



Grand River Ecosystem Restoration Study

Final Integrated Feasibility Report and Environmental Assessment

Appendix H: Public and Agency Coordination

August 2020, Updated December 2020



**US Army Corps
of Engineers** ®
Kansas City District

PUBLIC NOTICE



US Army Corps of Engineers
Kansas City District

Project No: 2019-005-CW
Issue Date: October 8, 2019
Close Date: November 20, 2019

INTRODUCTION: The U.S. Army Corps of Engineers, Kansas City District (USACE), has prepared a Draft Environmental Assessment (EA) and associated Finding of No Significant Impact (FONSI) in accordance with the National Environmental Policy Act (NEPA) of 1968, as amended, for the proposed Grand River Ecosystem Restoration Feasibility Study. The Draft EA was prepared to assess and document potential effects to the human and natural environment of the project's Tentatively Selected Plan (TSP). The USACE has made a preliminary determination that the proposed project would not result in significant degradation to the environment and therefore supports preparation of a Draft FONSI. The Draft EA, FONSI, and supporting information are provided with issuance of this Public Notice on 8 October 2019 to initiate the 30-day public review and comment period.

This Public Notice and project related information are being provided to solicit public input on the proposed action. Any interested party is invited to submit to this office written facts or objections relative to the proposed project, both favorable and unfavorable in nature. All comments will be accepted and made part of the public record. Copies of all comments, including names and addresses of commenters, may be provided to applicants upon request. The USACE will consider all pertinent comments in preparing final documentation for completion of the NEPA process through signature of the FONSI by the USACE Kansas City District Commander.

This public notice is issued jointly with the Missouri Department of Natural Resources, Water Pollution Control Program. The Missouri Department of Natural Resources will use the comments to this notice in deciding whether to grant Section 401 water quality certification.

CONTACT INFORMATION: The Draft documents for this project are available for review at the USACE, Kansas City District office and on line at the following web pages:

[http://www.nwk.usace.army.mil/Media/Public-Notices/Planning-Public-Notices/nwk.usace.army.mil/Missions/Civil-Works/Civil-Works-Programs-And-Projects/Grand-River-Basin/.](http://www.nwk.usace.army.mil/Media/Public-Notices/Planning-Public-Notices/nwk.usace.army.mil/Missions/Civil-Works/Civil-Works-Programs-And-Projects/Grand-River-Basin/)

The USACE will review comments received in response to this Public Notice to complete project evaluation for compliance with the requirements of NEPA, and other Federal, state, and local regulations. Project information may also be obtained by contacting Mr. Michael V. Snyder, Environmental Resource Specialist, U.S Army Corps of Engineers, Kansas City District, ATTN: Environmental Resources Section, 601 East 12th Street, Kansas City, Missouri 64106, by email at michael.v.snyder@usace.army.mil at GrandRiver@usace.army.mil, or by telephone at (816) 389-3141. All comments to this public notice should be directed to the above address on or before 7 November 2019.

PROJECT LOCATION: Components of the TSP would be located on and around Pershing State Park, Fountain Grove Conservation Area (Fountain Grove CA), and Swan Lake National Wildlife Refuge (NWR) in Carroll, Chariton, Linn and Livingston counties in north central Missouri (**Figure 1**). The TSP also includes implementation of approximately 316 bank stabilization projects in the upper portion of the Locust Creek sub-basin. Projects may be implemented in the following HUC-10 watersheds: Watkins Creek-Locust Creek (excluding the portion in Iowa); East Locust Creek; West Locust Creek; and Locust Creek.

AUTHORITY: This feasibility study was authorized by resolution of the Committee on Environment and Public Works of the United States Senate during the 108th Congress 2nd Session on June 23, 2004. The authorization stated:

That the Secretary of the Army is requested to review the report of the Chief of Engineers on the Grand River and Tributaries, Missouri and Iowa, published as House Document 241, 89th Congress, First Session, and other pertinent reports, to determine whether any modifications of the recommendations contained therein are advisable at the present time in the interest of flood damage reduction, municipal and industrial water supply, recreation, fish and wildlife conservation, or environmental restoration in the Grand River Basin, Iowa and Missouri.

ACTIVITY: The TSP is composed of actions within the three focus study areas: Locust Creek (LC), Fountain Grove (FG), and Yellow Creek (YC). The Locust Creek TSP features include a diversion berm across the Locust Creek floodplain and extending into the Locust Creek channel upstream of Pershing State Park. The floodplain portion of the berm would serve to prevent the progression/formation of additional avulsions that might divert water and bypass the sediment detention basin. The in-channel portion of the berm would serve to divert flows into the sediment basin while also allowing water to continue downstream on Locust Creek and Higgins Ditch. Construction of the sediment detention basin would require raising/construction of a perimeter levee around the sediment detention basin. Two spillways were included in the levee raise to allow water to overtop in a controlled manner. A pilot/diversion channel into the sediment detention basin would be excavated to convey sediment and logs away from the diversion berm and reduce the risk of plugging the mouth of the diversion. A portion of the existing levee on the east bank of Locust Creek would be notched to allow flow into the sediment detention basin. In addition, several existing levees within the sediment detention basin would be notched. Log capture features would be incorporated into the sediment detention basin. Water would exit the sediment detention basin through three 6-foot by 6-foot concrete box culverts located on the south side of the sediment detention basin. On-going removal of logs from the basin or log jams in locations adversely impacting the effectiveness of the sediment detention basin would be necessary.

The Locust Creek TSP also includes four grade control structures. Two would be located on Locust Creek, one would be constructed along Higgins Ditch, and one on Muddy Creek upstream of its connection with the sediment detention basin to prevent head-cutting. Approximately 23,500 feet of Muddy and Locust creeks would be dredged to provide channel dimensions sufficient to accommodate the historic bankfull flow and provide appropriate slope. Dredge material would be used to perform small levee modifications and habitat enhancements. Dredged material would be spoiled along a portion of Locust Creek to create an avulsion spoil berm. The partial removal of the levee separating the east and west sides of the Locust Creek floodplain south of Highway 36 would help restore floodplain connectivity between Higgins Ditch and the Locust Creek channel.

Bank stabilization measures would be implemented in the Locust Creek watershed upstream of the sediment detention basin. It is estimated that approximately 316 bank stabilization projects

would be implemented to achieve a 14% reduction in quantified risk associated with uncertainties in forecasted sediment loading. Projects may be implemented in the following HUC-10 watersheds: Watkins Creek-Locust Creek (excluding the portion in Iowa); East Locust Creek; West Locust Creek; and Locust Creek. Although specific project sites are not known, it is anticipated these project would be relative small in magnitude and plan formulation assumed small bank stabilization sites of approximately 250 feet in length with 12-foot high banks.

The Fountain Grove TSP features a suite of actions to enhance wetlands through increased natural ecosystem form and function, improved habitat development, and improved water management. The bank of the channel downstream of the Pool 3 Levee water control structure (WCS), referred to as Jackson's Ditch, would be armored to prevent erosion on the neighboring property. This measure allows for opening the gates at Pool 3 Levee WCS to increase the drainage rate from Fountain Grove CA pools. The Pool 1 WCS #1 would be replaced with two 96-inch polyvinyl chloride (PVC) pipes with two sluice gates. The culverts are used to drain Pool 1 to Pool 2. A new levee would be constructed, running north/south, on the west side of Fountain Grove CA where Parsons Creek flows are entering the area under existing conditions. The levee would prevent flows lower than the 1.2 year recurrence interval from entering Fountain Grove CA and focus Parsons Creek flows towards a controlled overtopping point into a conveyance channel. The Pool 2-3 levee would be moved closer to the pump station and an additional levee would be constructed within Pool 3 to allow for independent water control of all three major pools on Fountain Grove CA. The levee on the east side of Fountain Grove CA would be set back to increase flood resiliency. A conveyance channel would be excavated through Fountain Grove CA to effectively move Parsons Creek flows through the area during high flow events. Outside of high flow events, the feature serves as a water distribution channel and provides aquatic/edge habitat for wetland species. A portion of the Chillicothe-Brunswick rail berm would be removed.

