ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 to 148.0

PUBLIC REVIEW DRAFT

MAY 2016

US Army Corps
of Engineers®
Rock Island District

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EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers (Corps), Rock Island District (District), is currently proposing the long-term placements of dredged material for the Dredged Material Management Plan (DMMP) and integrated Environmental Assessment (EA) for the Mackinaw River Reach Dredge Cut (Project). This dredge cut extends along the Illinois Waterway (IWW), within the navigation channel between river miles 146.7 to 148.0, Peoria and Tazewell Counties, Illinois (Figure ES-1, Project Location).

In September 1995, the Rock Island District completed the *Long-Term Management Plan for Dredged Material Placement, Illinois Waterway River Miles 145.0-148.0, Mackinaw River/Kingston Mines*. Material dredged from below the mouth of the Mackinaw River has nearly filled the existing Mackinaw placement (Site 9) along the landward side of the flood risk management levee for the Spring Lake Drainage and Levee District (Figure ES-1, Project Location). Historically, the average annual dredging quantity of the Mackinaw River Cut is approximately 44,700 cubic yards per year. This Site 9 is nearing capacity to hold only approximately 1.3 future dredging events from this dredge cut. Therefore, this site will not accommodate for the estimated dredging needs in a 20 year plan (1.23 million cubic yards) or a 40 year plan (2.46 million cubic yards). This DMMP report evaluates additional suitable placement alternatives for both mechanical and hydraulic dredging methods at the Mackinaw Reach.

The No Action Alternative and multiple sites were initially evaluated using numerous factors including cost effectiveness, environmental acceptability and operational feasibility. Only one alternative met these criteria, and therefore has been selected as the Preferred Alternative. This Preferred Alternative consists of expanding existing placement behind the levee in farm fields and a sparsely forested area for the access easement. Conservation measures are necessary prior to clearing of the access easement due to potential impacts to listed threatened and endangered species (See Section 5.4). This Plan includes both hydraulic and mechanical dredging and placement options. The total cost estimate for the project is approximately $2.4 million, including construction cost of approximately $762,536.00 and acquisition costs of $1,665,000.

Peoria and Tazewell Counties
La Grange Pool
Illinois River Miles 146.7 to 148.0

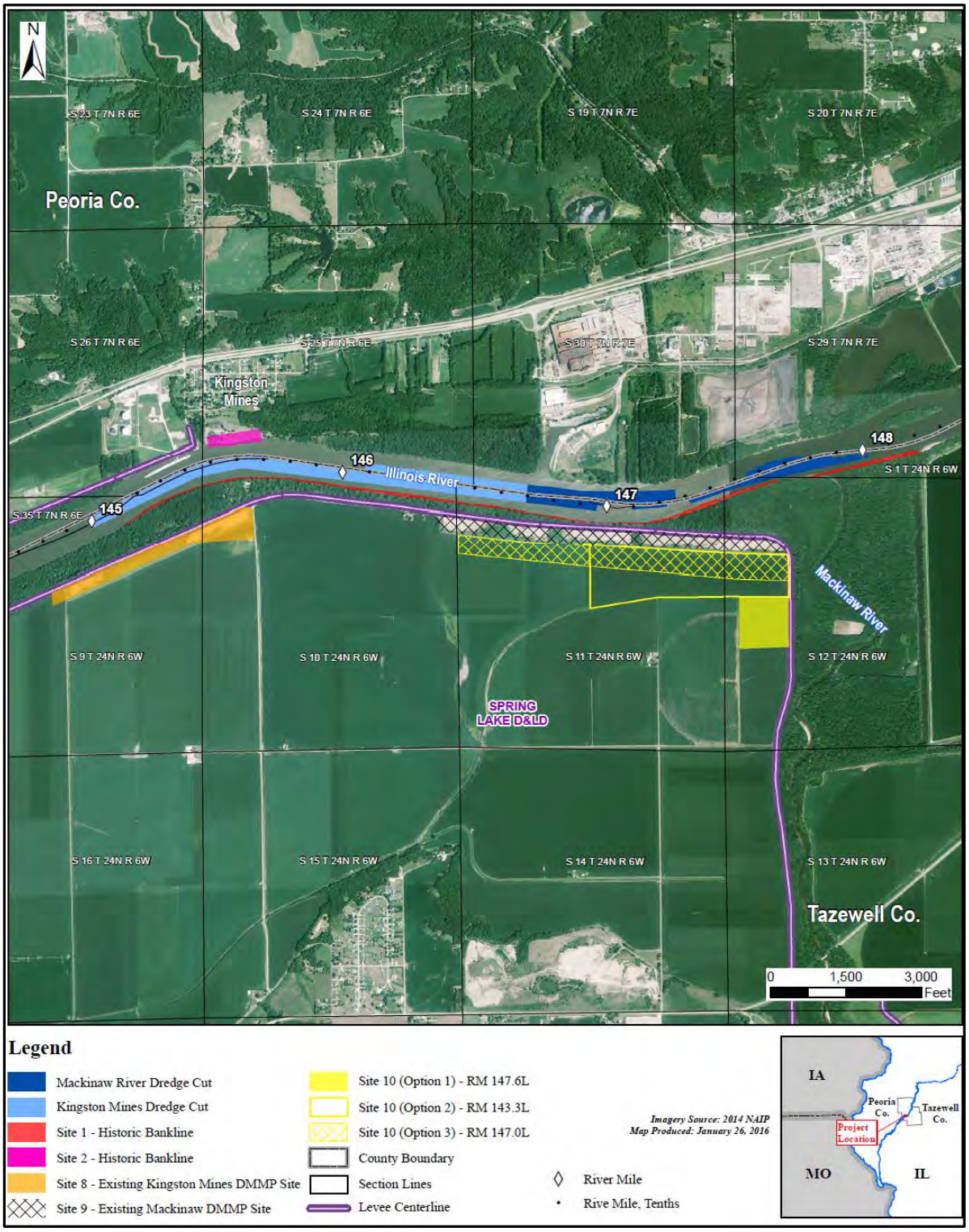

Figure ES-1: Project Location

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* Denotes section required for Environmental Assessment/NEPA Compliance

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1 PROJECT DESCRIPTION

1.1. Purpose. The purpose of the DMMP is to find suitable long-term placement sites for dredged material as described in the *Long-Term Management Strategy for Dredged Material Placement, Illinois Waterway River Miles 80.0-327.0, Main Report* (June, 1995). Dredged material placement alternatives that are determined to be environmentally acceptable and operationally feasible will be recommended for future dredged material placement in a DMMP report.

1.2. Location. The Mackinaw Reach is located in La Grange Pool on the IWW between river miles (RM) 146.7 and 148.0. (Figure ES-1, Project Location). The largest volumes occur near the mouth of the Mackinaw River at RM 147.9. The Spring Lake Drainage and Levee District (D&LD) is on the left descending bank between RM 134.0L and RM 147.8L. Behind the levee are agricultural fields that are generally used for corn and soybeans. The existing dredge material placement Site 8 and Site 9 are also located in the Spring Lake D&LD near RM 145.4L and 147.0L respectfully (Figure ES-1, Project Location). For management purposes, this study area includes 1) the DMMP reach river miles defined by the dredging area and 2) potential placement sites proximate to the dredging area which are used to support the projected dredging activities.

1.3. Scope of Study. One of the missions of the U.S. Army Corps of Engineers (Corps) and of the Rock Island District (District) is to provide a safe, reliable, efficient, and environmentally sustainable waterborne transportation system. Channel maintenance, including dredging and dredged material placement, supports this mission. This report uses the Corps' six-step planning process:

1. Identify Problems and Opportunities
2. Inventory and Forecast Conditions
3. Formulate Alternative Plans
4. Evaluate Alternative Plans
5. Compare Alternative Plans
6. Select a Plan

This DMMP report focuses on the Mackinaw River dredge cut and the potential placement sites over a minimum of a 40-year period.

1.4. Authorization. The Rivers and Harbors Acts of July 3, 1930; February 1932; and August 30, 1935; and a Resolution of the House Committee on Flood Control of September 18, 1944, authorized the 9-foot navigation channel and subsequent channel maintenance dredging for the Illinois Waterway (IWW).

Under the authority delegated by the Secretary of the Army and in accordance with Section 404 of the Clean Water Act (CWA) of 1977, as amended, the Corps regulates the discharge of dredged or fill material into waters of the United States. In addition, the Corps is guided by the dredging regulations published in the Code of Federal Regulations (CFR), 33 CFR Parts 335-338. This CFR included language that encouraged the Corps to pursue a Long-Term Management Strategy for dredged material placement. The regulation states, "District Engineers should identify and develop dredged material management strategies that satisfy the long term (greater than 10 years) needs for Corps projects."

The Corps regulation providing guidance for the conduct of Civil Works Planning Studies is contained in Engineering Regulation (ER) 1105-2-100. Plans are to be developed to meet dredging needs for a minimum of 20 years. In order to allow for long-term flexibility, the Rock Island District's preference is to develop 40-year plans, where feasible.

1.5. Historic Channel Maintenance Dredging. The Mackinaw River is a major contributor to the IWW sediment load. The drainage area of the Mackinaw River is 1,136 square miles. Based on predictive relationships developed by the Illinois State Water Survey *Water Resources Investigations Report 89-4106*, the average annual bed material load for the Mackinaw is estimated to be about 70,000 tons. Therefore, channel maintenance is chronic in this area.

The cut has been dredged 56 times in the 73 years from 1941 to 2014, for a total of 3,627,000 cubic yards (cy) to both bankline and upland placement. Yearly dredging ranged from 9,700 cy in 1992 to 254,000 cy in 1965. The average amount per event from 1941 through 2014 is 64,800 cy. Over the past 16 years, from 1998 through 2014, the average dredging event is 44,672 cy. Historic dredging of the Mackinaw Reach from 1941 through 2014 is summarized in Table 1. Historically, the placement of dredged material has typically been hydraulically excavated from the dredge cut and placed at upland placement sites or historic bankline locations on the left and right bank within the Mackinaw Reach. Mechanical dredging does occur within the Mackinaw Reach periodically, but typical volumes warrant hydraulic dredging.

1.6. Assessment of Dredged Material. Samples collected in 2015 from dredge cut locations were classified in accordance with the Unified Soil Classification System. Samples ranged from gravelly coarse to fine grained sand with trace gravel. The dredge cuts usually produce material that varies from medium to fine sand, with some gravel and organic material. Material near the mouth of the Mackinaw tends to contain more medium sand and gravel than other dredge cut locations.

Table 1. Mackinaw Reach Historical Dredging 1941 to 2014

Year Dredged	Dredging Amount (cy)	Dredging Site	Placement Site
1941	48,608	147.5-147.8	--
1942	111,099	147.5-148.0	--
1943	67,815	147.5-147.8	--
1946	78,685	146.5-147.9	--
1949	114,261	147.2-147.9	--
1951	77,514	147.5-147.9	--
1953	92,972	147.2-147.9	--
1956	91,365	147.5-147.9	--
1959	74,492	147.2-148.0	--
1965	254,147	146.9-148.0	146.9-148.0R
1968	155,976	147.2-148.0	146.5-149.5R
1972	93,598	147.2-147.9	147.2-147.9L
1975	85,233	147.7	147.2-148.0L
1976	33,079	147.7	147.2-148.0L
1977	195,471	147.1-147.8	147.2R
1979	48,792	148.0	147.2R
1982	170,133	147.4-147.6	147.3-148.5L
1984	36,160	147.0-147.6	147.3-147.8L
1984	92,167	147.5	147.0-148.0L
1985	28,255	147.4	147.0-148.0L
1986	44,382	147.5-147.9	147.7-148.0L
1986	161,280	147.4-147.7	147.4-148.2L
1987	46,603	146.5-147.5	146.5-147.5L
1989	135,146	147.5-148.1	147.8R
1990	54,019	146.9-147.7	147.2-147.6L, 147.7-147.8L (25707 cy), 147.8R
1992	38,130	147.1-148.0	147.3-147.9L (13033 cy), 147.8R (25097 cy)
1992	2,831	147.1-147.2	146.8-147.0L
1993	116,593	146.0-147.8	146.0-147.7L
1994	54,187	146.9-147.8	147.0-147.6L
1994	74,539	146.5-146.9	146.4-147.0L
1995	29,512	146.0-147.3	145.7-146.2L, 146.7-147.1L
1995	20,064	147.6-147.9	147.9-148.3L
1996	25,886	146.6-147.2	146.25-146.9L
1996	7,759	147.6-147.8L	148.0-148.25L
1997	9,654	147.6-147.9L	148.0-148.3L
1998	22,656	146.7-147.2	147.2L
1998	16,773	147.7-147.9	147.2L
1999	39,544	146.4-147.6L	147.0L
1999	72,914	147.65148.0L	147.2L (below includes overdig-3,150;2001
2000	6,504	148.1 148.7	148.0 - 148.2
2001	44,158	147.5-147.8	147.3L (Total placed to date - 199,195 cy)
2002	28,313	147.6-147.8	147.2L
2002	9,572	146.0-146.4	146.5L
2003	51,977	147.6-147.9	147.7L
2003	40,430	146.3-146.9	146.7L (Total placed upland to date - 326,337 cy)
2005	30,952	147.5-148.0	147.7L
2006	45,383	147.3-148.5L	145.6-145.7L, 145.6-145.7R, 148.0-148.4L
2007	39,185	146.2-147.3R&L	146.4L, 146.6L, 146.7L,146.8L, 147.0L, 147.1L
2008	112,592	147.3 - 148.1	1472 - 147.7 L
2010	105,514	147.3-148.0L	146.8/147.3L
2010	22,523	146.9-147.3L	146.8/147.3L
2011	17,730	147.8 - 147.9	147.3L
2013	58,801	146.8-148.1L&R	146.7L
2013	648	147.9L	146.9L Mech
2014	47,552	146.7 - 148.0	147.3L & 147.8L
2014	42,245	145.6 - 146.9	147.0L & 146.5L
Total: 3,626,373 (cy)		**Events Avg: 64,757**	

[1] All volumes are rounded to the nearest thousand cubic yards.

1.7. Future Dredging Requirements. Future projections for channel maintenance dredging are determined through application of the District's knowledge and expertise based on historic dredging and current conditions. These projections are simply an estimate of future dredging needs. Because of the dynamic nature of the river, actual dredging needs could be different from the projections.

Table 2 uses the historic dredging data from the period 1998-2014, as these events have been more recent (since the site behind the levee was first used), and do not include the large volumes that were dredged during the initial dredging of the 9-foot channel. First, the average dredging in cy per event over the period from 1998-2014 was calculated. Then, a factor of 25 percent was added to the total volume per event to adjust for the area required for ponding and pumping and the potential underestimating of future quantities and to allow the potential to dredge to full project dimensions. The dredging frequency during this period for the Mackinaw Dredge Cut is on average one event every 0.89 years. Over the 40-year period of analysis, it is projected that 44 events would yield a volume of 2,456,960 cy (*44,672 average per event + 0.25 contingency* x *44 events = 2,456,960 cy*).

Table 2. Future Dredging Projections for the Next 40 Years for Mackinaw Dredge Cut

Estimated Events	Volume Per Event (cy) Based on Recent 16-yr History	Additional 25% Contingency Volume Per Event (cy)	Total Volume Per Event (cy)	Total Volume for 40-yr Plan Life (cy)
44	44,672	11,169	55,841	2,457,000

1.8. Projections of Future Conditions without Management Plan. Throughout the Mackinaw Reach, industry has limited potential placement sites along the IWW. On the right descending bank is a former upland placement site near 147.6R that has reached capacity. Placement at this location last occurred in 1992. The Caterpillar Tractor Company foundry borders the river from RM 147.2 – 147.6R; the Kingston River terminal borders the river from RM 146.6-147.2R; and the village of Kingston Mines borders the river from RM 145.5-145.9R. A small campground borders the river near Kingston Mines. The upstream end of the Banner Special D&LD is near RM 145.5R. A river terminal is operated behind the levee between RM 145.0 and 145.5R. Prior to development of the Sites 8 and 9 under the existing DMMP report, nearly all dredged material was placed on the bankline. Beginning in the early 1980s, the multi-agency group, Great River Environmental Action Team (GREAT), recommended considerations for changes in dredge material placement. One concern was that long-term bankline placement allows for material to be reintroduced to the waterway during high water events. The GREAT recommendations included creating long-term sites and reducing impacts to the floodplain, with the goal to place more material out of the river system.

In accordance with *The 404 Studies – Summary Assessment of Dredged Material Placement along the Upper Mississippi River and Illinois Waterway, Final Report*, dated March 2009, Rock Island District. Study data suggested that continued periodic use of UMR and IWW historic dredged material placement sites would not cause significant adverse impacts to any of the resources categories for this report, directly, indirectly, or cumulatively. The Illinois On-Site Inspection Team (OSIT) was created under *Long-Term Management Strategy for Dredged Material Placement, Illinois Waterway River Miles 80.0-327.0, Main Report* (June 1995) and is a multi-agency group that reviews dredging related actions on the IWW. The historic bankline placement sites within the Kingston Mines/Mackinaw dredging reaches and other locations on the IWW are periodically used with OSIT approval. The District anticipates these bankline sites would continue to be used periodically.

Currently, historic bankline placement sites and the existing Site 9 behind the levee are the only placement sites available when dredging at the Mackinaw River Cut. Due to the grain size of the material in the Mackinaw River Cut, it is operationally infeasible to hydraulically pump the material very far. The typical maximum distance dredge material is pumped on the IWW is approximately 10,000 feet. The Kingston Mines Site, Site 8, is approximately 12,000 feet from the mouth of the Mackinaw River and is used primarily for the Kingston Mines Cut. Therefore, the Kingston Mines site is not suitable to help address future dredging needs in the Mackinaw River Cut. Additionally, Site 9 is 77.4 percent full with a current capacity for 5.3 more events within the site. Site 9 requires a depressed area to allow the dredged material to settle and then pumped (pond and pump) to remove excess water from hydraulic dredging. As the Site nears capacity and available area to pond water decreases, the Site loses efficiency. After the next dredging event, it is expected that the availability for ponding would be filled. Therefore, the capacity for efficient placement is actually 1.3 more events. Hence this DMMP would provide additional capacity for long-term placement of future events, without using bankline placement.

1.9. Problems and Opportunities. The Mackinaw River contributes large volumes of coarse sediments to the Illinois River producing chronic dredging activity.

1.9.1. Problems

- Sedimentation causes shoaling within the 9-foot navigation channel resulting in chronic dredging of the Mackinaw River Dredge Cut. Removal of significant amounts of sediment is necessary to maintain full project width.
- The existing placement Site 9 is filling several years earlier than anticipated; a new evaluation of dredging requirements shows that additional placement capacity is needed.
- The lengthy distance of the existing U.S. Government fee title access to the existing site reduces productivity and increases operating costs. Longer dredge pipes continue to impose delays for contract dredge operations.
- Continued use of existing placement options, at the volume and frequency used in the past, could result in unacceptable environmental impacts.
- Nearby areas are Illinois River floodplains, agricultural farmlands or part of the Powerton Lake Complex.

1.9.2. Opportunities

- Evaluate and recommend long-term placement site alternatives for this dredged area that offer reduced natural resource impacts
- Consider any beneficial use opportunities, both environmental, and commercial
- An additional, shorter access easement from the Mackinaw Dredge Cut to the placement site(s) may increase dredging productivity or decrease down time.
- Evaluate and recommend cost-effective alternatives, potentially reducing navigation Operations and Maintenance (O&M) costs
- Coordinate information among local, state, and Federal agencies and the affected public to facilitate prudent decisions on the placement of dredged material

1.10. Beneficial Use. Dredged material is a manageable resource suitable for beneficial use, such as natural resource habitat development (e.g., moist soil unit creation and refuge levee repairs) and island creation or elevation. Potential fish or wildlife restoration and enhancement projects that could utilize dredged material would be pursued under Section 1135, Section 204, section 519 or Section 206 program authority. These programs are authorized by various Water Resources Development Acts and require a non-Federal sponsor to cost-share a percentage of DMMP costs. Cost share varies among programs. The IL DNR is the non-Federal sponsor for several projects in the Section 519 Program, although none occur in the Mackinaw Reach of the Illinois River from RM 146.7-148.0.Additionally, on several occasions in the past, the District has sent news releases, advertising the availability of dredged sand. Although the existing placement site is accessible by a road, only minor beneficial use has been utilized. Efforts are ongoing to establish interest in use of the material.

1.11. Objectives and Constraints. Title 33 of the CFR part 335.7 defines the Federal Standard as the dredged material placement alternative or alternatives identified by the Corps which represent the least costly alternatives consistent with sound engineering practices and meeting environmental standards. The following objectives and constrains assist the District in identifying the Federal Standard:

1.11.1. Objectives

- Maintain the 9-foot navigation channel in such a manner as to avoid the potential loss of life or personal injury, or property damage that may result from inadequate maintenance of the channel and subsequent channel closures and groundings
- Reduce O&M costs where possible
- Identify, evaluate, and recommend long-term placement alternatives that meet the Federal Standard
- Avoid, or minimize, adverse effects to the environment
- Maximize beneficial use of dredged material
- Investigate and recommend other non-dredging measures to maintain the navigation channel
- Provide valuable information for future decisions and allow for adaptive management of dredged material in the Mackinaw Reach
- Strive to find suitable placement site options providing dredged material placement capacity for at least 40 years of maintenance dredging where feasible
- Enable rapid response dredging and material removal while minimizing impacts to LaGrange Pool activities and navigation traffic

1.11.2. Constraints

- Identify a plan to meet the projected dredging volumes for a minimum of 20 years as stated in ER 1105-2-100
- Assess site access and equipment limitations. Current dredging contract allows for a maximum of 10,000 feet of distance from dredge cut, should not exceed

1,000 feet inland from the dredge cut, and should not exceed +/- 28 feet in height from the dredge cut.

- Feasible placement sites are scarce.
- Final Plan will provide for both hydraulic and mechanical placement options.
- Placement Site opportunities are limited by hydraulic impacts.
- Many sites near the Mackinaw Dredge Cut include environmentally or archeologically sensitive areas and cannot be disturbed.

1.12. Strategies. The overall DMMP would identify, evaluate and acquire placement sites that meet the District's needs for a minimum of 20 years, and ideally for 40 years or longer, using the three-phase interagency DMMP process as follows:

Phase 1: Preliminary assessment and site/alternative site identification and screening

Phase 2: Alternative evaluation, including environmental assessment, and engineering and cost considerations

Phase 3: Acquisition of placement sites (as needed) and implementation of the Recommended Plan.

This report represents completion of Phase 1 and Phase 2 of the process for the Mackinaw Reach DMMP. Upon review, final approval, and availability of funding, the District will begin Phase 3.

2 AFFECTED ENVIRONMENT

The District performed a preliminary search of existing databases, maps and other sources to identify any known issues or concerns including:

- environmental acceptability (wetlands, threatened or endangered species, water quality, aquatic and terrestrial resources);
- floodway conveyance, flood height, and flood storage impacts;
- prime and unique farmland;
- existing land use (land use plans, local zoning ordinances, private, commercial, municipal, county or state development);
- social impacts;
- real estate issues (cost, property liens, landowner willingness, multiple landowners, permits/leases/purchase);
- cultural resources;
- hazardous, toxic, or radioactive waste (HTRW);
- recreation potential;
- commercial navigation (channel maintenance, fleeting areas);

- beneficial use potential; and
- features consistent with best planning and engineering practice.

2.1. Cultural Resources. The District conducted an archival search for historic properties following the "Policy and Procedures for the Conduct of Underwater Historic Resource Surveys for Maintenance Dredging and Corps Activities" (DGL-89-01, March 1989). The District queried the most updated Illinois Geographic Information Systems (GIS) and The Department of Natural Resources *Inventory of Illinois Archaeological Sites* internet site file database and reviewed the reports *An Investigation of the Submerged Historic Properties in the Upper Mississippi River and Illinois Waterway*, dated October 1997 (Contract Number DACW25-93-D-0-012, Order No. 27), and *The Historic Properties Management Plan for the Illinois Waterway System, Rock Island District, District of Engineers,* Volumes I and II, dated February 1999 (Contract Number DACW25-93-D-0014, Order No. 0021), for historic properties potentially affected by this DMMP Area of Potential Effect (APE). No previously reported or recorded historic properties are within the DMMP APE.

The proposed DMMP APE lands within the *Landform Sediment Assemblage (LSA) Units in the Illinois River Valley and the Lower Des Plaines River Valley*, Vol. I, dated May 2000, and Vol. II, dated June 2000 (Contract No. DACW25-93-D-0014, Delivery Order No. 0025), are described as predominately natural levee with alluvial fan and channel belt deposits. More recent natural levees (Illinois River is a low gradient river with accompanying low-lying natural levees) within the floodplain landscape of the upper reach of the Illinois River have low potential to contain archeological deposits (Vol. I, p. 30-31, Vol. II, Glasford 107d, Pekin 108c). Alluvial fan deposits have a high potential for surface and buried prehistoric cultural deposits (Vol. I, p. 26, Vol. II, 107d, Pekin 108c), while tributary channel belts have variable potential for cultural resources (Vol. I, p 35-36, Vol. II, Pekin 108c). The proposed DMMP APE lands are adjacent to, and downstream of, the mouth of the Mackinaw River, a dynamic area within respect to flowage, meandering, and inundation, which historically, was seasonally, somewhat marshy.

The following reports were also reviewed:

> Ross, James S., Tracy Sandfur, and Jeff Anderson, 1994, *Phase I Archaeological Investigations and Geomorphological Assessment of the Mackinaw/Kingston Mines Dredged Material Placement Site, Kingston Mines, Tazewell County, Illinois*, Cultural Resources Management Report Number 218. Prepared for the Rock Island District Corps of Engineers under Contract DACW25-91-D-0012, Delivery Order Number 0006 by American Resources Group, Ltd, Carbondale, Illinois.
>
> Howe, W. Gordon, James S. Ross, and Jeffery D. Anderson, 1994, *Phase II Archaeological Investigations and Geomorphological Investigations at the Mackinaw/Kingston Mines Dredged Material Placement Site, Tazewell County, Illinois*," Cultural Resources Management Report Number 226. Prepared for the Rock Island District Corps of Engineers under Contract DACW25-93-D-0012, Delivery Order Number 0009 by American Resources Group, Ltd, Carbondale, Illinois.

All referenced reports have been coordinated, reviewed and catalogued in the permanent files of the IHPA, Springfield, Illinois, including the two 1994 Mackinaw/Kingston Mines DMMP reports by

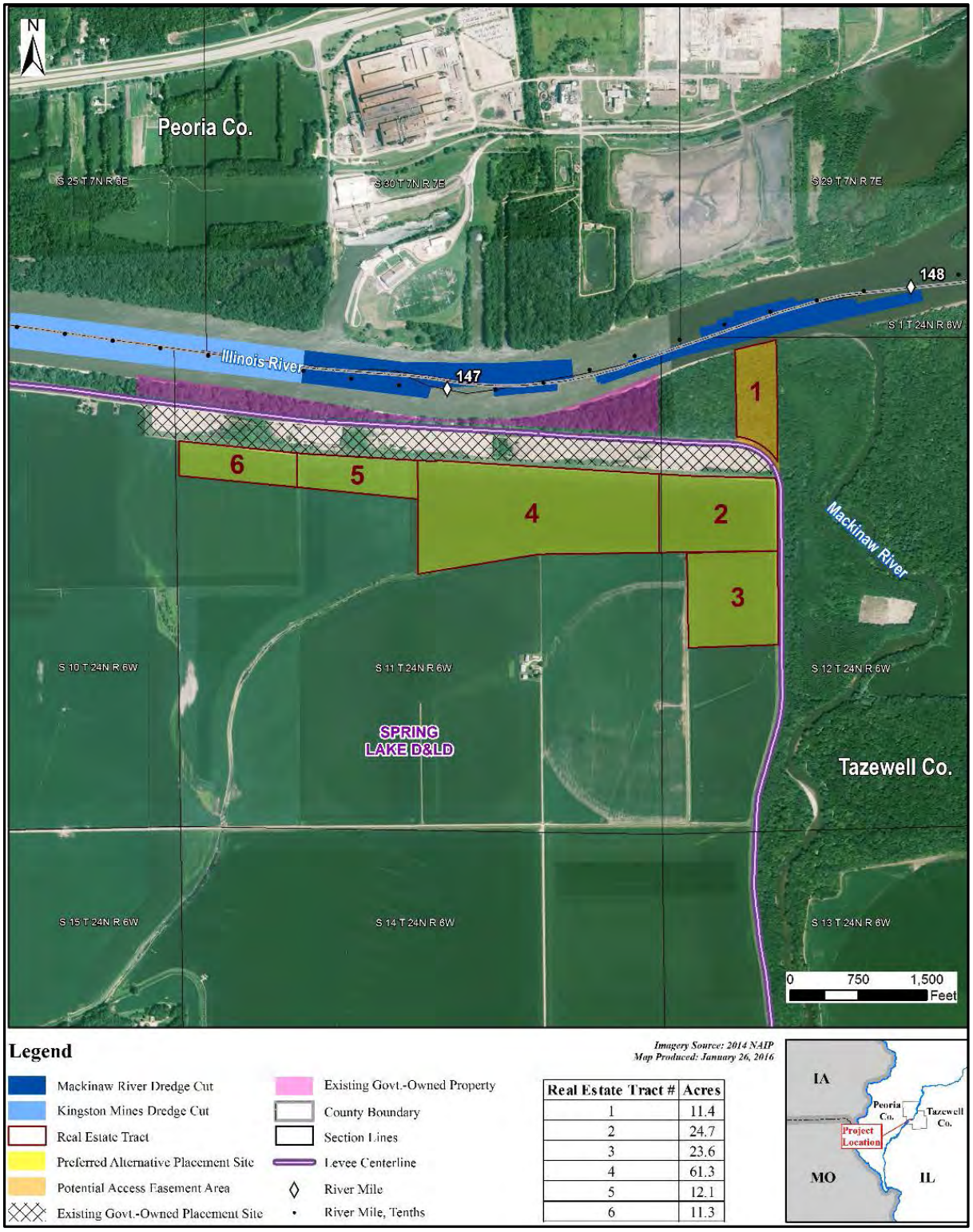
American Resources Group. None of these reports indicated significant historic properties within the DMMP APE, databases, and report surveys. Results identified the APE as having low potential to contain archeological properties.

The DMMP APE (including proposed access easements) was field visited on November 17, 2014 by the District Archaeologist and no surface archeological or structural building or remains were observed on the surface. Since there is potential for undocumented, buried archeological properties, the District proposed a Phase I intensive archeological survey within the DMMP APE (for those areas which have not been previously surveyed or addressed in previous reports). Since the project area is within the floodplain, the Phase I archeological survey will include geomorphological investigations using hand methods deep testing. The District did not propose or conduct any archeological investigations within the DMMP APE for the riverside access easement containing a total of 12.3 acres (Figure 1, tract 1), which will use overland with no land disturbances for hydraulic pipeline placement or return water pipeline systems.

By letter dated October 7, 1999, the District contacted the Illinois, Iowa, Missouri, Minnesota, and Wisconsin State Historic Preservation Officers (SHPOs) and approximately 70 Tribes concerning the Mississippi River and Illinois Waterway dredging program. The Tribes (including Tribal Historic Preservation Officers and often, tribal council members) and SHPOs were asked to review an attached tribal distribution list for corrections and/or additions and provide comment on the DMMP program. The Tribes were notified that the District, the Advisory Council on Historic Preservation (Council), and the appropriate SHPOs have signed a Programmatic Agreement (PA) regarding implementation of the long-term management strategy for dredged material placement for the DMMP for Illinois Waterway River Miles 80.0 to 327.0 and Mississippi River Miles 300.0 to 614.0 (Appendix A). Comment was received, addressed, and all tribes were included on the lists generated by the District for the DMMP. Since 1999, this Distribution List has been updated to include changing addresses, and other interested tribes, consulting parties, and landowners. Also, a report documenting compliance with the PA is produced once every 2 years. Periodic Review of the PA.

Pursuant to Section 800.3 of the Council's regulations and to meet the responsibilities under the NEPA of 1969, the District has developed a Distribution List, comprised of tribes, landowners, historical societies, and other interested parties that may have potential concerns on historic and traditional/cultural properties. The development and maintenance of the Distribution List allows agencies, tribes, individuals, organizations, and other interested parties an opportunity to provide views on any effects of this undertaking on historic properties resulting from the DMMP and to participate in the review of this EA. As a matter of course, the District complies with any requests to be removed from, or make additions/corrections, to the Distribution Lists on appropriate correspondence.

