dike 1000 ft upstream of last most upstream dike
- Top with 10 ft
- Finish elevation 11 ft NGVD
- Tip of kicker is 350 ft off right bank
- Pilot channel adjacent to kicker

Location Name	River Mile	Bank	Dredged Material (est. cubic yards)
Cotton Catcher	38.5-38.8	Right	15,000
Tensaw River Bar	39.2-39.9	Right	15,000
Mount Vernon Landing Bar	41.0-42.0	Left	15,000
Bachelors Landing	73.7-74.4	Right	35,000
St Elmo Bar	96.5-96.7	Left	15,000
Old Lock #1 Entrance	99.5-99.9	Left	20,000
Bashi Creek Bar	145.0-145.5	Right	15,000
Millers Barn	160.5-161.5	Right	15,000
Mile 166	166.2-166.8	Right	15,000
Four Mile Bar	185.2-185.8	Right	50,000
Upper Ophelia Bar	328.8-328.9	Left	28,000
	329.4-329.7	Right	35,000

Table 1: Within banks disposal areas on the BWT.

II. Methodology and Reporting – A search of the Alabama Archaeological Site File, the Alabama Phase I Surveyed Space website, the National Register of Historic Places and USACE cultural resources files were reviewed for the APE of each individual within-banks and the proposed jetty locations. All relevant and available archaeological site file forms and phase I survey reports within the vicinity of the APE's were reviewed. The results of the reviews and effects determination for each individual APE are provided in the enclosed report. Aerial photography for each location was also reviewed and compared to the USGS 7.5 minute topographical maps to ensure all work is confined within the banks of the BWT.

III. Resources Identified and Evaluated (Significance Criteria Considered) – The background research located cultural resources potentially eligible for listing on the NRHP within or in close proximity of the APE of six within-banks disposal areas and the proposed jetties which will require avoidance plans, monitoring, or phase I cultural

resources survey. Each of these locations, the associated potential cultural resources, and necessary management practices are described below.

Within-banks disposal area Cotton Catcher (RM 38.5-38.8) and Tensaw River Bar (RM 39.2-39.9): Archaeological site 1Mb101 is mapped in close proximity to the APE within-banks disposal areas Cotton Catcher and Tensaw River Bar. Information provided in the Alabama Archaeological Site file states that this area is indicated on 18th century maps as the location of a major Mobilian village site.

The USACE will develop an avoidance plan in consultation with the SHPO to ensure that there is no adverse impact to archaeological site 1Mb101.

Within-banks disposal area Mount Vernon Landing Bar (RM 41.0-42.0): The potential effects of within bank disposal on the opposite bank are unknown as additional erosion may occur due to sediment placement. It is unknown if archaeological sites 1Mb100 and 1Mb178 which are located on the bank opposite of the within banks disposal area (Figure 5) will be impacted by the proposed action. 1Mb100 is identified in the Alabama Archaeological Site File as the location of a former American military fort, dating from 1799 to 1815 with an associate Indian component with Choctaw pottery being identified. Artifacts eroding from the river bank include bricks suggesting remains of the fort. The extent of the site is currently unknown. Archaeological site 1Mb178 has been impacted by the construction of a boat ramp and parking lot. A small portion of the site remains intact.

The USACE has determined that archaeological sites 1Mb100 and 1Mb178 will need to be monitored to determine if the proposed action accelerates erosion. The monitoring plan will be coordinated with the SHPO prior to any work at this location. If it is found that erosion of archaeological sites 1Mb100 and 1Mb178 are increasing as a result of this action further consultation with the SHPO and would be required.

Within-banks disposal area St Elmo Bar (RM 96.5-96.7): Archaeological sites 1Ck152 and 1Ck154 are located in close proximity of the proposed within banks disposal area. Both of these sites were recorded by the University of Alabama as part of academic research projects in Clarke County, Alabama. Both sites were shown to have prehistoric ceramics dating to the Woodland and Mississippian Stages. Previous artifact collections and research performed at these sites has contributed to our understanding of the cultural history of southwestern Alabama.

The USACE has determined that an avoidance plan will be required. The avoidance plan will be coordinated with the SHPO prior to work at this location. If avoidance is impossible further consultation with the SHPO would be required.

Within-banks disposal area Old Lock #1 (RM 99.5-99.9): The former location of Old Lock No.1 and archaeological sites 1Ck174, 1Ck175, and 1Ck210 are located in close proximity of the proposed within banks disposal area. Site 1Ck174 and 1Ck175 were recorded by the University of Alabama as part of academic research projects in Clarke County, Alabama. An intact midden has been recorded at site 1Ck174 but at this point

only lithic artifacts have been recovered at this site. During the University of Alabama research project site 1Ck175 was identified as one of the best McLeod phase (AD 800-1250) sites on this portion of the Tombigbee River. Site 1Ck210 was recorded by the University of South Alabama. An intact Mississippian midden and large trash pits are exposed in the eroding riverbank. A radio carbon sample from one of the slumped trash pits dated to AD 1295 +/-65. It is recommended that site may have been involved in the production and trade of salt during the Mississippian Stage. 1Ck210 is reported as having one of the highest artifact densities in the lower Tombigbee Valley of the Mobile Delta.

The USACE has determined that avoidance and monitoring plans will be required. The current location and integrity of Old Lock #1 is unknown and may require an avoidance plan. The avoidance and monitoring plan will be coordinated with the SHPO prior to work at this location. If avoidance is impossible and/or if monitoring shows accelerated erosion of archaeological sites further consultation with the SHPO would be required.