Micro-topography on the site would be enhanced through the creation of sloughs and habitat mounds. Spoil from drainage channel excavation would be used to form the habitat mounds. Earthwork would be performed to modify the existing pool design on the east side of Fountain Grove CA. The intent would be to provide more naturally shaped wetland pools, which is consistent with modern wetland management practices. The redesign of the pools on the east side would allow for the removal of some water control structures in that area, creating more natural conditions, and allowing for more efficient management. An additional drainage ditch would be constructed from the proposed Parsons Creek levee to the vicinity of the Fountain Grove CA pump station. This feature would allow for more efficient drainage of Pool 1 when desired. Two electric groundwater pumps would be installed on South Fountain Grove CA to facilitate wetlands development and more reliable hydrology.

The TSP for Yellow Creek is alternative YC11. The main feature of the plan is the setback of a levee on Swan Lake NWR. The plan would include levee removal, removing three existing culverts, raising a portion of existing levee, constructing a portion of new setback levee, and addition of two 3-foot diameter concrete culverts with flap gates.

TERRESTRIAL AND AQUATIC HABITAT: The TSP would result in 5,184 average annual habitat units (AAHUs) of wet prairie, 8,524 AAHUs of emergent wetland, 6,120 AAHUs of bottomland forest, and 199 AAHUs of aquatic riverine habitat types. This represents a net increase of 2,453 AAHUs of these habitats within the study areas when compared to the expected degradation under the future without project condition. Steps to avoid, minimize, and provide compensatory mitigation for unavoidable impacts to terrestrial and aquatic resources would include non-structural Best Management Practices (BMPs) such as: keeping heavy construction equipment out of the waterway whenever possible, protecting construction materials from

precipitation/flooding, having spill containment plans for construction equipment, and using materials that are free from contaminants.

ENDANGERED SPECIES: Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, the Corps has made a preliminary determination that the TSP may affect but is not likely to adversely affect the following federally listed species or their designated critical habitat: gray bat, Indiana bat, and northern long-eared bat. A determination of no effect was made for the pallid sturgeon. This determination is being coordinated with the U.S. Fish and Wildlife Service (FWS) through a Biological Assessment that will be submitted concurrent with this public notice.

WETLANDS AND WATERS OF THE US: Construction activities with this project would occur in a jurisdictional water of the United States and require a Clean Water Act (CWA) Section 404 authorization and CWA Section 401 State Water Quality Certification (33 USC 1341). Section 404 of the Clean Water Act (CWA) requires authorization from the Secretary of the Army, acting through the Corps of Engineers, for the discharge of dredged or fill material into all waters of the United States, including wetlands. The USACE, through preparation of a Draft 404(b)(1) evaluation (40 CFR 230) has made a preliminary determination that the project as proposed would not be contrary to the public interest and is in compliance with Section 404(b)(1) guidelines. This public notice will support an application to the state in which the discharge site is located for certification of the discharge. The discharge must be certified before Department of the Army authorization can be issued. Certification, if issued, expresses the state's opinion that the discharge will not violate applicable water quality standards. Upon completion of the public review period, a public comment/response report will be provided to the state for consideration in issuing a CWA Section 401 state water quality certification

CULTURAL RESOURCES: Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, the Corps determined that historic properties may be adversely affected by the TSP. The Corps has invited the Missouri SHPO, ACHP, federally recognized Native American Tribes, and other interested parties to participate in the development of a Programmatic Agreement (PA). All terms and conditions resulting from the agreement shall be implemented in order to minimize adverse impacts to historic properties. The PA approach to Section 106 compliance is applicable because: 1) the exact location of upstream bank stabilization projects is not known at this time, and 2) there is potential for future flood events and sedimentation to cause changes in the final design, footprint, and TSP components during pre-construction engineering and design.

FLOODPLAINS: This activity is being reviewed in accordance with Executive Order 11988, Floodplain Management, which discourages direct or indirect support of floodplain development whenever there is a practicable alternative. By this public notice, comments are requested from individuals and agencies that believe the described work will adversely impact the floodplain.

POTENTIAL IMPACTS: The decision to issue authorization will be based on an evaluation of the probable impact including the cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. The Draft EA includes evaluation of temporary and direct effects of the proposed project on the human and natural environment, as well as potential cumulative impacts resulting from other reasonably foreseeable projects within the study areas. All relevant cumulative factors were considered including conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and

accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and, in general, the needs and welfare of the people.

PUBLIC HEARING: The USACE is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the USACE to determine whether to issue, modify, condition or deny an authorization for this proposal. To make this decision, comments are used to address impacts on endangered species, historic properties, water quality, general environmental effects, and other public interest factors listed above. Comments are used in preparation of the final EA and/or an Environmental Impact Statement (EIS) pursuant to the NEPA. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. Any person may request, in writing, prior to the expiration date of this public notice, that a public hearing be held to consider this application. Such requests shall state, with particularity, the reasons for holding a public hearing.

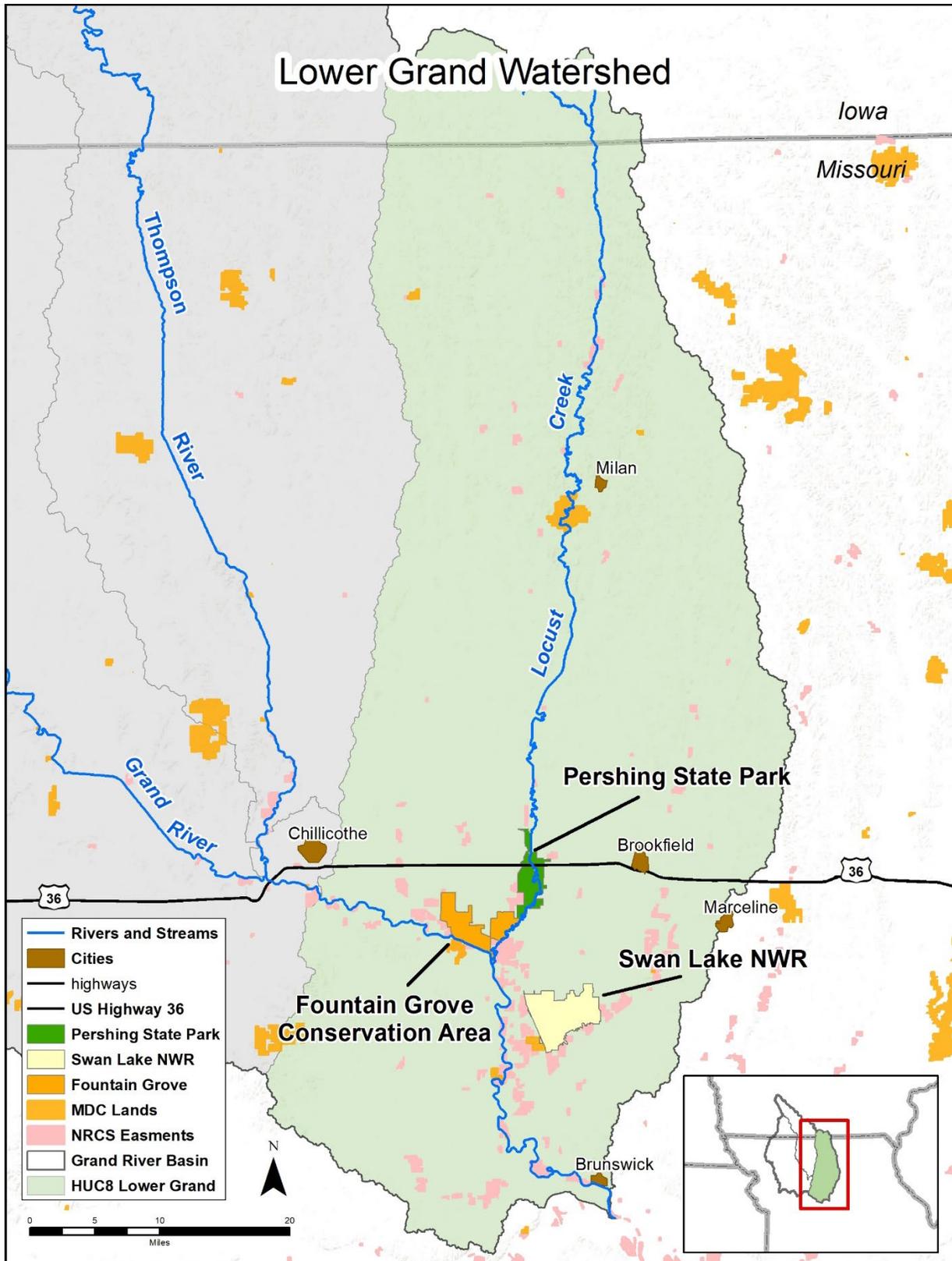


Figure 1. Lower Grand River Sub-basin.