Peoria and Tazewell Counties
La Grange Pool
Illinois River Miles 146.7 to 148.0



Real Estate Tract #	Acres
1	11.4
2	24.7
3	23.6
4	61.3
5	12.1
6	11.3

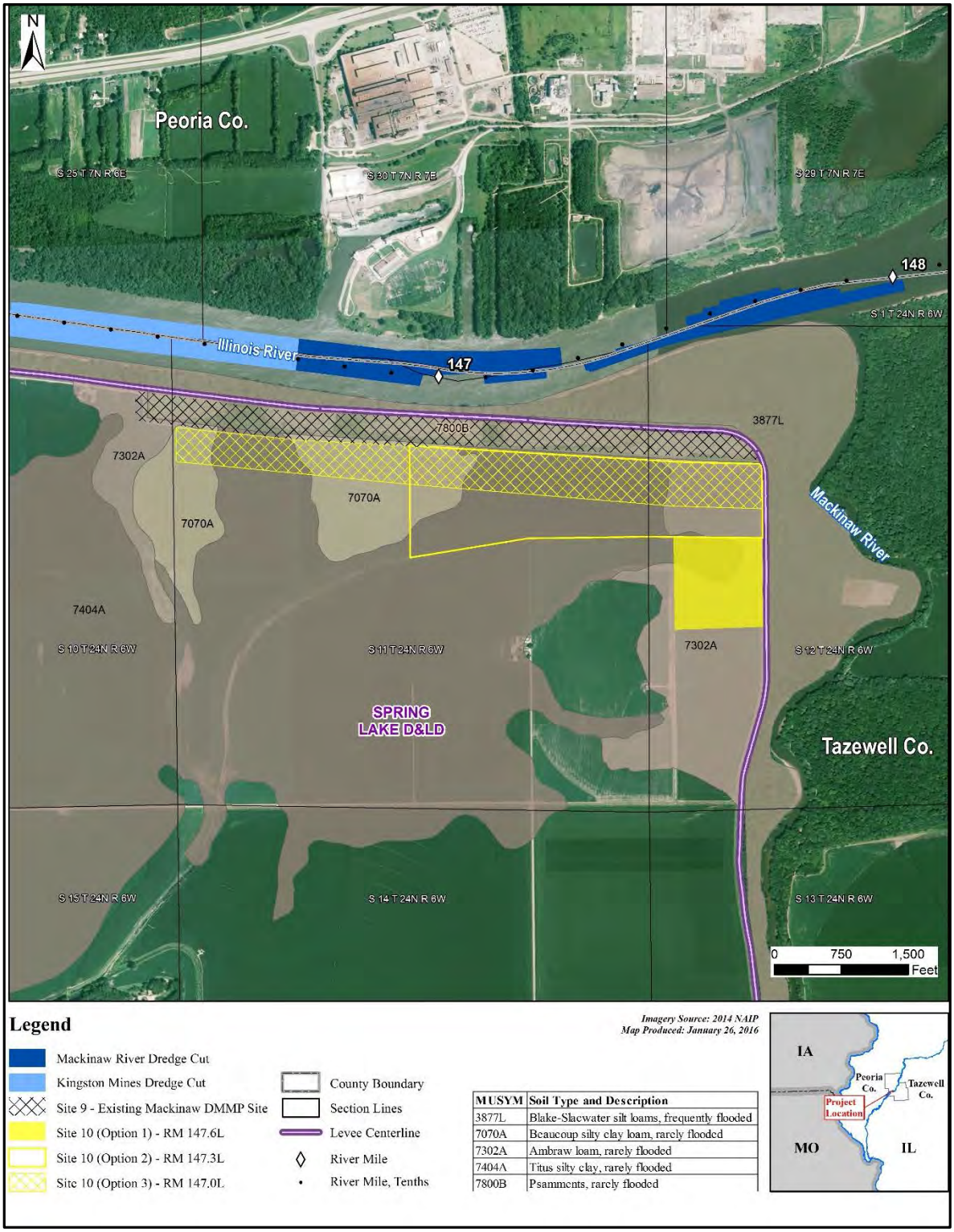
Figure 1: Real Estate Tracts

2.2. Natural Resources. Natural resources in this project area include the lands, water, fauna, and flora of the Illinois River Basin and its floodplain in Peoria and Tazewell Counties, Illinois. Habitats with potential impacts by dredged material placement include behind the levee agricultural fields, a forested access easement, bankline and shallow aquatic habitat.

2.2.1 Soils. In general, soils found in this area of the Illinois River are poorly drained silt loams formed in silty alluvium on flood plains. Utilizing data and search tools available through the U.S. Department of Agriculture, Natural Resource Conservation Service website, the District found five dominant soil types mapped for the area (Figure 2):

- Ambraw loam found behind the levee. These soils are rarely flooded, poorly drained, and are listed as prime farmland if drained. These soils have a hydric rating.
- Blake-Slacwater silt loam found in the existing and proposed access easement area. These soils are frequently flooded, poorly drained, and are not prime farmland. These soils have a hydric rating.
- Titus silty clay found behind the levee and are listed as prime farmland if drained. These soils have a hydric rating.
- Beaucoup silty clay loam found behind the levee. These soils are rarely flooded and poorly drained, with a hydric rating. These soils are listed as prime farmland if drained,
- Psamments are found in existing placement site. These soils are rarely flooded, well drained, and are not rated hydric. These soils are listed as prime farmland if drained.

Peoria and Tazewell Counties
La Grange Pool
Illinois River Miles 146.7 to 148.0



MUSYM	Soil Type and Description
3877L	Blake-Slacwater silt loams, frequently flooded
7070A	Beaucoup silty clay loam, rarely flooded
7302A	Ambraw loam, rarely flooded
7404A	Titus silty clay, rarely flooded
7800B	Psamments, rarely flooded

Figure 2: Soils

2.2.2. Land Cover/Land Use. Land within the project area is within the historic floodplain of the Illinois River. Extensive human activity has manipulated vegetation and land use. Primarily agriculture and industry are common in this area. Some forest cover is present at the existing and proposed access easement. Floodplain forest composition consisting of cottonwood, silver maple, honey locust, black cherry, red and white mulberry, American elm, green ash, boxelder, sycamore, gray dogwood, amur bush honeysuckle, common hackberry, and black willow are common. See Photographs 1 and 2 for typical views of land use in the area.

Photograph 1. Typical View of Dominant Forest Composition

Photograph 2. Typical View of Existing Site 10 and Behind the Levee Agricultural Practices

2.2.3. Waters/Wetlands. The Illinois Environmental Protection Agency (EPA) listed the Mackinaw River and this reach of the Illinois River as impaired under the Section 303(d) of the federal Clean Water Act. The Mackinaw River is listed from polychlorinated biphenyls (PCBs), nitrogen, nitrate, and fecal coliform that were present. The Illinois River is listed from mercury, fecal coliform, and PCBs. Total maximum daily loads (TMDL) apply to both waterbodies.

Due to the extensive agricultural use of the area, it is likely that if any wetlands are encountered, these would be considered prior converted. According to 7 CFR 623.2 [Title 7, *Agriculture*; Subtitle B, *Regulations of the Department of Agriculture*; Chapter VI, *Natural Resources Conservation Service (NRCS), Department of Agriculture*, Subchapter C, *Water Resources*, Part 623, *Emergency Wetlands Reserve Program*], prior converted wetland means "wetland that has been drained, dredged, filled, leveled, or otherwise manipulated (including any activity that results in impairing or reducing the flow, circulation, or reach of water) prior to December 23, 1985, for the purpose, or that has the effect, of making the production of agricultural commodities possible if such production would not have been possible but for such action." According to aerial photography dated in 1939, this area has been farmed for an extended period of time. The NRCS is the lead agency in farmed wetland determinations and only landowners can request these determinations. Efforts are ongoing for landowner written release to the District for this information. Therefore, the District has limited knowledge on this area as being designated as a farmed wetland. Refer to Appendix C for historic aerials of area.

2.2.4. Biota. The District has used the U.S. Fish and Wildlife Service, Information for Planning and Conservation (IPaC) website to identify Federally-listed species potentially occurring in Peoria and Tazewell Counties (Appendix B). Table 3 details listed species and their ideal habitat.

Table 3. Generated List of Federal Listed species from IPaC in 2015
(Source: http://ecos.fws.gov/ipac/gettingStarted/map)

Species	Scientific Name	Status	Preferred Habitat
Indiana bat	*Myotis sodalis*	Endangered	Caves, mines (hibernacula);small stream corridors with well-developed riparian woods; upland forests (foraging)
Northern long-eared bat	*Myotis septentrionalis*	Threatened	Spends the winters hibernating in caves or mines with constant temperatures. During the summer, they roost in cavities or crevices of both live and dead trees.
Decurrent false aster	*Boltonia decurrens*	Threatened	Found in moist, sandy floodplains and prairie wetlands along the IWW
Eastern prairie fringed orchid	*Platanthera leucophaea*	Threatened	Mesic to wet prairies
Lakeside daisy	*Hymenopsis herbacea*	Threatened	Dry rocky prairies

The District also used the Illinois Department of Natural Resources (IL DNR), Illinois Endangered Species Protection Board website to identify State-listed species potentially occurring in Peoria and Tazewell Counties (Table 4).

Table 4. State Listed Species **(**Source: http://www.dnr.illinois.gov/ESPB/Documents/ET_by_County.pdf)
LE = Endangered, LT = Threatened

Common Name	Scientific Name	State Protection
Lake Sturgeon	*Acipenser fulvescens*	LE
Pale False Foxglove	*Agalinis skinneriana*	LT
Smooth Softshell	*Apalone mutica*	LE
Forked Aster	*Aster furcatus*	LT
Tennessee Milk Vetch	*Astragalus tennesseensis*	LE
Allegheny Barberry	*Berberis canadensis*	LE
Kittentails	*Besseya bullii*	LT
Decurrent False Aster	*Boltonia decurrens*	LT
Spotted Coral-root Orchid	*Corallorhiza maculata*	LT
Cerulean Warbler	*Dendroica cerulea*	LT
Peregrine Falcon	*Falco peregrinus*	LT
Starhead Topminnow	*Fundulus dispar*	LT
Ebonyshell	*Fusconaia ebena*	LT
Plains Hog-nosed Snake	*Heterodon nasicus*	LT
Least Bittern	*Ixobrychus exilis*	LT
Yellow Mud Turtle	*Kinosternon flavescens*	LE
Loggerhead Shrike	*Lanius ludovicianus*	LE
Redspotted Sunfish	*Lepomis miniatus*	LE
Bantam Sunfish	*Lepomis symmetricus*	LT
River Redhorse	*Moxostoma carinatum*	LT
Ironcolor Shiner	*Notropis chalybaeus*	LT
Black-crowned Night-Heron	*Nycticorax nycticorax*	LE
Broomrape	*Orobanche ludoviciana*	LT
Osprey	*Pandion haliaetus*	LE
Heart-leaved Plantain	*Plantago cordata*	LE
Wolf's Bluegrass	*Poa wolfii*	LE
James' Clammyweed	*Polanisia jamesii*	LE
Illinois Chorus Frog	*Pseudacris illinoensis*	LT
King Rail	*Rallus elegans*	LE
Franklin's Ground Squirrel	*Spermophilus franklinii*	LT
Regal Fritillary	*Speyeria idalia*	LT
Ornate Box Turtle	*Terrapene ornata*	LT
Lakeside Daisy	*Tetraneuris herbacea*	LE
Arrowwood	*Viburnum molle*	LT

2.3. Social and Economic Resources. This area is dominated by agriculture and industry with little to no residential properties. Navigation and transportation of commodities contributes to the economic growth of this region.

2.3.1. Human-Constructed Resources. Due to the agricultural and industrial character of this area, the infrastructure of the Nine-Foot Channel Navigation System is the primary human-constructed resource within this area. Other notable human-constructed structures include the levees and drainage structures within the Spring Lake D&LD.

2.4. Physical Environment

2.4.1. Climate. The published soil surveys (2011) for this area indicate an average annual temperature range of 50 to 58 degrees F (Fahrenheit) with an average annual rainfall range of 30 to 45 inches. Flooding occurs briefly during the months of February to November from snowmelt and streambank overflow.

2.4.2. Air Quality. The EPA *Green Book Nonattainment Areas for Criteria Pollutants* (Green Book) maintains a list of all areas within the United States that are currently designated nonattainment areas with respect to one or more air pollutants. Nonattainment areas are discussed by county or metropolitan statistical area. Review of the Green Book indicates that Peoria and Tazewell Counties, IL, are listed as in nonattainment due to sulfur dioxide levels for part of the county (2010).

2.4.3. Noise. The project study area is in an industry dominant location where noise levels can potential be at medium levels. Lack of nearby residential properties or human sensitive receptors contributes to minimal noise impacts.

2.4.4. Hazardous, Toxic, and Radioactive Waste (HTRW). A Phase I HTRW Environmental Site Assessment was performed for the Mackinaw River Reach DMMP (Appendix C). The information was obtained through site reconnaissance, informal interviews, and a review of maps and aerial photographs, District records and Federal and state environmental databases. These screening methods have been selected based on the particular nature of the proposed placement sites and the characteristics of the dredged material. A review of environmental data indicates there are no recognized environmental conditions that have been identified at any of the proposed placement sites or access easements. Therefore, no further HTRW Environmental Site Assessments are recommended.

3 ALTERNATIVE PLANS

3.1. Alternative Planning Process. The first step in the alternative planning process is to identify sites for screening. All sites are listed in Table 5. Identified sites are then screened based on criteria outlined in Section 3.2. After this initial screening, sites meeting these criteria are evaluated for additional considerations concerning capacity, natural resources, cultural resources, hydraulic impacts, operability and socio-economic impacts. Alternative plans are then developed from sites that have met the criteria of Section 3.2 and have remained potentially feasible after further evaluation.

The second step is to formulate and evaluate combinations of placement sites, which make up the alternatives considered. Formulation, evaluation and comparison of these alternatives, including the No Action Alternative, are discussed in Sections 3.4 and 3.5.

3.2. Site Identification and Screening Process. Based on the DMMP Quality Control Plan and Project Management Plan, as applicable, potential dredged material placement sites are identified and screened in this initial phase of the alternative development process:

- The District estimated available capacities of historic placement sites to determine the additional placement capacity required for the plan life. It has been agreed that no suitable bankline placement capacity was available for the Long-Term, except on an event-by-event basis with IL OSIT recommendation. In addition, new placement sites would be needed for the entire projected volume of approximately 2,400,000 cy over the next 40 years.

- The District assembled historic placement site information along with potential new placement site information. Potential placement sites were identified from analysis of the dredging density by river mile. The PDT and applicable members from state and Federal natural resource and regulatory agencies met to review the preliminary information and to provide input on these and any other sites proposed at an IL OSIT meeting. Members of this multi-agency review team discussed potential environmental, cultural and other impacts of each site. Preference was given to site(s) having the least adverse impacts to natural and cultural resources and/or impacting the smallest area that also were cost efficient.

- Channel maintenance personnel from the District's Operations Division evaluated each potential site to ensure operational feasibility. Reasons for sites being considered operationally infeasible include but are not limited to unsuitable site access for equipment to deliver/unload dredged material; site dimensions that are not large enough for material containment and/or drainage capabilities; and locations too far from the dredge cut to allow for hydraulic or manageable mechanical dredging operations

The Product Delivery Team (PDT) and applicable members from the state and Federal natural resource and regulatory agencies reviewed the preliminary site information for potential environmental, cultural and other impacts of each site. Preference was given to site(s) having the least adverse impacts to natural and cultural resources and/or impacting the smallest area. Any site(s) not meeting these requirements were eliminated from consideration as part of the initial screening process. Potential placement sites and access sites that met overall criteria and Project objectives for further study are shown in Figure 3 and in bold type in Tables 5 and 6.

Peoria and Tazewell Counties
La Grange Pool
Illinois River Miles 146.7 to 148.0

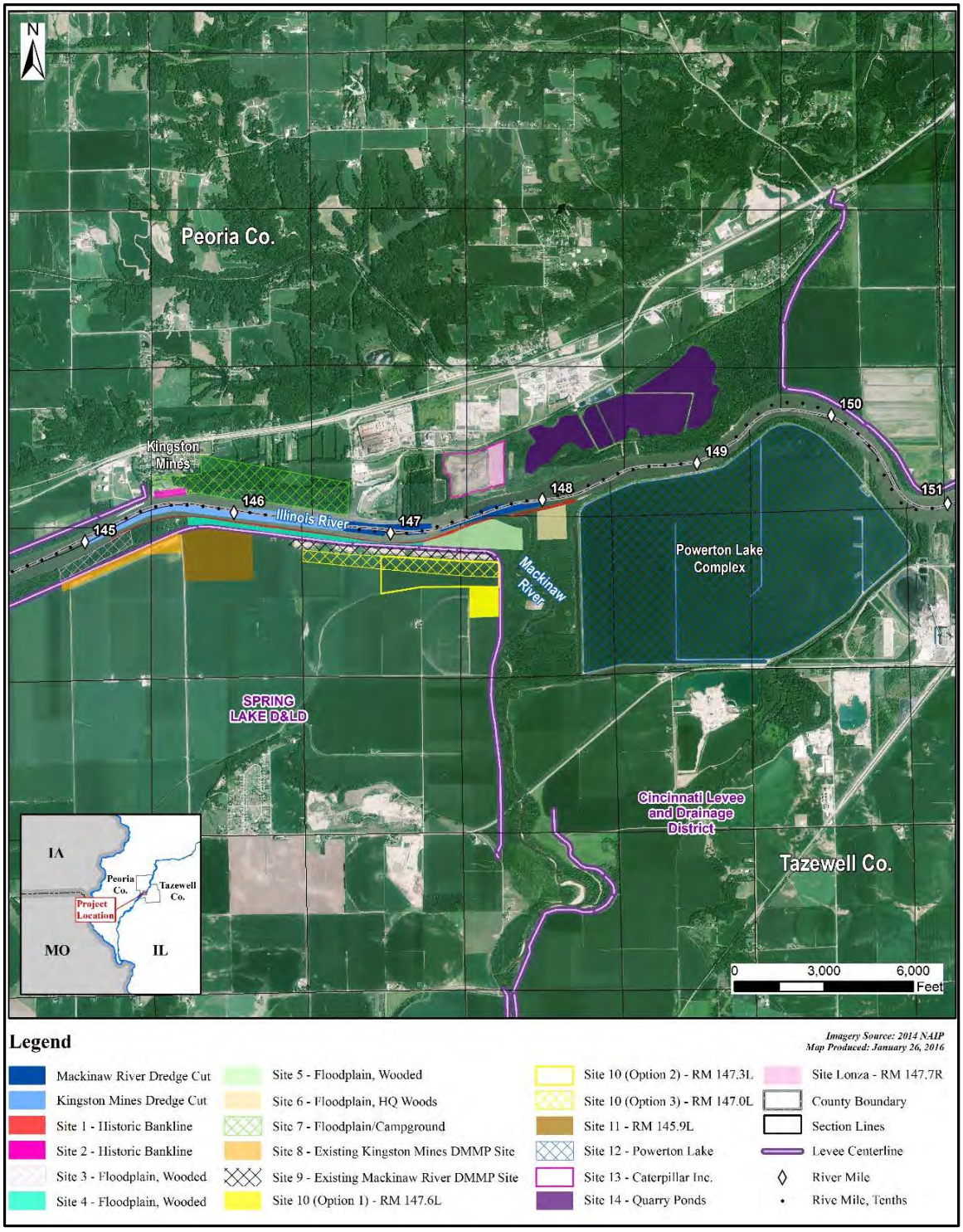


Figure 3: Potential Placement Sites

Table 5. Placement Sites Considered

Site	Site Name	River Mile	Remarks	Reason for Withdrawn
1[1,2]	**Historic Bankline**	**145.1 – 148.2L**	**Existing Site (1995 DMMP)**	**Future Consideration**
2[1,2]	**Historic Bankline**	**145.5–145.7R**	**Existing Site (1995 DMMP)**	**Future Consideration**
3[1]	Floodplain, wooded	144.8– 145.3L	Potential Site (1995 DMMP)	Avoidance of environmental impacts
4[1]	Floodplain, wooded	145.7–147.2L	Potential Site (1995 DMMP)	Avoidance of environmental impacts
5[1]	Floodplain, wooded	147.2–147.8L	Potential Site (1995 DMMP)	Avoidance of environmental impacts
6[1]	Floodplain, HQ woods	147..9-148.IL	Potential Site (1995 DMMP) owned by IL DNR	Avoidance of environmental impacts
7[1]	Flood plain/Campground	145.5-146.7R	Potential Site (1995 DMMP)	Avoidance of environmental impacts
8[1,2]	Agricultural Field	144.8-145.6L	Existing Kingston Mines DMMP Site (1995 DMMP)	Currently using for Kingston Mines dredge cut, increased distance from Mackinaw dredge cut resulting in increased costs.
9[1,2]	**147.0 L**	**146.4-147.7L**	**Existing Mackinaw River DMMP Site 48.8 acres (1995 DMMP)**	**Future Consideration**
10	**Option 1**	**147.5-147.7L**	**23.2 acres, Ag field behind Mackinaw River back the Levee**	**Future Consideration**
10	**Option 2**	**146.9-147.7L**	**86.6 acres, Ag field in NE corner of Spring Lake D&LD**	**Future Consideration**
10	**Option 3**	**146.4–147.7L**	**66.5 acres, Ag field behind Illinois River levee**	**Future Consideration**
11	RM 145.9 L	145.6–146.1L	Ag Filed S. of Levee Road, E. of Thomas Road - 90.1 acres	Increased distance from Mackinaw dredge cut resulting in increased costs.
12	Powerton Lake	148.2-150.8R	Island Creation - Powerton Lake Complex	No interested stakeholders
13	John Deere	147.3-147.8R	Capping Material – John Deere Facility	No interested stakeholders
14	Quarry Ponds	147.9-149.2R	Pond Lilly Lake and Adjacent Quarry ponds	No interested stakeholders
15	Lonza [1]	147.8-147.9R	Former Placement Site - 15.8 acres	Operationally infeasible due to capacity limitations

[1] Previously considered site
[2] Selected site from the 1995 IWW Mackinaw River Reach DMMP Report
Note: Bold items have been selected for further study
Note: River Miles indicate “R” or “L” for right or left descending bank, respectively

Table 6. Site Access Considered

Site	River Mile[1]	Remarks	Reason for Withdrawn
Access Easement [1,2]	146.4-147.4L	Existing Access for Site 9 (1995 DMMP)	Increased distance from Mackinaw dredge cut resulting in increased costs.
Access Easement	**147.4–147.7L**	**12.3 acres below mouth of Mackinaw River**	**Future Consideration**
Access Easement	145.6–146.1L	Ag Field Access	Increased distance from Mackinaw dredge cut resulting in increased costs.
Access Easement	148.2-150.8R	Powerton Lake Placement Access	No interested stakeholders
Access Easement	147.1-147.8R	John Deere Facility Access	No interested stakeholders
Access Easement	147.9-149.2R	Pond Lilly Lake and Quarry Pond Access	No interested stakeholders
Access Easement	147.7-147.8R	Former Placement Site Access	Operationally infeasible due to capacity limitations

[1] Previously considered site
[2] Selected site from the 1995 IWW Mackinaw River Reach DMMP Report
Note: Bold items have been selected for further study
Note: River Miles indicate “R” or “L” for right or left descending bank, respectively

The February 2003 *Summary of Cumulative Dredging, Dredged Material Placement Actions, and Programmatic Environmental Assessment for Future Material Placement Associated with Channel Maintenance Activities, Mississippi River, River Miles 300-614 and Illinois Waterway, River Miles 80-286*, (Programmatic EA or PEA) evaluated the following site types in detail for their impacts to ecological resources:

- **Agricultural Field Placement:** These sites are located in fields that are, or have recently been, used for agricultural purposes (row crops, pasture, tree farms, etc.).
- **Behind the Levee Placement:** These sites are located on the landward side of an existing flood risk management levee. Dredged material would be placed behind and beyond the existing levee, in existing agricultural fields.
- **Levee Placement:** These sites would place dredged material along the landward side of existing levee structures, on or along the existing levee, typically described as scrub/shrub habitat, and generally not environmentally sensitive. Levee placement will not increase the effective height of existing levee systems. Any dredged material placement that would create a new levee structure, or increase the height of an existing levee requires separate, non-tiered NEPA documentation.
- **Temporary Stockpile:** These placement sites would place dredged material for periods of less than 1 year, and may be used more than once over a 40-year period. Temporary stockpiles may be used as transfer sites, emergency sites, or beneficial use stockpiles. Temporary stockpile sites also focus on agricultural fields, sand/mud, scrub/shrub, or developed areas.
- **Beneficial Use Stockpiles/Beneficial Use Areas:** Similar to Temporary Stockpiles, except the material may persist for longer than a year to encourage removal for beneficial use. Beneficial Use sites also focus on agricultural fields, sand/mud, scrub/shrub, or developed areas.
- **Developed/Disturbed Sites:** These highly disturbed habitats would not experience substantial adverse environmental effects from dredged material placement. These sites include, and are not limited to, old abandoned quarries, landfills, parking lots, roadbeds and urbanized areas.

3.3. Description of Potential Sites for Further Study. The initial screening process eliminated multiple alternatives from further evaluation. The following descriptions provide approximate site dimensions and capacities, and represent the placement site, with potential impacts for new placement sites.

As detailed in Section 5 of the 1995 *Long-Term Management Strategy for Dredged Material Placement, Illinois Waterway River Miles 80.0-327.0, Main Report*, a matrix evaluation consists of a more thorough comparison of dredging and material placement costs, environmental acceptability, beneficial use, recreation, cultural resources and socio-economic impacts for each alternative. Each of these areas are considered and given a weighted score to then differentiate among alternative plans. Due to potential environmental impacts and operational feasibility and/or costs, only an agricultural, behind the levee site remains for future consideration; therefore, a detailed matrix evaluation was not

required. One new placement site with 3 options out of the original 15 sites evaluated for placement remains.

Site 10 Option 1 – Behind the Levee

General Description:	Behind the levee – Upland/Agricultural Field
River Mile:	147.5-147.7L
Ownership:	Private
Present Land Use:	Agricultural field
Length:	Approx. 727 feet
Width:	Approx. 945 feet
Depth:	16 feet average
Terrestrial Area:	23.2 acres of impacted area
Aquatic Area:	Not applicable
Estimated Capacity:	377,400 cy with 0.9 reducing Safety Factor including additional volume from containment berm construction
Containment Berm Capacity:	11,000 cy with 0.9 reducing Safety Factor
Placement Method:	Hydraulic

Hydraulic Assessment: Option 1 is behind the Spring Lake D&LD levee. This area is protected from a 1% chance exceedance (100-year) flood event. Therefore, this site is considered upland and would not have any flood height or conveyance impacts.

Operational Feasibility: Option 1would be a pond and pump site used only for hydraulic dredging. Typical of hydraulic placement sites, containment berms would be constructed to contain both the dredged material and water from hydraulic dredging. All dredged material would remain within the berms. Any water from the hydraulic dredge would be ponded and pumped back to the river.

As Option 1 alone is not large enough to meet the anticipated dredging need, material would have to be combined with other Site 10 Options. To use Option 1, dredged material and excess water would need to be able to move between additional Options. Additional equipment would be required to move dredged material and water to utilize Option 1. Any water ponding areas would likely be constructed closer to the IWW and would therefore not be located within Option 1. There would be two methods to fill Option 1 with dredged material. The first method would involve routing the dredge pipe to the southeast corner of the site. This would allow for the site to be filled from the southern-most end and allow water to move north toward the ponding areas. Dredged material would accumulate near the end of the dredge pipe and have to be continuously be moved with heavy equipment. The second method would be to place the dredge pipe at the northeast corner of the existing Site 9 and push the dredged material south into Option 1. With the second option, all excess water would flow west toward the nearest ponding area.

Dredge Plant Equipment Requirements: It is anticipated that a hydraulic dredge would use up to 4,800 feet of floating pipe, possibly with one booster, with up to 2,000 feet of shore pipe. Several pieces of heavy equipment would move material within the placement site. Portable pumps would be placed in the ponding areas to pump the water back to the river.

Site 10 Option 2 – Behind the Levee

General Description:	Behind the levee – Upland/Agricultural Field
River Mile:	146.9-147.7L
Ownership:	Private
Present Land Use:	Agricultural field
Length:	Approx. 3868 feet
Width:	Approx. 797 feet
Depth:	16 feet average
Terrestrial Area:	86.6 acres of impacted area
Aquatic Area:	Not applicable
Estimated Capacity:	1,664,300 cy with 0.9 reducing Safety Factor and including additional volume from containment berm construction; 2,122,500 cy in combination with Option 3
Containment Berm Capacity:	20,120 cy with 0.9 reducing Safety Factor
Placement Method:	Hydraulic

Hydraulic Assessment: Option 2 is behind the Spring Lake D&LD levee. This area is protected from a 1% chance exceedance (100-year) flood event. Therefore, this site is considered upland and would not have any flood height or conveyance impacts.

Operational Feasibility: Option 2 would be a pond and pump site used only for hydraulic dredging. Typical of hydraulic placement sites, containment berms would be constructed to contain both the dredged material and water from hydraulic dredging. All dredged material would remain within the berms. Any water from the hydraulic dredge would be ponded and pumped back to the river. Option 2 abuts the existing Site 9. The existing access points used for Site 9 could also be used for dredged material placement and pumping out return water for Option 2.

Dredge Plant Equipment Requirements: It is anticipated that a hydraulic dredge would use up to 4,800 feet of floating pipe, possibly with one booster, with up to 2,000 feet of shore pipe. Several pieces of heavy equipment would move material within the placement site. Portable pumps would be placed in the ponding areas to pump the water back to the river.

Hydraulic Assessment: Option 3 is behind the levee of the Spring Lake D&LD levee system. This area is protected from a 1% chance exceedance (100-year) flood event. Therefore, this site is considered upland and would not have any flood height or conveyance impacts.

Site 10 Option 3 – Behind the Levee

General Description:	Behind the levee – Upland/Agricultural Field
River Mile:	146.4-147.7L
Ownership:	Private
Present Land Use:	Agricultural field
Length:	Approx. 6508 feet
Width:	Approx. 257 feet
Depth:	16 feet average
Terrestrial Area:	66.5 acres of impacted area
Aquatic Area:	Not applicable
Estimated Capacity:	1,227,450 cy with 0.9 reducing Safety Factor and including additional volume from containment berm construction; 2,122,500cy in combination with Option 2
Containment Berm Capacity:	28,900 cy with 0.9 reducing Safety Factor
Placement Method:	Hydraulic

Hydraulic Assessment: Option 3 is behind the levee of the Spring Lake D&LD levee system. This area is protected from a 1% chance exceedance (100-year) flood event. Therefore, this site is considered upland and would not have any flood height or conveyance impacts.

Operational Feasibility: Option 3 would be a pond and pump site used only for hydraulic dredging. Typical of hydraulic placement sites, containment berms would be constructed to contain both the dredged material and water from hydraulic dredging. All dredged material would remain within the berms. Any water from the hydraulic dredge would be ponded and pumped back to the river. Option 3 abuts the existing Site 9. The existing access points used for Site 9 could also be used for dredged material placement and pumping out return water for Option 3.

Dredge Plant Equipment Requirements: It is anticipated that a hydraulic dredge would use up to 4,800 feet of floating pipe, possibly with one booster, with up to 2,000 feet of shore pipe. Several pieces of heavy equipment would move material within the placement site. Portable pumps would be placed in the ponding areas to pump the water back to the river.

Access Easement

General Description:	Forested
River Mile:	147.7L
Ownership:	Private
Present Land Use:	Forested
Length:	Approx. 1,500 feet
Width:	Approx. 400 feet; only 30ft of tree clearance
Depth:	N/A
Terrestrial Area:	12.3 acres
Aquatic Area:	Not applicable

Operational Feasibility: The access Easement would reduce the amount of shore pipe required to reach Options behind the levee.

3.4. Alternative Plan Formulation. Alternative plans were formulated using the feasible placement sites discussed in Section 3.2. Sections 3.4 through 3.5 describe plan formulation and the alternative screening and selection process used to determine the "Preferred Alternative." The Preferred Alternative is considered as the least costly solution consistent with sound engineering practice and meeting all Federal environmental standards. Section 3.5 further discusses the Preferred Alternative

3.4.1. Preliminary Alternative Screening Process. The PDT reviewed the potential sites to determine which potential site or group of potential sites met the minimum plan life of 20 years, while striving for a preferred 40-year or longer plan capacity. The PDT decided to screen multiple alternatives using the following criteria:

- For operational flexibility, responsiveness, efficiency and cost effectiveness, each potential alternative considers both hydraulic and mechanical dredging options for each dredge cut.
- Hydraulic placement sites must be within close proximity (10,000 feet) to the dredge cuts.
- River access for each placement site should provide sufficient flexibility as appropriate so additional shoaling, dredging, or other changes in the river would not reduce or eliminate site access and/or capacity.
- Potential alternatives must consider the timing and order of dredging and placement events to ensure consistent comparison and reliable implementation.
- Overall cost effectiveness
- Opportunities for beneficial use, including land access via public roads

3.4.2. Evaluation of Alternative Plans. The potential alternative for further evaluation was Site 10, along with historical existing placement sites, including Sites 1, 2, and 9. This alternative was identified using the above alternative screening criteria. In order to meet the objective of a minimum of 40 years of placement and adaptive management providing for future flexibility, Site 10 Options 1, 2 and 3 are included as Alternative B (Figure 4). Additionally, to hydraulically dredge material from the Mackinaw dredge cut with 10,000 feet of dredge pipe, it is essential that placement sites be located within 10,000 feet or less of this cut. Due to this constraint, any alternative considered will include Option 2 as the most available to hydraulically dredge to place material from the Mackinaw River Dredge Cut with 10,000 feet of pipe. All or part of the potential remaining placement sites would be accessible for hydraulic dredging from the Mackinaw dredge cut.

3.4.2.1. Alternative A – No Action. In compliance with the NEPA, the No Action Alternative is to be considered along with the alternatives developed and documented in this report. The No Action Alternative is understood to be defined as "no change" or "business as usual". Dredging would continue as has been done in the past without a new plan. Complying with the Federal mandate to maintain commercial navigation, the District would continue to place material on historic bankline locations and in the remaining space in existing placement sites. As detailed in the "Programmatic Environmental Assessment," bankline sites are considered "full" and only available for use with the concurrence of the IL OSIT. The No Action Alternative will be considered as Alternative A.

