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This public notice is to solicit comments on the proposed project.

# PUBLIC NOTICE

**US Army Corps of Engineers St. Louis District**

**Sponsor:** Swallowtail Environmental
13610 Barrett Office Dr., Suite 112
St. Louis, Missouri 63021

Issued: October 30, 2024
Expires: November 28, 2024

**Corps Project Number:** MVS-2023-119
**Proposed Project:** Middle Fork Salt River Wetland & Stream Mitigation Bank

## WETLAND COMPENSATORY MITIGATION BANK PROPOSAL
## Public Notice: St. Louis District & Rock Island

This notice is issued in accordance with the Compensatory Mitigation for Losses of Aquatic Resources; Final Rule (the Mitigation Rule) described in the Federal Register dated April 10, 2008 (33 CFR Parts 325 and 332). The St. Louis and Rock Island District shall utilize the portions of the Central Plains / Cuivre /Salt Ecological Drainage Unit (EDU) and the Central Plains / Des Moines EDU located within Missouri for this bank proposal. This service area will provide mitigation options for applicants within the St. Louis and Rock Island District.

1. **Project Location:** The Bank is located in the southeast quarter of Section 22 of Township 56 North Range 13 West with its approximate center at latitude 39.637842°, longitude -92.334191°. As shown in the attached maps, the proposed Bank is located approximately 10 miles southeast of Macon, Missouri

2. **Bank Objectives:** The goals of this proposed Bank are: 1) to provide appropriate compensatory mitigation for authorized impacts to jurisdictional aquatic habitats such as streams and wetlands within the service area and, 2) to create water quality and wildlife habitat benefits to that service area through increasing the quantity and/or quality of in-stream, riparian, wetland, and wetland buffer habitats. To achieve these goals, the Sponsor proposes to undertake the following specific objectives:

- 32.46 acres of Riparian Buffer Restoration
- 0.57 acre of Riparian Buffer Enhancement
- 20.65 acres of Riparian Buffer Preservation
- 25.01 acres of Forested Wetlands Restoration
- 4.19 acres of Forested Wetlands Enhancement
- 0.22 acre of Emergent Wetland Enhancement
- 15.16 acres of Upland Buffers Restoration
- Provide stream bed stability through the installation of grade control structures in the Middle Fork Salt River and Intermittent #1, #2, #3, and #4
- Restore structural complexity on Intermittent #3 and Intermittent #4 by utilizing low-tech process-based stream restoration methods.
- Address stream bank and riparian instability and erosion by filling in and stabilizing the developing cutoff channel originating from Middle Fork Salt River and bisecting the Bank

The planting of native herbaceous and woody species and the removal of invasive species, such as reed canary grass (*Phalaris arundinacea*) which is present in small amounts on the Bank, will restore impaired habitats and result in a net increase in the aquatic and upland habitat quantity and quality on the site. Moreover, riparian buffer restoration will reduce aquatic impairment from excess runoff and sedimentation.

The Bank land will then be legally protected as natural habitat in perpetuity using a conservation easement. The aquatic resources provided by the planned mitigation activities will address the loss of wetland and stream habitats within the Bank's service area as compensatory mitigation for impacts to jurisdictional waters, including wetlands, authorized under Section 404 and Section 401 of the Clean Water Act and/or under Section 10 of the Rivers and Harbors Act of 1899. The proposed mitigation activities will improve water quality by increasing the amount of native riparian and wetland habitat on the site, filtering surface

and subsurface water that drains across the Bank, and storing and treating water that floods the site when the Salt River overflows its banks.

3. **Project Description/Bank Establishment:** The Bank has an advantageous landscape position low in the watershed of the Salt River and flooding has been frequent enough to prevent farming the site in some years. During pollutant- mobilizing flood events, some of the water carried by the Salt River and its tributaries will flow through the planted riparian buffers and wetlands. The lower velocity of flood flows through such areas will allow particles to settle out of the water and the interaction with plants and other organic material can remove sediment and other pollutants through physical-chemical interactions. This sediment removal would be advantageous as there is a Total Maximum Daily Load for sediment for 49 miles of the Salt River, including the portion within the Bank (Missouri Department of Natural Resources, 2006).

The most notable and unique long-term hydrologic process occurring on the Bank is the gradual formation of a cutoff channel between the easternmost bend in the Salt River on the property and its bend just south of the southeastern corner of the Bank, south of Omega Street. During the multiple flood events that occur in most years, water from the Salt River flows into this cutoff channel, then through Intermittent #3 and Intermittent #4 and back into the Salt River. In the current condition, this cutoff channel is the greatest source of hydrology for the Bank but needs to be stabilized so that does not continue to erode to become the main channel of the Salt River which would cut off approximately 1.7 miles of the Salt River and drain many wetland areas on the Bank and in the floodplain areas along the stretch of the Salt River that would be abandoned. Over the long term, the incision on Intermittent #4 and head cut on Intermittent #3 threaten the stability of the high flow channel and need to be addressed.

To address the cutoff channel as both a hydrologic resource and source of concern, the design strategy is to stabilize the head cut and disperse the available hydrology across much of the Bank to create widespread wetland conditions and increase the residence time of water on the Bank. This is proposed to be achieved by the construction of a berm and rock outlet structure that will control the water surface elevation and thus the depths of water in wetland pools and prevent the headcut in Intermittent #3 from migrating up the cutoff channel.