Key to Comments Received on Draft Grand River Integrated Feasibility Report and Environmental Assessment

Public Comment #	Commenter
GR-PC-001	Anderson
GR-PC-002	Bartow
GR-PC-003	Tornow
GR-PC-004	Bartow
GR-PC-005	Schreiner
GR-PC-006	Siddens
GR-PC-007	Smith
GR-PC-008	Smith
GR-PC-009	Moore
GR-PC-010	Parsons
GR-PC-011	Roby
GR-PC-012	U.S. EPA

Summary of Comments and Responses

Public Comment #	Comment	Response
GR-PC-002 GR-PC-003 GR-PC-004	What you are wanting to do only creates more problems north of 36 Hwy and ruins thousands of acres of prime farm ground many more acres than you are trying to save in the park.	Hydrology and hydraulic modeling results presented in Section 5.13.2 of the final report and Appendix B indicates that the majority of land north of HWY 36 in the study area would experience a reduction in water surface elevations for the 100-year flood event under the recommended plan. This would represent a beneficial impact to the thousands of acres of agricultural land in that vicinity. Downstream of HWY 36, it is projected that approximately 2,600 acres of private and public lands would benefit from this plan.
GR-PC-005	I think it is mind blowing that you didn't pick up the fact that a huge part of the flood events on the west side of Fountain Grove comes not from Parsons Creek but from Muddy Creek. There are times when more water is flowing from Muddy Creek across Fountain Grove than from Parson Creek itself. I have been in boats several time and witnessed it firsthand. Parson Creek will be running backwards due to Muddy running into it. Any time the Grand River is above 25 feet in Chillicothe, Muddy Creek (the next major creek west of Parson Creek) flows through the bottoms, down the railroad tracks and across Fountain Grove. This happens multiple times a year, the 1.2 times the annual flood event levee proposed does not factor in this amount of water and is not sufficient to slow down the sediment build up. It needs to be modeled and I would be really interested to see how it turns out. Also what happens if this is cut off. I would be very interested to see if you cut off this bypass what that does to water levels upstream. We have the ability to stop this water with a 100Yard levee but need to see what happens if this is done.	Model extents were set to include the most influential streams to demonstrate the effects of the identified plan alternatives within the schedule and budget constraints of the feasibility study. Further refinement and expansion of the model can be accomplished during the Preconstruction Engineering and Design phase should it be determined necessary to inform design. The proposed deflection levee does not stop water from entering Fountain Grove. Gates and designated overtopping locations allow the water from Parsons Creek or Muddy Creek to pass through Fountain Grove at a controlled location in order to reduce damages to infrastructure. Additionally, several iterations and various deflection levees were evaluated to determine if they increased flood risk to properties located west of Parsons Creek. Some of these locations include areas north and west of the Fountain Grove pools. The results, included in Appendix B Section 1 Attachment 2 (B.1.2), were used to screen alternatives such that the nearby properties experienced minimal or no impacts.
GR-PC-009 GR-PC-011	<p>My main concern involves the conveyance channel planned to move flow from Parson's Creek through Fountain Grove and dumping the channel in Pool 3 WCS into Jackson's Ditch. Please allow me to set the stage for why this plan is so concerning. In the 1950's Jackson's Ditch was small enough that a man could cross it easily. When this WCS was installed, one of the Twin Lakes owners approached MDC with our concerns about the impacts of releasing water into Jackson's Ditch and the effects it could have on their property. In the 1970's this was brought up to MDC again. In the early 2000's the WCS was reconstructed and again a property owner of Twin Lakes Gun Club approached MDC and Doreen Mingle assured us that flows would be regulated to the point that damage would not occur on Twin Lakes. The flows were not regulated until recently. However, Jackson's Ditch has changed dramatically since the 1950's. It has deepened in excess of 15ft and widened more than 50ft. The banks are severely degraded and each flood event and the corresponding dewatering of Fountain Grove through that structure cause more damage to the east side of the streambank. At high flows we are taking a significant amount of sedimentation as that water pours out of Jackson's Ditch flowing east or southeast. The implementation of the planned conveyance channel would only subject us to more and faster flows. The Study indicates that channel would allow for increased dewatering capability of Fountain Grove. If high flows of Parson's Creek are directed at our west property boundary it is inevitable that we will see an increased rate of sedimentation as those flows slow when hitting our timber. We have endured more than a half a decade of erosion along Jackson's Ditch and would prefer that situation not be compounded by directing more flows our direction. I understand the need of getting the water off the pools in a timely manner and improving the moist soil plants.</p> <p>I see in the TSP that 2 acres are planned for bank armoring and while that may help with channel and bank degradation it will have no impact on the amount of sedimentation we would expect to see. Why are you only planning to armor the area of Jackson's Ditch along the Twin Lakes boundary? If you go that route why would you not armor Jackson's Ditch all the way to Grand River to protect the neighbor (Stewart) to our south?</p>	<p>Fountain Grove Water Control Structure #3 was originally designed to be the main outlet structure for the entire west side of Fountain Grove. Also, in the more recent Golden Anniversary renovation, a second Pool 3 drain was installed to provide additional drainage capability at higher pool elevations and to mitigate the amount of water discharged from the original Pool 3 structure. However, due to overall site elevations and limitations as mentioned the capabilities to drain in the Jackson's Ditch would still be required. Releases from the WCS cannot occur until Grand River levels recede to a level that allows flow through Jackson's Ditch into the Grand River. The resulting design is based off of this understanding and aims to remove water from Fountain Grove as efficiently as possible after Grand River waters recede. The preliminary design of the outlet has been refined to improve the angle at which WCS #3 discharges into Jackson's Ditch in an effort to reduce any potential erosion impacts along the eastern bank of Jackson's Ditch. Further refinement and expansion of the model can be accomplished during the design phase should it be decided that it is necessary to inform design. Conceptual design identified the area immediately surrounding the outlet structure for armoring because this area would have the largest velocities and most erosional power. The extent of bank armoring along with construction methods would be finalized in the Preconstruction Engineering and Design phase.</p>