Peoria and Tazewell Counties
La Grange Pool
Illinois River Miles 146.7 to 148.0

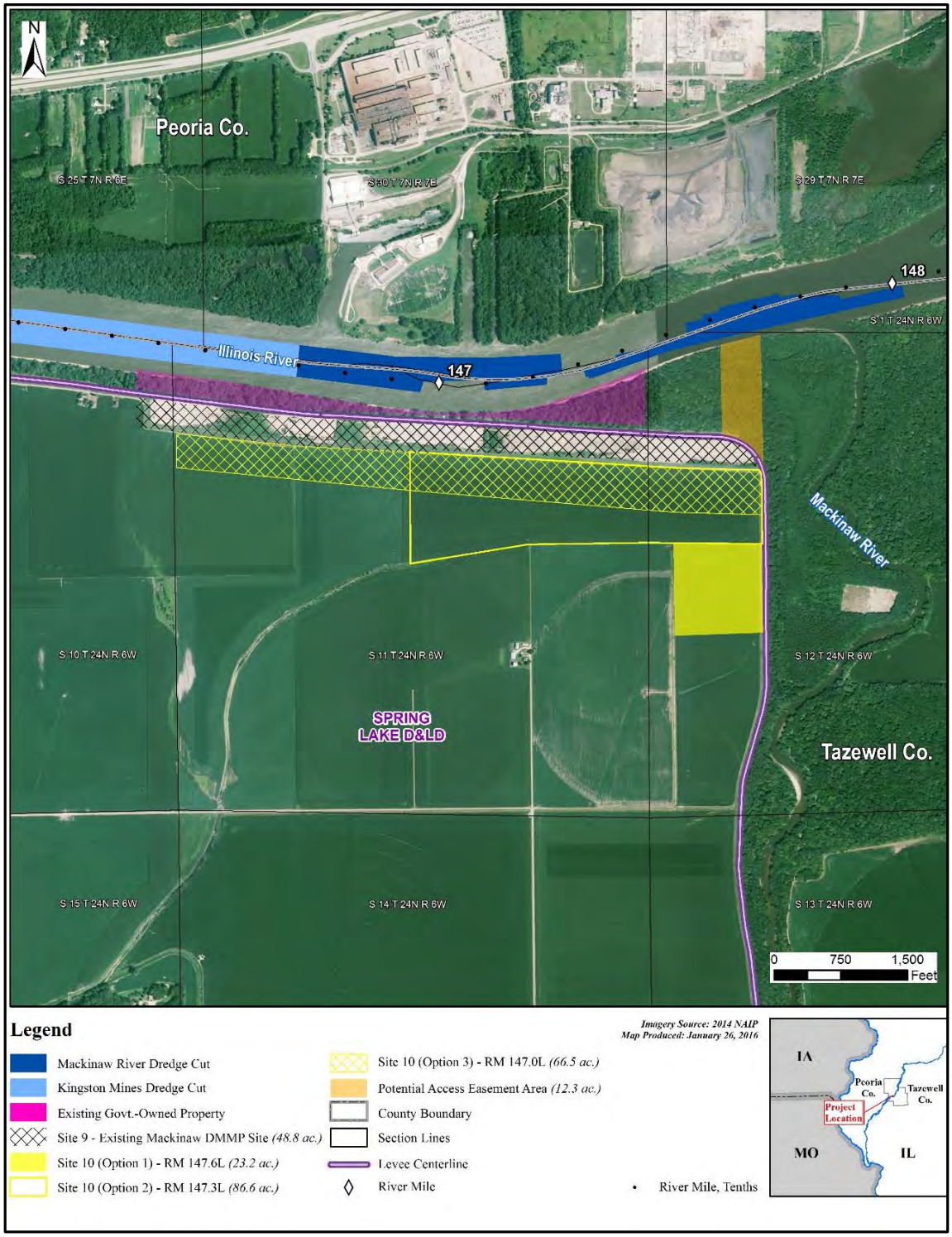


Figure 4: Proposed Alternative B

3.4.2.2. Alternative B. Alternative B would place dredged material in Site 10 Option 1, Option 2, and Option 3. In addition, bankline sites 1 and 2 would be used upon IL OSIT approval. Site 10 Options 1, 2, and 3 are agricultural fields not previously used for dredged material placement, which are adjacent to the existing Site 9 within the Spring Lake D&LD.

Site 10 Alternative B

General Description:	Behind the levee – Upland/Agricultural Field
River Mile:	146.4-147.7L
Ownership:	Private
Present Land Use:	Agricultural field
Depth:	16 feet average
Terrestrial Area:	133.2 acres of impacted area
Aquatic Area:	Not applicable
Estimated Capacity:	2,499,900 cy with 0.9 reducing Safety Factor and including additional volume from containment berm construction
Containment Berm Capacity:	32,000 cy with 0.9 reducing Safety Factor
Placement Method:	Hydraulic

3.5. Selection of the Preferred Alternative. Due to location and capacity needs, Alternative B is the Preferred Alternative. This area consists for dredged material placement of 133 acres and 12.3 acres of access easement for the hydraulic dredge pipeline. Following full consideration of all DMMP planning, policies, and procedures, any or all of this 133 acres area may be considered as proposed for dredged material placement. A planning level "present worth cost analysis" was prepared for the Mackinaw Reach DMMP which included lands and damages, dredging, planning engineering, design and construction management. Appendix D contains the estimate information for this study.[1]

4 ENVIRONMENTAL CONSEQUENCES

4.1. Effects of the Preferred Alternative. Impacts of the Preferred Alternative to natural resources, cultural resources, and other aspects and features of the human environment are summarized in this section. The preliminary screening of potential placement sites, and the subsequent formulation of alternative combinations of feasible placement sites, was conducted with the intent to minimize or reduce adverse effects, and to avoid potentially significant impacts where feasible. No significant adverse impacts are anticipated to result from implementation of the preferred alternative.

4.1.1. Social and Economic Resources

4.1.2.1. Environmental Justice/Community Cohesion. Due to the rural character of the area and a lack of a residential community, no impacts to community cohesion are anticipated as a result of the project.

[1] Total acres of 133 is smaller than acres used in correspondence due to the overlap of area.

4.1.2.2. Employment and Labor Force. No significant impacts on employment or labor force would be expected to occur in the project vicinity.

4.1.2.3. Business and Industrial Activity. No long-term impacts to business or industrial activity would result from the proposed project. No business or industrial relocations would be required.

4.1.2.4. Community and Regional Growth. No adverse impacts to the growth of the community or region would be realized as a direct result of the proposed project. However, the Illinois River is a vital component of the national transportation infrastructure and has provided stimulus for the growth of river communities and the entire Midwest region. Maintenance of the navigation channel would indirectly help provide for continued growth opportunities in the local communities and the region.

4.1.2.5. Displacement of People. There are no residential properties in the study area that would be displaced by the proposed Project.

4.1.2.6. Property Values and Tax Revenues. The agricultural field site is privately owned. Use of this site would remove approximately 133 acres of cropland from the tax rolls. The entire parcel of farmland contains 133 acres, all of which are tillable.

4.1.2.7. Public Facilities and Services. Maintenance of the channel for commercial, recreational, and environmental interests would positively impact public facilities and services.

4.1.2.8. Life, Health, and Safety. The purpose of the project is to maintain the commercial navigation channel in such a manner as to avoid potential personal injury or property damage that may result from inadequate maintenance of the channel and subsequent groundings.

4.1.2.9. Farm Displacement/Soils. Farms would be displaced as a result of the proposed project. Approximately 133 acres of cropland would be removed from production at the agricultural field site. An AD 1006 form was filled out by the Corps and submitted to the United States Department of Agriculture/Natural Resource Conservation Service (USDA/NRCS) Area Conservationist for the area (Appendix E). The farmland in the proposed placement site received a score in the low cutoff range from the NRCS. This low rating requires minimal protection to the existing prime farmland and it is not necessary to evaluate additional alternatives.[2]

4.1.2.10. Aesthetic Values. No permanent impacts to aesthetic values would result from placement of dredged material. The landscape profile of the agricultural field would be permanently raised by several feet and would no longer support crop growth. Because the relatively rural character of the surrounding area would remain unchanged, no significant decline in aesthetic values would be anticipated.

4.1.2.11. Noise Levels. Heavy machinery would temporarily increase noise levels in the immediate project area during construction activity and placement operations. No permanent changes in ambient noise levels would be expected to result from dredged material placement.

[2] Total acres of 133 is smaller than acres used in correspondence due to the overlap of area.

4.1.2.12. Air Quality. Heavy machinery would temporarily increase air pollutants in the immediate project area during construction activity. No permanent changes in air quality are anticipated from dredged material placement.

4.1.2. Cultural Resources. By letter dated October 27, 2014, the District coordinated the DMMP APE with the IHPA with the most current Distribution List recommending a Phase I archeological survey encompassing the potential DMMP APE . The letter recommended exclusion of the new access between the river and the levee (Figure 1, owner tract number 1) from an archeological survey, since no land disturbance will occur in that area. Rights of Entry were obtained for tracts 2, 3, and 4 and a Phase I archeological survey was conducted. Rights of Entry have not been obtained for tracts 5 and 6 and an archeological survey will be conducted when access is allowed.

The Phase I archeological survey of portions of the proposed dredged material placement area for tracts 2, 3, and 4 are documented in the final report entitled *Phase I Intensive Archeological and Geomorphological Investigation for the Proposed Mackinaw River Reach Dredge Cut Dredged Material Management Plan, Spring Lake Township, Tazewell County, Illinois* (Report, BCA #2119, dated February 2015). Authors Branden K. Scott and Lowell Blikre of Bear Creek Archeology, Inc. of Cresco, Iowa, prepared the report under Corps Indefinite Deliveries Contract Number W912EK-12-D-0001, Delivery Order 0013. The archeological and geomophological investigations conducted indicate that no cultural resources or historic properties are in the DMMP APE. The final Report with its documented finding of no historic properties was submitted to the IHPA and that agency replied, by letter dated January 28, 2015 that was based upon the report findings that no significant historic, architectural, and archeological resources are located in the project area tract 2, 3, and 4 (Report Appendix A).

The final Report was provided for the permanent files of the Illinois Historic Preservation Agency (IHPA) and those on the Distribution List have been notified of the findings of the final Report. Throughout the planning process the District has integrated the NHPA into the NEPA and planning processes and the DMMP PA (Appendix A) is referenced in the Finding of No Significant Impact. This DMMP report contains a copy of the DMMP PA for the protection of known and unknown historic properties throughout the Project planning, assessment, and implementation and for those two land tracts in which rights of entries have not been obtained (Figure 1, tract 5 and 6). Site location information is protected under Section 304 of the National Historic Preservation Act and any request for site location information must be addressed to the IHPA, Springfield, IL.

4.1.3. Natural Resources. Utilizing the behind the levee agricultural fields minimizes and avoids environmental impacts to intact areas. Minor disturbance of local natural resources would be expected during construction (dredging and placement activity). These impacts would be temporary and are not anticipated to be significant.

Due to the composition of the forested area for the access easement, certain conservation measures will be implemented to avoid potential impacts to the federal listed Indiana bat and northern long-eared bat. Furthermore, impacts to the false aster are not anticipated due to the lack of preferred frequent flooding events with behind levee placement. Therefore, the District has determined the proposed project is not likely to adversely affect any threatened or endangered species or their critical habitat. The United States Fish and Wildlife Service (USFWS) has concurred with these measures and determinations dated December 16, 2015 and March 18, 2016 as noted in Appendix B.

Table 7. Determination of Effects for Federal Listed Species

Species	Scientific Name	Status	Determination of Impacts
Indiana bat	*Myotis sodalis*	Endangered	Not likely to adversely affect
Northern long-eared bat	*Myotis septentrionalis*	Threatened	Not likely to adversely affect
Decurrent false aster	*Boltonia decurrens*	Threatened	Not likely to adversely affect
Eastern prairie fringed orchid	*Platanthera leucophaea*	Threatened	No effect
Lakeside daisy	*Hymenopsis herbacea*	Threatened	No effect

Conservation Measures:

1. Utilize existing path as much as possible to minimize tree clearing to less than 10 acres.
2. Limit tree clearing to winter months.
3. Ensure potential habitat (snags, mature silver maple) is visually marked with flagging prior to clearing.
4. Communicate to construction team prior to clearing concerning the flagging and limitations.

The NRCS is the lead agency in farmed wetland determinations and only landowners can request these determinations. Efforts are ongoing for landowner written release to the Corps for this information. Therefore, the Corps has limited knowledge on this area as being designated as a farmed wetland. If additional information reveals farmed wetlands are present and impacts are unavoidable, the Corps would develop a mitigation plan and coordinate with agencies to ensure any impacts are mitigated Application for State Section 401 water quality certification has been submitted to the Illinois Environmental Protection Agency. Certification would be obtained prior to initiation of dredging or placement.

4.2. Effects of Non-preferred Alternative. Environmental impacts of the nonpreferred alternatives would generally be increased due to the associated forested and aquatic habitat types. None of the feasible alternative placement sites are anticipated to have significant environmental impacts either individually or in combination.

4.3. Cumulative Impacts. Cumulative effects occur when a relationship exists between a proposed action and other actions which have occurred, are occurring, or are expected to occur in a similar location. By selecting placement sites that have been screened through the IL OSIT process to avoid environmentally sensitive areas, the District attempted to minimize the individual and cumulative impact of dredged material placement. The District determined that the primary resources impacted by the Preferred Alternative be agricultural and forested areas. The District assessed the cumulative impacts at the systemic, District, river, and project levels. As explained below, the proposed project would not individually or cumulatively exceed any known biological or social thresholds.

At the systemic, or IWW scale, the no-project or baseline condition was derived from the United States Geological Survey report, *Ecological Status and Trends of the Upper Mississippi River System 1998*, which suggests the river is already degraded and needs continuing attention if the current ecological benefits are to be maintained and degraded conditions restored. The following cumulative

effects information is supplemental to the quantified cumulative effects of activities related to the 9-foot navigation project presented in the U*pper Mississippi River and Illinois Waterway Cumulative Effects Study*, dated April 2000 (WEST Consultants, Inc. Contract No. DACW25-97-R-0012).

In February 2003, the District published the *Summary of Cumulative Dredging, Dredged Material Placement Actions, and Programmatic Environmental Assessment for Future Dredged Material Placement Associated with Channel Maintenance Activities, Mississippi River, River Miles 300-614 and Illinois Waterway, River Miles 80-286* (PEA, USACE 2003). That PEA identified six "site-types" as containing potential environmentally-acceptable placement areas. For example, Site 10 Options 1, 2, and 3 are located in fields that have recently been utilized for agriculture and are considered environmentally acceptable for placement. This same PEA also comprehensively addressed cumulative floodplain impacts associated with the placement of dredged material resulting from channel maintenance activities. It discussed historical dredging and placement impacts; projections for potential future dredging; and placement, including incremental impacts resulting from placement actions associated with the six programmatic placement site-types.

5. DESCRIPTION OF THE RECOMMENDED PLAN

5.1. General Description. Due to location and capacity needs, Alternative B is the Preferred Alternative. This area consists for dredged material placement of 133 acres and 12.3 acres of access easement for the hydraulic dredge pipeline. Following full consideration of all DMMP planning, policies, and procedures, any or all of this 133 acres area may be considered as proposed for dredged material placement. A planning level "present worth cost analysis" was prepared for the Mackinaw Reach DMMP which included lands and damages, dredging, planning engineering, design and construction management.

5.2. Design Implementation. The period of analysis for this study is Federal fiscal years 2017-2057. If completed in FY 16, with preliminary engineering and design in FY 17, implementation of dredged material placement could occur during the FY 2018 dredging season. Design consideration assessed the location of the historic dredge cut in the Mackinaw River Reach DMMP and the capability of reaching adjacent placement sites for the dredged material. Historical dredge cut information was checked to determine the range of potential placement sites within the reach. Each potential placement site of the Preferred Alternative was designed to provide adequate capacity and flexibility to handle the uncertainty of actual dredging requirements.

During the current environmental analysis, no recognized environmental concerns were identified at any potential sites; therefore, no further HTRW investigations are warranted at this time. If any recognized environmental conditions are identified during construction of placement of dredged material, work should cease immediately. Plans and specification documentations shall be prepared to support the implementation of the Preferred Alternative. Engineering considerations for hydraulics and hydrology, site preparation, dredged material placement, and post-placement considerations are provided in the following sections.

5.3. Hydrology and Hydraulics. The entire placement site is behind the Spring Lake D&LD levee. This area is protected from a 1% chance exceedance (100-year) flood event. Therefore, this site is considered upland and would not have any flood height or conveyance impacts.

5.4. Geotechnical. Geotechnical borings were taken in 1993 in the adjacent placement site. These borings show suitable material for constructing the berms. It is assumed the existing material available in Options 1, 2, and 3 are clays; however, borings will be performed during the design phase.

5.5. Construction and Implementation

5.5.1. Site Access and Staging. All placement sites would be accessed by the river during dredging operations. Minimal tree clearing will be necessary from access areas and individual trees would be cut off at ground level and moved to the side. There would be no grubbing of tree roots or removal of root wads. All access areas would be restored to their original grade after dredging operations have been concluded.

5.5.2. Dredged Material Placement. Dredged material placement for the preferred alternative may occur by both hydraulic and mechanical methods. Bankline, inland, or floodplain placement may occur either by hydraulic or mechanical methods.

Placement Sites 10 would be prepared for dredged material placement in accordance with the Design Plates located in Appendix F and subsequent plans and specifications to support hydraulic dredged material placement operations and maintenance. Overall, the site preparation consists of delineating the site boundaries for the construction limits. Containment berms would be constructed to control water release from the hydraulic dredging operations and to ensure that no dredged material is allowed offsite per the Section 401 permit. Berms would be constructed of resident soil from the placement site by first stripping the topsoil, stockpiling the topsoil for capping of the site at a later date and forming a berm using the soils just below the topsoil up to a depth of 2.0 feet below existing ground. Berms would be constructed to a maximum height of 5 feet above the existing ground. See Appendix F, *Civil Engineering*, for construction drawings.

Dredged material would be excavated by hydraulic dredge for placement at Site 10. Hydraulic dredging utilizes a cutterhead in combination with a centrifugal pump to entrain dredged solid materials in high velocity water. Dredged material is then pumped in slurry via floating discharge lines and onto the deposition areas through movable shorepipe. Shorepipe is positioned by use of bulldozers and pipe handlers to deposit the dredged material where desired. Booster pumps are sometimes required when insufficient horsepower exists to move material the desired distance. The booster pump may be placed in the line to maintain flow of material through the pipe.

There would be a tractor and/or dozer on hand to move the shorepipe and help shape the material when needed. As the dredged material is placed the sandy sediment in the dredged water would fall out fairly quickly. The return water would flow to a stilling basin or ponding area to detain the dredge slurry, allowing sufficient time for the dredged material to settle out of solution. After the return water has been contained onsite at a stilling basin or ponding area within the placement site for a short settling period, the “clean” water would be pumped through a pipe over the levee, back through the riparian “access” area and into the river.

5.5.3. Return Water from Hydraulic Dredging. The proposed project would implement berms within the placement sites to direct the flow of the return water to the pump-out locations. The existing Site 9 contains several pump-out locations that may continue to be used under DMMP plan. Return water for Site 10 would flow from the end of the dredge pipe and be directed by berms to a

constructed pump-out location with site 10 or directed to existing pump-out locations within Site 9. Minimal ponding of water would take place within the containment sites. Once dredging operations are completed, ditches and swales would be cleared of any accumulated dredge material and the sediments returned to the placement site. Any pipeline used for return water would be removed at the completion of dredging operations for each event. Once placed, dredged material may be shaped by a dozer to reach the desired elevation and shape.

5.5.4. Post-Placement Considerations. All placement site shaping and grading would be performed after each dredging event to ensure proper drainage and slope stability. Resident topsoil used in constructing the containment berms would be used to cap the placement site when the placement site is considered full, i.e. capacity reached. Resident soil would provide a more suitable growth medium than the dredged material. All access areas would be restored to their former grade and design. As-built drawings would be created as specified in the plans and specifications.

5.5.5. Operations and Maintenance Considerations. An O&M Manual will be produced for the Preferred Alternative during the implementation phase of the Project. Operational considerations for each site are included in Section 3.3, *Description of Potential Sites for Further Study*. Maintenance scope may include items such as mowing, spraying, minor weeding and reshaping of material, relocating misplaced material as needed, and any other work that may be required during the plan life (additional preparation before later dredging events).

5.5.6. Permits

5.5.6.1. Clean Water Act Section 404 and 401. If additional information reveals farmed wetlands are present and impacts are unavoidable, the Corps would develop a mitigation plan and coordinate with agencies to ensure any impacts are mitigated for. Application for State Section 401 water quality certification has been submitted to the Illinois Environmental Protection Agency. Certification would be obtained prior to initiation of dredging or placement.

5.5.6.2 Floodway Permit. The entire placement site is behind the levee of the Spring Lake D&LD levee system. This area is protected from a 1% chance exceedance (100-year) flood event. Therefore, no floodway permit is required.

5.5.6.3 National Pollutant Discharge Elimination System (NPDES) Permit. The construction contractor will be responsible for acquiring a NPDES permit. This will be applied for approximately 90 days prior to breaking ground on the site.

5.6. Operation, Maintenance, Repair, Rehabilitation, and Replacement

5.6.1. Operation. In general, operation requirements will be limited to routine annual inspections to ensure that the breakwater is performing as designed. The estimated annual operation costs are provided in the Cost Estimate Section 5.7.

5.6.2. Maintenance. The Project will have low annual maintenance requirements. Estimated annual maintenance costs are presented in the Cost Estimate Section 5.7. Maintenance

requirements will be further detailed in the Project's O&M Manual, which will be published after construction is finished.

5.6.3. Repair, Rehabilitation and Replacement Considerations. Repair, rehabilitation and replacement considerations may extend outside of the typical 50 year period of analysis.

5.7. Cost Estimates. The total cost estimate for the construction of a containment berm and drainage ditch in the Mackinaw DMMP project is approximately $762,536.00. The scope of work includes clearing, ditch excavation, containment berm construction, and seeding. It is assumed that a contractor will come in and begin by stripping the area for the berm and then constructing an earthen berm that will be used to contain the dredged material. The contractor also has to clear some small trees (< 4" dia.) and brush to provide a 30 ft wide access alley for the dredge pipeline beginning near the mouth of the Mackinaw River (east of the berm construction) and running west to a point near the berm construction. Once all work is completed the contractor is required to seed the affected berm construction area. Seeding will a mixture of pure, live seed of tall fescues, bluegrasses, and perennial ryegrasses. Reference Appendix D for description of costs by operation for Alternative B.

5.8. Schedule for Design and Construction

Table 8. Schedule of Design for Construction

Task	Duration
Geotechnical Borings	30 days
Survey	30 days
Preparation of Plans and Specifications	90 days
District Quality Control Review	30 days
BCOES Review	30 days
Routing to Contracting	15 days

5.9. Real Estate Considerations. The Mackinaw DMMP Preferred Alternative is located on the left descending bank of the Illinois River at river mile 147. It is in Tazewell County, Illinois. The preferred site is adjacent to a present dredged material placement site (Site 9), owned by the United States and managed by the Corps of Engineers that is nearing capacity (See Figure 1).

The Mackinaw DMMP Project's Preferred Alternative consists of purchasing 133 acres of land in fee from five private owners. The tracts consist of three contiguous farm fields, one of 23.2 acres, one of 86 acres and the other being 66.5 acres. The cost estimate for these three tracts is $1,665,000.

A permanent easement is required from one private owner that would allow access for the dredged material placement into the permanent site made up of the three fee tracts. This easement would be over 12.3 acres of timbered land that is adjoining the Illinois River and presently used for recreational and hunting purposes. The cost estimate for this easement is $74,000.

There will be a Channel Improvement Easement that is necessary from the Spring Lake D&LD, which owns and operates a levee in the area of this project. The levee will have to be crossed by the dredged material equipment during dredging activities. The cost estimate for this easement is $12,000.

The total acquisition costs for obtaining the above is estimated at $85,000.

5.9.1. Real Estate Regulations and Policy. The following is general information regarding District dredged material placement and the ownership and disposition of dredged material after it has been removed from the channel and placed in the placement site.

5.9.1.1. Dredged Material Placement on Federal Land. Dredged material placed on land not owned or administered by the Corps is the property of the landowner, unless there is a written agreement with the landowner that specifies that other parties can remove the material. If the Corps desires to place dredged material on non-Federal land and be able to remove, sell, or allow others to remove the material, an agreement between the landowner and the Corps, which contains the necessary rights and conditions, must be negotiated.

5.9.1.2 Sale or Removal of Dredged Material. Dredged material stockpiled on property of the United States remains the property of the United States under the control of the Corps. The Federal Property Management Regulations and the Corps' Real Estate Regulations both indicate that gravel, sand or stone that has been excavated by or for the Federal Government is classified as personal property of the United States. Dredged material stockpiled for beneficial use may be given away free for the hauling. Property, such as dredged material, also can be donated to eligible agencies or groups in certain circumstances.

5.10. Implementation Schedule. The implementation schedule for the Preferred Alternative is shown in Table 8. Site implementation may vary based on funding and river conditions.

Table 9. Implementation Schedule

Event	Scheduled
Real Estate Design Memorandum	FY16 – FY17
Tract Mapping/Segment Map	FY16 – FY17
Acquire Real Estate	FY16 – FY18
Plans and Specifications	FY16 – FY18
Award Contract	FY18 – FY19
O&M Manual	FY18 – FY19
Complete Implementation	FY18 – FY20

6. COMPLIANCE WITH APPLICABLE FEDERAL LAWS

6.1. Applicable Laws

6.1.1. Endangered Species Act. The District has determined that the proposed action is not likely to adversely affect any federally listed endangered or threatened species or their habitats. This determination has been coordinated with the U.S. Fish and Wildlife Service, Rock Island Ecological Services Field Office during informal consultation with that agency and is in full compliance.

6.1.2. Archaeological and Historic Preservation Act. The District determined that no historic properties would be affected by dredging or dredged material placement in full compliance with the Archaeological and Historic Preservation Act.

6.1.3. National Historic Preservation Act of 1966, as amended [This Act became law on October 15, 1966 (Public Law 89-665; 16 U.S.C. 470 et seq.). This is an Act to establish a program for the preservation of additional historic properties throughout the Nation, and for other purposes, approved October 15, 1966 (Public Law 89-665; 16 U.S.C. 470 et seq.). Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA) and it's implementing regulations 36 CFR Part 800: "Protection of Historic Properties," establishes the primary policy, authority for preservation activities, and compliance procedures. The NHPA ensures early consideration of historic properties preservation in Federal undertakings and the integration of these values in to each agency's mission. The Act declares Federal policy to protect historic sites and values in cooperation with other nations, states, and local governments. The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or Federally assisted undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking, take into account the effect of the undertaking of any district, site building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places. The head of any such Federal agency shall afford the Advisory Council on Historic Preservation a reasonable opportunity to comment with regard to such undertaking.

Allowing for tribal review and comment contributes to fulfilling obligations as set forth in the NHPA (PL 89-665), as amended; the National Environmental Policy Act of 1969 (PL 91-190); Executive Order (EO) 11593 for the "Protection and Enhancement of the Cultural Environment" (Federal Register, May 13, 1971); the Archaeological and Historical Preservation Act of 1974 (PL 93-291); the ACHP "Regulations for the Protection of Historic and Cultural Properties" (36 CFR, Part 800); and the applicable National Park Service and District regulations.

Since the District had short-term (less than 6 months) Rights-of-Entry for the dredged material placement area for access the conduct archeological investigations, the aforementioned PA is an appropriate vehicle for addressing historic property concerns in Illinois for the dredged material placement site area. The PA affords protection to undocumented historic properties, as well as those significant elements of the National Register of Historic Places eligible Illinois Waterway Navigation Channel, from Mile 80.2 to 327.0. All reports generated during the Phase I archeological survey will be provided to the IHPA for review. A final report of the investigations approved by the IHPA and accepted has been provided for their permanent files as evidence of compliance with the NHPA.

Although the PA assures that the District will comply with the NHPA and that no significant historic properties will be affected by the historic dredge cut and proposed dredged material placement and access; if any undocumented historic properties are identified or encountered during the undertaking, the District will discontinue all dredge and dredged placement activities and resume coordination with the IHPA to identify the significance of the historic property and determine potential effects under Stipulation VI of the PA.

6.1.4. Clean Air Act. The proposed action is expected to be in compliance with the Act. Mobile source emissions will be temporary and limited to the construction period, and are expected to be *de minimis* for criteria air pollutants. Based on these findings, the proposed project demonstrates conformity.

6.1.5. Clean Water Act. A Section 404(b)(1) Evaluation has been prepared for the proposed action and is attached as Appendix G to this feasibility report. Application for State Section 401 water

quality certification has been submitted to the Illinois Environmental Protection Agency. Certification would be obtained prior to initiation of dredging or placement.

6.1.6. Executive Order 11988 *Floodplain Management.* No change in existing levels of flood risk will occur as a result of dredged material placement. This action will not adversely impact floodplains or floodplain values.

6.1.7. Hazardous, Toxic and Radioactive Waste. A Phase I HTRW Environmental Site Assessment was performed for the Mackinaw River Reach DMMP. A review of environmental data indicates there are no recognized environmental conditions that have been identified at any of the proposed placement sites or access easements. Therefore, no further HTRW Environmental Site Assessments are recommended. A full report of the HTRW Analysis is available upon request (ATTN: CEMVR-EC-DN).

6.1.8. Federal Water Project Recreation Act. No increases or decreases in current public recreational opportunities would be realized if this project is implemented. The proposed action is in full compliance.

6.1.9. Fish and Wildlife Coordination Act. Project plans have been coordinated with the USFWS. Coordination responses can be found in Appendix B. The proposed action is in full compliance.

6.1.10. Bald and Golden Eagle Protection Act/Migratory Bird Treaty Act. No nesting areas for bald eagles or other migratory birds are known to be present within or in close proximity to any of the proposed placement sites. Dredging and placement activities at all sites are expected to be limited to periods when little or no ice cover is present on the river. During these times, eagles and other migratory birds will be relatively dispersed and unlikely to be concentrated in stopover or winter roost areas where they could be disturbed or their feeding disrupted by dredging or placement activities. For these reasons, no adverse impacts to bald eagles or other migratory birds are anticipated. The proposed action is in full compliance.

6.1.11. Farmland Protection Policy Act of 1981. The proposed action would result in the conversion of approximately 133 acres of prime farmland to nonagricultural uses. In accordance with the provisions of this law, alternative sites were considered that would have fewer impacts on prime farmland, but these were either found to be not feasible, would not meet the capacity requirements for long-term use and flexibility, or would have greater adverse effects on other natural resources. The preferred alternative would be in full compliance.[3]

6.1.12. National Environmental Policy Act of 1969, as amended. The compilation of this EA and the signing of the Finding of No Significant Impact by the District Engineer would fulfill National Environmental Policy Act (NEPA) compliance.

6.1.13. EO 11990, Protection of Wetlands. According to aerial photography dated in 1939, this area has been farmed for an extended period of time. Due to the extensive agricultural use of the area, it is likely this area would be considered prior converted. If additional information reveals

[3] Total acres of 133 is smaller than acres used in correspondence due to the overlap of area.

farmed wetlands are present and impacts are unavoidable, the District would develop a mitigation plan and coordinate with the agencies to ensure full compliance.

6.1.14. EO 13112, Invasive Species. On February 3, 1999, President Clinton issued EO 13112 to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause by establishing the National Invasive Species Council. The proposed action is consistent with EO 13112 as it will use relevant programs and authorities to prevent the introduction of invasive species and not authorize, fund, or carry out actions likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere.

6.1.15. EO 12898, Environmental Justice. Executive Order 12898 of 1994 and the Department of Defense's Strategy on Environmental Justice of 1995, which direct Federal agencies to identify and address any disproportionately high adverse human health or environmental effects of Federal actions to minority and/or low-income populations. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, and Pacific Islander. A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population.

Low-income populations as of 2014 cover those whose income is $24,230 for a family of four and are identified using the Census Bureau's statistical poverty threshold. The Census Bureau defines a "poverty area" as a Census tract with 20 percent or more of its residents below the poverty threshold and an "extreme poverty area" as one with 40 percent or more below the poverty level. This is updated annually at http://aspe.hhs.gov/poverty/14poverty.cfm

A potential disproportionate impact may occur when the percent minority (50 percent) and/or percent low-income (20 percent) population in an Environmental Justice study area are greater than those in the reference community. No minority or low-income populations are present in the project study area. The proposed action will not result in any change in land use or other impacts that would disproportionately affect minority or low-income populations, and is therefore considered to be in compliance with this EO.

6.1.16. EO 13653, Preparing the U.S. for the Impacts of Climate Change. Executive Order 13653 requires Federal agencies to undertake actions enhancing climate preparedness and resilience, including the identification and assessment of climate change related impacts on and risks to the agency's ability to accomplish its missions, operations, and programs.

Potential climate change impacts to the Nine-Foot Channel project would be associated with changes in long-term river level variations. Water levels in the Illinois River basin vary in annual cycles, with highs in the summer and lows in the winter. However, over longer periods annual averages can vary significantly. Water level is influenced by many factors, including precipitation, water temperature, runoff, drought, ice cover, evaporation rates, consumption, and diversion. The period used to calculate historical dredging averages and predict dredging quantities includes both extreme high water levels and extreme low levels. Therefore, this average is expected to be a reasonable estimate for dredging quantities over the period of analysis, even with the occurrence of extreme conditions. Extreme lows in future years could lead to a lowered pool elevation, reducing available draft in the channel. However, the critical shoal in this channel is in the area located at the existing dredge cut. Additional

dredging to allow for continued use of a nine foot draft would therefore focus on this limited area and increased dredging quantities would be small with respect to the total projected dredging volume.

The District has considered and evaluated the risk associated with climate change on the effectiveness of the proposed action and is therefore considered to be in compliance with this Executive Order.

6.1.17. Environmental Operating Principles (EOP) (2012). Throughout the study the team incorporated the seven Corps EOPs by fostering sustainability, considering the environmental consequences of the alternatives, create mutually supporting economic and environmentally sustainable solutions, continue to meet our corporate responsibility and account for activities which may impact human and natural environments, employing a risk management and systems approach to the environment, used scientific, economic, and social knowledge to understand the environmental context and effects of the District's actions in a collaborative manner, employ an open, transparent process that respects views of individuals and groups interested in the District's activities.