In addition to the high flow cutoff forming across the Bank, the river has already formed a cutoff channel along Omega Road immediately to the southwest of the Bank proposal. The depressional nature of this portion of road has held water after storms for some time, but in recent years the road itself has become a perennial part of the channel. This sequence of events has resulted in the southern southwest corner of the Bank being a steep streambank that may need stabilization.

The planned compensatory mitigation activities on the Bank have been designed to address both the primary design objective of improving water quality and the secondary design objective of creating and enhancing natural habitats. The Bank will be seeded with native seed mixes and planted with native shrubs and trees selected for each habitat type and planted in densities sufficient to ensure the establishment of native plant communities. In addition, existing wooded areas on and in the immediate vicinity of the Bank will serve as a seed source for natural recruitment of colonizing species. The seed mixes, shrubs, and trees will be selected to increase diversity, advance the successional state of the plant communities on the Bank, and provide soft and hard mast for wildlife. Invasive and undesirable plant species will be eradicated by herbicide treatment or physical removal.

The number of wetland credits generated by the Site's mitigation actions has been determined using the Missouri Wetland Mitigation Method (U.S. Army Corps of Engineers, 2017). As shown in the Bank Development Plan figures, the wetland mitigation activities that would generate these credits include the restoration and enhancement of emergent and forested wetlands and their associated upland buffers.

| **Wetland Mitigation Worksheet** | **Credits** |
|---|---|
| Restoration | 117.55 |
| Enhancement | 49.44 |
| Preservation | 0 |
| **TOTAL:** | **166.99** |

The Sponsor is proposing a variety of mitigation actions to improve the ecological state of the on-site streams. The Site's stream mitigation actions are shown in the Bank Development Plan figures. The total number of stream credits generated by the Bank's mitigation actions was determined by using the In-Stream and Riparian Buffer worksheets from the State of Missouri Stream Mitigation Method (MSMM).

| | |
|---|---|
| **Total Stream Credits Generated (In-Stream + Riparian Buffer) =** | **52,308.84** |

4. **Service Area:** The proposed service area of the Bank consists of the portions of the Central Plains / Cuivre / Salt Ecological Drainage Unit (EDU) and the Central Plains / Des Moines EDU located within Missouri. This service area comprises the watersheds within the State of Missouri that drain into the Mississippi River north of the Missouri River watershed along with the adjacent immediate drainage area of the Des Moines River (the Central Plains / Des Moines EDU). The Central Plains / Des Moines EDU is included in this service area because it is similar ecologically to the Central Plains / Cuivre / Salt EDU and only contains approximately one eighth of Clark County, which the Sponsor noted may be too small to support its own centralized mitigation service area.

5. **Bank Need/Technical Feasibility/Ecological Suitability:** The conversion of natural habitats to agricultural land uses was a primary driver of degradation of the aquatic resources of the service area. Farming practices resulted in the draining of wetlands, increased erosion, and the release of sediments, nutrients, pesticides, and animal waste into waterbodies. The creation of levees and channelization of streams degraded local stream functions and decreased the connection between stream channels and their associated floodplains, which reduced the amount of floodplain wetlands and the ecosystem services provided by these habitats. Rural stream road crossings are major sources of sediments, potential barriers to the movement of aquatic fauna, and causes of harmful stream geomorphic changes. Land development, particularly in suburban/exurban areas of St. Charles and Lincoln Counties and smaller municipalities such as Hannibal, Mexico, Moberly, Macon, and Kirksville, also had a similar impact on aquatic resources in these areas. The construction of Mark Twain Lake, as well as other impoundments in the service area, permanently impacted thousands of acres of rivers, streams, wetlands, and floodplains, resulting in a significant loss of those aquatic resources in the service area. In addition to these past impacts, the aquatic resources of the service area face continued threats from current agricultural activities, land development, stream road crossings, the construction of small impoundments, and water pollution from point and nonpoint sources.

Several studies corroborate this general assessment of the service area and quantify the degradation of its aquatic resources. The Missouri Department of Conservation conducted watershed inventory and assessments of the Fabius River, Salt River, and Cuivre River watersheds, and found such impairments as excessive turbidity and siltation, large-scale river channelization, hydrologic and hydraulic modifications, insufficient riparian buffers, and streambank erosion (Weirich, 1993; Dames and Neuswanger, 1999; Dames and Todd, n.d.). In addition, the State of Missouri Unified Watershed Assessment ranked the Middle-South Forks of the Salt River (07110005) subbasin's restoration priority in the 65$^{th}$ percentile of the subbasins in Missouri (23 of 66). This ranking was due to high quantities of atrazine in surface waters, sediment impairments, riparian degradation, severe wetland loss, the importance of the watershed as a drinking water source, and the watershed's high probability for successful rehabilitation. Additionally, the Salt River (07110007) subbasin, which is directly downstream of the Bank, was ranked the second highest priority of all the 66 subbasins in Missouri (Missouri Unified Watershed Assessment Steering Committee, 1998). In addition, the Missouri Resource Assessment Partnership conducted a thorough geospatial analysis of the human threats to the health of stream systems throughout Missouri and developed a Human Stressor Index for waterbodies (Missouri Resource Assessment Partnership, 2005). In the service area, the watersheds of highest aquatic stress were those of the North Fabius River, Mark Twain Lake, to the south and southwest of Mark Twain Lake, the downstream portion of the Cuivre River, Big Creek (a tributary of the Cuivre River), and in developed St. Charles County. All of these areas were ranked in the top level of overall Human Stressor Index (Sowa *et al*., 2005). Finally, USDA-ARS selected the Salt River basin to be a Conservation Effects Assessment Project because of stakeholder interest and documented water quality problems as it was found to have high soil erosion potential and high herbicide transport vulnerability due to the region's claypan soils (Lerch *et al*., 2008).