Public Comment #	Comment	Response
GR-PC-007 GR-PC-008	<p>Our farm is approximately 90% bottom land. We estimate that 3500+ acres of upland and bottom land drain through our farm. Small rains are contained within levees that take the water into old Locust Creek cut-offs. This water then drains through a 6 ft tube that is gated to Locust Creek. When Locust Creek is high, the 6 ft tube closes and then drainage water flows over an emergency spillway. This allows the drainage water to go south into an old stream bed that runs south and makes its way to a large levee on a neighbor, Baudendistal. Here it starts to flood and floods to the east and north. It floods approximately 600 acres. When the level of Locust Creek falls, this flood water drains through two large gated tubes into Locust Creek.</p> <p>We now wish to explain the detriment the Sedimentation Detention Basin will cause. The proposed Basin Levee Raise around the Sedimentation Detention Basin is estimated at 6 ft. The height of the land at Drum Road which is at the north end of the Sediment Detention Basin is 212 ft. This six foot raise will block the natural flow of water and cause extensive flooding to the south side of our farm. Normally that water floods over 600 acres. Your raise will cause it to be held back on less than half that amount of acreage. With no flow to the south, other than topping over your north spillway, the stair step of water level to the north will impact farms all on the east side up to 218 ft. This will devastate all farmland north to the Locust Creek road bridge on Dexter road.</p>	<p>The northern levee of the sediment detention basin would be constructed to be 6 feet higher than the surrounding terrain. USACE policy is to avoid induced flooding from its projects. Interior drainage along the north levee of the sediment detention basin was added to the recommend plan in the final report. Interior drainage issues would be addressed during the Preconstruction Engineering and Design phase and any increase in flood risk would be mitigated. Hydrology and hydraulic modeling results presented in Section 5.13.2 of the draft report and in Appendix B indicates that the majority of land north of HWY 36 in the study area would experience a reduction in water surface elevations for the 100-year flood event under the recommended plan.</p>
GR-PC-007 GR-PC-008	<p>The diversion berm/dam you propose in Locust Creek is suggested at 1.5 feet above the floodplain. If the floodplain is at the south end of Higgins Ditch, one could estimate it is at least 6 - 10 ft high. Historically, any obstruction in Locust Creek has caused log jams and large silt deposits. Your berm/dam is a MAJOR obstruction that will prevent all drainage from our farm and farms from the north and south from draining through our 6 ft tube. We would also like to point out that future log jams forming at the north end of DNR property/Sedimentation Detention Basin will conveniently become the responsibility of private landowners up-stream.</p>	<p>The Locust Creek diversion berm would be designed to redirect flow into a channel that would flow through the sediment detention basin. The structure is designed to redirect flow, not impound flow. Hydraulic modeling indicates that the water surface elevation just upstream of the diversion structure would be reduced with the project when compared to existing conditions. This is because of the extra flow conveyance provided by the sediment detention basin and pilot channel. Additional information pertaining to major outlets upstream of the diversion structure has been collected and will be incorporated into modeling. The design for the diversion berm is being analyzed to lower the risk of log jams forming at the north end of the sediment detention basin. This effort will continue during the Preconstruction Engineering and Design phase.</p>
GR-PC-007 GR-PC-008	<p>The stairsteps you have proposed south through levy notches could block easily within the Sedimentation Detention Basin. Blockages would obviously cause a water height increase in the Basin, which would cause a water height increase within the creek which would render our main 6 ft tube useless. You do not mention or suggest how these logs and sediment caught by the stair steps will be removed QUICKLY to prevent the destruction of farmers crops. The Sedimentation Detention Basin will resemble a wider, more clogged man made Locust Creek that will cost millions of taxpayers dollars.</p>	<p>The preliminary design includes a channel through the sediment detention basin in addition to multiple notches to allow the basin to drain. It also accounts for access roads to facilitate handling of log jams or obstructions that may form within the basin. A Monitoring and Adaptive Management Plan has been prepared along with the final feasibility report and an Operations and Maintenance manual will be prepared during the Preconstruction Engineering and Design phase. Both of these plans address aspects of handling future log jams within the project features. Refinements of plan design to identify the best manner to deal with woody debris entering the basin is ongoing. Additional design refinements regarding woody debris/log jams and drainage issues will continue in the Preconstruction Engineering and Design phase.</p>
GR-PC-007 GR-PC-008	<p>Looking at the Parks historical record for clearing log jams our farm would be flooded for MANY years. If the Sediment Detention Basin is implemented and maintained we would lose the south part of our farm to flood at least annually. If it is NOT maintained we lose our farm completely and with the gradual increase in ground level to the north, hundreds of acres will be affected upstream. This basin will be placed in the perfect position to destroy nearly all farmland contained in a private levee system. We estimate this loss to be 1500 acres of good farmland. The drainage of farms on the west side of the Locust Creek will also be affected by your dam/berm across Locust Creek.</p>	<p>The Locust Creek diversion berm would be designed to redirect flow into a channel that would flow through the sediment detention basin. The structure is designed to redirect flow, not impound flow. Hydraulic modeling indicates that the water surface elevation just upstream of the diversion structure would be reduced with the project when compared to existing conditions. This is because of the extra flow conveyance provided by the sediment detention basin and pilot channel. Access roads are included so that if logs accumulate at the diversion structure they can be removed.</p>
GR-PC-009 GR-PC-011	<p>If Twin Lakes agreed to bank armoring how would that be constructed? I suspect it would be planned to shape the bank and work from both sides of Jackson's Ditch. We would be very reluctant to lose more timber along Jackson's Ditch to allow for the implementation of bank armoring. Would it be possible that equipment could work from the west bank or from the channel to implement the bank armoring?</p>	<p>The preliminary design of the outlet has been refined to improve the angle at which WCS #3 discharges into Jackson's Ditch in an effort to reduce any potential erosion impacts along the eastern bank of Jackson's Ditch. Conceptual design identified the area immediately surrounding the outlet structure for armoring because this area would have the largest velocities and most erosional power. The extent of bank armoring along with construction methods would be finalized in the Preconstruction Engineering and Design phase. Minimizing impacts to timber would be taken into consideration during that design process.</p>

Public Comment #	Comment	Response
GR-PC-002 GR-PC-003 GR-PC-004	What you are proposing will only move the log jam and silt problem further north hurting all farmers north of the park not the mention the roads and bridges north of 36 Highway.	The project addresses this concern in five ways. (1) The project intent is to trap sediment and logs on state-owned land (either in Pershing State Park or on land to be acquired for the sediment detention basin) where it can be stored, managed, or removed. (2) The design phase includes additional modeling so the design can minimize impacts to adjacent property. (3) The project includes bank stabilization work on upstream tributaries which reduces the incoming sediment and woody debris load. (4) The project emphasizes the ecological importance of the area and identifies how potential future investment by NRCS and others to reduce sediment loads could complement the recommended plan. (5) The project will include monitoring and adaptive management over the life of the project.
GR-PC-009 GR-PC-011	I would like to offer a couple thoughts before I get to specifics. The study indicates that sedimentation has increased dramatically, especially in the recent past. I agree that sedimentation is a significant issue. Do you have any specific data to show an increased trend in siltation/sedimentation in the watershed? I see an increase in siltation with virtually every flood event. My family has either rented or owned property next to Fountain Grove Wildlife Area since before 1944. I believe that this watershed has flooded for hundreds of years and will continue to do so as this is a floodplain. I do know that flooding has increased recently and with that increase comes an increase in sedimentation. Do you have data to indicate the sedimentation has increased recently and if so, what do you attribute that increase to? I suspect you will reference upstream farming practices, streambank degradation, flood frequency, etc. I would also be interested to see trend data reflecting flood frequency in this watershed. We have seen numerous floods in the recent past, but have you compared that data to long term trends, I am curious if we are only experiencing an upward trend or something more significant. You mentioned the increased rate of siltation by showing photos of silt on buildings in the watershed or referencing its impact on mature stands of pin oak trees dying off. Was it possible that a long-term trend in weather/climate at that time allowed for suitable conditions and that the climate allowed for the establishment of pin oak flats and other species composition that are currently struggling with today's conditions? I do believe we have a major issue with the effect of sedimentation in our watershed. However, I am curious just how much worse it is now than in decades or periods past.	The recent two decades have been wetter than the previous several decades which have brought an increase in flooding and an associated increase in floodplain sediment deposition. See Appendix A in the report for a discussion of hydrologic trends. In addition, USGS gage stations on Locust Creek at Linneus and the Grand River at Sumner, as well as topographic and bathymetric measurements on several of the rivers and creeks indicate that the bed elevations have risen (i.e. accumulated sediment). This decreases the amount of flow they can pass before flooding, which leads to an increase in overbank floods and floodplain sediment deposition. The project at Fountain Grove allows the pools to be drained more quickly, which would decrease sediment deposition and allow for better habitat outcomes. Further refinement and expansion of the model can be accomplished during the design phase should it be decided that it is necessary to inform design.
GR-PC-001	Would like to know more about floodplain expansion plans of purchasing ground up Parsons Creek and Grand River basin.	The recommended plan does not include any floodplain expansion or land acquisition plans on Parsons Creek. It does include upstream bank stabilization measures focused in four upstream watersheds: Watkins Creek-Locust Creek, East Locust Creek, West Locust Creek, and Locust Creek. It is possible that some real estate action, likely easements, would be needed to implement these projects; however, there is no plan for widespread land acquisition beyond that identified as needed for construction of the sediment detention basin.
GR-PC-002 GR-PC-003 GR-PC-004	If the water had a straight path through the park it would all but eliminate the silt problem because the creek north of park would quit getting wider and eroding the banks and washing trees down the creek.	The authorized study has a purpose of identifying ecosystem restoration benefits. It is generally accepted that stream channelization (i.e. straightening) is considered to have a negative impact on aquatic ecosystems; therefore, it was not an appropriate measure to consider for the purposes of achieving ecosystem restoration benefits.