Table 10. Compliance With Environmental Protection Statutes and Other Requirements

Federal Environmental Protection Statutes and Requirements	Applicability/ Compliance[1]
Analysis of Impacts on Prime and Unique Farmland (CEQ Memorandum, 11 Aug 80)	Full Compliance
Archaeological and Historic Preservation Act, 16 U.S.C. 469, et seq.	Full Compliance
Clean Air Act, as amended, 42 U.S.C. 1857h-7, et seq.	Full Compliance
Clean Water Act, Sections 404 and 401	Full Compliance
Corps of Engineers Planning Guidance Handbook (ER 1105-2-100)	Full Compliance
Endangered Species Act of 1973, as amended, 16 U.S.C. 1531, et seq.	Full Compliance
Executive Order 11988, *Floodplain Management*	Full Compliance
Executive Order 11990, *Protection of Wetlands*	Full Compliance
Executive Order 12898, *Environmental Justice*	Full Compliance
Executive Order 13112, *Invasive Species*	Full Compliance
Farmland Protection Policy Act. 7 U.S.C. 4201, et seq.	Full Compliance
Federal Water Protection Recreation Act, 16 U.S.C. 460-(12), et seq.	Full Compliance
Fish and Wildlife Coordination Act, 16 U.S.C. 601, et seq.	Full Compliance
Green House Gases, CEQ Memorandum 18, Feb 2010	Full Compliance
Land and Water Conservation Fund Act, 16 U.S.C. 460/-460/-11, et seq.	Not applicable
National Environmental Policy Act, 42 U.S.C. 4321, et seq.	Full Compliance
National Historic Preservation Act, 16 U.S.C. 470a, et seq.	Full Compliance
Rivers and Harbors Act, 33 U.S.C. 403, et seq.	Full Compliance
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, et seq.	Not applicable
Wild and Scenic Rivers Act, 16 U.S.C. 1271, et seq.	Not applicable

[1] Full Compliance = having met all requirements of the statute for the current stage of planning;
Not Applicable = no requirements for the statute required.

6.2. Results of Coordination with Local, State, and Federal Agencies

6.2.1. Coordination. Letters of coordination from federal and state agencies are included in Appendix B. These letters help document the review process in identifying and evaluating the extent of significant environmental resources, historical properties, and other economic or social resources to discuss potential future conditions.[4]

6.2.2. Illinois On-Site Inspection Team (IL OSIT). The IL OSIT is a coordinating team that was formed during the 1970s. It consists of state and federal natural resource and regulatory agency representatives, as well as the District. The purpose of the IL OSIT is to discuss and recommend alternatives for dredged material placement. The IL OSIT is involved with plan formulation and continued monitoring and implementation of this DMMP. Any deviations from this plan will be coordinated through the IL OSIT chairperson.

6.2.3. River Resources Coordination Team (RRCT). Also formed in the 1970s, the RRCT is an interagency coordination committee that makes recommendations to the District Engineer for the DMMP site plans. This team approves the DMMP reports as part of the planning process.

6.2.4. Periodic Review. The DMMP documentation is subject to periodic review and subsequent modification. A periodic reevaluation of the individual management plans may be required due to changes in regulation, significant changes in the navigation channel, economic or environmental conditions, or changes in dredge plant availability or capability. Reevaluation also would be required when the preferred dredged material placement alternative approaches the end of its useful capacity. The District may initiate a reevaluation, or the IL OSIT or other participating federal or state agency may request a reevaluation. Justification for the reevaluation would be reviewed by the District to determine if reevaluation is warranted. Modification would be subject to the same review and approval process as the DMMP.

6.3. Public Views and Comments. Throughout a feasibility study, the Corps strives to inform, educate, and involve the many groups who may have an interest in the study. This coordination is assures that all interested parties have the opportunity to be part of the study process. One process used for coordination is the public involvement process. Public involvement is the exchange of information with various segments of the public. It attempts to reduce unnecessary conflict and achieve consensus. The goal of public involvement and coordination is to open and maintain channels of communication with the public in order to give full consideration to public views and information in the planning process (ER 1105-2-100, Appendix B, *Public Involvement, Collaboration and Coordination*). The study report will be circulated for an approximate 30 day public and agency review.

[4] Total acres of 133 is smaller than acres used in correspondence due to the overlap of area.

7. CONCLUSION AND RECOMMENDATION

The Mackinaw River DMMP addresses estimated dredged material placement needs for at least the next 40 years. Dredging is required to provide a safe and adequate channel for river navigation. Potential placement sites were thoroughly investigated and evaluated through the DMMP process. Two alternatives, including the No Action Alternative, were considered to meet a dredging capacity of 2.46 million CY. Alternative B-Site 10, Options 1, 2 and 3 with access easement- was selected as the Preferred Alternative for the Mackinaw River DMMP. The Preferred Alternative n provides the greatest flexibility in placement locations without increasing placement costs and safeguards against the possibility of increased dredging volumes over the 40-year life of the DMMP.

RECOMMENDATION

The recommendations contained herein reflect the information available at this time and current Departmental policies governing formulation of individual projects. They do not reflect program and budgeting priorities inherent in the formulation of the National Civil Works construction program nor the perspective of higher review levels within the Executive Branch. Consequently, the recommendations may be modified before they are transmitted to the Congress as proposals for authorization and implementation funding.

_____ _____

Date

Craig S. Baumgartner
Colonel, US Army
Commander & District Engineer

ILLINOIS RIVER WATERWAY SYSTEM
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT PROJECT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the information provided by this Feasibility Report with integrated Environmental Assessment, along with data obtained from cooperating Federal and State agencies having jurisdiction by law or special expertise. I find that placement of dredged material at Site 10 as proposed and described in this Report will not significantly affect the quality of the human environment. Therefore, it is my determination that an Environmental Impact Statement (EIS) is not required. This determination will be reevaluated if warranted by later developments.

Factors considered in making a determination that an EIS was not required were as follows:

A. Proposed placement activities, quantities, designs, and scheduling would have only minor and short-term impacts on fish and wildlife resources and on water quality.

B. The Project would allow continued navigation on this reach of the Illinois River.

C. Required permits for any placement events would be obtained prior to initiation of dredging activity.

D. No adverse impacts to historic properties, or to social or economic activities, are expected to result from the proposed actions.

E. A necessary Clean Water Act and floodplain permits would be obtained prior to construction.

F. The District would follow the Programmatic Agreement (PA) between the District and the Illinois, Iowa, Missouri, and Wisconsin State Historic Preservation Officers and the Advisory Council on Historic Preservation. The PA was signed to meet the requirements of Section 106 of the National Historic Preservation act of 1966, as amended, and its implementing regulations 36 CFR Part 800: *Protection of Historic Properties*. The PA is appropriate to address potential concerns to any significant historic properties identified and uncovered during dredged material placement site preparation, construction, and use.

G. The District has determined the proposed project is not likely to adversely affect any threatened or endangered species or their critical habitat with the following conservation measures in place:
   - Utilize existing path as much as possible to minimize tree clearing to less than 10 acres.
   - Limit tree clearing to winter months.
   - Ensure potential habitat (snags, mature silver maple) is visually marked with flagging prior to clearing.
   - Communicate to the construction team prior to clearing concerning the flagging and limitations.

H. Due to policy and procedure with the United States Department of Agriculture/Natural Resource Conservation Service (NRCS), the District has limited knowledge of presence of farmed wetlands in the project area and/or if present wetlands are considered prior converted by NRCS. Efforts are ongoing to obtain this information and additional coordination may be required in the future.

_____ _____

Date

Craig S. Baumgartner
Colonel, US Army
Commander & District Engineer

ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

PUBLIC REVIEW DRAFT

APPENDIX A

PROGRAMMATIC MEMORANDUM OF AGREEMENT

PROGRAMMATIC AGREEMENT

AMONG THE ROCK ISLAND DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND
THE ILLINOIS STATE HISTORIC PRESERVATION OFFICER,
THE IOWA STATE HISTORIC PRESERVATION OFFICER,
THE MISSOURI STATE HISTORIC PRESERVATION OFFICER,
AND THE WISCONSIN STATE HISTORIC PRESERVATION OFFICER
REGARDING IMPLEMENTATION OF THE LONG-TERM MANAGEMENT STRATEGY
FOR DREDGED MATERIAL PLACEMENT

WHEREAS, the Rock Island District of the U.S. Army Corps of Engineers (Corps) has determined that the Illinois Waterway and Mississippi River have historic and chronic shoaling areas and that dredging is generally required to provide adequate channels for commercial navigation and that dredged material placement undertakings are required for the Corps' long-term (greater than 10 years) needs, as documented in the Long-Term Management Strategy for Dredged Material Placement Upper Mississippi River Miles 300-614, dated August 1990, and the Long-Term Management Strategy for Dredged Material Placement Illinois Waterway River Miles 80-327, dated June 1995, all presently referred to as the Dredged Material Management Plan.

WHEREAS, the Corps has determined that the dredged material placement undertakings may have an effect upon properties listed on, or eligible for, inclusion in the National Register of Historic Places (National Register), and has consulted with the Advisory Council on Historic Preservation (Council) and the Illinois, Iowa, Missouri, and Wisconsin State Historic Preservation Officers [SHPO(s)] pursuant to Section 800.13 of the regulations (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f), [and Section 110(f) of the same Act (16 U.S.C. 470h-2(f)]; and,

NOW, THEREFORE, the Corps, the Council, and the appropriate SHPO(s) agree that the undertakings shall be implemented in accordance with the following stipulations to satisfy the Corps' Section 106 responsibility for all individual actions.

I. HISTORIC PROPERTY SURVEYS AND TESTING

A. The Corps will take all measures necessary to discover, preserve, and avoid significant historic properties, listed on, or eligible for, inclusion in the National Register of Historic Places, burials, cemeteries, or sites likely to contain human skeletal remains/ artifacts and objects associated with interments or religious activities, and provide this information, studies, and/or reports to the appropriate SHPO(s) through the implementation of historic property surveys and testing, and the treatments of historic properties. The Corps will ensure that the following measures are implemented:

1. Unless recent and modern ground surface disturbances and/or historic use can be documented, the Corps will conduct a historic property visual (reconnaissance) survey with subsurface testing on all new and expanded dredged material placement sites and all other areas indirectly and directly affected by construction, use, maintenance, and operation of the new and expanded dredged material placement sites having the potential for historic properties. The Corps will evaluate historic properties identified through the

reconnaissance survey in accordance with 36 CFR Part 800.4(c) and reports of the findings shall be submitted to the appropriate SHPO(s) for review and comment. If the reconnaissance survey results in the identification of historic properties that are eligible for the National Register of Historic Places, the Corps, in consultation with the appropriate (SHPO(s), shall develop and implement plans for the appropriate treatment of historic properties. Treatment will include, but not be limited to, avoidance of the historic property, avoidance of a portion of the historic property, and data recovery of the portion of the historic property to be affected, or data recovery of the entire historic property.

2. The reconnaissance surveys and subsurface testing will be conducted in a manner consistent with the Secretary of the Interior's Standards and Guidelines for Identification and Evaluation (48 FR 44720-23) and take into account the National Park Service publication The Archaeological Survey: Methods and Uses (1978) and any extant or most recent version of appropriate SHPO(s) guidelines for historic properties reconnaissance surveys/reports, related guidance, and etc. The reconnaissance surveys and subsurface testing will be implemented by the Corps and monitored by the appropriate SHPO(s).

3. In consultation with the appropriate SHPO(s), the Corps shall evaluate for eligibility all significant historic properties by applying the National Register criteria (36 CFR Part 60.4).

a. For those properties that the Corps and the appropriate SHPO(s) agree are not eligible for nomination to or inclusion in the National Register, no further historic properties investigations will be required, and the project may proceed in those areas.

b. If the survey results in the identification of properties that the Corps and the appropriate SHPO(s) agree are eligible for nomination to, or inclusion on, the National Register, such properties shall be treated in accordance with Part II below.

c. If the Corps and the appropriate SHPO(s) do not agree on National Register eligibility, or if the Council or the National Park Service so request, the Corps will request a formal determination of eligibility from the Keeper of the National Register, National Park Service, whose determination shall be final.

II. TREATMENT OF HISTORIC PROPERTIES

A. Those properties that the Corps and the appropriate SHPO(s) agree are eligible for nomination to, or that the Keeper has determined eligible for inclusion in, the National Register will be treated in the following manner:

1. If The Corps determines, and documents this determination, in consultation with the appropriate SHPO(s) that no other actions are feasible to avoid and minimize effects to properties and the Corps and SHPO(s) agree under consultation that properties cannot be avoided, then a treatment plan, which may include data recovery, documentation, avoidance, protection, or removal, will be coordinated with the appropriate SHPO(s). If data recovery is the agreed upon treatment, the data recovery plan will address substantive research questions developed in consultation with the appropriate SHPO(s). The treatment plan shall be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-37) and take into account the Council's publication, Treatment of Archaeological Properties (Advisory Council on Historic Preservation, 1980) and appropriate SHPO(s) guidance. It shall specify, at a minimum, the following:

a. The property, properties, or portions of properties where the treatment plan is to be carried out;

b. The research questions to be addressed, with an explanation of research relevance and importance;

c. The methods to be used, with an explanation of methodological relevance to the research questions;

d. Proposed methods of disseminating results of the work to the interested public; and,

e. A proposed schedule for the submission of progress reports to the appropriate SHPO(s).

2. The treatment plan shall be submitted by the Corps to the appropriate SHPO(s) for 30 days review. The Corps will take into account SHPO comment and shall ensure that the data recovery plan is implemented. The appropriate SHPO(s) shall monitor this implementation.

B. The Corps will ensure that the data recovery plan is carried out by or under the direct supervision of an archaeologist(s), architectural historian(s) and/or other appropriate cultural resource specialist that meets, at minimum, the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-9).

C. The Corps will ensure that adequate provisions, including personnel, time, and laboratory space, are available for the analysis of recovered materials from historic properties.

D. The Corps will develop and implement an adequate program in consultation with the appropriate SHPO(s) to secure and historic properties from vandalism during data recovery.

III. CURATED ITEMS

In consultation with the appropriate SHPO(s), the Corps will ensure that all materials and records resulting from the historic properties studies conducted for the dredged material placement sites project are curated at a repositories within the States of Illinois, Iowa, Missouri, and Wisconsin in accordance with 36 CFR Part 79.

IV. TREATMENT OF HUMAN REMAINS

If incidental finds of human remains are encountered either during the data recovery or during any project construction activities, the Corps will comply with all provisions outlined in the appropriate state acts, statutes, guidance, provisions, etc., and any decisions regarding the treatment of human remains will be made under consultation with the SHPO(s). If incidental finds of human remains are encountered or collected from Federal lands or Federally-Recognized Tribal lands, the Corps will coordinate with the appropriate Federally-recognized Native Americans, as promulgated by the Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. § 3001 *et seq.*), under consultation with the appropriate SHPO(s).

V. REPORTS

The Corps will ensure that all final historic properties reports resulting from the actions pursuant to this Programmatic Agreement (Agreement) will be provided in a format acceptable to the appropriate SHPO(s) and the National Park Service for possible peer review and submission to the National Technical Information Service. The Corps will ensure that all such reports are responsive to contemporary standards, and to the Department of the Interior's Format Standards for Final Reports of Data Recovery (42 FR 5377-79). Precise locational data may be provided only in a separate appendix if it appears that the release of this locational data could jeopardize historic properties. The reports and reports data will be made available for publication and public dissemination.

VI. PROVISION FOR UNDETECTED HISTORIC PROPERTIES DISCOVERED DURING IMPLEMENTATION

In accordance with 36 CFR Section 800.11(a), if previously undetected or undocumented historic properties are discovered during project activities, the Corps will cease, or cause to stop, any activity having an effect and consult with the appropriate SHPO(s) to determine if additional investigation is required. If further archaeological investigations are warranted or required, any treatment plan will be performed in accordance with Part II TREATMENT OF HISTORIC PROPERTIES and Part III CURATION AND DISSEMINATION OF INFORMATION of this Agreement. If both the Corps and the appropriate SHPO(s) determine that further investigation is not necessary, activities may resume with no further action required. Any disagreement between the Corps and the appropriate SHPO(s) concerning the need for further investigations will be handled pursuant to Part V DISPUTE RESOLUTION of this Agreement.

VII. DISPUTE RESOLUTION

Should the appropriate SHPO(S) or the Council object within 30 days to any plans or actions provided for review pursuant to this agreement, the Corps will consult with the objecting party to resolve the objection. If the Corps determines that the disagreement cannot be resolved, the Corps will request further comment from the Council in accordance with 36 CFR Part 800.6(b). Any Council comment provided in response will be taken into account by the Corps in accordance with 36 CFR Part 800.6(c)(2), with reference only to the subject of the dispute. The Corps' responsibility to carry out all actions under this Agreement that are not the subjects of the dispute will remain unchanged.

VIII. TERMINATION

Any of the signatories to this Agreement may request a reconsideration of its terms or revoke the agreement upon written notification to the other signatories, by providing thirty (30) days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the advent of termination, the Corps will comply with 36 CFR Parts 800.4 through 800.6 with regard to individual undertakings covered by this Agreement.

IX. AMENDMENTS

Any party to this Agreement may request that it be amended, whereupon the parties will consult in accordance with 36 CFR Part 800.13, to consider such amendment.

X. PERIODIC REVIEW

The Corps will provide the SHPO(s) with evidence of compliance with this Agreement by letter on January 30, 1997, and once every two years thereafter said date. This letter shall contain the name of the project, title of the documents which contained the Agreement, historic properties identified, determinations of effect, avoidance procedures, level of investigation(s) and/or mitigation(s) conducted with titles of all project reports related to such investigation(s) and/or mitigation(s) which have been completed.

XI. EXECUTION AND IMPLEMENTATION

A. Nothing in this Agreement is intended to prevent the Corps from consulting more frequently with the appropriate SHPO(s) or the Council concerning any questions that may arise or on the progress of any actions falling under or executed by this Agreement. Any resulting modifications to this Agreement will be coordinated in accordance with Section 800.5(e)(5).

B. The undersign concur that the Corps has satisfied its Section 106 responsibilities for all individual undertakings through this Agreement regarding the implementation of the Long-Term Management Strategy for Dredged Material Placement.

XII. SIGNATORIES

A. ROCK ISLAND DISTRICT, U.S. ARMY CORPS OF ENGINEERS:

BY: Charles S. Cox Date: 7 Dec 95
Colonel Charles S. Cox
District Engineer
U. S. Army Corps of Engineers
Rock Island District

B. ILLINOIS STATE HISTORIC PRESERVATION OFFICER:

BY: William L. Wheeler Date: 1-3-96
William L. Wheeler
Illinois State Historic Preservation Officer
Illinois Historic Preservation Agency

XII. SIGNATORIES (Continued)

C. IOWA STATE HISTORIC PRESERVATION OFFICER:

BY: Patricia Ohlerking Date: 1-22-96
Patricia Ohlerking
Iowa State Historic Preservation Officer
State Historical Society of Iowa

D. MISSOURI STATE HISTORIC PRESERVATION OFFICER:

BY: Date: 15 FEB. 96
David A. Shorr
Missouri State Historic Preservation Officer
Department of Natural Resources

E. WISCONSIN STATE HISTORIC PRESERVATION OFFICER:

BY: Date: 2/26/96
Jeff M. Dean
Wisconsin State Historic Preservation Officer
State Historical Society

F. ADVISORY COUNCIL ON HISTORIC PRESERVATION:

BY: Robert D. Bush Date: 4/29/96
Robert D. Bush
Executive Director
Advisory Council on Historic Preservation

Advisory Council On Historic Preservation

The Old Post Office Building
1100 Pennsylvania Avenue, NW, #809
Washington, DC 20004

PROGRAMMATIC AGREEMENT

DIRECTOR'S RECOMMENDATION

Reference: IL/ROCK ISLAND DISTRICT/CORPS/MS & IL RIVER DREDGE

Signature Recommendation: [___] Chairman
[_X_] Executive Director

Staff Member: T. McCULLOCH, OEPA

Date Action Required: --- (PA)

4/24/96

Attached Abstract: [___] yes
[_X_] no

Attached Briefing Statement: [_X_] yes
[___] no

Reference: IL/ROCK ISLAND DISTRICT/CORPS/MS & IL RIVER DREDGE

ABSTRACT

The Rock Island District of the Corps of Engineers proposes to acquire property for the placement of dredged fill from the Illinois and Mississippi Rivers within its District. This Programmatic Agreement sets forth a process for consideration of historic properties on the lands the Corps will need to purchase for placement of the fill material (several hundred thousand cubic yards per year).

The Corps of Engineers has responsibility for ensuring that our navagitible waterways are, in fact, navigatible. To this end, the Corps regularly carries out dredging operations to keep channels at a certain depth (usually c. 12-15 feet deep) so that river traffic flows freely and the heavily-loaded barges do not snag on the river bottom.

The Corps' dredge boats must place the dredged dirt somewhere, usually on the river bank or behind the levee. The Rock Island District proposes now to purchase several large parcels of land behind the river levees to place the fill on. When completed, the lands will be seeded and become nature reserves.

Rock Island has been consulting with the SHPOs of states bordering the Illinois and Mississippi River in its District area on the provisions of this Programmatic Agreement. This includes the states of Illinois, Iowa, Missouri, and Wisconsin. The Council has also been involved in the consultation process for over a year.

The PA states that the Corps (in consultation with the appropriate SHPO) will survey the lands it acquires for historic properties, and will develop and implement (again, with the SHPOs) treatment programs for those historic properties found to be adversely affected by the deposition of fill materials. All such programs will meet applicable professional standards. Archaeological materials will be curated in accordance with 36 CFR Part 79. Human remains will be treated according to the laws of the relevant State and in consultation with the SHPO. The Native American Graves Protection and Repatriation Act shall apply on any Federal or tribal lands. Adequate provisions are contained in the PA for discovery situations.

(Because the dredge work will be confined to existing channels, we have agreed with the Corps that the likelihood that undisturbed historic properties exist in the channel is very low, and for this reason the Corps does not need to survey these channels for historic properties.)

Every two years the Corps will also provide each SHPO with a report of all activities carried out under the PA.

ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

PUBLIC REVIEW DRAFT

APPENDIX B

CORRESPONDENCE

Illinois Department of
Natural Resources
One Natural Resources Way Springfield, Illinois 62702-1271
http://dnr.state.il.us

Pat Quinn, Governor
Marc Miller, Director

December 11, 2014

Matt Afflerbaugh
Environmental Analysis Branch
USACE – Rock island District
Rock Island, IL 61204-2004

RE: Mackinaw River, DMMP Plan
Project Number(s): 1507060
County: Tazewell

Dear Mr. Afflerbaugh:

The Illinois Department of Natural Resources has reviewed the above mentioned project and participated in an On-Site Inspection Team (OSIT) site visit on November 17, 2014. The Department has no objections to the three proposed dredged material placement sites being investigated. The Department provides the following information and considerations for state-listed species:

Records of the state-threatened ebonyshell (*Fusconaia ebena*) exist in the vicinity of the dredging area. Given the frequency of dredging at this site, the Department has determined that impacts to this species are unlikely.

Some tree clearing may be needed to establish a route for dredged material to be pumped to the proposed placement sites and return water to the Mackinaw River. The Department recommends the standard tree clearing restrictions be observed for the state and federally-endangered Indiana bat (*Myotis sodalis*) and proposed as endangered Northern long-eared bat (*Myotis septentrionalis*).

Records of the state-endangered smooth softshell turtle (*Apalone mutica*) also exist in the vicinity of the proposed project. The Department is interested in the feasibility of providing sandy beach nesting habitat for this species in a low disturbance area as part of the project design. The Department looks forward to further discussion on this possibility in the future as planning continues.

Thank you for the opportunity to comment. Please contact me if I can be of further assistance.

Nathan Grider
Impact Assessment Section
217-785-5500

cc: Rich Lewis – IDNR, ORC

Illinois Department of Agriculture

Pat Quinn, Governor
Robert F. Flider, Director

Bureau of Land and Water Resources

State Fairgrounds • P.O. Box 19281 • Springfield, IL 62794-9281 • 217/782-6297 • TDD 217/524-6858 • Fax 217/557-0993

December 11, 2014

Mr. Matt Afflerbaugh
Environmental Compliance Branch
USACE - Rock Island District
Clock Tower Building
Rock Island, Illinois 61204-2004

Re: Preliminary Coordination for Environmental Assessment
Mackinaw River Reach DMMP, Site 9 Expansion: 171.6 acres
Illinois Waterway - River Miles 145-148
La Grange Pool, Peoria and Tazewell Counties, Illinois

Dear Mr. Afflerbaugh:

Thank you for notifying the Illinois Department of Agriculture (IDOA) of the USACE, Rock Island District's upcoming study regarding the Illinois Waterway. Future evaluation will examine the above-referenced project for its potential impact to agricultural land in order to determine its compliance with the Illinois Farmland Preservation Act (505 ILCS 75/1 et seq.). Our analysis also relates to the federal Farmland Protection Policy Act (7 USC 4201 et seq.), which specifies that federal actions affecting farmland conversion shall be consistent with state and local programs to protect farmland.

The District has identified the need for new placement sites for the long-term Dredged Material Management Plan (DMMP) for the Mackinaw River and Kingston Mine Reach in LaGrange Pool of the Illinois Waterway (IWW). This DMMP project is a chronic dredging area and extends along the IWW between River Mile (RM) 145-148 in Peoria and Tazewell Counties, Illinois. All DMMP projects are required to provide a 20 year maintenance plan identifying a preferred site.

The District has identified a study area for 40-year dredging activities in order to meet future dredging needs. The study area includes 172 acres of potential storage space and 96 acres of access easement. Accordingly, the District will prepare an Environmental Assessment to evaluate potential impacts of alternatives from long-term placement of dredged material. The USDA NRCS Form AD-1006 that tracks farmland conversion will also be included in the environmental assessment.

The IDOA looks forward to continued coordination with the District to address and reduce the overall impacts to productive agricultural land.

Sincerely,

Steven D. Chard

Steve Chard, Acting Chief
Bureau of Land and Water Resources

SDC:JL/TS

cc: Agency project file

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

DEC 23 2014

REPLY TO THE ATTENTION OF

E-19J

Matthew Afflerbaugh
Environmental Compliance Branch
U.S. Army Corps of Engineers
Rock Island District
Clock Tower Building – P.O. Box 20024
Rock Island, Illinois 61204-2004

Re: Scoping Comments concerning the Proposed Dredged Material Management Plan (DMMP) for the Mackinaw River and Kingston Mines Reach (Project) in the La Grange Pool of the Illinois Waterway (IWW), Peoria and Tazewell Counties, Illinois

Dear Mr. Afflerbaugh:

The U.S. Environmental Protection Agency has reviewed the above-mentioned scoping request dated November 21, 2014 announcing the U.S. Army Corps of Engineers' (USACE) plan for navigation channel maintenance dredging and disposal of dredged materials from River Mile 145.0 and 148.0 in the La Grange Pool. Our review was conducted pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

Scoping documents indicate the Project area requires chronic dredging. Because Site 9, identified in the existing DMMP, is nearing capacity, the District is proposing a site that will provide 40-year's dredging capacity adjacent to the existing Site 9 based on past experience of chronic dredging. USACE has identified a proposed site that includes 171.6 acres of potential dredge material placement and 95.8 acres of potential access easement. According to the scoping document, anticipated dredging would not require the District to acquire the entire 171.6 acres for dredged material placement or the entire 95.8 acres of potential access easement.

Based on our review of the limited scoping information, we offer the following comments, categorized by topic, to aid USACE in developing the environmental analysis.

PURPOSE AND NEED

1. USEPA recommends the USACE clarify in future documents that the NEPA process explained in paragraph 3 on the first page of the scoping request should more accurately state that the USACE intends to develop an EA which will presumably result in a FONSI or a decision to develop an EIS if it is determined that the proposed project will result in significant impacts. The public should readily understand from scoping requests that the

USACE cannot know whether there will be significant impacts associated with the project until the assessment is completed and comments are addressed. The conclusion of that assessment could be 'no significant impacts' or 'significant impacts' and it is important to retain the possibility that an EA will find significant impacts are involved with a proposed project.

2. USEPA recommends USACE provide more information with the scoping request to facilitate useful scoping comments from agencies and the public. The maps included are difficult to read (e.g., stream names) and are not labeled completely (e.g., what's the big gravel pit looking activity across the IWW?). The more information provided in a scoping request, the more useful feedback will be.

PROJECT FEATURES

1. Scoping materials indicate one potential placement site is being considered.
   Recommendation: USEPA recommends the forthcoming NEPA analysis discuss the process by which this site was selected. This should include a discussion of other sites that were initially considered and why they have been dropped.

2. Scoping materials indicate the Project is a chronic dredging area.
   Recommendation: USEPA anticipates the material to be dredged will be characterized. That characterization should include material type (e.g., % sand, silt, clay, % organics, etc.), nutrient content (e.g., phosphorous), and contaminants, if any.

3. Scoping materials indicate the preferred site has a 40-year placement capacity.
   Recommendation: USEPA anticipates the forthcoming NEPA analysis will indicate 1) the quantity of material that will be dredged annually, 2) the anticipated quantity of material that will be dredged over the life of the placement site, and 3) an environmental site characterization for the entire 171.6 acres of potential dredging placement and the 95.8 acres of potential access easement.

   Additionally, USEPA anticipates the method(s) proposed for dredging sediments (e.g., mechanical dredging) will be discussed as well as the method by which sediment will be placed in the site.

4. Scoping materials did not indicate whether any construction is needed to prepare the proposed placement site for dredged sediments (e.g., earthen berms) or whether dock construction for access is also proposed.
   Recommendation: USEPA anticipates the forthcoming NEPA analysis will discuss the type of materials proposed for placement site construction and the source for said materials. How will construction materials be transported to the site and how will this effort impact traffic?

5. Scoping materials indicate the Project is a chronic dredging area.
   Recommendation: In an effort to reduce future dredging amounts, USEPA recommends the forthcoming NEPA analysis discuss the applicability of bedload interceptors to collect material at key locations before it enters the IWW. Sediment intercepted by the device could

possibly be sold as fill dirt, reducing the amount of material that goes into the disposal site and extends the life of the site.

6. The historic uses of Mississippi River dredged material (e.g., island construction, beach nourishment, road construction, and road ice grit in winter) are useful strategies that should be continued and could be supplemented by commercial marketing if a portion of the material meets specs for commercial use, extending the life of the placement site. **Recommendation:** In another effort to extend the life of the site, USEPA recommends the forthcoming NEPA analysis include potential alternate uses of dredged material (e.g., restore aquatic habitat areas, cover over brownfields locations, fill in basements of demolished buildings, use by the oil and gas industry for hydraulic fracturing), other uses within the mining industry, material use by Departments of Transportation, use by counties or local communities, use as general fill or winter road maintenance). For example, in Cleveland, Ohio, the dredge materials task force is exploring reuse of clean dredged material to fill in basements of demolished homes and other buildings in brownfield redevelopment areas. EPA also encourages continuing partnership with the Natural Resources Conservation Service and state agricultural departments to promote farm practices that reduce erosion and sediment loading to river systems.

   We encourage that anyone with interest in finding sustainable management systems for dredged material should, as a first step, obtain a solid understanding of the material.; Many of these projects have almost no data on the material and, if there is data, it is old or not relevant. We suggest USACE develop a material specification sheet or sheets that is updated each year as dredging occurs. These sheets would describe at a minimum: physical properties, chemical properties, amounts available, times the material is available, etc. This step would allow interested users to consider whether the material is suitable for their needs, available in the amounts they need, at the price they need, at the time they need it, and the transactional costs of accessing the material. This type of information adds value to the material and sets the table for finding creative ways to manage it beyond placement. We look forward to the USACE's consideration of the above.

AIR IMPACTS ANALYSIS

1. In order to protect air quality during construction and operation of the dredged material disposal sites, we recommend implementation of one or more of the following measures where feasible:

   • Reduce emissions of diesel particulate matter (DPM) and other air pollutants by using particle traps and other technological or operational methods. Control technologies, such as traps, control approximately 80 percent of DPM. Specialized catalytic converters (oxidation catalysts) control approximately 20 percent of DPM, 40 percent of carbon monoxide emissions, and 50 percent of hydrocarbon emissions.
   • Ensure that diesel-powered construction equipment is properly tuned and maintained, and shut off when not in direct use.
   • Prohibit engine tampering to increase horsepower.
   • Locate diesel engines, motors, and equipment as far as possible from residential areas and sensitive receptors (e.g., schools, daycare centers, and hospitals).

- Require low sulfur diesel fuel (<15 parts per million), if available.
- Reduce construction-related trips of workers and equipment, including trucks.
- Lease or buy newer, cleaner equipment at the Tier 2 level or higher, using a minimum of 75 percent of the equipment's total horsepower.
- Use engine types such as electric, liquefied gas, hydrogen fuel cells, and/or alternative diesel formulations, if feasible.
- Use construction equipment retrofitted with diesel oxidation catalysts or diesel particulate filters from the Verified List from EPA or the California Air Resources Board.

Additionally, emissions will be further reduced by installing retrofit emission control devices on all non-road equipment with higher emissions than EPA's Tier 2 Standards. The following table indicates the model year for which these standards take effect. Equipment that is of a model year older than the year given for that equipment's respective horsepower range should be retrofitted.

Horsepower Range	Model Year (or newer)
50-99	2004
100-299	2003
300-599	2001
600-749	2002
750 and up	2006

We recommend USACE discuss plans for reducing emissions from the proposed project. We also recommend commitments to include emissions reduction measures appropriate to the dredged materials disposal site construction and dredging operations be included in the decision document.