The wetland mitigation activities described in this document are technically feasible. The Bank is in a location on the floodplain of the Salt River that frequently floods. Almost all the soils on the Bank are hydric and the soil taxonomy shows that these areas developed historically as wet forest, wet prairie, or wetland habitats (Soil Survey Staff, 2022). The hydrology of the Bank has proved to be more than ample for supporting wetlands. Beyond direct precipitation, the Bank receives surface water from the hills to the north, as evidenced by the success of the foothill depressional wetlands in the adjacent permittee responsible mitigation site. The Salt River frequently floods the Bank which has hindered agricultural production in many years. As a result, vehicular access to the Bank is frequently prevented by wet and muddy conditions. The past actions of farmers to concentrate water so that it drains quickly from the Bank can be reversed through grading and berm construction to spread water out and increase its residence time in order to restore widespread wetland conditions. Invasive species eradication, seeding, and planting can be used to establish appropriate vegetation to wetland areas. These factors combine to make the Bank site an excellent candidate for wetland restoration and enhancement.

The proposed stream mitigation activities are also technically feasible. The Bank contains stretches of perennial, intermittent, and ephemeral streams that have insufficient or degraded riparian buffers. By seeding and planting a diversity of native tree, shrub, and herbaceous species, riparian buffers of appropriate width and botanical diversity can be established on the Bank. In addition, the streams on the Bank are suffering from incision and some bank erosion, which could be addressed through such in-stream mitigation activities as grade control or bank stabilization. As a result, the Bank has great potential for restoring in-stream and riparian buffer habitat.

The proposed mitigation activities will improve the aquatic habitat value of the site through an increase in the quantity and quality of aquatic habitats. The improvements that will occur at the Bank will not only benefit the immediate watershed but will also improve downstream aquatic habitat and water quality by reducing the amount of nutrients, chemical pollutants, and sediments flowing offsite.

6. **Long Term Management:** The Flick Family Irrevocable Trust owns the Bank property in Macon County, Missouri, including the water rights and mineral rights, and the Sponsor has developed a preliminary mitigation plan to restore, enhance, and preserve onsite streams, riparian buffers, wetlands, and wetland buffers. It is the intention of the Sponsor to legally preserve the property as open space habitat in accordance with the terms of the long-term management plan included in the Final Mitigation Banking Instrument and the Bank's conservation easement. The conservation easement will be the legal means to ensure that the Bank remains as natural habitat in perpetuity. It shall prohibit any development of the site and shall stay with the Bank property in the instance that the title to the property is transferred to another party. The terms of the easement will be enforceable by the St. Louis District and the Midwest Mitigation Oversight Association, a non-profit group that will hold the conservation easement and will monitor the Sponsor's compliance with the conditions of the easement. After the Bank is approved, a copy of the finalized and recorded conservation easement shall be provided to the St. Louis District.

The Midwest Mitigation Oversight Association is a conservation-based non-profit corporation established in 2007 with the sole purpose of holding and monitoring natural resource mitigation conservation easements. The Midwest Mitigation Oversight Association has been approved by the Kansas City, St. Louis, and Little Rock Districts of the U.S. Army Corps of Engineers as legally-binding recipient of conservation easements for mitigation sites and currently holds easements on thousands of acres of federal mitigation parcels in Missouri and Kansas. The board of directors consists of professionals whom all meet stringent requirements in order to be on the board, including the possession of a broad scientific background related to natural resources, conservation science or applied ecology.

The long-term management strategy for the Bank is to provide limited maintenance and management of the Bank as needed after all parties have determined that the Bank is successful and more intensive monitoring and management is no longer necessary. Active management of the Bank will continue for a minimum of fifteen (15) years after approval of the final banking instrument or until all credits have been sold (unless the remaining credits are indefinitely suspended or removed), whichever is later. At that point, the ecosystems within the Bank will not require active management. Long term management will commence at the end of the active management phase of Bank operation and will include continued maintenance of the site for purposes of such activities as controlling invasive species, maintaining water control berms, prevention of trespassing, and removal of litter, as necessary. Costs associated with these activities will be paid from funds accumulated in the business operating account. It is the intent of the Sponsor to oversee the long-term management of the Bank in perpetuity but should the Sponsor for any reason decide to transfer the long-term management of the Bank to a currently unknown entity, the Sponsor will notify the St. Louis District prior to the transfer of the long-term management responsibilities. At that time the appropriate funding mechanism, as outlined in the Mitigation Rule at 33 CFR 332.7(d), will be determined.

7. **Sponsor Qualifications:** The Sponsor operates twenty-two approved wetland and stream mitigation banks and umbrella bank mitigation sites within the Kansas City and Little Rock Districts of the U.S. Army Corps of Engineers. Project descriptions of several of these are included in Appendix E. These approved mitigation locations together encompass almost 2,800 acres and include more than 820 acres of floodplain wetland establishment, restoration, and enhancement as well as many additional acres of wetlands established within riparian buffers that are classified as stream mitigation. These mitigation sites have also legally protected both sides of more than 24 miles of streams and more than 12 miles of streams on one side. Riparian buffers along these streams have been expanded through the establishment of more than 835 acres of new riparian buffer plantings.