Public Comment #	Comment	Response
GR-PC-005	The last troubling thing is that my family and I have been farming and hunting the confluence of Parsons Creek and Muddy Creek on the Grand river for the past 50 years. We know what is does and why. Please use local knowledge when establishing policies that can and will change how water is and will flow in the future. One set of meetings after a plan is proposed and no more input after the design phase is not sufficient local input.	Comment noted. USACE held public scoping meetings early in the study in addition to the public meetings held in association with release of the draft report. Further refinement and expansion of the model can be accomplished during the design phase should it be decided that it is necessary to inform design phase and if warranted additional landowner input would be considered. MDC frequently talks with landowners near agency-owned lands and evaluates their input as part of ongoing management planning. Citizens are always welcome to contact MDC staff to express comments or concerns about the management of a conservation area. Future projects are always evolving due to rapidly changing and dynamic conditions in floodplain systems. In addition, MDC has numerous biologists whose primary duties are consulting with private landowners about conservation.
GR-PC-007 GR-PC-008	Your proposal for a Sedimentation Detention Basin will not address the problems causing sedimentation. For us it will destroy our financial livelihood and our son's financial livelihood.	The recommended plan includes actions to address the upstream causes of sedimentation as well as to prevent additional ecosystem degradation within the focused study area. The recommended plan includes approximately 300 bank stabilization projects in the upper watershed to reduce sediment loading, which would also ensure/extend the lifespan of the sediment detention basin. The sediment detention basin would prevent or limit negative impacts in the focused Locust Creek Study Area for the 50 year planning horizon while upstream issues contributing to sediment loads are being addressed.
GR-PC-007 GR-PC-008	Cheaper Locust Creek Alternatives have been dismissed as they may affect habitat or would be constructed on already acquired Park property . The site of this proposed Sediment Basin (1200 acres of productive farmland) starts where the Park ends on the east side and goes north to meet up where the Park ends on the West side. Pershing Park/DNR will be increased in size at the expense of taxpayers. Another 1500 acres of productive farmland to the north of the Basin will not be farmable. Heavy siltation from the channelized waterway banks will continue and DNR land acquisition will move steadily north.	The funding for this study was provided through the USACE ecosystem restoration business line. Therefore, the scope of the study focused on achieving National Ecosystem Restoration (NER) benefits in accordance with Engineering Regulation (ER) 1165-2-501. Of the plans assessed for Locust Creek the recommended plan had the most sediment and log retention to yield the most ecosystem benefits for the least cost.
GR-PC-007 GR-PC-008	What you are proposing can be done on land already owned by DNR and the plan is oblivious to the feelings and livelihoods of private landowners that have worked hard to buy and maintain the farms they love.	Nine of the 15 plans in the initial array of plans considered for Locust Creek included little to no land acquisition. These plans were eliminated either due to negative habitat impacts, because they would not meet the objectives, or because they would not be as effective as another plan.
GR-PC-009 GR-PC-011	The TSP also indicated that 2 ac of easement would be needed along Jackson's Ditch. Please explain why this is necessary and how you intend to obtain that easement? If Twin Lakes was unwilling or unable to offer that easement would bank armoring still be available? If no easement was obtained and no bank armoring was installed would you still intend to utilize that WCS as planned in the TSP?	The preliminary design of the outlet has been refined to improve the angle at which WCS #3 discharges into Jackson's Ditch in an effort to reduce any potential erosion impacts along the eastern bank of Jackson's Ditch. Conceptual design identified the area immediately surrounding the outlet structure for armoring because this area would have the largest velocities and most erosional power. The extent of bank armoring along with construction methods would be finalized in the Preconstruction Engineering and Design phase.
GR-PC-009 GR-PC-011	By law, is it legal to outlet water in a different location than where that water originally left your property? I am not sure that is legal, nor do I support that plan knowing the potential implications on the Twin Lakes property.	The planning and operation of this project are fully consistent with applicable law and policy.
GR-PC-009 GR-PC-011	We would be in greater support of the conveyance channel being constructed to utilize the WCS in Pool 3 South at the Grand River. Possibly this would help to direct high flows away from the 90-degree impact with our west property line where we see the most significant sedimentation and flooding damage. While this may not be the easiest option, it would be possible and would keep the flows and dewatering discharge on the Fountain Grove property only without negatively impacting the adjacent landowners.	Modification of Fountain Grove to use the southern Pool 3 water control structure as the primary drainage for the site would necessitate a comprehensive change of the topography of the entire area. This was not considered feasible during plan formulation. Smaller scale modifications that would allow for better use of the southern Pool 3 water control structure relative to existing operations is being considered. The angle and location of the Jackson's Ditch water control structure has been refined in response to this comment to mitigate any potential negative impacts from the 90-degree angle previously depicted. Further refinement and expansion of the model can be accomplished during the design phase should it be decided that it is necessary to inform design.

Public Comment #	Comment	Response
GR-PC-009 GR-PC-011	Also, I have questions pertaining to the floodplain modeling of Parson's Creek. Were those models ran only considering rain events in the Parson's Creek watershed or were models ran with flood events taking place on the Grand River, Medicine Creek, Turkey Creek, at Fountain Grove as well? We rarely see only a Parson's Creek flood when the Grand River is not above flood stage in the studied area.	The events modeled for the Fountain Grove analyses included events on both Grand River, Parson Creek, Little Parson Creek, Hickory Branch, Locust Creek, Muddy Creek (Locust Creek Trib), and Yellow Creek. Medicine Creek and Muddy Creek located further upstream of the Parson Creek confluence were not modeled.
GR-PC-009 GR-PC-011	Why is it planned to move the levee between pools 2 and 3 to the west? What advantages does this provide? Is the East Side levee setback location really the point of restriction in that portion of the floodplain? You indicated it is anticipated that the levee will breach in the next 25 years...how is that derived? Is the plan to revamp the East Side solely to improve the aesthetics of that area of Fountain Grove or will the money being spent for the planned restoration significantly improve wildlife usage over what we see in the existing pools today? If you were to set back the levee along the creek on the East side how would you intend to manage those acres between the new levee and the creek?	The levee is proposed to be realigned more parallel to flows and to minimize damage during high flow events. Also the intent is to provide additional independent drainage and reduce the amount of water that currently must drain through Pool 3 structures. This location was determined to be the point of restriction as evidenced by the severe erosion along the levee. The assumption that the levee would fail was based on the rate of erosion over the last 10 years and the trends in flows over the last 25 years; however, the levee was breached because it was going to fail during the 2019 flood event and this is now part of the existing condition rather than a future condition. The purpose of reconfiguring East Fountain Grove is to maintain and improve habitat in the East Fountain Grove pools. Aesthetics was not a determining factor. Acres between Locust Creek and the levee setback would be managed as natural riverfront habitat that will likely transition from current conditions to a mosaic of emergent wetlands, wet prairie, and bottomland/riparian forest.
GR-PC-009 GR-PC-011	How do you intend to obtain the 1,394 ac of private property where the planned sediment detention basin is located? I believe the purchase of those acres will be difficult. How will the TSP be affected if that property is not able to be obtained?	The sediment detention basin would be acquired by MoDNR following Federal Acquisition requirements and just compensation would be provided to the private property owners. If the lands cannot be acquired by the cost-share sponsor either the plan would need to be modified or the project would not be able to be constructed.
GR-PC-009 GR-PC-011	who would be responsible for maintaining the log capture feature?	Operations and maintenance is the responsibility of the non-federal sponsor. In this case the log capture features are part of the Locust Creek recommended plan, and MoDNR is the non-federal sponsor for that component of the Federal Plan.
GR-PC-010	I am strongly opposed to the Tentatively Selected Plan (TSP) presented in this Report as it is not the most effective plan to address the hydrological and environmental problems. Secondly, the TSP has much higher economic and social costs than the effectively superior plan. Lastly, the ongoing maintenance and repair that is integral in the TSP further drops the ordinal ranking of an inferior plan, not as much due to the ongoing costs of such activities but more so because they cannot be expected to be performed by a state department that at this site has a twenty five year documented history of in action and noncompliance with previously issued USACE permits.	The recommended plan was chosen because it was determined to be more cost-effective than the other plans considered (including No Action). Ability to operate and maintain the feature is a consideration. Additional details on operation and maintenance requirements are explained in Appendix L. In addition, MoDNR has complied with all permits it has been issued by USACE.
GR-PC-010	The perched nature of Locust Creek above and below US Highway 36 on public land and the complete relocation of its flow to Higgins Ditch on public land north of US Highway 36 is natural maturity progression of a stream and exhibits nothing that hasn't been understood for a very long time. The preponderance of natural conditions and force of this progression negates the ability to affect it north of US Highway 36 due to the unalterable restrictions imposed by finite flow options under US Highway 36. Any viable plan must respect the reality that Locust Creek flow is going to move through the US Highway 36 barrier at the Higgins Ditch opening. An effective plan will promote this to mitigate damage from flooding and siltation north of the barrier.	Streams do naturally build small levees along their banks from flood events which can lead to eventual meandering. However, in the Locust Creek system the amount of sediment coupled with levee constriction along the creek have led to higher than natural levees along the stream. In addition, Higgins Ditch is not a naturally occurring channel or meander. The current unnatural system has led to an extreme elevation difference on both the east and west side of the floodplain above HWY 36 with the east side being lower. In addition, there are actually two openings at the Muddy Creek location on HWY 36, which could facilitate flows.