CUMULATIVE IMPACTS ANALYSIS

1. The combination of "chronic dredging" (cumulative impacts over an extended period of time) and the location next to Site 9 suggest that a comprehensive cumulative impacts analysis is needed to analyze past impacts joined to project future impacts of Site 9 and future impacts of new site. Additionally, USEPA recommends the EA describe where other dredged material disposal sites are located, for example, within a reach of the IWW defined by major tributary entries and the cumulative impacts associated with ALL of these dredged material disposal sites. The cumulative impacts analysis should also include impacts from return water discharges.

CLIMATE CHANGE

1. We recommend the NEPA analysis address the potential for climate change to impact dredge operations. Specifically, we suggest the discussion focus on how a change in precipitation and water levels could affect dredging operations and, consequently, dredged material disposal site capacity over the proposed life of the project. For example, if precipitation and water levels exhibit a downward trend, more material would need to be removed to sustain navigation, affecting projected dredged material disposal site capacity. We believe the analysis would benefit from a qualitative discussion focused on recent water level trends,

whether the amount of material which needs to be dredged to maintain authorized depths is changing, and, if this is the case, whether this factor has been accounted for in the design of the dredged material disposal site. Management of stormwater at the dredged disposal site may be affected by increased frequency and intensity of precipitation events. The project stormwater plan should account for that.

FEDERALLY- AND STATE-LISTED THREATENED OR ENDANGERED SPECIES

1. Scoping materials included a list of Federally- and state-listed threatened or endangered species.
   Recommendation: Questions regarding potential impact to Federally- or state-listed species should be referred to the US Fish and Wildlife Service and the Illinois Department of Natural Resources, respectively.

OTHER

1. Discuss public outreach planned.
2. Include coordination with Federal, state, and local agencies to secure necessary permits.

We appreciate the opportunity to provide comments at the earliest stage of the proposed project. If you have any questions concerning the contents of this letter, please do not hesitate to contact me or Kathy Kowal of my staff at (312) 353-5206 or via email at kowal.kathleen@epa.gov.

Sincerely,

Kenneth A. Westlake
Chief, NEPA Implementation Section
Office of Enforcement & Compliance Assurance

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS – ROCK ISLAND DISTRICT
CLOCK TOWER BUILDING -

ROCK ISLAND, ILLINOIS 61204-2004

November 21, 2014

Regional Planning and Environmental
Division North (RPEDN)

SEE DISTRIBUTION LIST

The U.S. Army Corps of Engineer (Corps), Rock Island District (District) has identified the need for new placement sites for the long-term Dredged Material Management Plan (DMMP) for the Mackinaw River and Kingston Mines Reach (Project) in La Grange Pool of the Illinois Waterway (IWW). This DMMP Project is a chronic dredging area and extends along the IWW between River Mile (RM) 145.0 and 148.0 in Peoria and Tazewell Counties, Illinois.

Any DMMP is required to provide a minimum of a 20-year maintenance dredging plan. Site 9, identified in the existing DMMP, is nearing capacity (Enclosure 1). The District is proposing to identify areas for 40-year dredging capacities in order to meet future dredging needs based upon dredging experience in this area of the IWW. The District has identified a proposed study area that includes 171.6 acres of potential dredge material placement and 95.8 acres potential access easement (Enclosure1). The anticipated dredging need would not require the District to acquire all of the 171.6 acres of potential dredging placement or the 95.8 acres of potential access easement. However, any of the identified dredge material placement or access easement areas may be evaluated for potential use by the District in development of the DMMP Project through full consideration of all DMMP planning, policies, and procedures.

The District is currently in the early stages of the planning process and will use responses to this letter to assist in development of measures and alternatives. The District plans to prepare an Environmental Assessment (EA) to evaluate potential impacts of alternatives from long-term placement of dredged material. At this time we are asking you to inform us of any significant resources or other environmental concerns associated with these sites. These concerns include threatened and endangered species, protected habitat, wetlands, prime farmlands, land-use plans, etc.

The District has used the U.S. Fish and Wildlife Service, Midwest Region, endangered species website and the Illinois Department of Natural Resources, Illinois Endangered Species Protection Board website to identify Federal and State-listed species for Peoria and Tazewell Counties (Enclosures 2 and 3). At this time, the District does not anticipate any significant impacts to Federal or State-listed threatened and endangered species or their habitat as a result of this Project. The District would make threatened and endangered species determinations once measures and alternative are developed.

Please provide any comments, concerns, or questions you may have regarding this Project within 30 days of receipt of this letter. Address your responses to Mr. Matt Afflerbaugh of our Environmental Compliance Branch by, telephone (309) 794-5384, in writing to our address above, ATTN: Environmental Compliance Branch (Afflerbaugh), or email: matthew.j.afflerbaugh@usace.army.mil

Sincerely,

Kenneth A. Barr
Chief, Environmental Planning Branch (RPEDN)

Enclosures (3)

DISTRIBUTION LIST

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Filed Supervisor
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Director Office of Water Resources
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One Natural Resources Way
Springfield IL 62702

Debbie Bruce
Office of Resource Conservation
IL Dept of Natural Resources
One Natural Resources Way
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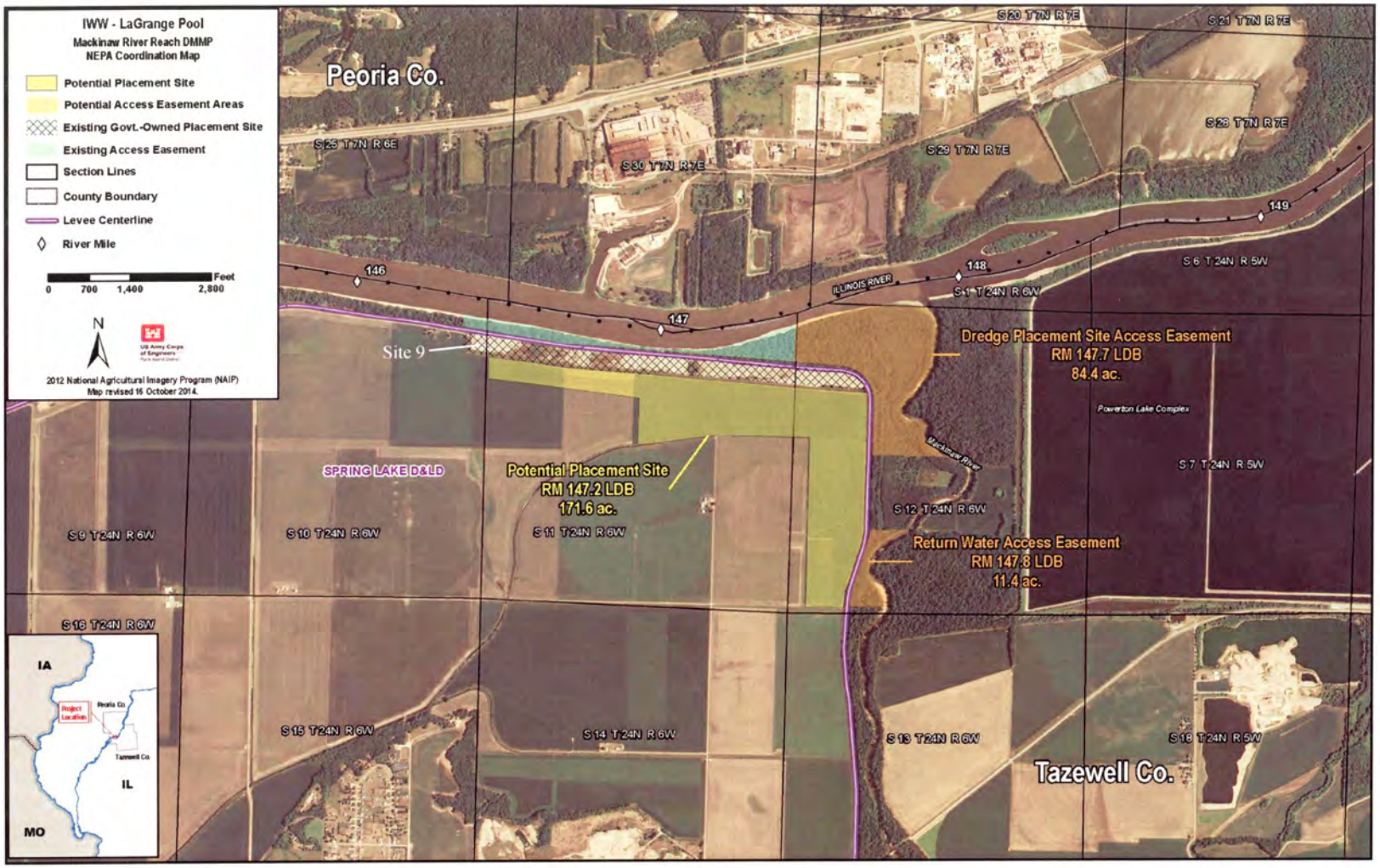


Proposed Study Area

ENCLOSURE 1

Federally-listed species. Source: http://www.fws.gov/midwest/endangered/lists/illinois-cty.html

Peoria County, Illinois

Indiana bat	*Myotis sodalis*	Endangered	Caves, mines (hibernacula);small stream corridors with well developed riparian woods; upland forests (foraging)
Northern long-eared bat	*Myotis septentrionalis*	Proposed as endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods
Decurrent false aster	*Boltonia decurrens*	Threatened	Disturbed alluvial soils
Eastern prairie fringed orchid	*Platanthera leucophaea*	Threatened	Mesic to wet prairies

Tazewell County, Illinois

Indiana bat	*Myotis sodalis*	Endangered	Caves, mines (hibernacula);small stream corridors with well developed riparian woods; upland forests (foraging)
Northern long-eared bat	*Myotis septentrionalis*	Proposed as endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods
Decurrent false aster	*Boltonia decurrens*	Threatened	Disturbed alluvial soils
Eastern prairie fringed orchid	*Platanthera leucophaea*	Threatened	Mesic to wet prairies
Lakeside daisy	*Hymenopsis herbacea*	Threatened	Dry rocky prairies

State-listed species. Source: http://www.dnr.illinois.gov/ESPB/Documents/ET_by_County.pdf

LE = Endangered, LT = Threatened

Peoria County, Illinois

Scientific Name	Common Name	State Protection
Acipenser fulvescens	Lake Sturgeon	LE
Agalinis skinneriana	Pale False Foxglove	LT
Apalone mutica	Smooth Softshell	LE
Boltonia decurrens	Decurrent False Aster	LT
Corallorhiza maculata	Spotted Coral-root Orchid	LT
Falco peregrinus	Peregrine Falcon	LT
Fundulus dispar	Starhead Topminnow	LT
Fusconaia ebena	Ebonyshell	LT
Ixobrychus exilis	Least Bittern	LT
Lanius ludovicianus	Loggerhead Shrike	LE
Lepomis symmetricus	Bantam Sunfish	LT
Pandion haliaetus	Osprey	LE
Rallus elegans	King Rail	LE
Spermophilus franklinii	Franklin's Ground Squirrel	LT
Viburnum molle	Arrowwood	LT

[1] LE = Endangered, LT = Threatened

Tazewell County, Illinois

Scientific Name	Common Name	State Protection
Acipenser fulvescens	Lake Sturgeon	LE
Aster furcatus	Forked Aster	LT
Astragalus tennesseensis	Tennessee Milk Vetch	LE
Berberis canadensis	Allegheny Barberry	LE
Besseya bullii	Kittentails	LT
Boltonia decurrens	Decurrent False Aster	LT
Dendroica cerulea	Cerulean Warbler	LT
Falco peregrinus	Peregrine Falcon	LT
Fundulus dispar	Starhead Topminnow	LT
Fusconaia ebena	Ebonyshell	LT
Heterodon nasicus	Plains Hog-nosed Snake	LT
Kinosternon flavescens	Yellow Mud Turtle	LE
Lanius ludovicianus	Loggerhead Shrike	LE
Lepomis miniatus	Redspotted Sunfish	LE
Moxostoma carinatum	River Redhorse	LT
Notropis chalybaeus	Ironcolor Shiner	LT
Nycticorax nycticorax	Black-crowned Night-Heron	LE
Orobanche ludoviciana	Broomrape	LT
Plantago cordata	Heart-leaved Plantain	LE
Poa wolfii	Wolf's Bluegrass	LE
Polanisia jamesii	James' Clammyweed	LE
Pseudacris illinoensis	Illinois Chorus Frog	LT
Speyeria idalia	Regal Fritillary	LT
Terrapene ornata	Ornate Box Turtle	LT
Tetraneuris herbacea	Lakeside Daisy	LE

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT CORPS OF ENGINEERS
PO BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF

RECEIVED
OCT 29 2014
005102914
PRESERVATION SERVICES

October 27, 2014

IHPA REVIEW
H/A
AC Concur
AR
File Va/COERI
10/30/14

Regional Planning and Environmental
Division North (RPEDN)

Ms. Anne E. Haaker
Deputy State Historic Preservation Officer
Illinois Historic Preservation Agency
1 Old State Capitol Plaza
Springfield, Illinois 62701-1512

Dear Ms. Haaker:

The Rock Island District of the U.S. Army Corps of Engineers (Corps) is currently proposing the long-term placements of dredged material for the Dredged Material Management Plan (DMMP) along the Illinois Waterway for the Mackinaw River Reach Dredge Cut (Project). This dredge cut extends along the Illinois Waterway, within the navigation channel between River Miles 145.0 to 148.0, Peoria and Tazewell Counties, Illinois. Channel maintenance is chronic and the DMMP is to provide a minimum of 20-year maintenance-dredging plan. The existing dredged material placement is exceeding capacity (Enclosure 1). This DMMP Project includes 40-year dredging capacities in order to meet future dredging requirements. The DMMP Project Area of Potential Effect (APE) proposed Project depicted on Enclosure 1 will be within the proposed dredged material placement area of 171.6 acres. The Project includes 95.8 acres of river access for the hydraulic dredge pipeline and water return. Following full consideration of all DMMP planning, policies, and procedures, any or all of this 171.6 acres area may be considered as proposed for dredged material placement.

The Corps conducted an archival search for historic properties following the Policy and Procedures for the Conduct of Underwater Historic Resource Surveys for Maintenance Dredging and Corps Activities (DGL-89-01, March 1989). The Corps queried the most updated Illinois Geographic Information Systems (GIS) site file database and reviewed the reports entitled *An Investigation of the Submerged Historic Properties in the Upper Mississippi River and Illinois Waterway,* dated October 1997 (Contract Number DACW25-93-D-0-012, Order No. 27) and *The Historic Properties Management Plan for the Illinois Waterway System, Rock Island District, Corps of Engineers*, Volumes I and II, dated February 1999 (Contract Number DACW25-93-D-0014, Order No. 0021) for historic properties potentially affected by this DMMP. No previously reported or recorded historic properties are known within the APE under study for the proposed dredged material placement area (Enclosure 2). Since state archeological site location information is protected under Section 304 of the National Historic Preservation Act, Enclosure 2 of this correspondence is not provided to the Public. Any request for site location information must be addresses to the Illinois Historic Preservation Agency (IHPA), Springfield, Illinois in the heading of this letter.

The proposed DMMP APE lands are documented in the *Landform Sediment Assemblage (LSA) Units in the Illinois River Valley and the Lower Des Plaines River Valley*, Volume I, dated May 2000, and Volume II, dated June 2000 (Contract No. DACW25-93-D-0014, Delivery Order No. 0025), as mainly natural levee with alluvial fan and channel belt deposits. Natural Levees within the floodplain landscape of the Illinois River have low potential to contain archeological deposits (Vol. I, p. 30-31, Vol. II, Glasford 107d, Pekin 108c). Alluvial fan deposits have a high potential for surface and buried prehistoric cultural deposits (Vol. I, p. 26, Vol II, 107d, Pekin 108c), while tributary channel belts have variable potential for cultural resources (Vol. I, p 35-36, Vol. II, Pekin 108c,). The following reports were also reviewed:

1994. Ross, James S., Tracy Sandfur, and Jeff Anderson. *Phase I Archaeological Investigations and Geomorphological Assessment of the Mackinaw/Kingston Mines Dredged Material Placement Site, Kingston Mines, Tazewell County, Illinois,* Cultural Resources Management Report Number 218. Prepared for the Rock Island District Corps of Engineers under Contract DACW25-91-D-0012, Delivery Order Number 0006 by American Resources Group, Ltd, Carbondale, Illinois

1994. Howe, W. Gordon, James S. Ross, and Jeffery D. Anderson. *Phase II Archaeological Investigations and Geomorphological Investigations at the Mackinaw/Kingston Mines Dredged Material Placement Site, Tazewell County, Illinois*, Cultural Resources Management Report Number 226. Prepared for the Rock Island District Corps of Engineers under Contract DACW25-93-D-0012, Delivery Order Number 0009 by American Resources Group, Ltd, Carbondale, Illinois

All referenced reports have been coordinated, reviewed and permanent catalogued in the permanent files of the IHPA, Springfield, Illinois, including the Mackinaw/Kingston Mines Dredged Material Placement Site reports by American Resources Group, Ltd (Enclosure 3).

The results of the databases and references indicate no archeological surveys and no previously reported or recorded archeological sites have been performed encompassing the DMMP APE, although there is a low potential for undocumented archeological properties. Therefore, the Corps proposes to conduct a Phase I intensive archeological survey, including geomorphological investigations using hand methods of deep testing, within the DMMP APE for the proposed dredged material placement area of 171.6 acres. The Corps does not proposed any archeological investigations within the DMMP APE for the two access easements containing a total of 95.8 acres, which will be used overland with dredge material or return water pipe systems with no land surface or buried disturbances.

By letter dated October 7, 1999, the Corps contacted the Illinois, Iowa, Missouri, Minnesota, and Wisconsin State Historic Preservation Officers (SHPOs) and approximately 70 Tribes. The Tribes and SHPOs were asked to review an attached tribal distribution list for corrections and/or additions and provide comment on the DMMP. The Tribes were notified that the Corps, the

Advisory Council on Historic Preservation (Council), and the appropriate SHPOs have signed a Programmatic Agreement (PA) regarding implementation of the long-term management strategy for dredged material placement for the DMMP for Illinois Waterway River Miles 80.0 to 327.0 and Mississippi River Miles 300.0 to 614.0 (Enclosure 4). The Corps received comments from the Menominee Indian Tribe of Wisconsin at Keshena, Wisconsin; the Citizen Potawatomi Nation at Shawnee, Oklahoma; and the Delaware Tribe of Western Oklahoma at Anadarko, Oklahoma. These tribes are included on the lists generated by the Corps for the DMMP reports. Since 1999, this Distribution List has been updated to include other interested tribes, consulting parties, and landowners (Enclosure 5).

Pursuant to Section 800.3 of the Council's regulations and to meet the responsibilities under the NEPA of 1969, the Corps has developed updated the aforementioned Distribution List, comprised of tribes, landowners, historical societies, and other interested parties. The Corps will comply with any requests to be removed from, or provide additions to, the Distribution List. The development and maintenance of the Distribution List allows agencies, tribes, individuals, organizations, and other interested parties an opportunity to provide views on any effects of this undertaking on historic properties resulting from the DMMP Project and to participate in the review of Environmental Assessment. The Environmental Assessment will contain a copy of the DMMP PA for the protection of known and unknown historic properties throughout the Project planning, assessment, and implementation.

Please review this Project within 30 days or the Corps will assume your agency concurs with the Phase I survey and will proceed with the Project as proposed. If you have questions concerning the Project, the APE, or the Corps' recommendations concerning Phase I intensive archeological surveys for potential dredged material placement area and access easements, please call Mr. Ron Deiss of our Environmental Analysis Branch, telephone 309/794-5185, or write to our address above, ATTN: Planning, Programs, and Project Management Division (Ron Deiss).

Sincerely,

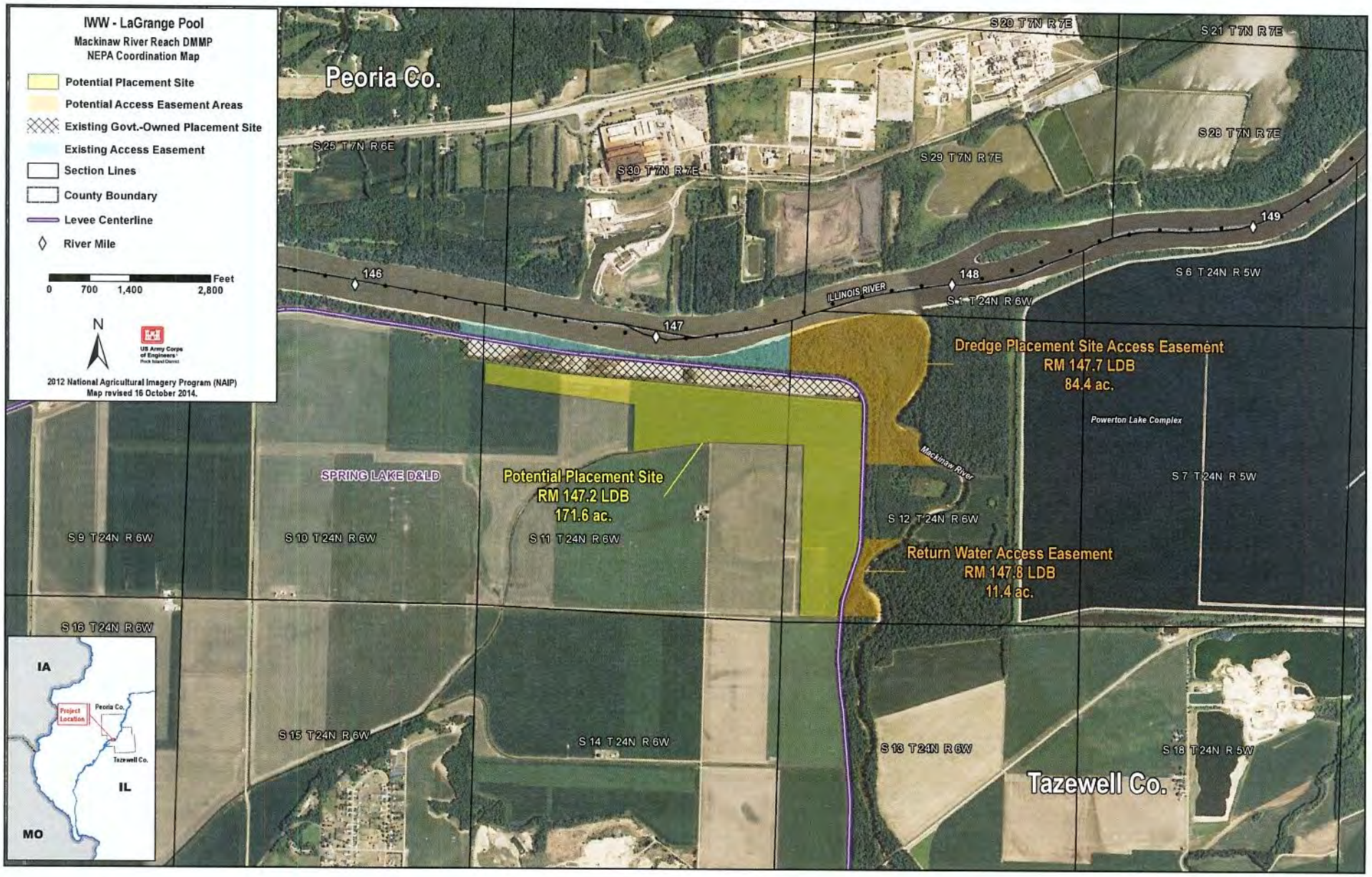
Kenneth A. Barr
Chief, Environmental Planning Branch RPEDN

Encl (5)

CONCUR

By: Anne E. Haas
Deputy State Historic Preservation Officer

Date: 12-3-14



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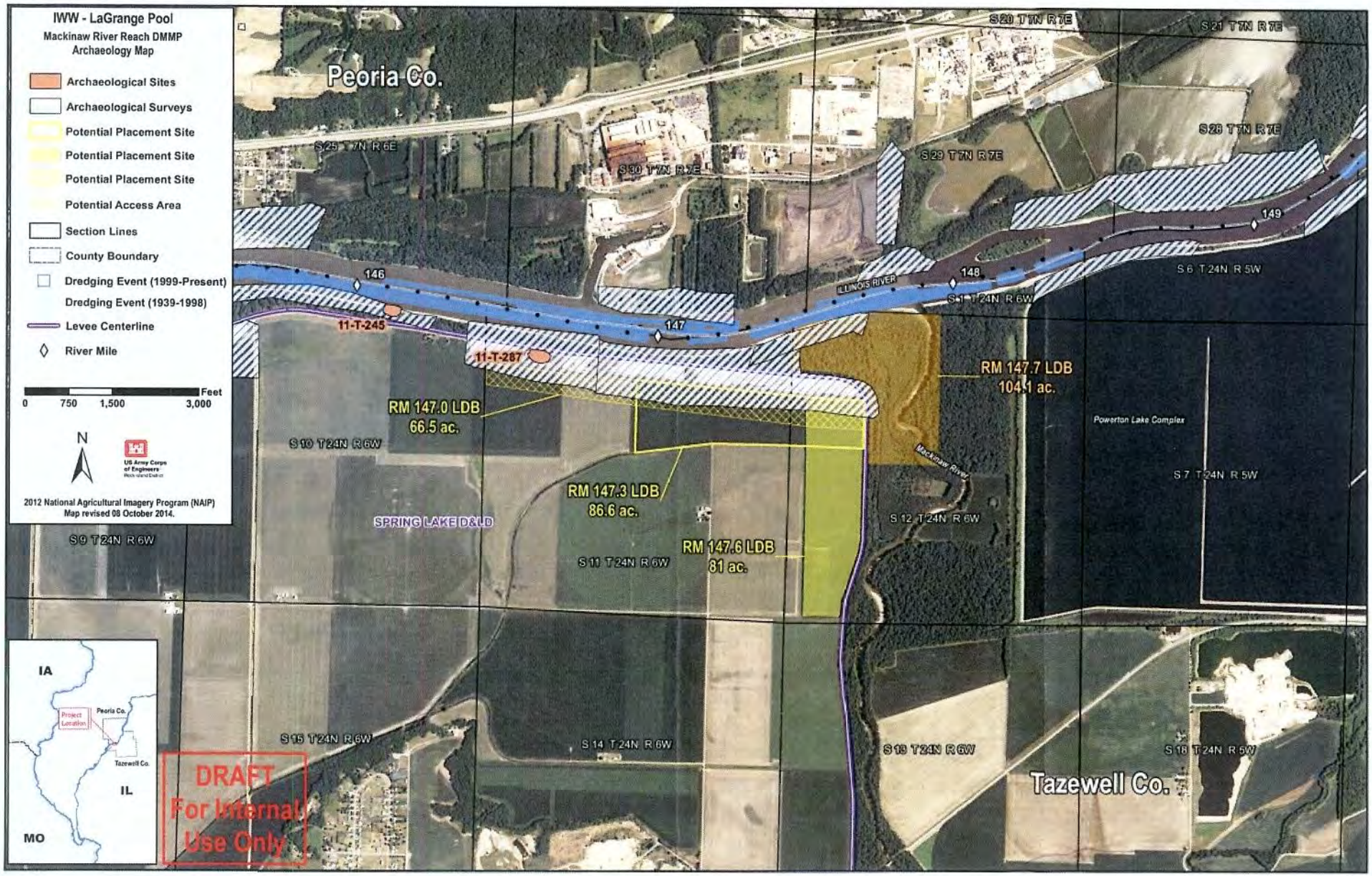
ENCLOSURE 1


IWW - LaGrange Pool
Mackinaw River Reach DMMP
Archaeology Map
Archaeological Sites
Archaeological Surveys
Potential Placement Site
Potential Placement Site
Potential Placement Site
Potential Access Area
Section Lines
County Boundary
Dredging Event (1999-Present)
Dredging Event (1939-1998)
Levee Centerline
River Mile
0 750 1,500 3,000 Feet
N
US Army Corps of Engineers
2012 National Agricultural Imagery Program (NAIP)
Map revised 08 October 2014.
Peoria Co.
S 20 T 7N R 7E
S 21 T 7N R 7E
S 25 T 7N R 6E
S 30 T 7N R 7E
S 29 T 7N R 7E
S 28 T 7N R 7E
146
147
148
149
ILLINOIS RIVER
S 1 T 24N R 6W
S 6 T 24N R 5W
11-T-245
11-T-287
RM 147.0 LDB
66.5 ac.
RM 147.7 LDB
104.1 ac.
Powerton Lake Complex
S 10 T 24N R 6W
Mackinaw River
S 7 T 24N R 5W
RM 147.3 LDB
86.6 ac.
SPRING LAKE D&LD
S 12 T 24N R 6W
S 9 T 24N R 6W
RM 147.6 LDB
81 ac.
S 11 T 24N R 6W
IA
Project Location
Peoria Co.
Tazewell Co.
IL
MO
S 15 T 24N R 6W
S 14 T 24N R 6W
S 13 T 24N R 6W
S 18 T 24N R 5W
Tazewell Co.
DRAFT
For Internal
Use Only

Enclosure 2

ENCLOSURE 2 of this correspondence is not provided to the Public, since state archeological site location information is protected under Section 304 of the National Historic Preservation Act. Any request for site location information must be addressed to:

Ms. Anne E. Haaker
Deputy State Historic Preservation Officer
Illinois Historic Preservation Agency
1 Old State Capitol Plaza
Springfield, Illinois 62701-1512

Illinois Historic Preservation Agency

Old State Capitol • Springfield, Illinois 62701 • (217) 782-4836

217/785-4997

TAZEWELL COUNTY
Kingston Mines
277210
Illinois Waterway
Dredge and dredge placement

PLEASE REFER TO:
IHPA LOG #931122007E-T

September 28, 1994

Mr. James Blanchar, P.E.
Dept of the Army/Rock Island Dist - CoE
Chief, Operations Division
Clock Tower Building - P.O.B. 2004
Rock Island, Illinois 61204-2004

Gentlemen:

Thank you for requesting comments from our office concerning the possible effects of the project referenced above on cultural resources. Our comments are required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

Our staff has reviewed the final reports entitled Phase I Archaeological and Geomorpological Assessmnet of the mackinaw River/Kingston Mines Dredge Material Placement Site, Kingston Mines, Tazewell County, Illinois and Phase II Archaeological and Geomorphological Investigations at the Mackinaw River/Kingston Mines Dredged Material Placement Site, Tazewell County, Illinois and find them to be adequate. We have determined, based on findings of these reports, that no significant historic, architectural or archaeological resources are located within the proposed project area.

Please retain this letter in your files as evidence of compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Sincerely,

Anne E. Haaker

Anne E. Haaker
Deputy State Historic
Preservation Officer

AEH: JSP

PROGRAMMATIC AGREEMENT

AMONG THE ROCK ISLAND DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND
THE ILLINOIS STATE HISTORIC PRESERVATION OFFICER,
THE IOWA STATE HISTORIC PRESERVATION OFFICER,
THE MISSOURI STATE HISTORIC PRESERVATION OFFICER,
AND THE WISCONSIN STATE HISTORIC PRESERVATION OFFICER
REGARDING IMPLEMENTATION OF THE LONG-TERM MANAGEMENT STRATEGY
FOR DREDGED MATERIAL PLACEMENT

WHEREAS, the Rock Island District of the U.S. Army Corps of Engineers (Corps) has determined that the Illinois Waterway and Mississippi River have historic and chronic shoaling areas and that dredging is generally required to provide adequate channels for commercial navigation and that dredged material placement undertakings are required for the Corps' long-term (greater than 10 years) needs, as documented in the Long-Term Management Strategy for Dredged Material Placement Upper Mississippi River Miles 300-614, dated August 1990, and the Long-Term Management Strategy for Dredged Material Placement Illinois Waterway River Miles 80-327, dated June 1995, all presently referred to as the Dredged Material Management Plan.

WHEREAS, the Corps has determined that the dredged material placement undertakings may have an effect upon properties listed on, or eligible for, inclusion in the National Register of Historic Places (National Register), and has consulted with the Advisory Council on Historic Preservation (Council) and the Illinois, Iowa, Missouri, and Wisconsin State Historic Preservation Officers [SHPO(s)] pursuant to Section 800.13 of the regulations (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f), [and Section 110(f) of the same Act (16 U.S.C. 470h-2(f)]; and,

NOW, THEREFORE, the Corps, the Council, and the appropriate SHPO(s) agree that the undertakings shall be implemented in accordance with the following stipulations to satisfy the Corps' Section 106 responsibility for all individual actions.

I. HISTORIC PROPERTY SURVEYS AND TESTING

A. The Corps will take all measures necessary to discover, preserve, and avoid significant historic properties, listed on, or eligible for, inclusion in the National Register of Historic Places, burials, cemeteries, or sites likely to contain human skeletal remains/ artifacts and objects associated with interments or religious activities, and provide this information, studies, and/or reports to the appropriate SHPO(s) through the implementation of historic property surveys and testing, and the treatments of historic properties. The Corps will ensure that the following measures are implemented:

1. Unless recent and modern ground surface disturbances and/or historic use can be documented, the Corps will conduct a historic property visual (reconnaissance) survey with subsurface testing on all new and expanded dredged material placement sites and all other areas indirectly and directly affected by construction, use, maintenance, and operation of the new and expanded dredged material placement sites having the potential for historic properties. The Corps will evaluate historic properties identified through the

a. The property, properties, or portions of properties where the treatment plan is to be carried out;

b. The research questions to be addressed, with an explanation of research relevance and importance;

c. The methods to be used, with an explanation of methodological relevance to the research questions;

d. Proposed methods of disseminating results of the work to the interested public; and,

e. A proposed schedule for the submission of progress reports to the appropriate SHPO(s).