Within-banks disposal area Millers Barn (RM 160.5-161.5): Archaeological sites 1Ck28, Ck29, and Mo12 are located in close proximity of the proposed within banks disposal area. Archaeological sites 1Ck28 and 1Ck29 were recorded by the University of South Alabama. 1Ck28 is identified as eligible for listing on the NRHP in the Alabama Archaeological Site File and has Late Archaic, Middle Woodland, and Late Woodland components. 1Ck29 is identified as a low density plow disturbed surface scatter of an unknown aboriginal occupation. Further testing was not conducted to determine if intact portions of the site remain below the plow zone. Archaeological site 1Mo12 is located on a flat upper terrace within a cultivated field on the east bank of the Tombigbee River and has both Deptford and Miller II components. It is unknown if portions of the site are exposed in the river bank.

The USACE has determined due the close proximity of archaeological site 1Cw28, 1Cw29, and 1Mo12 to the APE the USACE has determined that an avoidance plan and monitoring plan will be required. The avoidance plan for and monitoring plan will be coordinated with the SHPO prior to work at this location. If avoidance is impossible further consultation with the SHPO would be required.

Jackson Jetties (RM 90.5-92.5): The proposed action is located on the right descending bank of the BWT between River Miles 90.5 and 92.5. The design for this project is in the preliminary stages and a specific APE has not been defined. In addition, this project has yet to receive funding and it is unknown when or if it will be constructed.

Background research has identified multiple previously recorded archaeological sites in the vicinity of River Miles 90.5-92.5 including 1Ck66, 1Ck70, 1Wn70, 1Wn96, and 1Wn159. Site 1Ck66 is thought to be the location of a mound site first identified by C.B. Moore in 1905. The Alabama Archaeological Site File indicates that the former mound is likely inundated and site has been impacted by erosion. 1Ck70 is a multi

component Archaic and Woodland site which has been impacted by erosion. 1Wn70 is a multi component site with an intact proto historic to historic midden bearing datable charcoal. 1Wn96 is a multi component Archaic and Woodland site. 1Wn159 was recorded by the University of South Alabama and both lithic and ceramic artifacts were recovered.

The USACE has determined that due to the close proximity of multiple previously recorded cultural resources both terrestrial and submerged phase I survey will be required prior to construction of the proposed jetties.

Location Name	River Mile	Bank	Effects Determination
Cotton Catcher	38.5-38.8	Right	Avoidance Plan
Cotton Catcher	38.5-38.8	Right	Avoidance Plan
Tensaw River Bar	39.2-39.9	Right	Avoidance Plan
Mount Vernon Landing Bar	41.0-42.0	Left	Monitoring Plan
Bachelors Landing	73.7-74.4	Right	No Historic Properties
St Elmo Bar	96.5-96.7	Left	Avoidance Plan
Old Lock #1 Entrance	99.5-99.9	Left	Avoidance Plan Monitoring Plan
Bashi Creek Bar	145.0-145.5	Right	No Historic Properties
Millers Barn	160.5-161.5	Right	Avoidance Plan Monitoring Plan
Mile 166	166.2-166.8	Right	No Historic Properties
Four Mile Bar	185.2-185.8	Right	No Historic Properties
Upper Ophelia Bar	328.8-328.9	Left	No Historic Properties
	329.4-329.7	Right	No Historic Properties

Table 2: Within-banks disposal on the BWT effects determination.

IV. Effects Determination and Compliance Decision – Effects determinations are the responsibility of the lead Federal agency. The USACE has considered the nature of the undertaking and the presence of properties that may possess the qualities of integrity and meet at least one of the criteria necessary to be considered eligible for inclusion in the National Register of Historic Places. Based on the background study, no historic properties are located within the project APE at six of the proposed within-banks disposal areas (Tables 2). Therefore, the USACE has determined **no historic properties affected** at these locations by the proposed undertaking as per 36 CFR 800.4(d)(1).

The USACE asks that you concur with our finding of **no historic properties affected** by the proposed action at these locations as per 36 CFR 800.4(d)(1), and/or provide comments within 30 days.

As a result of this report, cultural resources potentially eligible for listing on the NRHP were identified within close proximity of six within-banks disposal areas (Table 2). Since large portions of these cultural resources are located on private or state property further NRHP evaluation of them may not be possible. The USACE has determined that management considerations including avoidance plans and/ or erosion monitoring will be necessary to avoid potential impacts to the portions of these cultural resources that could be impacted by the undertaking. All avoidance plans and erosion monitoring plans will be coordinated with the SHPO. The USACE asks that you concur with these management strategies.

The USACE has also determined that the APE of the proposed Jackson Jetties project will require both terrestrial and submerged phase I cultural resources survey prior to construction.

If you have questions or require further information, please contact Mr. Matt Grunewald at (251) 694-4107 or via email at matthew.m.grunewald@usace.army.mil.

Sincerely,


for Brian A. Zettle
Chief, Inland Environment Team

Enclosures



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October 1, 2014

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Post Office Box 2288
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Re: AHC 2014-1395
Twelve New Within-Banks disposal Areas
Black Warrior-Tombigbee River System
Multiple Counties

Dear Mr. Zettle:

Thank you for the excellent report regarding the above referenced project. We agree with Mr. Grunewald's proposed management strategies. Archaeological site avoidance plans and/or erosion monitoring activities should be coordinated with our office.

We appreciate your commitment to helping us preserve Alabama's historic archaeological and architectural resources. Should you have any questions, please contact Amanda McBride at 334.230.2692 or Amanda.McBride@preserveala.org. Have the AHC tracking number referenced above available and include it with any future correspondence.

Sincerely,

Lee Anne Wofford
Deputy State Historic Preservation Officer

LAW/AM/am