Public Comment #	Comment	Response
GR-PC-010	<p>As flow that is envisioned in the TSP to be brought down Locust Creek via a newly constructed and improved (dredged) channel would result in flooding and stream cutting upon encountering the obstructed channel it presents what should be considered an unacceptable loss of habitat and natural resources. The southeastern portion of Pershing State Park and the northeastern portion of Fountain Grove have not experienced these destructions which have occurred upstream in the park due to the aforementioned log jams and western migration of flow. Much of the area that would be damaged is riparian forest. The land cover map contained in the TSP as Figure2-11 does not identify forest area that has already been lost but satellite imagery makes apparent the area and totality of devastation.</p>	<p>Sedimentation has resulted in log jams, avulsions, and the eventual de-watering of the entire old Locust Creek reach from the current avulsion to the confluence with Hickory Branch. High value aquatic, wet prairie, and bottomland hardwood forest habitats have been severely degraded and lost due to these problems. These same losses and problems will migrate downstream to the NE portion of Fountain Grove, which is currently ground-zero for sedimentation, log jams, and avulsions. The SE portion of Pershing State Park will remain devoid of historic flows as water will continue along the current western flow path of Higgins Ditch. Dredging of the old Locust Creek channel is required to restore channel capacity that has been lost due to sedimentation over the last 20 plus years. As flows are restored to old Locust Creek, natural erosional processes will gradually transfer the existing sediment load downstream; dredging will help avoid potential downstream sedimentation issues. Dredging will likely impact some existing riparian habitat, which is primarily riparian forest species such as cottonwood and willow. These species are in abundance within the project area and are expected to become re-established through natural revegetation following construction. The habitat modeling did account for construction related habitat impacts in dredging locations. The habitat mapping accounts for losses up to the time the aerial imagery was available (2016); any continued habitat losses between 2016 and 2019 are not captured.</p>
GR-PC-010	<p>The Zell tract must be a critical element of any responsible plan. The location and features of the Zell tract make it supremely suited to provide flow conveyance away from Higgins Ditch and be a silt basin and debris trap. These functions are the important mechanics of the TSP, and utilizing the Zell Tract provides better results than the new channel and silt basin proposed in the TSP does. No changes would be made north of US Highway 36 by using the Zell tract.</p> <p>Flow leaving the Zell tract could be allowed to stream cut to the south and west naturally as it would in the TSP. Doing so would result in somewhat less damage to habitat and natural resources as in the TSP due to the beginning point being approximately 1/2 mile southwest and flowing through wet meadow instead of riparian forest.</p> <p>If utilizing the Zell tract only went to this extent it would provide better hydrological, environmental and habitat benefits than the TSP.</p> <p>The results in all three of these areas could be greatly extended if efforts that the TSP would have exerted upstream are undertaken after flow leaves the Zell tract. The diversion channel and diversion berm that would have been built in the TSP to move flow to the newly constructed sediment basin could be built to move this flow from the Zell tract to Locust Creek. The approximately 4 miles of dredging that would have been done under the TSP in Muddy Creek and Locust Creek to allow flow from the TSP sediment basin could now be done to sustain this flow from its reintroduction downstream in Locust Creek.</p>	<p>The funding for this study was provided through the USACE ecosystem restoration business line. Therefore, the scope of the study focused on achieving National Ecosystem Restoration (NER) benefits in accordance with Engineering Regulation (ER) 1165-2-501. Of the plans assessed for Locust Creek, the recommended plan had the most ecosystem benefits for the least cost. The habitat that is expected to establish in the proposed sediment detention basin over the next 50 years is of lower quality than what currently exists on the Zell Tract. Utilizing the Zell Tract would smother the habitats currently present more so than No Action. After analyzing this alternative, it was determined that habitat benefits would be similar to No Action over the next 50 years with higher costs to construct a new channel. Also the Zell tract does not have adequate slope and trapping capacity that the proposed sediment detention basin included in the recommended plan has to trap sediment and wood.</p>
GR-PC-010	<p>There are significant direct financial costs in acquiring and building the new sedimentation basin and constructing new channels and above grade diversions to attempt to move flow into and out of it that would be saved by utilizing the Zell tract. Work that was recently done on the Zell tract when it was acquired by MoDNR configured it to accept, retain and discharge high flow.</p> <p>I strongly recommend rejecting the TSP in favor of utilizing the Zell tract however not because of the relatively minor work (and costs) necessary for it to accept, retain and discharge normal flow but because it performs these functions superiorly and with less negative environmental impacts.</p>	<p>The Zell Tract was considered, but due to the physical elevation of the tract, water leaving the tract would flow to Higgins Ditch rather than Locust Creek. While the Zell tract has been acting as a basin for 10 years in flood events, it does not supply adequate benefits to trap large woody debris and move material through the area due to the lack of slope and its location. Moving flow from the Zell tract to the east back into Locust Creek would require raising the water level in Higgins Ditch and thereby reducing stream bed slope and potentially trapping more sediment upstream. Moving the water back to the east would impact the wet prairie and additional private lands. The recommended plan returns flow to Locust Creek resulting in superior aquatic benefits and increased hydration of wet prairie habitats. Moreover, the habitat that is expected to establish in the proposed sediment detention basin over the next 50 years is of lower quality than what currently exists on the Zell Tract. Utilizing the Zell Tract would smother the habitats currently present more so than No Action, which further reduces the overall benefits of an alternative utilizing the Zell Tract for the site of the sediment detention basin.</p>