2. The treatment plan shall be submitted by the Corps to the appropriate SHPO(s) for 30 days review. The Corps will take into account SHPO comment and shall ensure that the data recovery plan is implemented. The appropriate SHPO(s) shall monitor this implementation.

B. The Corps will ensure that the data recovery plan is carried out by or under the direct supervision of an archaeologist(s), architectural historian(s) and/or other appropriate cultural resource specialist that meets, at minimum, the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-9).

C. The Corps will ensure that adequate provisions, including personnel, time, and laboratory space, are available for the analysis of recovered materials from historic properties.

D. The Corps will develop and implement an adequate program in consultation with the appropriate SHPO(s) to secure and historic properties from vandalism during data recovery.

III. CURATED ITEMS

In consultation with the appropriate SHPO(s), the Corps will ensure that all materials and records resulting from the historic properties studies conducted for the dredged material placement sites project are curated at a repositories within the States of Illinois, Iowa, Missouri, and Wisconsin in accordance with 36 CFR Part 79.

IV. TREATMENT OF HUMAN REMAINS

If incidental finds of human remains are encountered either during the data recovery or during any project construction activities, the Corps will comply with all provisions outlined in the appropriate state acts, statutes, guidance, provisions, etc., and any decisions regarding the treatment of human remains will be made under consultation with the SHPO(s). If incidental finds of human remains are encountered or collected from Federal lands or Federally-Recognized Tribal lands, the Corps will coordinate with the appropriate Federally-recognized Native Americans, as promulgated by the Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. § 3001 *et seq.*), under consultation with the appropriate SHPO(s).

IX. AMENDMENTS

Any party to this Agreement may request that it be amended, whereupon the parties will consult in accordance with 36 CFR Part 800.13, to consider such amendment.

X. PERIODIC REVIEW

The Corps will provide the SHPO(s) with evidence of compliance with this Agreement by letter on January 30, 1997, and once every two years thereafter said date. This letter shall contain the name of the project, title of the documents which contained the Agreement, historic properties identified, determinations of effect, avoidance procedures, level of investigation(s) and/or mitigation(s) conducted with titles of all project reports related to such investigation(s) and/or mitigation(s) which have been completed.

XI. EXECUTION AND IMPLEMENTATION

A. Nothing in this Agreement is intended to prevent the Corps from consulting more frequently with the appropriate SHPO(s) or the Council concerning any questions that may arise or on the progress of any actions falling under or executed by this Agreement. Any resulting modifications to this Agreement will be coordinated in accordance with Section 800.5(e)(5).

B. The undersign concur that the Corps has satisfied its Section 106 responsibilities for all individual undertakings through this Agreement regarding the implementation of the Long-Term Management Strategy for Dredged Material Placement.

XII. SIGNATORIES

A. **ROCK ISLAND DISTRICT, U.S. ARMY CORPS OF ENGINEERS:**

BY: Charles S. Cox Date: 7 Dec 95
Colonel Charles S. Cox
District Engineer
U. S. Army Corps of Engineers
Rock Island District

B. **ILLINOIS STATE HISTORIC PRESERVATION OFFICER:**

BY: William L. Wheeler Date: 1-3-96
William L. Wheeler
Illinois State Historic Preservation Officer
Illinois Historic Preservation Agency

Advisory Council On Historic Preservation

The Old Post Office Building
1100 Pennsylvania Avenue, NW, #809
Washington, DC 20004

PROGRAMMATIC AGREEMENT

DIRECTOR'S RECOMMENDATION

Reference: IL/ROCK ISLAND DISTRICT/CORPS/MS & IL RIVER DREDGE

Signature Recommendation: [___] Chairman
[_X_] Executive Director

Staff Member: T. McCULLOCH, OEPA

Date Action Required: --- (PA)

4/24/96

Attached Abstract: [___] yes
[_X_] no

Attached Briefing Statement: [_X_] yes
[___] no

ENCLOSURE 4

MACKINAW DMMP INTERESTED PARTY LIST 98J

DEANNE BAHR
NAGPRA COORDINATOR
SAC & FOX NATION OF MO IN KS & NB
305 N MAIN
RESERVE KS 66434-9723

TALBERT DAVENPORT
SAC & FOX TRIBE OF THE MISSISSIPPI IN IA
349 MESKWAKI RD
TAMA IA 52339-9629

DAVE GRIGNON
TRIBAL HISTORIC PRESERVATION OFFICER
WI INTER-TRIBAL REPATRIATION COMMITT
MENOMINEE INDIAN TRIBE OF WISCONSIN
W 3426 CTY VV WEST PO BOX 910
KESHENA WI 54135-0910

SANDRA KEO
DELEGATE
SAC & FOX OF MISSOURI
305 N MAIN RR 1 BOX 60
RESERVE KS 66434

KAREN PHILLIPS
CULTURAL RESOURCES MANAGEMENT CONSUL
OKLAHOMA BUSINESS COMMITTEE
CITIZEN BAND POTAWATOMI INDIAN TRIBE
1601 S GORDON COOPER DR
SHAWNEE OK 74801

KAY RHOADS
PRINCIPAL CHIEF
SAC AND FOX OF OK BUSINESS COUNCIL
920883 S HWY 99 BLDG A
STROUD OK 74079

IL HISTORICAL WATER MUSEUM
123 S W WASHINGTON
PEORIA IL 61602

PEORIA AREA CONVENTION & VISITORS CENTER BUREAU
456 FULTON ST STE 300
PEORIA IL 61602

PEORIA HISTORICAL SOCIETY
942 NE GLENOAK AVE
PEORIA IL 61603

TAZEWELL COUNTY GENEALOGICAL & HIST SOC
719 N 11TH ST PO BOX 312
PEKIN IL 61555

JAMES DAKEN
EXECUTIVE DIRECTOR
PEORIA HISTORICAL SOCIETY
611 SW WASHINGTON ST
PEORIA IL 61602-5104

DICK BLACK
REPATRIATION REPRESENTATIVE
IOWA TRIBE OF OKLAHOMA
RT 1 BOX 721
PERKINS OK 74059

TAMARA FRANCIS
NAGPRA DIRECTOR
DELAWARE NATION OF OKLAHOMA
PO BOX 825
ANADARKO OK 73005

RON HARRIS SR
NAGRAPA CONTACT REP
COMMITTEE MEMBER
SAC & FOX NATION OF OKLAHOMA
920883 S HWY 99 BLDG A
STROUD OK 74079

SANDRA MASSEY
NAGPRA COORDINATOR
CULTURAL RESOURCES
SAC AND FOX NATION
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STROUD OK 74079

WILLIAM QUACKENBUSH
TRIBAL HISTORIC PRESERVATION OFFICER
HO-CHUNK NATION
PO BOX 667 W 9814 AIRPORT RD
BLACK RIVER FALLS WI 54615-0667

CHAD WAUKECHON
CULTURAL PLANNER
MENOMINEE INDIAN TRIBE OF WISCONSIN
PO BOX 910
KESHENA WI 54135-0910

DIRECTOR
LAKEVIEW MUSEUM
1125 W LAKE AVE
PEORIA IL 61615

PEORIA PUBLIC LIBRARY
PEORIA CO GENEALOGICAL SOC COLLECTIONS
107 NE MONROE PO BOX 1489
PEORIA IL 61655

PLAINFIELD HISTORICAL SOCIETY MUSEUM
217 E MAIN ST
PLAINFIELD IL 60544

TREMONT MUSEUM & HISTORICAL SOCIETY
PO BOX 5
TREMONT IL 61568

GENE LEAT
GREENWAYS BOARD
PEORIA HISTORIC PRESERVATION COMM
419 FULTON
PEORIA IL 61602

IHPA
ILLINOIS HISTORIC Preservation AGENCY

FAX 217/524-7525

Various County PLEASE REFER TO: IHPA LOG #005102914
Peoria & Tazewell Counties
Illinois Waterway, Mackinaw River, river miles 145.0 to 148.0
BCA-2119, COERI
Maintenance dredging and dredge placement

January 28, 2015

Kenneth A. Barr
U.S. Army Corps of Engineers, Rock Island District
Chief, Economic and Environmental Analysis Branch
Clock Tower Building - Post Office Box 2004
Rock Island, IL 61204-2004

Dear Mr. Barr:

Acre(s): 148.7 Site(s): 0
Archaeological Contractor: BCA/Scott

Thank you for submitting the results of the archaeological reconnaissance. Our comments are required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

Our staff has reviewed the draft archaeological Phase I reconnaissance report performed for the project referenced above. The Phase I survey and assessment of the archaeological resources appear to be adequate. Accordingly, we have determined, based upon this report, that no significant historic, architectural, and archaeological resources are located in the project area.

Please submit a copy of this letter with your application to the state or federal agency from which you obtain any permit, license, grant, or other assistance. Please retain this letter in your files as evidence of compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. This clearance remains in effect for two years from date of issuance. It does not pertain to any discovery during construction, nor is it a clearance for purposes of the Illinois Human Skeletal Remains Protection Act (20 ILCS 3440).

When the final report is complete, please forward two hard copies and one pdf version on a CD to our office.

Sincerely,

Rachel Leibowitz, Ph.D.
Deputy State Historic
Preservation Officer

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT
PO BOX 2004 CLOCK TOWER BUILDING
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF

December 3, 2015

Regional Planning and Environmental
Division North (RPEDN)

Kraig McPeek
Ecological Services Field Office
U.S. Fish and Wildlife Service
1511 47th Avenue
Moline, IL 61265

Dear Mr. McPeek:

The U.S. Army Corps of Engineer (Corps), Rock Island District (District) has identified the need for new placement sites for the long-term Dredged Material Management Plan (DMMP) for the Mackinaw River and Kingston Mines Reach (Project) in La Grange Pool of the Illinois Waterway (IWW). This DMMP Project is a chronic dredging area and extends along the IWW between River Miles 145.0 and 148.0 in Peoria and Tazewell Counties, Illinois. The District has identified approximately 84.4 acres potential access easement (Enclosure1). Fewer than 12.3 acres of the total acres would be utilized for access, but the entire area is being evaluated for potential use by the District in development of the DMMP Project through full consideration of all DMMP planning, policies, and procedures.

Impacts to the federally-listed Indiana bat (*Myotis sodalis*) and the Northern long-eared bat (*Myotis septentrionalis*) are of concern due to the intact forest condition within the easement. The Northern long-eared bat and Indiana bat can be found roosting underneath flaky bark, in cavities of both live and dead trees during summer months. On November 24, 2015, a site visit was conducted to assess the habitat within the proposed access easement. Suitable bat habitat was scarcely found within the easement. There is an existing clearance (Photograph 1) in the forest that will be utilized for pipe placement and equipment transportation, therefore minimizing overall tree clearing. The potential bat habitat is located outside of this existing path and would be flagged and avoided.

Vegetation Community Assessment

The proposed easement consisted of an uneven age stand with a shade-tolerant understory. Dominant tree species in the canopy were Eastern cottonwood and silver maple. A few mature silver maples that could potentially be utilized by bats were present. The potential bat roost silver maples are all live trees with large dead limbs, cavities, and/or sloughing bark. Other tree species that were present include: honey locust, black cherry, red and white mulberry, American elm, green ash, boxelder, sycamore, gray dogwood, amur bush honeysuckle, common hackberry, and black willow. The understory has several long sections that are open and void to regeneration.

These areas can be targeted and utilized for the proposed path to reduce impact. A few snags were also present near the proposed path; however, not directly in the proposed path. Photographs 2 and 3 show typical forest composition. Since these snags, along with the potential bat roost silver maples, were located outside of the proposed path, they could be avoided and potential impacts to bats could be avoided.

Conservation Measures

1. utilize existing path as much as possible to minimize tree clearing to less than 10 acres
2. limit tree clearing to winter months
3. ensure potential habitat (snags, mature silver maple) is visually marked with flagging prior to clearing
4. communicate to construction team prior to clearing concerning the flagging and limitations

I have forwarded a copy of this correspondence with Enclosure to:

Sara Schmuecker
Ecological Services Field Office
U.S. Fish and Wildlife Service
1511 47th Avenue
Moline, IL 61265

Implementing the aforementioned conservation measures will avoid potential bat habitat. Therefore, the District has determined the proposed project is not likely to adversely affect any threatened or endangered species or their critical habitat. The District requests the USFWS to provide any additional recommendations that should be implemented in order to proceed with the Project. Please provide any other comments, concerns, or questions regarding this Project within 30 days of receipt of this letter. Address your responses to Mrs. Kat Herzog of our Environmental Planning Branch by telephone (309) 794-5231, in writing to our address above (ATTN: Environmental Planning Branch -Herzog), or email: kathryn.herzog@usace.army.mil.

Sincerely,

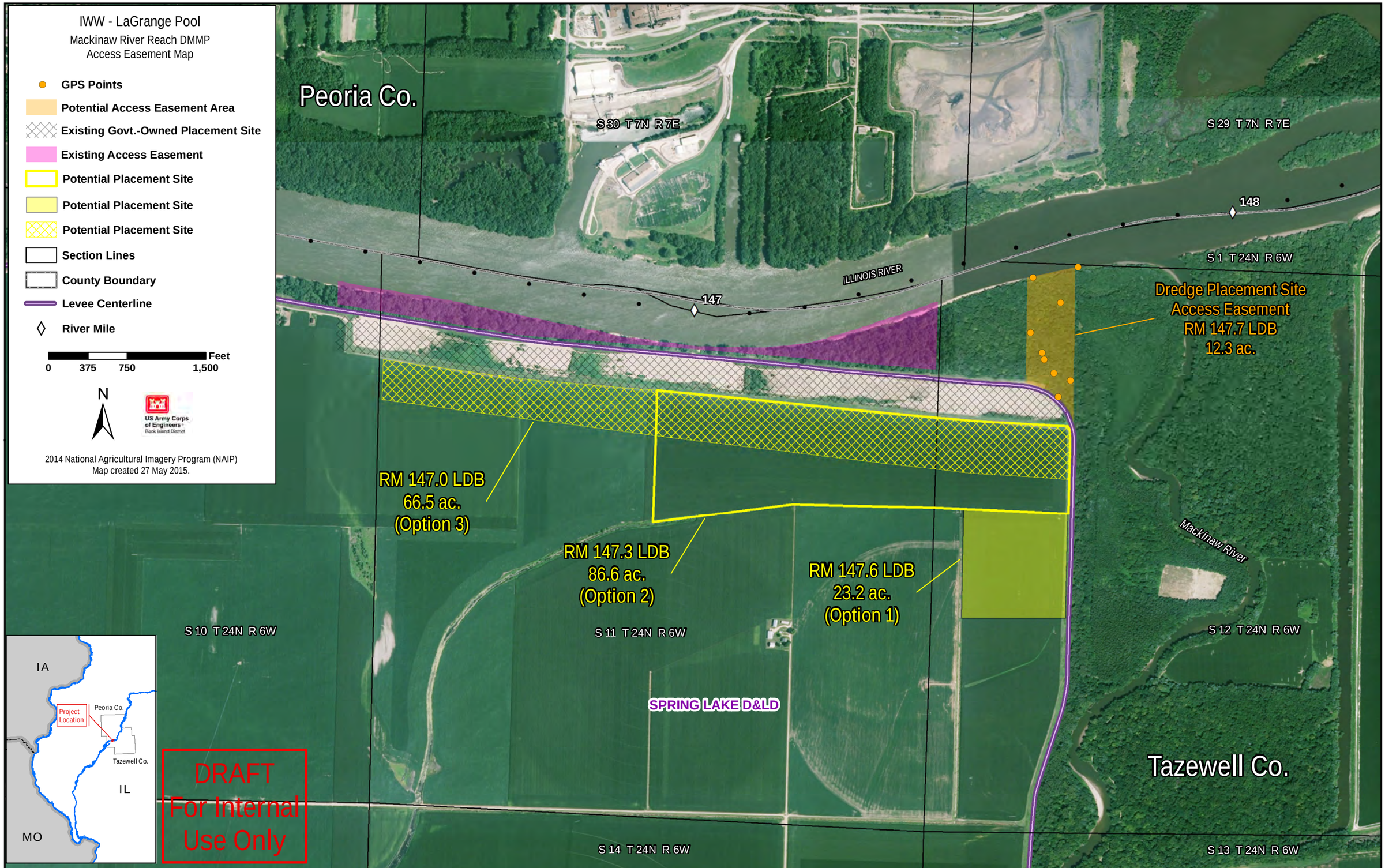
Mark A. Cornish
Chief, Environmental Planning Branch
(RPEDN)

Enclosure

Photograph 1. Typical Clearance Throughout Easement Path

Photograph 2. Typical Lack of Undergrowth Throughout Easement Path

Photograph 3. Typical Mature Silver Maple Located Near Easement Path



\\mvr-netapp1\egis\Work\DMMP\IWW_DMMP\LaGrange_Pool\Mackinaw_R_Reach\ArcMap_projects\Mackinaw_Access_Easement_20150527_bss.mxd

Enclosure 1

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Rock Island Field Office
1511 47th Avenue
Moline, Illinois 61265
Phone: (309) 757-5800 Fax: (309) 757-5807

IN REPLY REFER TO:

FWS/RIFO

December 16, 2015

Kat Herzog
U.S. Army Corps of Engineers, Rock Island District
ATTN: Environmental Planning Branch - Herzog
PO Box 2004 Clock Tower Building
Rock Island, Illinois 61204-2004

Dear Ms. Herzog:

Thank you for the opportunity to review the Bat Habitat Assessment dated December 3, 2015 for the long-term Dredged Material Management Plan (DMMP) for the Mackinaw River and Kingston Mines Reach in La Grange Pool of the Illinois Water Way. The U.S. Fish and Wildlife Service attended a site visit on November 24, 2015, to evaluate the proposed access easement site. We have reviewed the information provided regarding potential habitat for the endangered Indiana bat (*Myotis sodalis*) and the threatened northern long-eared bat (*Myotis septentrionalis*) within the project area and have the following comments.

The project area consists of 84.4 acres of forested potential access easement. Conservation measures, as discussed during the site visit and as stated in the assessment, will include: minimizing tree clearing to the minimum width necessary to allow passage of equipment, minimizing total clearing to less than 10 acres, flagging potential habitat including snags and mature silver maples prior to clearing, communication with the construction team that flagged trees should be avoided and omitted from the clearing, and limiting tree clearing to winter months outside of the maternity season. The maternity season extends from April 1 through September 30 in Illinois.

We concur that the project is not likely to adversely affect the Indiana bat or the northern long-eared bat, provided the above-listed conservation measures are implemented and incorporated into construction plans.

Should the project be significantly modified or new information indicate that listed species may be affected, consultation should be initiated. This letter provides comments under the authority of and in accordance with provisions of the Fish and Wildlife Coordination Act, as amended, the Bald and Golden Eagle Protection Act, as amended, and the Endangered Species Act of 1973, as amended. Thank you for the opportunity to provide comments. If you have any additional questions or concerns, please contact Sara Schmuecker of my staff at (309) 757-5800 x203.

Sincerely,

Kraig McPeek
Field Supervisor

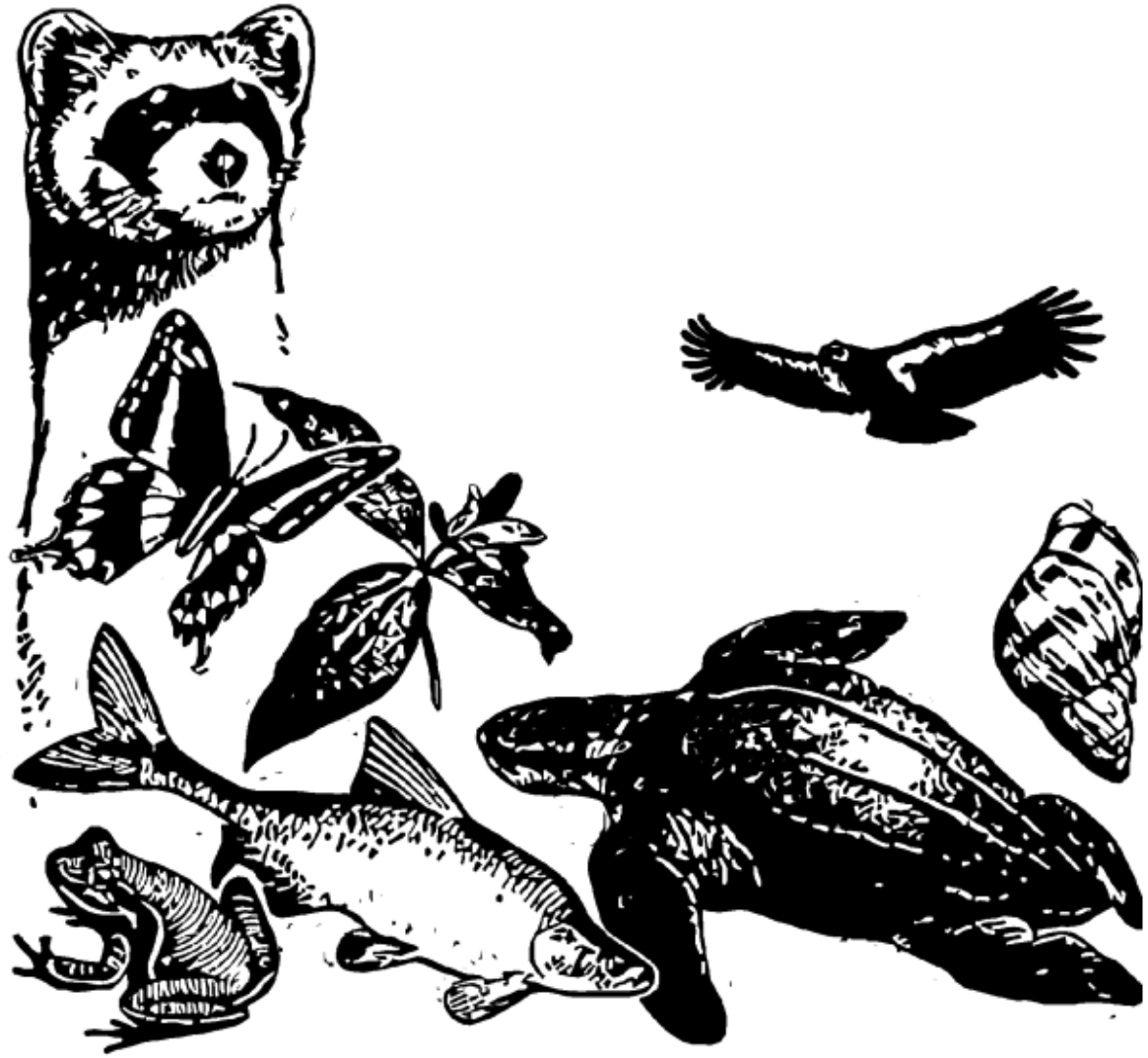
U.S. Fish & Wildlife Service

Mackinaw

IPaC Trust Resource Report

Generated October 14, 2015 07:54 AM MDT

This report is for informational purposes only and should not be used for planning or analyzing project-level impacts. For projects that require FWS review, please return to this project on the IPaC website and request an official species list from the Regulatory Documents page.



US Fish & Wildlife Service

IPaC Trust Resource Report

Project Description

NAME

Mackinaw

PROJECT CODE

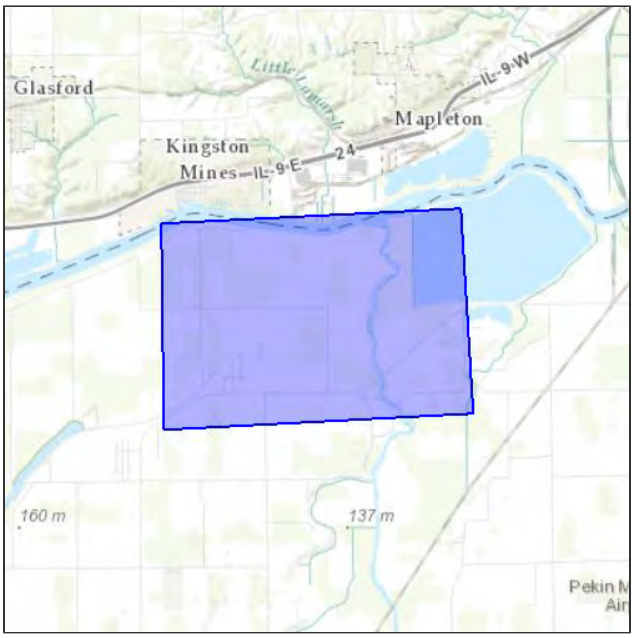
3JGM7-4PO4N-DWPKS-SUUCE-NKCD3E

LOCATION

Peoria and Tazewell counties, Illinois

DESCRIPTION

DMMP



U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

Rock Island Ecological Services Field Office
Rock Island Ecological Services Field Office
1511 47TH AVE
Moline, IL 61265-7022
(309) 757-5800

Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the Endangered Species Program and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under Section 7 of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an official species list on the Regulatory Documents page.

Flowering Plants

Decurrent False Aster Boltonia decurrens — Threatened

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=Q26A

Eastern Prairie Fringed Orchid Platanthera leucophaea — Threatened

THIS SPECIES ONLY NEEDS TO BE CONSIDERED IF THE FOLLOWING CONDITION APPLIES
Will this project impact, directly or indirectly, emergent wetland, wet meadow, sedge meadow, fen, wet to mesic prairie, or marsh edges?

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=Q2GG

Lakeside Daisy Hymenoxys herbacea — Threatened

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=Q2U6

Mammals

Indiana Bat Myotis sodalis — Endangered

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A000

Northern Long-eared Bat Myotis septentrionalis — Threatened

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

Acadian Flycatcher Empidonax virescens — **Bird of conservation concern**
Season: Breeding

Bald Eagle Haliaeetus leucocephalus — **Bird of conservation concern**
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008

Bell's Vireo Vireo bellii — **Bird of conservation concern**
Season: Breeding

Black-billed Cuckoo Coccyzus erythropthalmus — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus — **Bird of conservation concern**
Season: Breeding

Cerulean Warbler Dendroica cerulea — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09I

Dickcissel Spiza americana — **Bird of conservation concern**
Season: Breeding

Field Sparrow Spizella pusilla — **Bird of conservation concern**
Season: Breeding

Henslow's Sparrow Ammodramus henslowii — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09D

Kentucky Warbler Oporornis formosus — **Bird of conservation concern**
Season: Breeding

Least Bittern Ixobrychus exilis — **Bird of conservation concern**
Season: Breeding

Loggerhead Shrike Lanius ludovicianus — **Bird of conservation concern**
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FY

Northern Flicker Colaptes auratus — **Bird of conservation concern**
Year-round

Pied-billed Grebe Podilymbus podiceps — **Bird of conservation concern**
Season: Breeding

Prairie Warbler Dendroica discolor **Bird of conservation concern**
Season: Breeding

Prothonotary Warbler Protonotaria citrea **Bird of conservation concern**
Season: Breeding

Red-headed Woodpecker Melanerpes erythrocephalus **Bird of conservation concern**
Year-round

Rusty Blackbird Euphagus carolinus **Bird of conservation concern**
Season: Wintering

Short-eared Owl Asio flammeus **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HD

Upland Sandpiper Bartramia longicauda **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HC

Wood Thrush Hylocichla mustelina **Bird of conservation concern**
Season: Breeding

Refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

There are no refuges within this project area

Wetlands

Impacts to NWI wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Freshwater Emergent Wetland

PEMCh	5.62 acres
PEMAf	3.08 acres
PEMC	2.03 acres

Freshwater Forested/shrub Wetland

PFO1Ah	275.0 acres
PFO1A	240.0 acres
PFO1Ch	52.1 acres
PFO1C	3.84 acres
PSS1Ch	3.78 acres

Freshwater Pond

PUBGx 19.3 acres

PUBGh 9.79 acres

Lake

L1UBHh 12900.0 acres

L1UBHx 45.5 acres

Riverine

R2UBH 1010.0 acres

Illinois Department of Agriculture

Bruce Rauner, Governor
Raymond Poe, Acting Director

Bureau of Land and Water Resources
State Fairgrounds • P.O. Box 19281 • Springfield, IL 62794-9281 • 217/782-6297 • TDD 217/524-6858 • Fax 217/557-0993

March 7, 2016

Ms. Kathryn Herzog
St. Paul District at Rock Island
Clock Tower Building, P.O. Box 2004
Rock Island, IL 61204-2004

Re: Environmental Assessment and Draft Finding of No Significant Impact
Mackinaw River Dredge Cut Project: LaGrange Pool, Illinois River Miles 145.0-148.0
Peoria and Tazewell Counties, Illinois
USDA NRCS Form AD-1006

Dear Ms. Herzog:

The Illinois Department of Agriculture (IDOA) has examined the above-referenced project for its potential impact to agricultural land in order to determine its compliance with the Illinois Farmland Preservation Act (505 ILCS 75/1 et seq.). Our analysis also relates to the federal Farmland Protection Policy Act (7 USC 4201 et seq.) that specifies federal actions affecting farmland conversion shall be consistent with state and local programs to protect farmland.

The U.S. Army Corps of Engineers, Rock Island District, is currently proposing long-term placements of dredged material for the Dredged Material Management Plan (DMMP) and integrated Environmental Assessment (EA) for the Mackinaw River Reach Dredge Cut. This dredge cut extends along the Illinois Waterway within the navigation channel between River Miles 145.0 to 148.0, Peoria and Tazewell Counties, Illinois. Site 9, with ±58 acres, is nearing its capacity and can hold only 1.3 future dredging events from this dredge cut. It will not accommodate the estimated 20 year plan or a 40 year plan.

Multiple alternatives were initially evaluated using numerous factors including cost effectiveness, environmental acceptability and operational feasibility. Alternative sites that would have fewer impacts on prime farmland were either found to be not feasible, would not meet the capacity requirements for long-term use and flexibility, or would have greater adverse effects on other natural resources. Mitigation for these impacts oftentimes acquires and negatively impacts additional agricultural land.

Only one alternative, Site 10, met the project criteria and was selected as the Preferred Plan. It consists of expanding existing placement behind the levee in farm fields and a sparsely forested area for the access easement. This Plan includes both hydraulic and mechanical dredging and placement options. Private land would be acquired prior to its implementation.

Dredge material will be placed on the agricultural properties adjacent to the existing dredge material footprint area. Site 10 will develop the three sites (176 acres) as an expansion of the original Site 9. Site 9 was established behind the levee on fields previously used for agricultural purposes, row crops, pasture, tree farms, etc.

The USDA NRCS Form AD-1006 is required when federal funds will be used to convert agricultural land to a non-agricultural use. Its purpose is to determine the soil's productivity and whether less productive agricultural sites should be used for the project. Because Illinois has its own Land Evaluation and Site Assessment (LESA) system, its use supersedes the federal LESA. NRCS assigns a Relative Value (RV) to calculate a soil unit's productivity. In turn, the SA factors evaluate overall impacts to agricultural land. When using the State's LESA System, the IDOA established a high, medium and low cutoff level to help determine a site's value that could dictate use of an alternative site. The IL Land Evaluation (LE) section for a corridor site has an RV of 150 points while the Site Assessment section is 150 points.

Site 10 was evaluated and the soils (LE) scores ranged from 75-80. When combined with the SA section's points, the scores were in the low cutoff range. Ultimately, use of Site 10 results in the conversion of 176 agricultural acres to a non-agrlcultural use.

The IDOA believes the selection and use of Site 10 is a logical decision. It makes more sense to expand the existing material storage area rather than establish a new one, especially when productive farmland behind the levee would be acquired regardless of its location. Given the above factors, the IDOA has determined it use meets the intent of the Illinois Farmland Preservation Act to minimize agricultural impacts.

Regarding additional agricultural land impacts, the IDOA disputes the statement contained under "**7.1.13 Farmland Protection Policy Act of 1981.** The proposed action would result in the conversion of approximately 176 acres of prime farmland to non-agricultural uses. In accordance with the provisions of this law, alternative sites were considered that would have fewer impacts on prime farmland, but these were either found to be not feasible, would not meet the capacity requirements for long-term use and flexibility, or would have greater adverse effects on other natural resources. In addition, the natural resource value of the prime farmland soils will not be irreversibly impacted and could potentially be restored in the event of full beneficial use of materials placed on the site. The preferred alternative would be in full compliance."

Prime soils never receive any in-kind replacement or have mitigation banks created to diminish the impacts that are attributed to other affected natural resources. In addition, it is highly improbable that acreage in both Site 9 and Site 10 will be ever be cleared of the dredged material piled 30 ft deep to again become productive cropland. We request that this sentence be removed from this and future EA documents.

Enclosed are two copies of the USDA NRCS Form AD-1006 that reports the conversion of Prime and Important farmland soils when federal funds are involved in a project. One copy must be included in the project's environmental assessment; the other is for your files.

Sincerely,

Steven D. Chard, Acting Chief
Bureau of Land and Water Resources

SDC:TS

Enclosures-2
cc: Tazewell County SWCD
Agency project file

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 1/12/16
Name Of Project USACE Mackinaw Dredging Project	Federal Agency Involved US Army Corps of Engineers
Proposed Land Use Dredge spoil piles	County And State Tazewell County, IL
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 1/12/16

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☑	No ☐	Acres Irrigated N/A	Average Farm Size 372
Major Crop(s) Corn, Soybeans, Wheat, Hay	Farmable Land In Govt. Jurisdiction Acres: 29,633,500 % 97		Amount Of Farmland As Defined in FPPA Acres: 27,695,900 % 91	
Name Of Land Evaluation System Used Illinois	Name Of Local Site Assessment System Statewide		Date Land Evaluation Returned By NRCS 1/15/16	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	23.2	86.6	66.6	
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	23.2	86.6	66.6	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	23.2	86.6	66.6	
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.0	0.0	0.0	
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	50.7	50.7	50.7	
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to ~~100~~ 150 Points)*	~~75~~ 113	~~77~~ 116	~~80~~ 120	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160	0	0	0	0

See the attached
Illinois LESA System
Site Assessment **Corridor** Factors

PART VII *(To be completed by Federal Agency)*						
Relative Value Of Farmland *(From Part V)*	150	~~100~~	~~75~~ 113	~~77~~ 116	~~80~~ 120	0
Total Site Assessment *(From Part VI above or a local site assessment)*	150	~~160~~	0 63	0 40	0 40	0
TOTAL POINTS *(Total of above 2 lines)*	300	~~260~~	~~75~~ 176	~~77~~ 156	~~80~~ 160	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection:

When using the IL Land Evaluation Site Assessment (LESA), 150 points are assigned to Parts 3, 4 and 5 (the LE section) and 150 points to the SA CORRIDOR section for a maximum 300 points. The Illinois LESA System applies the 225 point cutoff when evaluating state and federally funded projects. Site or Corridor alternatives receiving 175 or fewer points have a low rating for protection, and it is not necessary to evaluate additional alternatives.