The Sponsor's approved mitigation banks have also included a broad selection of in-stream mitigation techniques, including the restoration of miles of highly degraded farm ditches or eradicated former streams to their natural condition as intermittent or ephemeral stream channels with appropriate channel morphology. Other in-stream work has included longitudinal peak stone toe bank stabilizations, log and cross vane grade controls, regenerative stream restoration of incised channels, and willow cuttings for bank stabilization.

8. **Water Rights:** The Bank is owned in fee simple by the Flick Family Irrevocable Trust, including all water rights and mineral rights. There are currently no easements within the Bank.

9. **Agency Review:** Department of the Army, Corps of Engineers. The Corps of Engineers is participating in this matter as the chair of an Interagency Review Team. The Interagency Review Team consists of the Corps of Engineers (St. Louis & Rock Island), the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, the Missouri Department of Conservation, and the Missouri Department of Natural Resources. The project would require Section 404, Clean Water Act authorization prior to the proposed construction. If approved, the proposed bank could provide stream credit for future, Section 404, authorized projects that require compensatory mitigation. Formal authorization of the bank proposal occurs through Corps approval of a Mitigation Banking Instrument.

10. **Historical/Archaeological:** The area was previously surveyed in 2010 and a site was identified but was not eligible for the National Register of Historic Places. The Missouri Department of Natural Resources – State Historic Preservation Office concurred and "No Historic Properties Affected" was determined. The District Archaeologist reviewed the report and concurred with these findings.

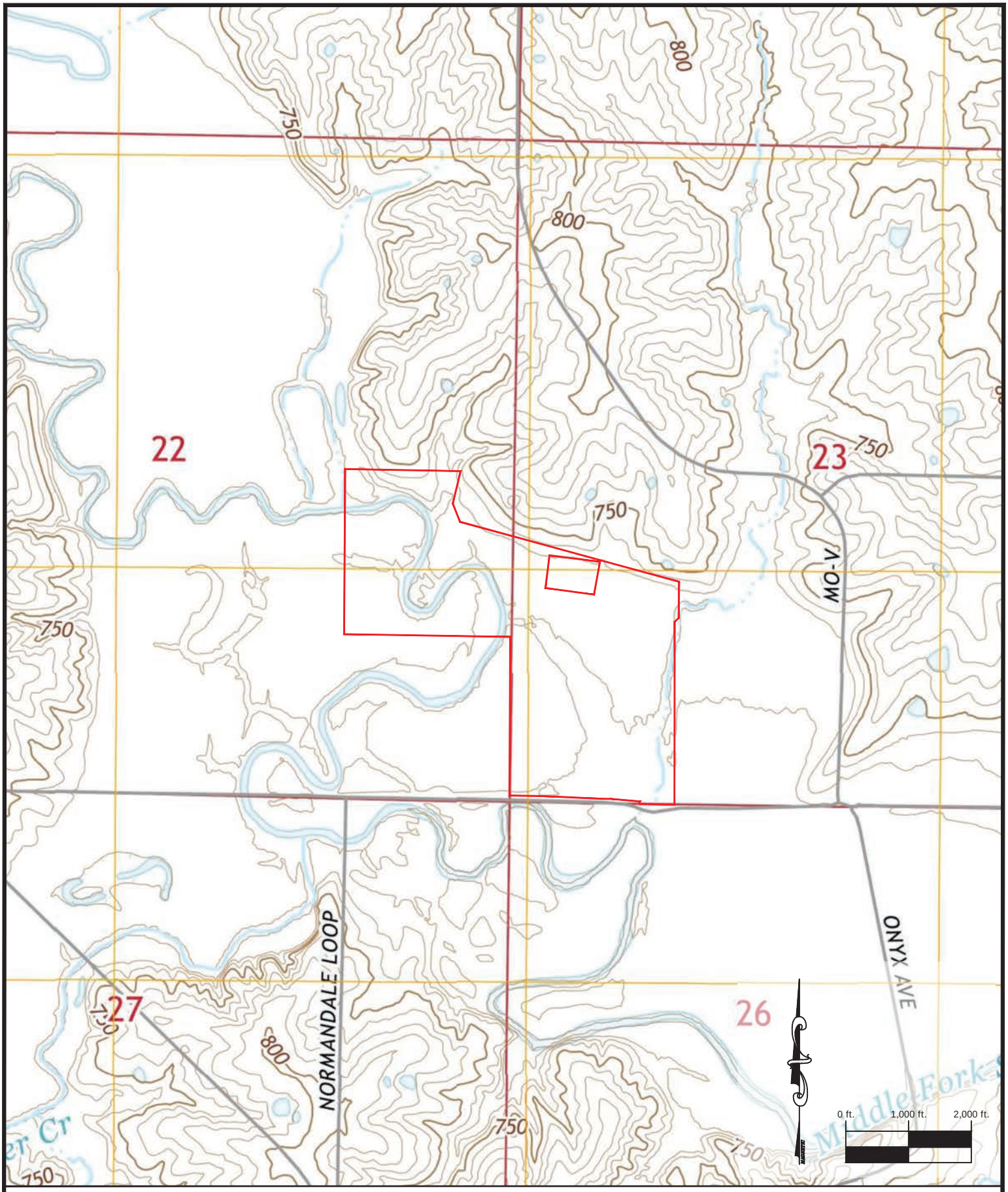
11. **Endangered Species:** District staff performed a preliminary review of potential threatened and endangered species using the USFWS IPaC website on October 21, 2024. IPaC (2025-0008882) listed these species based on the project location: endangered Gray Bat (*Myotis grisescens*), Indiana Bat (*Myotis sodalis*) Northern Long-eared Bat (*Myotis septentrionalis*); proposed threatened Western Regal Fitillary (*Argynnis idalia occidentalis*) and candidate Monarch Butterfly (*Danaus plexippus*). This proposal will be reviewed by the U.S. Fish and Wildlife Service. Any comments USFWS may have concerning Federally listed threatened or endangered wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

12. **Who Should Reply:** The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to approve the proposed bank. Any comments received will be distributed to the members of the Interagency Review Team. Comments should be submitted on or before the expiration date specified at the top of page 1. Comments should bear upon the adequacy of plans and suitability of locations and should, if appropriate, suggest any changes considered desirable. Any person may also request a public hearing. The request must be submitted in writing to the District Engineer within the designated comment period of the notice and must state the specific reasons for requesting the public hearing.