Public Comment #	Comment	Response
GR-PC-011	Reassess "no impacts" to floodplain under any alternatives. If there are impacts to geology and soils, prime and unique farmlands, and land use with the FWP Alternatives, wouldn't there be presumed impacts to floodplain with either No Action Alternative or FWP Alternatives? Page 10, section 1.5 states one of the purposes of the study is to reverse the trend of degradation of floodplain. Page 109, section 5.1.1 also states the floodplain would continue to degrade under the No Action Alternative.	The Summary of Environmental Consequences table was updated to reflect long-term adverse impacts to the floodplain under the No Action Alternative resulting from the loss of capacity associated with sedimentation.
GR-PC-011	If there are beneficial impacts to water quality with the FWP Alternatives, wouldn't there be presumed adverse impacts with the No Action Alternative?	The increasing load of sediment from accelerated erosion may further degrade water quality in the system under No Action. The final report has been updated to reflect this revision. Other agencies have been and would continue to invest in land management programs within the watershed that would likely add some level of benefit to water quality over the long-term.
GR-PC-011	If there are beneficial impacts to flood risk with the FWP Alternatives, wouldn't there be presumed impacts with the No Action Alternative? Specifically with avulsion channels and continued diversion of flow from areas such as Locust Creek to Higgins Ditch?	Agree that similar to floodplains, flood risk would likely be adversely affected over the long-term under the No Action alternative because floodplain capacity would continue to reduce as a result of ongoing floodplain sedimentation.
GR-PC-011	If there are potential beneficial impacts to cultural resources with the FWP Alternatives, wouldn't there be presumed adverse impacts with the No Action Alternative, e.g. cultural sites buried in sediment, etc.?	No. Under the No Action alternative there would be no construction activities implemented and therefore no impacts to cultural resources. The depositing of sediment on cultural resources is not considered an adverse affect because it does not affect the integrity of the resource.
GR-PC-011	Will the in-channel log and sediment diversion structure proposed to cross the existing Locust Creek channel impact aquatic organism passage? Needs clarification this will not act as a dam or barrier to aquatic organism passage and how it will facilitate such passage	It is anticipated that fish passage would be considered as part of the design of this structure. Clarification was made to this point in the report.
GR-PC-011	Page 42, section 1.6.4 - Regarding land management practices, will there be an education/outreach component for improved BMP implementation?	The non-Federal sponsors or partner agencies may choose to conduct BMP education/outreach complementary to the Federal Plan; however, this would not be a cost-shared component of the USACE plan. MDC frequently talks with landowners near agency-owned lands and evaluates their input as part of ongoing management planning. Citizens are always welcome to contact MDC staff to express comments or concerns about the management of a conservation area. Future projects are always evolving due to rapidly changing and dynamic conditions in floodplain systems. In addition, MDC has numerous biologists whose primary duties are consulting with private landowners about conservation
GR-PC-011	Page 77, section 4.6.1 - It would be beneficial to include discussion of re-sloping and revegetation of the upper bank. The project should limit the use of rock revetments to the maximum extent practicable, and focus on stabilizing the toe with LPSTP in conjunction with bioengineering and revegetation of the upper bank, where possible.	Discussion has been added to the final feasibility report.

GRAND RIVER DRAFT FEASIBILITY STUDY AND INTEGRATED ENVIRONMENTAL ASSESSMENT



US Army Corps
of Engineers
Kansas City District

PUBLIC MEETING

OCTOBER 2019 COMMENT CARD

Name: Bryan Anderson

Address: [REDACTED]

Phone: [REDACTED] Email: [REDACTED]

Elect to stay informed about the project

If you would like to provide input on the draft Grand River feasibility report and integrated environmental assessment; please write it below. This form may be submitted at the public meeting, via mail to the address at the end of this form, or you can submit an email at GrandRiver@usace.army.mil. Please submit comments by November 20, 2019. Comments will become part of the public record.
Thank you for taking the time to provide your input!

I would like to know more about floodplain expansion
plans of purchasing ground up Pawsen Creek
& Grand River Basins.

GRAND RIVER DRAFT FEASIBILITY STUDY AND INTEGRATED ENVIRONMENTAL ASSESSMENT



US Army Corps
of Engineers
Kansas City District

PUBLIC MEETING

OCTOBER 2019 COMMENT CARD

Name: STEVEN J BARTOW

Address: [REDACTED]

Phone: [REDACTED] Email: [REDACTED]

Elect to stay informed about the project

If you would like to provide input on the draft Grand River feasibility report and integrated environmental assessment; please write it below. This form may be submitted at the public meeting, via mail to the address at the end of this form, or you can submit an email at GrandRiver@usace.army.mil. Please submit comments by November 20, 2019. Comments will become part of the public record.
Thank you for taking the time to provide your input!

What you are proposing will only move the
LOG JAM and SILT PROBLEM FURTHER NORTH HURTING
ALL FARMERS NORTH OF THE PARK NOT TO MENTION
THE ROADS AND BRIDGES NORTH OF 36 MIWAY IF
THE WATER HAD A STRAIGHT PATH THROUGH THE
PARK IT WOULD ALL BUT ELIMINATE THE SILT
PROBLEM BECAUSE THE CREEK NORTH OF PARK
WOULD BE GETTING WIDER AND ERODING THE
BANKS AND WASHING TREES DOWN THE CREEK
WHAT YOU ARE WANTING TO DO ONLY CREATES

MORE PROBLEMS NORTH OF 36 HWY AND
RAINS THOUSANDS OF ACRES OF PINE
FARM GROUND MANY MORE ACRES
THAN YOU ARE TRYING TO SAVE IN THE PARK
IF YOU ARE TRYING TO STEAL OUR FARMLAND
NORTH OF 36 HWY WAY WHY NOT JUST TELL
US SO, INSTEAD OF THIS IDIOTIC PLAN!

If mailing please address envelope to:

**U.S. Army Corps of Engineers
Kansas City District
Attn: PMP-R Grand River Feasibility Study
601 E. 12th Street
Kansas City, MO 64106**

GRAND RIVER DRAFT FEASIBILITY STUDY AND INTEGRATED ENVIRONMENTAL ASSESSMENT



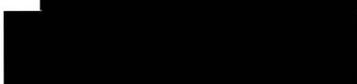
US Army Corps
of Engineers
Kansas City District

PUBLIC MEETING

OCTOBER 2019 COMMENT CARD

Name: Mike Tornow

Address: 

Phone: 

Elect to stay informed about the project

If you would like to provide input on the draft Grand River feasibility report and integrated environmental assessment; please write it below. This form may be submitted at the public meeting, via mail to the address at the end of this form, or you can submit an email at GrandRiver@usace.army.mil. Please submit comments by November 20, 2019. Comments will become part of the public record.

Thank you for taking the time to provide your input!

What you are PROPOSING WILL ONLY MOVE THE
LOG JAM AND SILT PROBLEM FURTHER NORTH HURTING
ALL FARMERS NORTH OF THE PARK NOT TO MENTION
THE ROADS AND BRIDGES NORTH OF J6 HIGHWAY IF
THE WATER HAD A STRAIGHT PATH THROUGH THE
PARK IT WOULD ALL BUT ELIMINATE THE SILT
PROBLEM BECAUSE THE CREEK NORTH OF PARK
WOULD BE GETTING WIDER AND CRODING THE
BANKS AND WASHING TREES DOWN THE CREEK
WHAT YOU ARE WANTING TO DO ONLY CREATES

MORE PROBLEMS NORTH OF 36 HWY AND
RUINS THOUSANDS OF ACRES OF PRIVATE
FARM GROUND MANY MORE ACRES
THAN YOU ARE TRYING TO SAVE IN THE PARK
IF YOU ARE TRYING TO STEAL OUR FARMLAND
NORTH OF 36 HWY WAY WHY NOT JUST TELL
US SO, INSTEAD OF THIS IDIOTIC PLAN!

If mailing please address envelope to:

**U.S. Army Corps of Engineers
Kansas City District
Attn: PMP-R Grand River Feasibility Study
601 E. 12th Street
Kansas City, MO 64106**

GRAND RIVER DRAFT FEASIBILITY STUDY AND INTEGRATED ENVIRONMENTAL ASSESSMENT



US Army Corps
of Engineers
Kansas City District

PUBLIC MEETING

OCTOBER 2019 COMMENT CARD

Name:

STEVEN J BARTOW

Address:



Phone:



Elect to stay informed about the project

If you would like to provide input on the draft Grand River feasibility report and integrated environmental assessment; please write it below. This form may be submitted at the public meeting, via mail to the address at the end of this form, or you can submit an email at GrandRiver@usace.army.mil. Please submit comments by November 20, 2019. Comments will become part of the public record.

Thank you for taking the time to provide your input!

What you are proposing will only move the
LOG JAM AND SILT PROBLEM FURTHER NORTH HURTING
ALL FARMERS NORTH OF THE PARK NOT TO MENTION
THE ROADS AND BRIDGES NORTH OF 36 HIGHWAY IF
THE WATER HAD A STRAIGHT PATH THROUGH THE
PARK IT WOULD ALL BUT ELIMINATE THE SILT
PROBLEMS BECAUSE THE CREEK NORTH OF PARK
WOULD BE GETTING WIDER AND ERODING THE
BANKS AND WASHING TREES DOWN THE CREEK
WHAT YOU ARE WANTING TO DO ONLY CREATES

MORE PROBLEMS NORTH OF 36 HWY AND
KILLS THOUSANDS OF ACRES OF PRIVATE
FARM GROUND MANY MORE ACRES
THAN YOU ARE TRYING TO SAVE IN THE PARK
IF YOU ARE TRYING TO STEAL OUR FARMLAND
NORTH OF 36 HWY WAY WHY NOT JUST TELL
US SO, INSTEAD OF THIS IDIOTIC PLAN!