(See Instructions on reverse side) **Form AD-1006 (10-83)**

This form was electronically produced by National Production Services Staff

Mackinaw River Dredge Cut - LaGrange Pool
Illinois River, River Miles 145.0 to 148
Peoria and Tazewell Counties, Illinois
U.S. Army Corps of Engineers

PART VI-B Illinois Site Assessment CORRIDOR Factors	Maximum Points	Site A	Site B	Site C
1. Amount of agricultural land required	30	23	30	30
2. Location of the proposed alignment	30	30	0	0
3. Acres of off-site agricultural land required for borrow materials	15	10	10	10
4. Acres of Prime and Important Farmland required for mitigation	15	0	0	0
5. Creation of severed farm parcels	10	0	0	0
6. Creation of uneconomical remnants	10	0	0	0
7. Creation of landlocked parcels	10	0	0	0
8. Creation of adverse travel	10	0	0	0
9. Relocations of rural residences and farm buildings	10	0	0	0
10. Utilization of minimum design standards	10	0	0	0
TOTAL SITE ASSESSMENT CORRIDOR POINTS	**150**	**63**	**40**	**40**

PART VII				
Relative Value of Farmland	150	113	116	120
Total Site Assessment CORRIDOR Factors	150	63	40	40
TOTAL ILLINOIS LESA POINTS	**300**	**176**	**156**	**160**

* The Illinois LESA System applies the **225 point cutoff** when evaluating state and federally funded projects. Site or Corridor alternatives receiving **175 or fewer points** have a **low rating** for protection, and it is not necessary to evaluate additional alternatives. Those alternatives receiving **176 to 225 points** are in the **moderate range** for protection. In most cases, alternatives **exceeding the 225 point level should be retained for agricultural use**, and an alternate site should be utilized for the intended project. Selecting the alternative with the lowest total points will usually protect the best farmland located in the most agriculturally viable areas. LESA also serves to maintain and promote the agricultural industry in Illinois.

21816
JL/TS

Herzog, Kathryn MVP @ MVR

From: Schorg, Amber <amber_schorg@fws.gov>
Sent: Friday, March 18, 2016 1:19 PM
To: Herzog, Kathryn MVP @ MVR
Cc: Sara Schmuecker
Subject: Re: [EXTERNAL] Re: Mackinaw DMMP (UNCLASSIFIED)

Hi Kathryn,

Thank you for your coordination! We concur with your determination that the project is not likely to adversely affect Boltonia decurrens. Should the project be modified or new information indicate that this listed species may be affected, please coordinate with us.

Sincerely,
Amber

Amber Schorg
U.S. Fish and Wildlife Service
Rock Island Ecological Services Field Office
1511 - 47th Ave
Moline, IL 61265
309-757-5800 x222
amber_schorg@fws.gov <mailto:amber_schorg@fws.gov>

On Fri, Mar 18, 2016 at 1:12 PM, Herzog, Kathryn MVP @ MVR <Kathryn.Herzog@usace.army.mil <mailto:Kathryn.Herzog@usace.army.mil> > wrote:

CLASSIFICATION: UNCLASSIFIED

Hello Amber,
I just wanted to recap our phone conversation for documentation: Due to the proposed placement site behind the levee with little to no flooding events, there is low potential for Boltonia to be established in the project area. USACE has determined that this project is "not likely to adversely affect" Boltonia decurrens. Can you please reply with your concurrence to finalize consultation? I appreciate your assistance!

Thanks,
Kat

-----Original Message-----
From: Herzog, Kathryn MVP @ MVR
Sent: Thursday, March 10, 2016 10:59 AM
To: amber_schorg@fws.gov <mailto:amber_schorg@fws.gov> ; Schmuecker, Sara
Subject: FW: [EXTERNAL] Re: Mackinaw DMMP

Thanks Sara. Amber, please see attached for some background information on the Mackinaw Dredge Material project. The proposed placement site is an expansion of an existing placement site, all behind a levee, and is actively farmed. There is an access easement with forested that will have limited tree removal. Would you be able to tell me if

there has been an occurrence at this area? Would the ag practices limit Boltonia from becoming established? It seems like the plant needs more full sun and not very shade tolerant? Is this correct?

I appreciate any info you may be able to send.

Thanks!

-Kat

-----Original Message-----
From: Schmuecker, Sara [mailto:sara_schmuecker@fws.gov <mailto:sara_schmuecker@fws.gov>]
Sent: Thursday, March 10, 2016 9:34 AM
To: Herzog, Kathryn MVP @ MVR
Subject: [EXTERNAL] Re: Mackinaw DMMP

Kat,

The following link will provide information for determining what listed species may occur in the vicinity of the project area: Blockedhttp://Blockedwww.fws.gov/midwest/endangered/section7/sppranges/index.html <Blockedhttp://www.fws.gov/midwest/endangered/section7/sppranges/index.html> .

Specific information on Boltonia decurrens can be found here: Blockedhttp://Blockedwww.fws.gov/midwest/endangered/plants/decurrentfalseaster/index.html <Blockedhttp://www.fws.gov/midwest/endangered/plants/decurrentfalseaster/index.html> .

Amber Schorg here in our office has done the majority of our monitoring and surveying, and I believe she keeps an updated database of known occurrences. Here is her contact info: (309) 757-5800 x222, amber_schorg@fws.gov <mailto:amber_schorg@fws.gov> .

Sara

Sara Schmuecker
Rock Island Field Office
U.S. Fish and Wildlife Service
1511-47th Avenue
Moline, IL 61265
309-757-5800 x203

On Wed, Mar 9, 2016 at 8:49 PM, Herzog, Kathryn MVP @ MVR <Kathryn.Herzog@usace.army.mil <mailto:Kathryn.Herzog@usace.army.mil> > wrote:

Hey Sara,
Sorry we keep missing each other. I am trying to wrap up Mackinaw for public review and it was brought to my attention that Boltonia sp. has occurred near the project area. I have learned that it relies on flooding and can benefit from disturbance. Would you have any additional information that can help with my determination? I appreciate your help. Please feel free to call me if you want to discuss.

Thanks,
Kat

Kat Herzog
309-794-5231 (w)
501-707-8870 (c)
Biologist, Environmental Planning Section
St. Paul District at Rock Island
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004

CLASSIFICATION: UNCLASSIFIED

ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

PUBLIC REVIEW DRAFT

APPENDIX C

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE
DOCUMENTATION REPORT

ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

PUBLIC REVIEW DRAFT

APPENDIX C

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE DOCUMENTATION REPORT

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II. INTRODUCTION C-1
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APPENDICES

Appendix C-A Study Area Map
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ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
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APPENDIX C

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE
DOCUMENTATION REPORT

I. GUIDANCE AND POLICY

The U.S. Army Corps of Engineers (Corps) Engineering Regulation (ER) providing guidance for the conduct of Civil Works Planning Studies is contained in ER 1105-2-100. The policies and authorities outlined in ER 1165-2-132, *Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects*, and ER 405-1-12, *Real Estate Handbook*, were developed to facilitate the early identification and appropriate consideration of HTRW issues in all of the various phases of a water resources study or project. Division Regulation 1165-2-132 provides divisional guidance for HTRW assessment for Civil Works projects. American Society for Testing and Materials (ASTM) Standards E1527-13 and E1528-06 provide a comprehensive guide for conducting Phase I Environmental Site Assessments (ESA). ASTM Standard E1903-97(2002) provides guidance for Phase II ESAs. These references provide information on what considerations are to be factored into project planning and implementation. The Corps' policy is to avoid construction of Civil Works projects when HTRW is located within project boundaries or may affect or be affected by such projects.

II. INTRODUCTION

A. Purpose and Scope. The specific purpose of an HTRW Documentation Report is to adequately document an appropriate inquiry into HTRW activities on potential project lands. The scope of this report documents the HTRW investigation for the Feasibility Study for the Mackinaw River Dredge Cut Project.

This HTRW inquiry is required in order to minimize and prevent Federal liability under the Comprehensive Environmental Response, Compensation and Liability Act and to reduce any threats to project workers and avoid costly delays associated with environmental abatement activities. A Phase I ESA for the Feasibility Study area was conducted by personnel from the Corps' Rock Island District Environmental Engineering Section.

B. Limiting Conditions and Methodologies Used. The techniques used to assess HTRW contamination within and adjacent to the proposed Dredged Maintenance Material Placement (DMMP) location consisted of review of historical documents, aerial photographs, topographic maps, conducting interviews and site visits. Also, a search of Federal and state environmental databases was conducted. The scope of inquiry was limited to investigating onsite HTRW potential within the project boundaries as well as offsite HTRW potential within a reasonable distance (according to ASTM standards) from the project.

III. STUDY AREA

A. Description. The Study Area consists of five plots of privately owned land located in Tazewell County, Illinois. These plots are owned by different landowners, and are proposed areas for access and placement of dredged materials from the Illinois River. Three placement plots {river mile (RM) 147.0 left descending bank (LDB); RM 147.3 LDB; and RM 147.6 LDB] are part of the Spring Lake Levee and Drainage District and are bounded by a levee to the east and north. Two additional plots (RM 147.7 LDB and RM 147.8 LDB) are located outside of the Spring Lake Levee and Drainage District and are comprised of a wooded floodplain adjacent to the Mackinaw River. These additional plots are proposed to be used as access from the Illinois River to the three placement plots. The Study Area is adjacent to the Illinois River and is used for the production of row crops. An existing dredged management placement site is located immediately north of the Study Area placement plots. No structures are located on the Study Area. The Study Area is located within a portion of Sections 11 and 12, in Township 24 North, Range 6 West in the Tazewell County, Iowa (Appendix C-A, *Study Area Map*).

B. Physical Setting. The 1960 and 2012 Pekin Quadrangle topographic maps, and the 1971 and 2012 Glasford Quadrangle topographic maps were used for records review. Surface elevation for the Study Area is approximately 440 feet above mean sea level (NAD83) with higher elevations southward and near the levees. The Study Area is part of the floodplain of the Illinois River and Mackinaw River, and therefore is fairly level topographically, with a slight elevation decline towards the rivers. The placement plots in the Study Area are disconnected from the Illinois River by a sand levee constructed to an elevation of approximately 450 feet above mean sea level. The Study Area placement plots are comprised primarily of agricultural land while the access plots are wooded floodplain. The Study Area is bounded by the Illinois River to the north; wooded floodplain to the east, and row crop production to the south and west. There were no indications of additional Recognized Environmental Conditions (RECs) in the topographic maps. According to the USDA Natural Resources Conservation Service Web Soil Survey, soils in the Study Area consist mostly of Ambraw loams, Titus silty clays, and Beacoup silty clay loams. All these soils have slopes of 0-2 percent.

IV. ENVIRONMENTAL SITE ASSESSMENT

A Phase I ESA was conducted for the Study Area and adjacent areas. The Phase I ESA consisted of documenting the Study Area history, interviews, site reconnaissance, reviewing state and Federal environmental databases, and identifying potential RECs.

A. Historical Use Information. Based on aerial photos (1939 through present day), topographic maps (1960 through 2012) and interviews, the Study Area has been utilized for agricultural purposes, particularly row crop production. Industrial development occurred north across the Illinois River beginning in the 1960's, and continues to the present day. In the early 2000's an area immediately north of the Study Area but inside the leveed area was used a Dredged Maintenance Material Placement (DMMP) site. The wooded floodplain of the Mackinaw River is located to the east of the Study Area. This floodplain was wooded up to the mid-1960s, but was then clear cut for row crop production. In the 2000s, the floodplain appeared to be replanted, and as of 2014 evidence of woodland regrowth is occurring. Obvious indications of RECs were not observed in the aerial photographs, plat maps or topographic maps.

B. Records Review. The records review included the site assessment report from various state and Federal environmental databases, maps, and air photos.

1. EnviroMapper. EnviroMapper, created by the United States Environmental Protection Agency (USEPA), is a database warehouse implemented in the Oracle Relational Database Management System and is available through the Internet for public access. It has the ability to retrieve information from several environmental databases, such as TRI (Toxic Release Inventory); Hazardous Waste [Resource Conservation and Recovery Act (RCRA) info]; Brownfields (ACRES); Air Emissions (AIRS/AFS); and Water Discharges (PCA).

An EnviroMapper database query was conducted on 28 November 2014. No areas of concern were identified within a 1/2 mile radius.

2. Cleanups in My Community. Cleanups in My Community, created by the USEPA, is a database warehouse implemented in the Oracle Relational Database Management System and is available through the Internet for public access. It is a mapping and listing tool that shows sites where pollution is being or has been cleaned up throughout the United States. It maps, lists and provides cleanup progress profiles for sites, facilities and properties that have been contaminated by hazardous materials and are being, or have been, cleaned up under the USEPA's Superfund, RCRA, and/or Brownfields cleanup programs and Federal facilities that have been contaminated by hazardous materials and are being, or have been, cleaned up under the USEPA's Superfund and/or RCRA cleanup programs.

A 'Cleanups in My Community' database query was conducted on November 28, 2014. No areas of concern or cleanups were identified within a 1 mile radius of the Site.

3. Illinois Environmental Protection Agency Leaking Underground Storage Tank (LUST) Database. LUST Section is responsible for the regulation of underground storage tank systems used for the storage of regulated substances, primarily petroleum products. Staff in the section work with the owners of sites on the detection, prevention and correction of releases of products from underground tanks.

A database query conducted 22 December, 2014 indicated no LUST sites within 1 mile of the Study Area.

4. Illinois Environmental Protection Agency Site Remediation Program (SRP). The SRP cleanup program provides Remediation Applicants (i.e., any persons seeking to perform investigative or remedial activities) the opportunity to receive Illinois EPA review, technical assistance and no further remediation determinations from the Illinois EPA. The SRP database identifies the status of all voluntary remediation projects administered through the Pre-Notice Site Cleanup Program (1989 to 1995) and the Site Remediation Program (1996 to the present).

A database query conducted 22 December, 2014 indicated no SRP projects in the Study Area.

5. Illinois Department of Mines and Minerals Database (ArcIMS). The ArcIMS database displays past and current surface and subsurface mining activities in Illinois.

An ArcIMS database query was conducted on 22 December, 2014. No active surface or subsurface mines are preset within 1 mile radius of the Study Area.

C. Site Reconnaissance and Interviews. Corps representative Erica Stephens conducted a site visit to the Study Area placement plots on Monday, November 17, 2014. Corps representative Matt Afflerbaugh conducted a site visit to the Study Area access lot on Wednesday, April 15, 2015. A reconnaissance was performed with visual inspection of surrounding properties. All accessible areas of the Study Area were observed during the site visit. The Study Area surface consisted of soils with crop residue. There were no indications of spills or staining were observed on the surface and no indications of hazardous materials storage areas. However, an abandoned farm trailer was observed in the access area. No other potential RECs were identified during site reconnaissance activities. Site reconnaissance photos are included in Appendix C-B.

William Graham (US Army Corps of Engineers, Illinois Waterway Dredging Coordinator); Pat Landris (City of Creve Coeur Police Chief and former neighbor of Study Area);and Debra Collett (Tazewell County Emergency Management Agency) were interviewed regarding their knowledge of the Study Area, potential environmental issues, spills, cleanups, environmental deed restrictions and activity use limitations. The interviewees did not indicate any potential RECs in or adjacent to the Study Area.

D. Findings. The Phase I ESA identified one potential REC within the Study Area access plot. An abandoned farm trailer was observed lying on its side. The trailer appears to have been fabricated from a heating oil tank and other trailer parts. The trailer was dilapidated and rusty with many holes. There were no liquids or solids in the trailer, and no staining was observed on the ground.

V. CONCLUSION

The abandoned trailer shown in Photograph C-7 does not appear to be an REC. There are no records of spills or releases in the area, and there are no signs of contamination from the trailer. The most likely scenario is that the trailer was abandoned in the Study Area access plot many years ago and was tilted by floodwaters.

VI. RECOMMENDATIONS

There are no physical signs, records or specialized knowledge indicating a significant environmental condition of concern for the Study Area. No further HTRW investigation is warranted.

VII. LIMITATIONS

No ESA can wholly eliminate uncertainty regarding the existence for recognized environmental conditions concerning a property. This assessment is intended to reduce, but not eliminate, uncertainty regarding the existence of recognized environmental conditions in connection with a property with reasonable limits of time and cost. If any previously unaddressed recognized environmental condition should arise, this HTRW Documentation Report will be revisited. Title searches and research into environmental liens were not conducted for this report, but will be required prior to construction phase of the preferred alternative.

ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

PUBLIC REVIEW DRAFT

APPENDIX C-A
STUDY AREA MAP

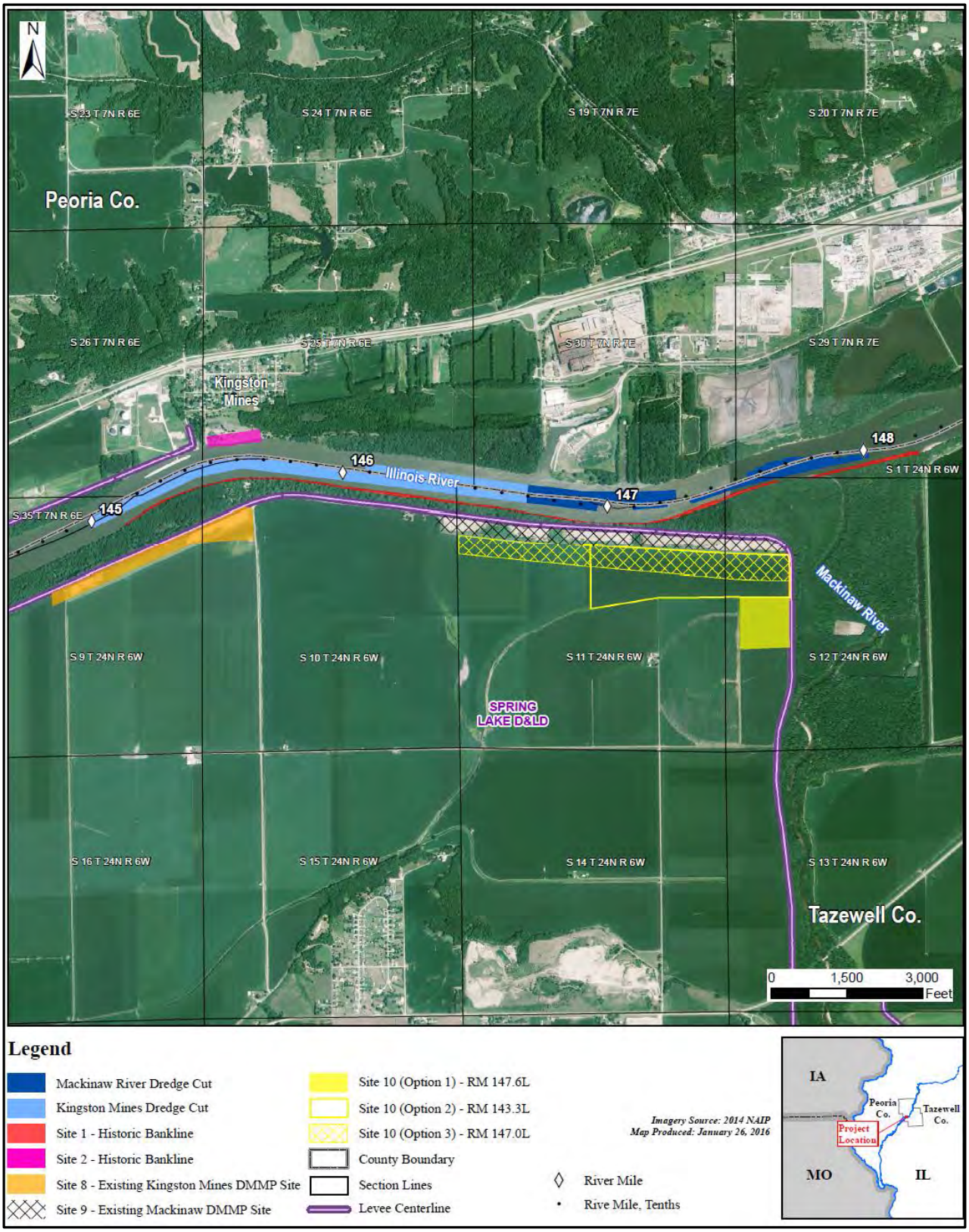

Figure C-A-1: Project Location

ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

PUBLIC REVIEW DRAFT

APPENDIX C-B
SITE RECONNAISSANCE PHOTOGRAPHS

Photograph C-B-1: NE Corner of Study Area Looking Southeast

Photograph C-B-2: Northern Portion of Study Area Looking South

Photograph C-B-3: Northern and Eastern Portion of Study Area Looking South

Photograph C-B-4: Study Area Looking West/Southwest; Adjacent DMMP Site in Foreground

Photograph C-B-5: East Side of Northern Portion of Study Area Looking South; Levee in Foreground

Photograph C-B-6: Northern End of Study Area Looking Southwest

Photograph C-B-7: Abandoned Farm Trailer in Access Area

Photograph C-B-8: Typical Access Area

ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

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APPENDIX D

COST ESTIMATE

This is a feasibility level cost estimate for the construction of a containment berm and drainage ditch in the Mackinaw DMMP project. The scope of work includes clearing, ditch excavation, containment berm construction, and seeding. It is assumed that a contractor will come in and begin by stripping the area for the berm and then constructing an earthen berm that will be used to contain the dredged material. The contractor also has to clear some small trees (< 4" dia.) and brush to provide a 30 ft wide access alley for the dredge pipeline beginning at the Mackinaw River (east of the berm construction) and running west to a point near the berm construction. Once all work is completed the contractor is required to seed the affected berm construction area.

Wage Rates

The wage rates are taken from the Davis-Bacon rates found in the Dept of Labor website for Tazewell County, Heavy & Highway, IL160014, 01/08/2016.

Equipment Rates

The equipment rates used in this estimate are from the EP 1110-1-8, Region 5, dated 30 April 2014 and are updated by a global markup of 1% to reflect February 2016 pricing.

Fuel Rates

The fuel costs are taken from the U. S. Dept. of Energy website for the Midwest category on 02/09/2016.

Indirect Costs

The field office overhead is a percentage of 13% based on a rule of thumb for the amount of the construction work. The home office overhead is a percentage of 5% based on that same rule of thumb. The profit is calculated at 8.5% using the Weighted Guidelines method. The liability insurance is assumed at 3% of the construction cost. The final indirect markup is the Bond, and it is an assumed rate of 2% of the total construction cost.

Contingency

The contingency amount is an assumed rate of 19 % and is based upon the perceived risks associated with the following risk elements: Project scope, acquisition strategy, construction elements, quantities for current scope, specialty fabrication or equipment, cost estimate assumptions, and external project risks.

Escalation

There is no escalation contained in this cost estimate.

Estimated by	CEMVR-EC-TE
Designed by	CEMVR-EC-D
Prepared by	Michael R. Cummings
Preparation Date	2/10/2016
Effective Date of Pricing	2/10/2016
Estimated Construction Time	Days

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Description	UOM	Quantity	ContractCost	ProjectCost
Project Owner Summary			640,786	762,536
FY16 Feasibility Study Cost Estimate	LS	1	640,786	762,536
Alternative B	LS	1	640,786	762,536
0001 Mobilization and Demobilization	LS	1	14,669	17,456
Mobilization	LS	1	7,335	8,728
Demobilization	LS	1	7,335	8,728
			606.54	*721.79*
0002 Clearing	ACR	1	728	866
			9.13	*10.86*
0003 Ditch Excavation	CY	5,864	53,535	63,707
			4.59	*5.46*
Excavate Ditch	CY	5,864	26,913	32,027
Survey Cost	LS	1	26,622	31,680
			11.85	*14.10*
0004 Containment Berm Construction	CY	40,306	477,440	568,154
			0.72	*0.85*
Stripping	CY	107,287	77,025	91,660
			8.34	*9.93*
Construct Berm	CY	40,306	336,264	400,154
Survey Cost	LS	1	64,151	76,340
			8,429.78	*10,031.44*
0005 Seeding	ACR	11	94,414	112,352

Description	DirectCost	JOOH	HOOH	Profit	Bond	Allowance	ContractCost	Contingency	Escalation	ProjectCost
Project Indirect Summary	414,347	49,424	32,693	41,181	8,933	33,250	640,786	121,749	0	762,536
FY16 Feasibility Study Cost Estimate	414,347	49,424	32,693	41,181	8,933	33,250	640,786	121,749	0	762,536
Alternative B	414,347	49,424	32,693	41,181	8,933	33,250	640,786	121,749	0	762,536
0001 Mobilization and Demobilization	10,871	1,413	614	1,064	288	0	14,669	2,787	0	17,456
Mobilization	5,436	707	307	532	144	0	7,335	1,394	0	8,728
Demobilization	5,436	707	307	532	144	0	7,335	1,394	0	8,728
	449.50						*606.54*			*721.79*
0002 Clearing	539	70	30	53	14	0	728	138	0	866
	4.47						*9.13*			*10.86*
0003 Ditch Excavation	26,220	2,593	4,139	2,643	528	9,752	53,535	10,172	0	63,707
	3.40						*4.59*			*5.46*
Excavate Ditch	19,945	2,593	1,127	1,952	528	0	26,913	5,113	0	32,027
Survey Cost	6,275	0	3,012	690	0	9,752	26,622	5,058	0	31,680
	7.97						*11.85*			*14.10*
0004 Containment Berm Construction	321,403	39,817	24,563	31,644	8,104	23,498	477,440	90,714	0	568,154
	0.53						*0.72*			*0.85*
Stripping	57,082	7,421	3,225	5,588	1,510	0	77,025	14,635	0	91,660
	6.18						*8.34*			*9.93*
Construct Berm	249,200	32,396	14,080	24,393	6,593	0	336,264	63,890	0	400,154
Survey Cost	15,121	0	7,258	1,663	0	23,498	64,151	12,189	0	76,340
	4,938.69						*8,429.78*			*10,031.44*
0005 Seeding	55,313	5,531	3,346	5,777	0	0	94,414	17,939	0	112,352

ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

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APPENDIX E

FORM AD-1006

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 1/12/16
Name Of Project USACE Mackinaw Dredging Project	Federal Agency Involved US Army Corps of Engineers
Proposed Land Use Dredge spoil piles	County And State Tazewell County, IL
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 1/12/16

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☑	No ☐	Acres Irrigated N/A	Average Farm Size 372
Major Crop(s) Corn, Soybeans, Wheat, Hay	Farmable Land In Govt. Jurisdiction Acres: 29,633,500 % 97		Amount Of Farmland As Defined in FPPA Acres: 27,695,900 % 91	
Name Of Land Evaluation System Used Illinois	Name Of Local Site Assessment System Statewide		Date Land Evaluation Returned By NRCS 1/15/16	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	23.2	86.6	66.6	
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	23.2	86.6	66.6	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	23.2	86.6	66.6	
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.0	0.0	0.0	
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	50.7	50.7	50.7	
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to ~~100~~ 150 Points)*	~~75~~ 113	~~77~~ 116	~~80~~ 120	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160	0	0	0	0

See the attached
Illinois LESA System
Site Assessment **Corridor** Factors

PART VII *(To be completed by Federal Agency)*						
Relative Value Of Farmland *(From Part V)*	150	~~100~~	~~75~~ 113	~~77~~ 116	~~80~~ 120	0
Total Site Assessment *(From Part VI above or a local site assessment)*	150	~~160~~	0 63	0 40	0 40	0
TOTAL POINTS *(Total of above 2 lines)*	300	~~260~~	~~75~~ 176	~~77~~ 156	~~80~~ 160	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection:

When using the IL Land Evaluation Site Assessment (LESA), 150 points are assigned to Parts 3, 4 and 5 (the LE section) and 150 points to the SA CORRIDOR section for a maximum 300 points. The Illinois LESA System applies the 225 point cutoff when evaluating state and federally funded projects. Site or Corridor alternatives receiving 175 or fewer points have a low rating for protection, and it is not necessary to evaluate additional alternatives.

(See Instructions on reverse side) **Form AD-1006 (10-83)**

This form was electronically produced by National Production Services Staff

Mackinaw River Dredge Cut - LaGrange Pool
Illinois River, River Miles 145.0 to 148
Peoria and Tazewell Counties, Illinois
U.S. Army Corps of Engineers

PART VI-B Illinois Site Assessment CORRIDOR Factors	Maximum Points	Site A	Site B	Site C
1. Amount of agricultural land required	30	23	30	30
2. Location of the proposed alignment	30	30	0	0
3. Acres of off-site agricultural land required for borrow materials	15	10	10	10
4. Acres of Prime and Important Farmland required for mitigation	15	0	0	0
5. Creation of severed farm parcels	10	0	0	0
6. Creation of uneconomical remnants	10	0	0	0
7. Creation of landlocked parcels	10	0	0	0
8. Creation of adverse travel	10	0	0	0
9. Relocations of rural residences and farm buildings	10	0	0	0
10. Utilization of minimum design standards	10	0	0	0
TOTAL SITE ASSESSMENT CORRIDOR POINTS	**150**	**63**	**40**	**40**

PART VII				
Relative Value of Farmland	150	113	116	120
Total Site Assessment CORRIDOR Factors	150	63	40	40
TOTAL ILLINOIS LESA POINTS	**300**	**176**	**156**	**160**

* The Illinois LESA System applies the **225 point cutoff** when evaluating state and federally funded projects. Site or Corridor alternatives receiving **175 or fewer points** have a **low rating** for protection, and it is not necessary to evaluate additional alternatives. Those alternatives receiving **176 to 225 points** are in the **moderate range** for protection. In most cases, alternatives **exceeding the 225 point level should be retained for agricultural use**, and an alternate site should be utilized for the intended project. Selecting the alternative with the lowest total points will usually protect the best farmland located in the most agriculturally viable areas. LESA also serves to maintain and promote the agricultural industry in Illinois.

21816
JL/TS

ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

PUBLIC REVIEW DRAFT

APPENDIX F

CIVIL ENGINEERING

US Army Corps
of Engineers®

ILLINOIS RIVER

LAGRANGE POOL

PEORIA AND TAZWELL COUNTIES

MACKINAW - DMMP

Solicitation:

Contract:

Month 20XX

THIS PROJECT WAS DESIGNED BY THE ROCK ISLAND DISTRICTCORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER 1110-1-8152. SIGNATURES INDICATE OFFICIAL RECOMMENDATION OF ALL DRAWINGS IN THIS SET.

APPROVED BY:

DISTRICT COMMANDER DATE

APPROVAL RECOMMENDED BY:

CHIEF, DESIGN BRANCH DATE

CHIEF, HYDROLOGY & HYDRAULICS BRANCH DATE

CHIEF, GEOTECHNICAL BRANCH DATE

CHIEF, TECHNICAL SERVICES BRANCH DATE

CHIEF, ENGINEERING & CONSTRUCTION DIVISION DATE

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MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
MVR
ROCK ISLAND, ILLINOIS

DESIGNED BY: DATE:
DWN BY: CKD BY: SOLICITATION NO.:
SUBMITTED BY: CONTRACT NO.:
PLOT SCALE: NTS PLOT DATE: PROJECT CODE: IW127
SIZE: ANSI D FILE NAME: IW127G-001xxx.dgn

ILLINOIS RIVER
LAGRANGE POOL
PEORIA AND TAZWELL COUNTIES
MACKINAW - DMMP

COVER SHEET

Sheet ID
G-001

INDEX	
Sheet Id	**Sheet Title**
GENERAL	
G-001	COVER SHEET
G-002	LEGEND AND ABBREVIATIONS
G-003	INDEX AND GENERAL NOTES
GEOTECHNICAL	
B-101	BORING PLAN AND LOGS
CIVIL	
C-101	SITE PLAN
C-102	PLACEMENT AREA
C-301	TYPICAL SECTIONS

GENERAL NOTES

1. THE PROJECT AREA IS LOCATED IN PEORIA AND TAZEWELL COUNTIES, ILLINOIS, LAGRANGE POOL, BETWEEN ILLINOIS RIVER MILES 145.0 AND 148.0
2. NAD 83, ILLINOIS WEST, STATE PLANE, US SURVEY FEET - NAVD 88 (BORING LOCATION/ELEVATION: NAD 27, ILLINOIS WEST, STATE PLANE, FEET - NGVD 29)
3. BORROW MATERIAL FOR THE CONTAINMENT BERMS IS TO BE EXCAVATED WITHIN THE DMMP SITE PROPERTY BOUNDARIES. 0.5' OF MATERIAL IS TO BE STRIPPED PRIOR TO EXCAVATION AND STOCKPILED ON SITE. THE BORROW MATERIAL IS TO BE EXCAVATED TO NO MORE THAN 2.5' BELOW EXISTING GROUND.