13. **Reply to the Corps of Engineers:** Comments or questions concerning this notice may be directed to David P. Meyer via phone (314/331-8810), email (David.p.meyer@usace.army.mil), or by writing to the following address: US Army Corps of Engineers, St. Louis District, ATTN: David P Meyer-RD, 1222 Spruce Street, St. Louis Missouri 63103.

14. **Complete Prospectus and Draft Instrument:** The complete prospectus and draft plan can be found on our public website at:
https://ribits.ops.usace.army.mil/ords/f?p=107:278:4742791296019:::278:P278_BANK_ID:6880

Hard copies are also available by request.

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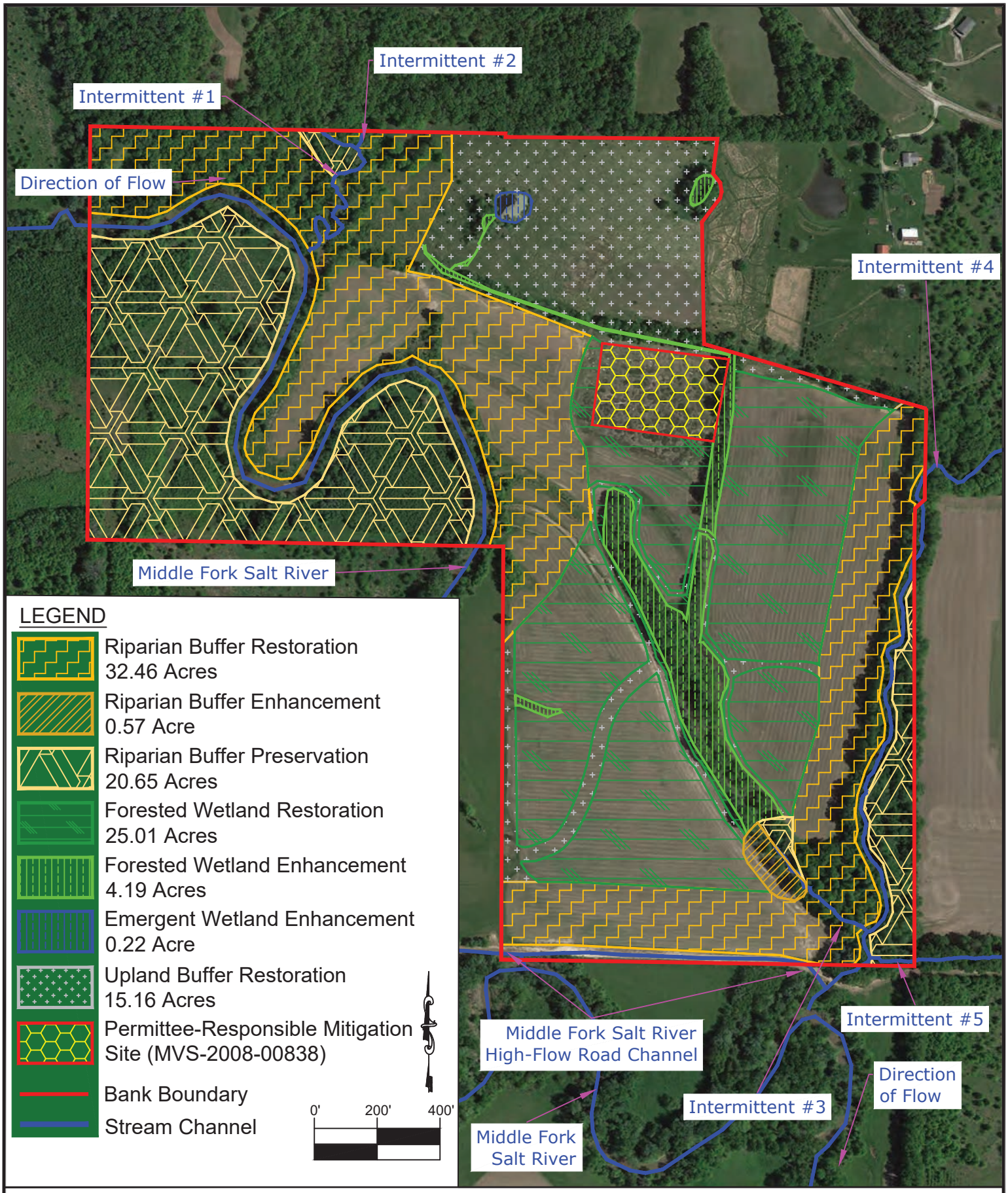
13610 Barrett Office Drive, Suite 100 St. Louis, MO 63021

Salt River
Wetland & Stream
Mitigation Bank

2014 USGS
Topographic Map
Clarence, MO Quadrangle

| FIGURE | DATE |
|---|---|
| 3 | FEB 2023 |

# Service Area Boundaries




# MIDDLE FORK SALT RIVER WETLAND & STREAM MITIGATION BANK

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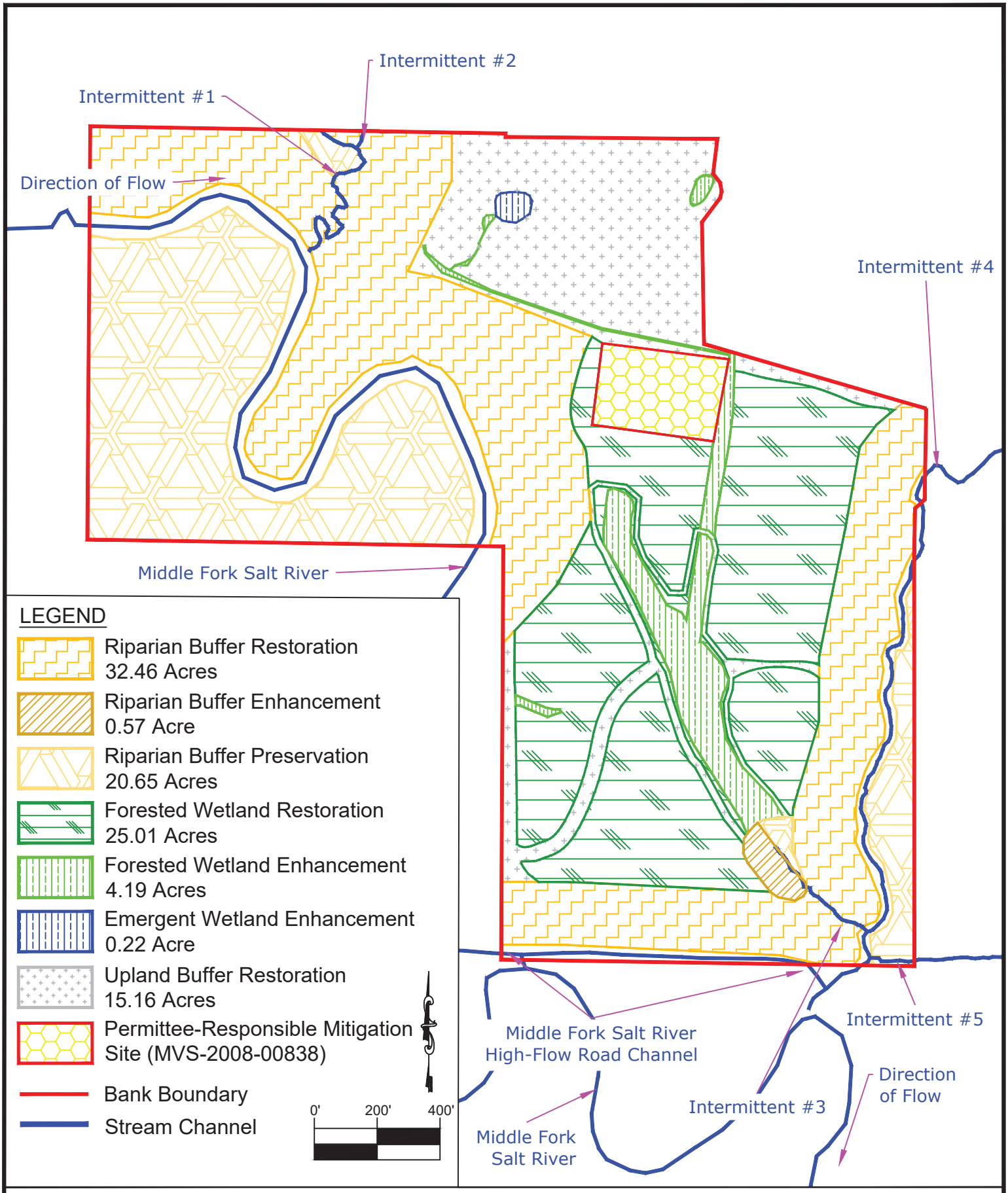
Figure C-1: Crediting Figure