A1 INDEX
SCALE : NO SCALE

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CONTRACT NO.:
PROJECT CODE: IW127
PLOT SCALE: N/A
PLOT DATE:
SIZE: ANSI D
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ILLINOIS RIVER
LAGRANGE POOL
PEORIA AND TAZWELL COUNTIES
MACKINAW - DMMP

INDEX AND GENERAL NOTES

Sheet ID
G-002

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BM	BENCHMARK
	BORING LOCATION
	BREAKLINE
	CENTERLINE
	CONSTRUCTION WORK LIMITS
	CONTROL POINT
	EXISTING GROUND
	EXISTING LEVEE
	FILL
FLOW	FLOW ARROW
123	INTERSTATE HIGHWAY
N	NORTH INDICATOR
	RAILROAD
	RIPRAP
	RIVERMILE
	SLOPE
123	STATE HIGHWAY
	TREELINE
123	US HIGHWAY
EL. 500.0	WATER LEVEL
	CHANNEL EXCAVATION / DREDGING
	DREDGE MATERIAL PRIMARY PLACEMENT SITE
	DREDGE MATERIAL SECONDARY PLACEMENT SITE

BORING NUMBER
ELEVATION IN FEET(NGVD 1929)

HOLE ADVANCED BY IWAN HAND AUGER	HA	20	NATURAL MOISTURE CONTENT IN PERCENT DRY WEIGHT
WATER LEVEL	WL		
LIQUID AND PLASTIC LIMIT	48/26		MAJOR STRATA CHANGE
PERCENT PASSING #200 SIEVE	(6.7)		MINOR STRATA CHANGE
			HOLE EXTENDED BY DRIVING 2" PIPE

LOCATION OF BORING
JULY 4, 1976

APPROXIMATE DATE OF DRILLING
ALSO DATE WATER LEVEL NOTED

A1 LEGEND
SCALE : NO SCALE

ABBREVIATIONS

A	
APPROX	APPROXIMATE
AVE	AVENUE
B	
BM	BENCHMARK
C	
CL	CENTERLINE
COR	CONTRACTING OFFICER REPRESENTATIVE
CY	CUBIC YARDS
D	
DIA	DIAMETER
E	
EL.	ELEVATION
F	
FT	FEET
H	
H	HORIZONTAL
HTRW	HAZARDOUS TOXIC RADIOACTIVE WASTE
I	
INV.	INVERT
M	
MAX	MAXIMUM
MSL	MEAN SEA LEVEL
MIN	MINIMUM
N	
NAD	NATIONAL GEODETIC SURVEY
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NAVD	NORTH AMERICAN VERTICAL DATUM
P	
PI	POINT OF INTERCEPTION
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
R	
R	RADIUS
RD	ROAD
RM	RIVERMILE
RR	RAILROAD
S	
ST	STREET
STA	STATION
T	
TYP.	TYPICAL
V	
V	VERTICAL

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ILLINOIS RIVER
LAGRANGE POOL
PEORIA AND TAZWELL COUNTIES
MACKINAW - DMMP

LEGEND AND ABBREVIATIONS

Sheet ID
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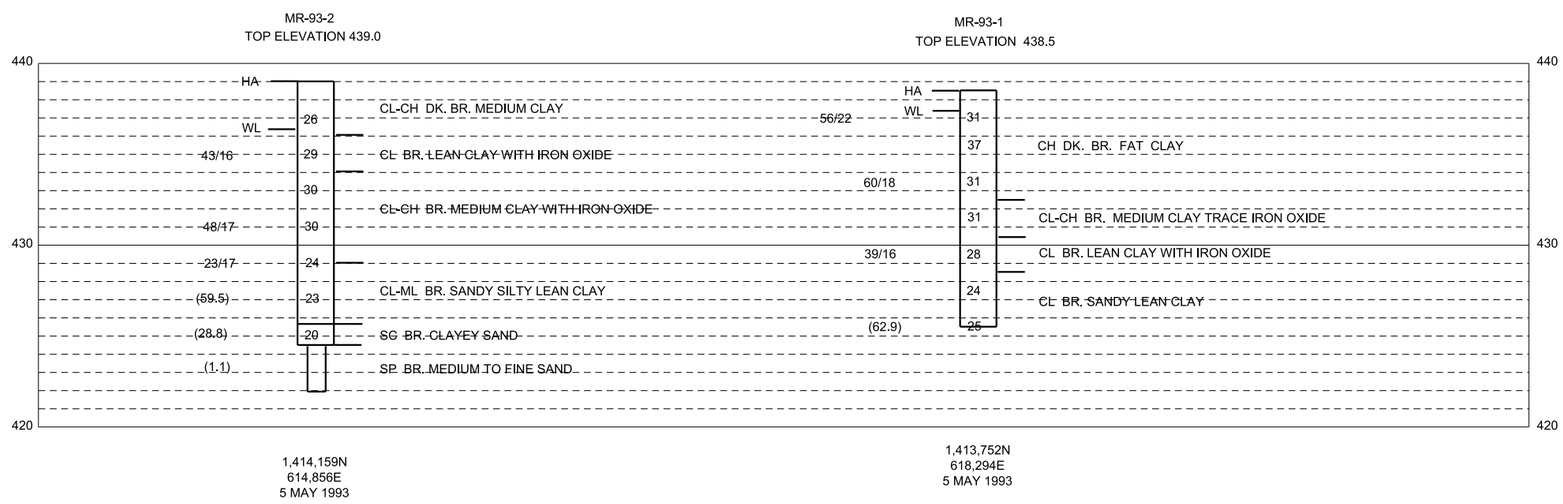
GENERAL SHEET NOTES

1. BORING LOCATION/ELEVATION: NAD 27, ILLINOIS WEST, STATE PLANE, FEET - NGVD 29
2. SOIL BORINGS WERE TAKEN DURING EXTENDED HIGH WATER ON THE ILLINOIS RIVER.

C1 BORING PLAN

SCALE : 1"=300'-0" (0 – 300' – 600')



A1 BORING LOGS

SCALE : 1"=300'-0" (0 – 300' – 600')

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LAGRANGE POOL
PEORIA AND TAZWELL COUNTIES
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BORING PLAN AND LOGS

Sheet ID
B-101

A1 SITE PLAN

SCALE : 1"=800'-0"

0 800' 1600'

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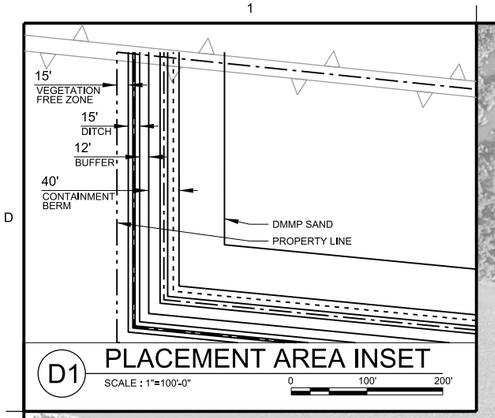
FILE NAME: IW127C-101sxx.dgn
DATE:
SOLICITATION NO.:
CONTRACT NO.:
PROJECT CODE: IW127

ILLINOIS RIVER
LAGRANGE POOL
PEORIA AND TAZWELL COUNTIES
MACKINAW - DMMP

SITE PLAN

Sheet ID
C-101



D1 PLACEMENT AREA INSET

SCALE : 1"=100'-0"

0 100' 200'

A1 PLACEMENT AREA

SCALE : 1"=300'-0"

0 300' 600'

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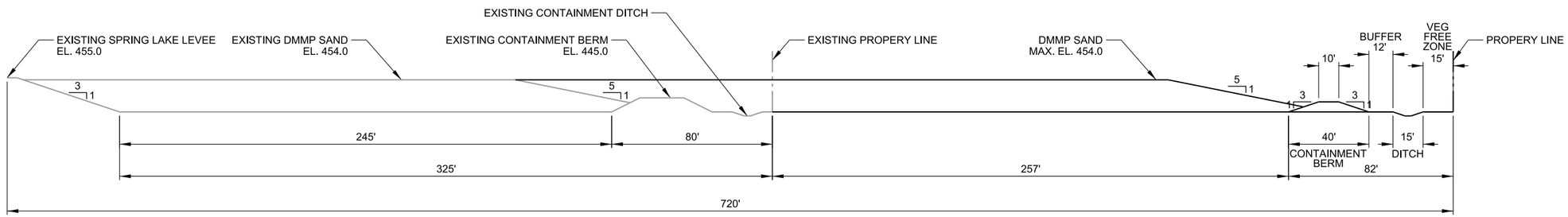
ILLINOIS RIVER
LAGRANGE POOL
PEORIA AND TAZWELL COUNTIES
MACKINAW - DMMP

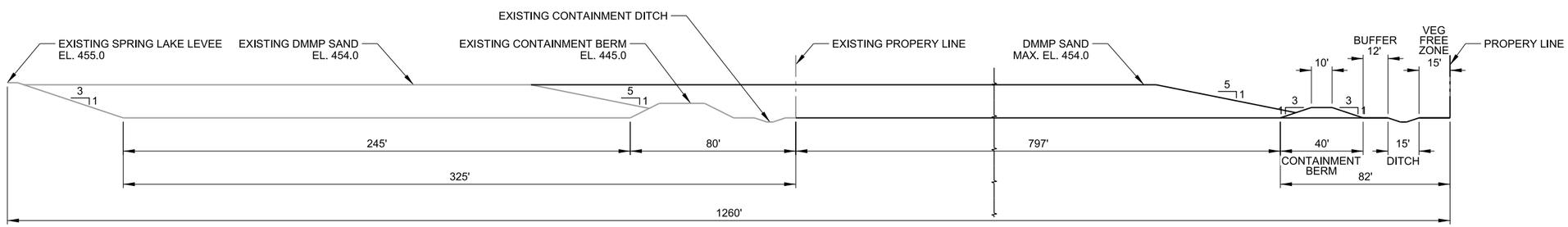
PLACEMENT AREA

Sheet ID
C-102



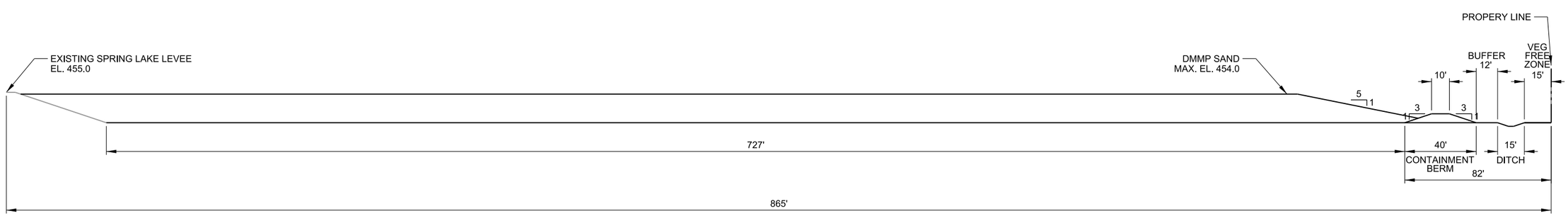
C1 TYPICAL SECTON

SCALE : 1"=300'-0" 0 300' 600'



B1 TYPICAL SECTON

SCALE : 1"=300'-0" 0 300' 600'



A1 TYPICAL SECTON

SCALE : 1"=300'-0" 0 300' 600'

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CONTRACT NO.:
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ILLINOIS RIVER
LAGRANGE POOL
PEORIA AND TAZWELL COUNTIES
MACKINAW - DMMP

TYPICAL SECTIONS

Sheet ID
C-301

ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

PUBLIC REVIEW DRAFT

APPENDIX G

CLEAN WATER ACT,
SECTION 404(b)(1) EVALUATION

ADDENDUM TO:

1995 - Long-Term Management Plan for Dredged Material Placement, Illinois Waterway River Miles 145.0-148.0, Mackinaw River/Kingston Mines

ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

PUBLIC REVIEW DRAFT

APPENDIX G

CLEAN WATER ACT, SECTION 404(b)(1) EVALUATION

I. PROJECT DESCRIPTION G-1
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B. Authority and Purpose G-1
C. General Description of Dredged and Fill Material G-3
D. Description of Proposed Discharge Site G-4
E. Description of Placement Method G-4

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ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

PUBLIC REVIEW DRAFT

APPENDIX G

CLEAN WATER ACT,
SECTION 404(b)(1) EVALUATION

I. PROJECT DESCRIPTION

A. Location. The Mackinaw Reach dredge cut is located in La Grange Pool of the Illinois River between River Miles (RM) 145 and 148. Dredged material removed from these cuts would be placed at the Dredged Material Management Plan Site 10, Options 1, 2, and 3. In September 1995, the Rock Island District completed the *Long-Term Management Plan for Dredged Material Placement, Illinois Waterway River Miles 145.0-148.0, Mackinaw River/Kingston Mines*. Although some capacity remains in the Kingston Mines placement site (Site 8), material dredged from below the mouth of the Mackinaw River has nearly filled the existing Mackinaw placement (Site 9) along the landward side of the flood risk management levee for the Spring Lake Drainage and Levee District (Figure 1, *Project Location*). This Section 404(b)(1) evaluation is required to address impacts from the placement of dredged material to the newly proposed Site 10. For a complete description, see Section 1, *Project Description* in the Dredged Material Management Plan with Integrated Environmental Assessment.

B. Authority and Purpose. This project is proposed under the authority of the Rivers and Harbors Acts of January 21, 1927; July 3, 1930; February 24, 1932; and August 30, 1935; and a Resolution of the House Committee on Flood Control of September 18, 1944. These Acts and Resolution authorized the construction, operation, and maintenance of the "9-Foot Channel Navigation Project" on the Mississippi River between the mouth of the Missouri River and St. Paul, Minnesota. The purpose of the evaluation portion of this document is to comply with Section 404 of the Federal Clean Water Act (CWA) pertaining to guidelines for the placement of dredged material into waters of the United States. This evaluation, in conjunction with the Environmental Assessment and Addendum, will assist in analysis of alternatives for the proposed project, resulting in a designated Base Plan. Further, this evaluation will provide information and data to the state water quality certifying agency demonstrating compliance with state water quality standards.

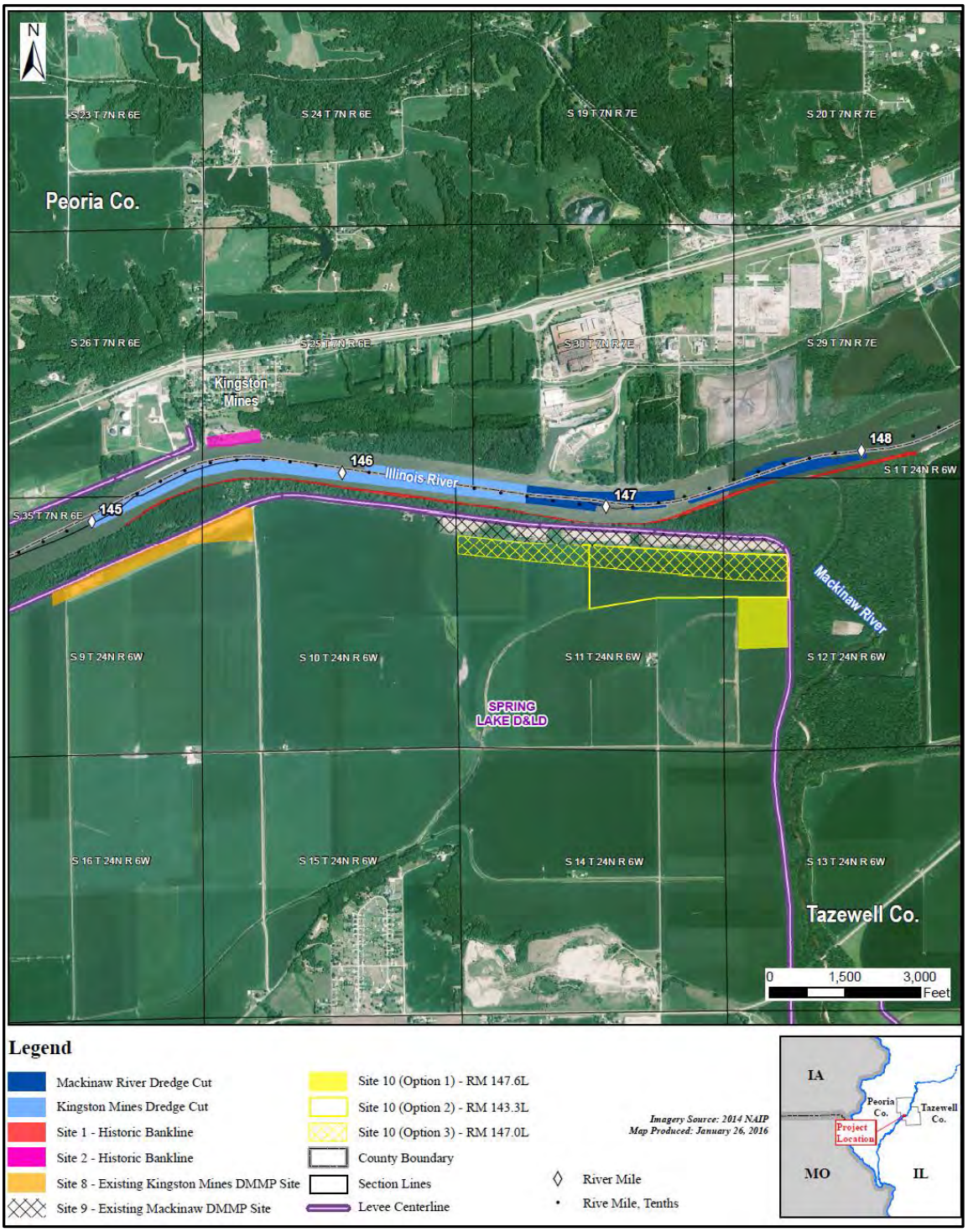

Figure G-1: Project Location

C. General Description of Dredged and Fill Material. Geotechnical borings were taken in 1993 in the adjacent placement site. These borings show suitable material for constructing the berms. It is assumed the material available in Options 1, 2, and 3 are also clays; however, borings will be performed during the design phase and prior to construction. Dredged or fill material is most likely to be free from chemical, biological, or other pollutants where it is composed primarily of sand, gravel, or other naturally occurring inert material. Because the visual classification test results for this dredge cut show the dredged material to be medium to fine sand, there is sufficient reason to believe that additional testing for potential sediment contamination is not required. Refer to Tables G-1 and G-2 for further details on grain size of material.

Table G-1: Grain Size Analysis for Mackinaw River Dredge Cut, Sampled August 26, 2015

	SAMPLE NUMBERS:	IL-147.7L	IL-147.8L	IL-147.9L
	1 1/2"	0.0%	0.0%	0.0%
S	**3/4"**	0.0%	100.0%	100.0%
I	**3/8"**	0.0%	98.3%	97.6%
E	**#4**	100.0%	95.7%	82.7%
V	**#10**	98.3%	92.5%	63.7%
E	**#16**	96.4%	86.9%	54.4%
	#30	89.4%	73.8%	41.0%
S	**#40**	76.6%	58.2%	28.1%
I	**#50**	47.5%	45.3%	12.7%
Z	**#70**	31.4%	37.6%	11.3%
E	**#100**	24.6%	18.3%	2.0%
S	**#200**	7.8%	2.3%	0.3%
	CLASSIFICATION:	SP-SC, CLAYEY MEDIUM TO FINE SAND	SP, MEDIUM TO FINE SAND, TRACE GRAVEL	SP, GRAVELLY COARSE TO FINE SAND

Table G-2: Grain Size Analysis for Kingston Mines Dredge Cut, Sampled August 26, 2015

	SAMPLE NUMBERS:	IL-145.2L	IL-145.4L	IL-145.6L
	1 1/2"	0.0%	0.0%	0.0%
S	**3/4"**	0.0%	0.0%	0.0%
I	**3/8"**	0.0%	97.7%	98.4%
E	**#4**	100.0%	90.7%	89.2%
V	**#10**	99.8%	77.8%	84.7%
E	**#16**	99.1%	72.4%	83.9%
	#30	94.3%	66.5%	83.4%
S	**#40**	82.7%	62.0%	82.7%
I	**#50**	51.1%	51.8%	80.8%
Z	**#70**	8.0%	14.3%	77.2%
E	**#100**	1.7%	2.0%	75.3%
S	**#200**	1.1%	0.4%	72.2%
	CLASSIFICATION:	SP, MEDIUM TO FINE SAND	SP, COARSE TO FINE SAND WITH GRAVEL	SC, GRAVELLY CLAYEY SAND

D. Description of Proposed Discharge Site. The Site 10 placement area is approximately 176 acres of agricultural farm field located behind the Spring Lake Drainage and Levee District levee system in Tazewell County, Illinois. There is an additional 12.3 acres of forested easement that will also be acquired for access. The proposed site is part of five parcels of land to be acquired by the U.S. Army Corps of Engineers (Corps) for placement of dredged material. In order to avoid "uneconomic remnants" of land for the current owner, the parcels would be bought in their entirety.

Due to the extensive agricultural use of the area, it is likely that if any wetlands are encountered, these would be considered prior converted. According to 7 CFR 623.2 [Title 7—Agriculture; Subtitle B, *Regulations of the Department of Agriculture*; Chapter VI, *Natural Resources Conservation Service Department of Agriculture*; Subchapter C, Water Resources; Part 623, *Emergency Wetlands Reserve Program*], prior converted wetland means "wetland that has been drained, dredged, filled, leveled, or otherwise manipulated (including any activity that results in impairing or reducing the flow, circulation, or reach of water) prior to December 23, 1985, for the purpose, or that has the effect, of making the production of agricultural commodities possible if such production would not have been possible but for such action." According to aerial photography dated in 1939, this area has been farmed for an extended period of time. The Natural Resources Conservation Service (NRCS) is the lead agency in farmed wetland determinations and only landowners can request these determinations. Efforts are ongoing for landowner written release to the Corps for this information. Therefore, the Corps has limited knowledge on this area as being designated as a farmed wetland. If additional information reveals farmed wetlands are present and impacts are unavoidable, the Corps would develop a mitigation plan and coordinate with agencies to ensure any impacts are mitigated for.

E. Description of Placement Method. Dredged material would be excavated by hydraulic dredge for placement at the proposed Site 10. Hydraulic dredging utilizes a cutterhead in combination with a centrifugal pump to entrain dredged solid materials in high velocity water. Dredged material is then pumped in slurry via floating discharge lines and onto the deposition areas through movable shorepipe. Shorepipe is positioned by use of bulldozers and pipe handlers to deposit the dredged material where desired. Booster pumps are sometimes required when insufficient horsepower exists to move material the desired distance. The booster pump may be placed in the line to maintain flow of material through the pipe.

The proposed action would place the hydraulically dredged material, medium to fine sand, landward of the levee in the prepared field. As the whole site would not be required at one time, smaller placement sites would be established within the site to accommodate a particular dredging event. The maximum depth of placement at the site would be approximately 12 feet deep. The area, approximately 176 acres, would have an estimated capacity of 2,460,000 cubic yards. This would provide placement capacity for the next 40 years for this area of the La Grange Pool.

There would be a tractor and/or dozer on hand to move the shorepipe and help shape the material when needed. As the dredged material is placed the sediment in the dredge water would fall out fairly quickly. After the return water has been contained onsite at a stilling basin or ponding area within the placement site for a short settling period, the "clean" water would be pumped through a pipe over the levee, back through the riparian "access" area and into the river.

II. FACTUAL DETERMINATIONS

A. Physical Substrate Determinations

1. Substrate Elevation and Slope. Flat pool elevation of the Illinois River near Kingston Mines, IL at RM 145.4 is 429.7 feet. National Geodetic Vertical Datum (NGVD). The elevation at Site 9 is 454.0 feet NGVD.

2. Sediment Type. The placement site is located a short distance inland from the shore behind the levee. The levee is sand with a clay core. It was built on floodplain soils of glaciofluvial origin. The farm field contains topsoil with a mixture of Ambraw loam, Titus silty clay, and Beaucoup silty clay loam. All soils are rarely flooded and poorly drained.

The easement area is located on the riverward side of the levee and would only be temporarily impacted by the Project. The soil found there is Blake-Slacwater silt loam, frequently flooded and poorly drained.

3. Dredged/Fill Material Movement. Placement of the dredged material would take place in the manner described in the Dredged Material Management Plan with Integrated Environmental Assessment Section I, *Project Description*. Placement behind the 100-year levee minimizes any potential for movement or migration of the dredged material.

4. Physical Effects on Benthos. Terrestrial placement of the dredged material would have no effect on benthos.

5. Actions Taken to Minimize Impacts. The behind-the-levee site is away from sensitive areas in and adjacent to the riverine system, thus minimizing impacts to the aquatic environment in general. Any adverse wetland impacts would be mitigated for with the approval of a mitigation plan.

B. Water Circulation, Fluctuation, and Salinity Determinations

1. Water. The material to be dredged (medium to fine sand) is of a particle size and nature so that bonding of contaminants is negligible. Contaminants have a greater affinity for fine organic sediments, which is almost nonexistent in this dredged material. In 2004, the Illinois Environmental Protection Agency listed the Mackinaw River and this reach of the Illinois River as impaired under the Section 303(d) of the CWA. The Mackinaw River is listed from pathogens and polychlorinated biphenyls (PCBs) that were present. The Illinois River is listed from oxygen depletion, mercury, excessive nutrients, PCBs, metals, turbidity, and pathogens. Total maximum daily loads apply to both waterbodies. The proposed action would have negligible effects on water quality in the Illinois River or in the Mackinaw River. Water chemistry, water temperature, pH, clarity, color, odor, taste, dissolved gas levels, nutrient levels, or organic matter influxes would either be nonexistent or would cause insignificant and temporary impacts to aquatic organic organisms. Impacts to human population

concerning the suitability of this water body for human consumption, recreation, and aesthetics would be negligible or nonexistent.

2. Current Patterns and Circulation. No change in current patterns or flows would result from dredged material placed behind the levee.

3. Normal Water Level Fluctuations. No effects on normal seasonal river stages are anticipated by the proposed actions.

4. Salinity Gradients. The proposed action would take place in and around an inland freshwater stream system. Therefore, no consideration of salinity gradients is warranted for these actions.

5. Actions Taken to Minimize Impacts. Terrestrial placement behind the levee and away from sensitive areas in and adjacent to the riverine system is intended to reduce impacts. No over-dredging would occur; only that volume necessary to maintain a safe navigation channel would be removed.

C. Suspended Particulate/Turbidity Determinations

1. Effects on Physical and Chemical Properties of the Water Column. Terrestrial placement behind the levee eliminates impacts to the water column.

2. Effects on Biota. Impacts to the aquatic biota are eliminated due to the land placement site selection. Any potential impacts to biota that utilize the forested area at the access easement will be minimized with certain conservation measures. For more information on those measures, see Section 4, *Environmental Consequences* of the Dredged Material Management Plan with Integrated Environmental Assessment.

3. Action Taken to Minimize Impacts. Dredging quantities would be kept to the minimum amount necessary to maintain the navigation channel.

D. Contaminant Determinations. Dredged or fill material is most likely to be free from chemical, biological, or other pollutants where it is composed primarily of sand, gravel, or other naturally occurring inert material. Dredged material may be excluded from further testing if there is a reasonable assurance that it is not a carrier of contaminants. Section I.C of this report, *General Description of Dredged and Fill Material*, shows that existing information for this project provides a sufficient basis for making a factual determination concerning impacts to waters of the United States. The dredged material meets the exclusion from testing/evaluation criteria as explained in the CWA 404(b)(1) Guidelines and the Inland Testing Manual. It is therefore reasonable to assume that no further testing is required.

E. Aquatic Ecosystem and Organism Determinations

1. Effects on Plankton, Nekton, and Benthos. Terrestrial placement of the dredged material eliminates impacts to the aquatic ecosystem.

2. Effects on Aquatic Food Web. No impacts should result from placement of material behind the levee.

3. Effects on Special Aquatic Sites. Effects on special aquatic sites, such as mussel beds and/or fish spawning habitat located in the vicinity, would be eliminated because of the terrestrial placement. No mudflats, vegetated shallows, coral reefs, or riffle and pool complexes would be affected by the proposed actions.

Due to the extensive agricultural use of the area, it is likely that if any wetlands are encountered, these would be considered prior converted. According to 7 CFR 623.2, prior converted wetland means "wetland that has been drained, dredged, filled, leveled, or otherwise manipulated (including any activity that results in impairing or reducing the flow, circulation, or reach of water) prior to December 23, 1985, for the purpose, or that has the effect, of making the production of agricultural commodities possible if such production would not have been possible but for such action." According to aerial photography dated in 1939, this area has been farmed for an extended period of time. The NRCS is the lead agency in farmed wetland determinations and only landowners can request these determinations. Efforts are ongoing for landowner written release to the Corps for this information. Therefore, the Corps has limited knowledge on this area as being designated as a farmed wetland. If additional information reveals farmed wetlands are present and impacts are unavoidable, the Corps would develop a mitigation plan and coordinate with agencies to ensure any impacts are mitigated for.

4. Threatened and Endangered Species. Impacts to threatened and endangered species around the Project area are not anticipated. Any potential impacts to federally-listed bat species that utilize the forested area at the access easement will be minimized with certain conservation measures. For more information on those measures, see Section 4, *Environmental Consequences* of the Dredged Material Management Plan with Integrated Environmental Assessment.

5. Other Wildlife. Other fish and wildlife associated with the aquatic ecosystem are not expected to be impacted as a result of this project.

6. Actions Taken to Minimize Impacts. Early and open coordination with state and Federal resources agencies helps to minimize potential impacts to aquatic, wetland, and terrestrial ecosystems. Placement behind the levee avoids most impacts to the aquatic environment.

F. Proposed Placement Site Determinations

1. Mixing Zone Determinations. A mixing zone is that volume of water at a placement site or discharge site required to dilute contaminant concentrations associated with a discharge of dredged material to an acceptable level. Since terrestrial placement is involved and return water would be pumped from a settling pond from behind the levee and into the river, it would be virtually free of sediment. No violation of any standard would result from the placement of dredged material.

2. Determination of Compliance with Applicable Water Quality Standards. This Section 404(b)(1) was written to achieve compliance with the CWA. In addition, Section 401 Water Quality certification, in compliance with the CWA, and all permits necessary for the completion of the Project would be obtained prior to project implementation.

3. Potential Effects on Human-Use Characteristics. Implementation of the proposed project would have no effect on municipal or private water supplies; commercial or recreational fishery; parks; national monuments or other similar preserves.

G. Determination of Cumulative Effects on the Aquatic Ecosystem. Terrestrial placement of dredged material is anticipated to produce negligible effects on the aquatic ecosystem. Utilization of the selected site reduces any direct and cumulative impacts from previous and future bankline placement.

H. Determination of Secondary Effects on the Aquatic Ecosystem. No secondary effects on the aquatic ecosystem are anticipated from terrestrial, upland placement behind the agricultural levee. This determination is subject to reevaluation, if warranted by Federal, state, or local agency comment, as well as input from the general public.

III. FINDINGS OF COMPLIANCE OR NONCOMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE

A. No significant adaptations of the 404(b)(1) guidelines were made relative to this evaluation.

B. Evaluation of Practicable Alternatives:

1. No Federal Action. This alternative was not selected because continued shoaling could occur and result in possible closure of the channel to commercial navigation. Such an emergency is unacceptable.

2. Proposed Action. The proposed action is considered environmentally and economically acceptable and operationally feasible as planned. The placement site and dredging procedure have been selected to reduce water quality impacts as well as impacts to the riverine system. The placement site is non-aquatic in nature. Materials discharged are in the terrestrial environment and would be chemically and physically stable.

C. Section 401 certification of the CWA will be obtained prior to project implementation. The Project will be in compliance with water quality requirements of the State of Illinois.

D. The Project is not anticipated to induce toxic substances into nearby waters or result in appreciable increases in existing levels of toxic materials.

E. The District has determined the proposed project is not likely to adversely affect any threatened or endangered species or their critical habitat with the following conservation measures in place:

- Utilize existing path as much as possible to minimize tree clearing to less than 10 acres
- Limit tree clearing to winter months
- Ensure potential habitat (snags, mature silver maple) is visually marked with flagging prior to clearing
- Communicate to construction team prior to clearing concerning the flagging and limitations

F. No municipal or private water supplies would be affected by the proposed actions.

G. Due to policy and procedure with the NRCS, the Rock Island District has limited knowledge of presence of farmed wetlands in the Project area and/or if present wetlands are considered prior converted by NRCS. Efforts are ongoing to obtain this information and additional coordination may be required in the future.

H. No other practical alternatives have been identified. The proposed actions are compliant with Section 404(b)(1) of the CWA, as amended. The proposed actions would not significantly impact water quality and would improve the integrity of an authorized navigation system.

Date	Craig S. Baumgartner Colonel, US Army Commander & District Engineer

ILLINOIS WATERWAY
DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT

SITE PLAN FOR THE
MACKINAW RIVER DREDGE CUT

LA GRANGE POOL
PEORIA AND TAZEWELL COUNTIES
ILLINOIS RIVER, RIVER MILES 146.7 TO 148.0

PUBLIC REVIEW DRAFT

APPENDIX H

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PEORIA HISTORIC PRESERVATION COMM
419 FULTON
PEORIA IL 61602

ELEANOR COATES
%BRUCE VELDE
31 RUE CENSIER
PARIS FR 7500-50000

ELEANOR AND TODD COATES
% BRUCE VELDE, CO-TRUSTEE S
632 CHAMPION AVE E, APT 4D
WARREN, OHIO 44483

NEAL & TODD SHELABARGER
7538 BASS RD
MANITO IL 61546

NEAL & TODD SHELABARGER
8260 SHELABARGER ROAD
MANITO IL 61546

SHARRON PROEHL
TRUSTEE
12386 BLUFF RD
MANITO IL 61546

DENNIS TUNIS
TRUSTEE
26185 HARRIS LANE
TOPEKA IL 61567

LARRY & SAMMIE MCCONKEY
246 OLD OAKS
KERRVILLE TX 78028