DATE: MAY 2024




# MIDDLE FORK SALT RIVER WETLAND & STREAM MITIGATION BANK

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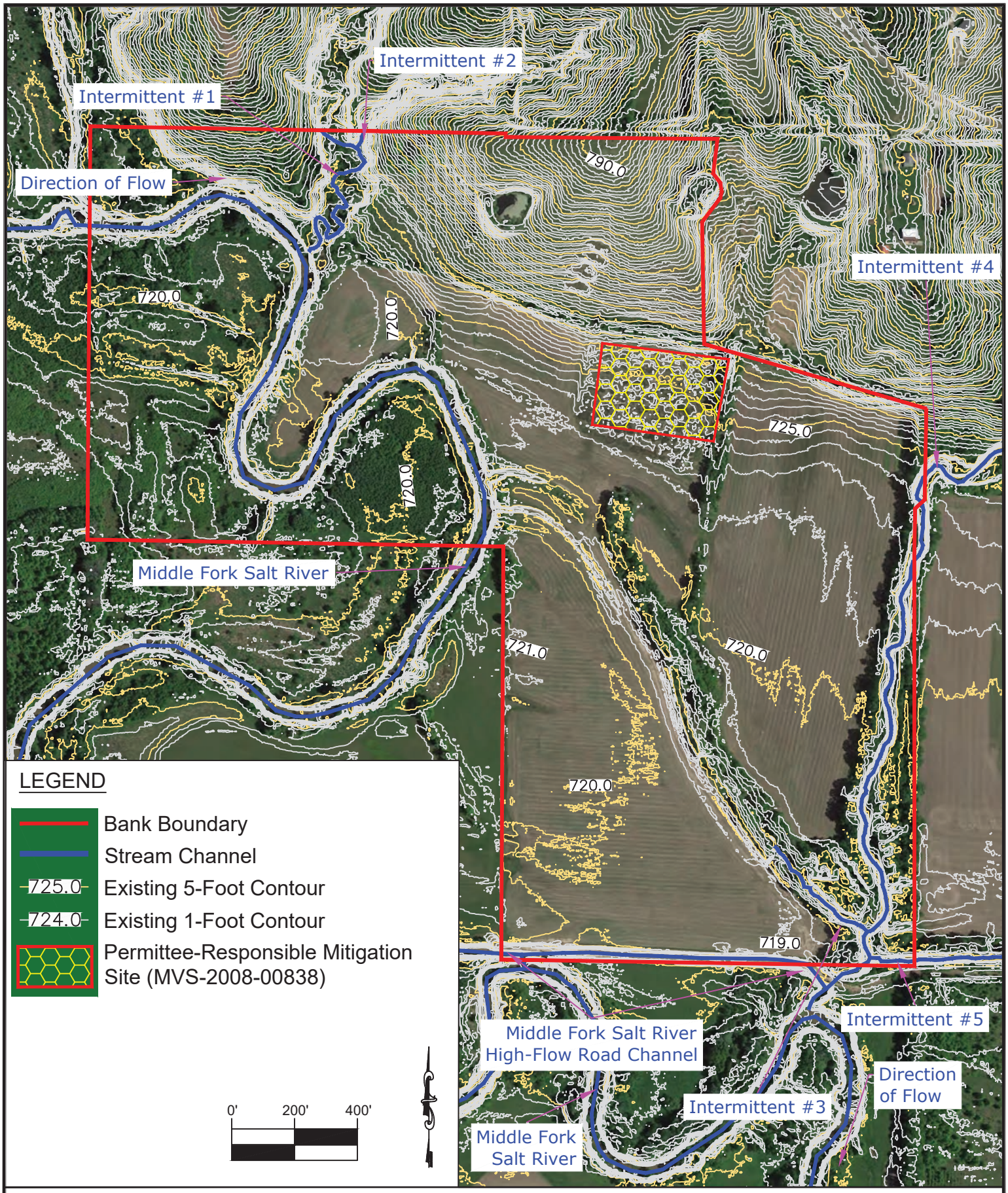
Figure C-2: Crediting Figure (Without Aerial Photograph)

DATE: MAY 2024




# MIDDLE FORK SALT RIVER WETLAND & STREAM MITIGATION BANK

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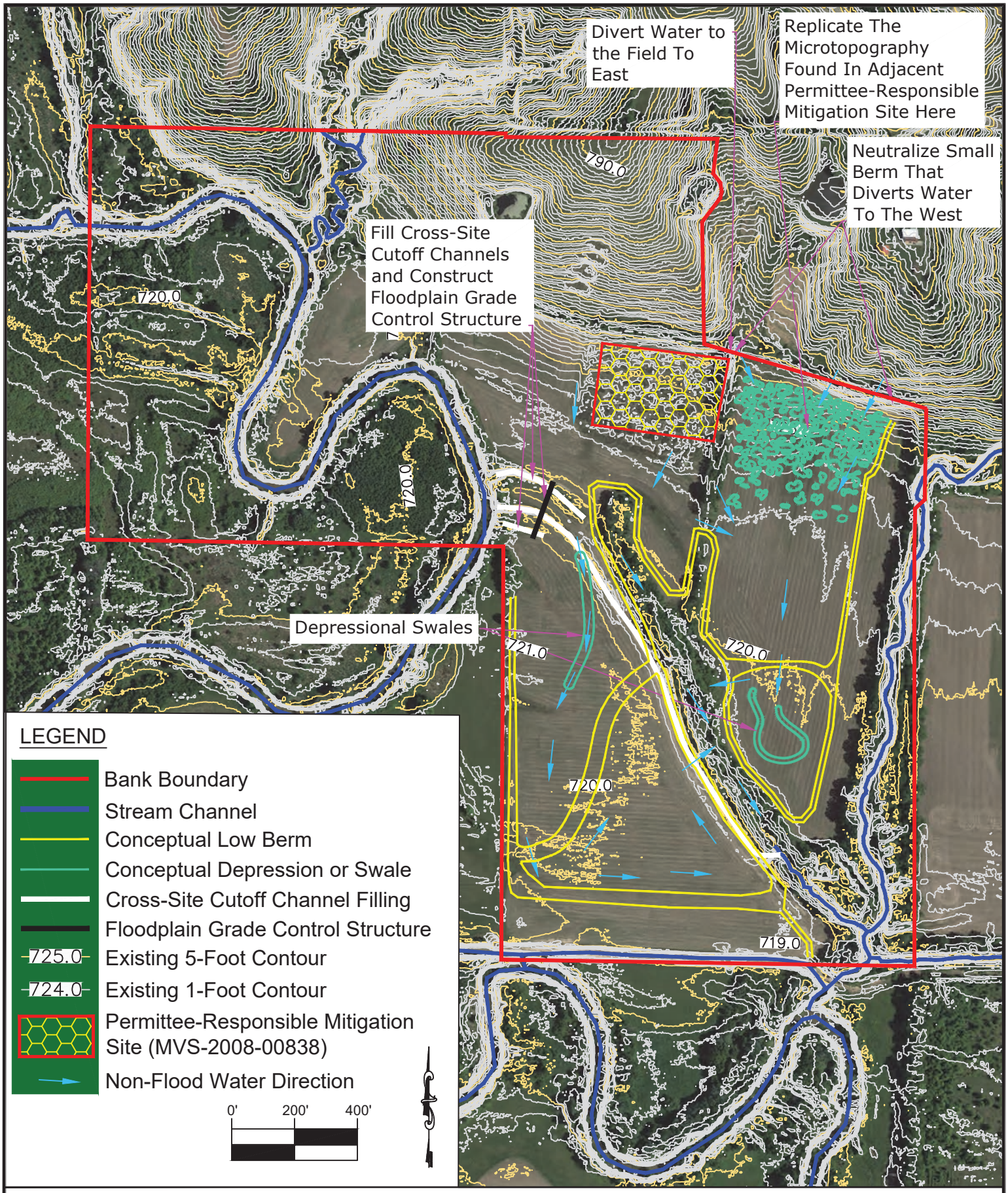
Figure C-3: Grading Plan - Existing Grade

DATE: MAY 2024




# MIDDLE FORK SALT RIVER WETLAND & STREAM MITIGATION BANK

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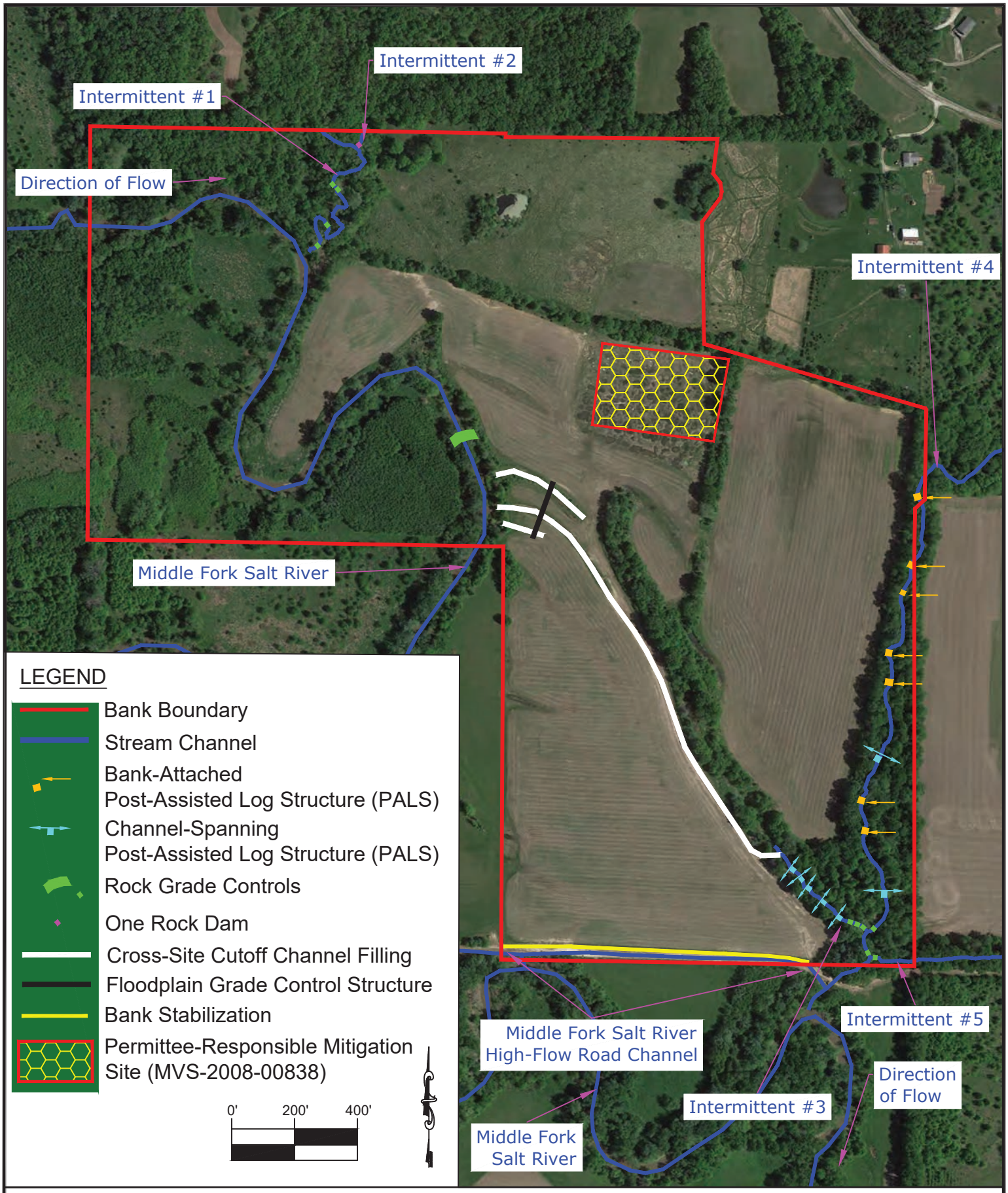
Figure C-4: Grading Plan - Conceptual Proposed Grading

DATE: MAY 2024




# MIDDLE FORK SALT RIVER WETLAND & STREAM MITIGATION BANK

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Figure C-16: In-Stream Mitigation Locations

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# MIDDLE FORK SALT RIVER WETLAND & STREAM MITIGATION BANK

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Figure C-17: Wetland Enhancement Structure Locations

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