If mailing please address envelope to:

**U.S. Army Corps of Engineers
Kansas City District
Attn: PMP-R Grand River Feasibility Study
601 E. 12th Street
Kansas City, MO 64106**

From: [Anthony Schreiner](#)
To: [GrandRiver](#)
Subject: [Non-DoD Source] Muddy Creek influence on Parsons Creek when in a flood event
Date: Monday, November 11, 2019 11:30:26 AM

Several comments and I will try to keep them short.

I think it is mind blowing that you didn't pick up the fact that a huge part of the flood events on the west side of Fountain Grove comes not from Parsons Creek but from Muddy Creek. There are times when more water is flowing from Muddy Creek across Fountain Grove than from Parson Creek itself. I have been in boats several time and witnessed it firsthand. Parson Creek will be running backwards due to Muddy running into it. Any time the Grand River is above 25 feet in Chillicothe, Muddy Creek (the next major creek west of Parson Creek) flows through the bottoms, down the railroad tracks and across Fountain Grove. This happens multiple times a year, the 1.2 times the annual flood event levee proposed does not factor in this amount of water and is not sufficient to slow down the sediment build up. It needs to be modeled and I would be really interested to see how it turns out. Also what happens if this is cut off. I would be very interested to see if you cut off this bypass what that does to water levels upstream. We have the ability to stop this water with a 100Yard levee but need to see what happens if this is done.

The last troubling thing is that my family and I have been farming and hunting the confluence of Parsons Creek and Muddy Creek on the Grand river for the past 50 years. We know what is does and why. Please use local knowledge when establishing policies that can and will change how water is and will flow in the future. One set of meetings after a plan is proposed and no more input after the design phase is not sufficient local input.

If you would like to talk or have any questions about the above statements please feel free to contact me.

Anthony Schreiner

[REDACTED]

[REDACTED]

[REDACTED]

From: [REDACTED]
To: [Snyder, Michael V CIV USARMY CENWK \(USA\)](#)
Subject: [Non-DoD Source] pershing Park
Date: Tuesday, November 12, 2019 2:01:50 PM

To whom it may concern;

I am so sorry to learn of the study and waste of money put toward the Locust Creek and Pershing Park problem.

I have been involved with both since 1973. I understand what happened and how humans have caused problems where there were no problems for over 100 years.

For instance, do you know that there was a mill beside the silver bridge in Pershing park? It worked well for many years with no problems.

So why is there a problem now and what can be done about it?

I will not waste time telling what can be done unless someone is interested. I know how the Government works. I worked for NRCS in Linn County for 36 years.

Thank You,

William Siddens

From: [colin smith](#)
To: [GrandRiver](#)
Subject: [Non-DoD Source] COMMENTS ON GRAND RIVER DRAFT FEASIBILITY STUDY, etc.
Date: Thursday, November 14, 2019 12:19:02 PM

Dear US Army Corp of Engineers,

Today, 11/13/2019 we received more details of the Sedimentation Detention Basin from the Corps. Erin Reinkemeyer answered a series of questions we had on the proposed berms, channels, levee raise and levee notches. We thank him for his cooperation but his answers have CONFIRMED our biggest fears. The proposed levee heights, spillway height and the diversion berm height will certainly flood us and our neighbors and not allow our farms to drain.

This letter is in reference to the Grand River Draft Feasibility Study. My wife and I own and operate a 600 acre farm just north of the proposed Large Sediment Detention Basin on Locust Creek. Our farm has been the center of our life, our family and our financial livelihood for more than 40 years. We were unaware of the open house meetings in October held in the midst of harvest but were told of them by a neighbor. We would like to enter some comments for the record.

We are not ignorant of the problems in the Locust Creek area as they have directly impacted our farm since the early 1950s when the farm was initially purchased by our family. We have supported actions by the park to clear log jams, contributed financially for brush removal from the park and I was on the board of the Locust Creek Drainage District for many years.

We would like to start our comments with a July 8th 1997 quote from the Director of Natural Resources, David A. Shorr. "The best management practice to preserve and protect Pershing State Park and continue its ecosystem is the no action alternative." Shorr was addressing the president of the Farm Bureau, Charles Kruse concerning the initial and subsequent log jams due to no action by Pershing Park staff. The landowners in the Locust Creek Drainage District and the Missouri Farm Bureau proposed an alternative action - clear the log jams from Locust Creek that slow the flow and cause sedimentation.

Since 1997 DNR has acquired continuous tracts of farmland and woodland on the east and west side of Locust Creek (north and south of Highway 36). With increasing DNR ownership, drainage problems for landowners north of these acquisitions are getting worse. In 1997 DNR did clear some major log jams north and south of Highway 36 in Locust Creek when pressure was applied by private landowners and the Missouri Farm bureau. This action successfully helped drainage for landowners in the area.

On January 16th, 1998, the Director of the Division of State Parks, Doug Eicken told me in a letter that the 1997 DNR clearing had, "routed well through Locust Creek and not Higgins Ditch this time." Later in 2010 structures were placed across Higgins Ditch in a poor attempt to force more water down Locust Creek. This failed miserably. Since then Locust Creek has gone naturally into the old Locust Creek channel on the west side, owned primarily by DNR.

Your proposal for a Sedimentation Detention Basin will not address the problems causing sedimentation. For us it will destroy our financial livelihood and our son's financial livelihood.

We have studied your complete draft. The Locust Creek section will be our focal point since it directly affects us.

Our farm is approximately 90% bottom land. We estimate that 3500+ acres of upland and bottom land drain through our farm. Small rains are contained within levees that take the water into old Locust Creek cut-offs. This water then drains through a 6 ft tube that is gated to Locust Creek. When Locust Creek is high, the 6 ft tube closes and then drainage water flows over an emergency spillway. This allows the drainage water to go south into an old

stream bed that runs south and makes its way to a large levee on a neighbor, Baudendistal. Here it starts to flood and floods to the east and north. It floods approximately 600 acres. When the level of Locust Creek falls, this flood water drains through two large gated tubes into Locust Creek.

We now wish to explain the detriment the Sedimentation Detention Basin will cause. The proposed Basin Levee Raise around the Sedimentation Detention Basin is estimated at 6 ft. The height of the land at Drum Road which is at the north end of the Sediment Detention Basin is 212 ft. This six foot raise will block the natural flow of water and cause extensive flooding to the south side of our farm. Normally that water floods over 600 acres. Your raise will cause it to be held back on less than half that amount of acreage. With no flow to the south, other than topping over your north spillway, the stair step of water level to the north will impact farms all on the east side up to 218 ft. This will devastate all farmland north to the Locust Creek road bridge on Dexter road.

The diversion berm/dam you propose in Locust Creek is suggested at 1.5 feet above the floodplain. If the floodplain is at the south end of Higgins Ditch, one could estimate it is at least 6 - 10 ft high. Historically, any obstruction in Locust Creek has caused log jams and large silt deposits. Your berm/dam is a MAJOR obstruction that will prevent all drainage from our farm and farms from the north and south from draining through our 6 ft tube. We would also like to point out that future log jams forming at the north end of DNR property/Sedimentation Detention Basin will conveniently become the responsibility of private landowners up-stream.

The stairsteps you have proposed south through levy notches could block easily within the Sedimentation Detention Basin. Blockages would obviously cause a water height increase in the Basin, which would cause a water height increase within the creek which would render our main 6 ft tube useless. You do not mention or suggest how these logs and sediment caught by the stair steps will be removed QUICKLY to prevent the destruction of farmers crops. The Sedimentation Detention Basin will resemble a wider, more clogged man made Locust Creek that will cost millions of taxpayers dollars. One must assume the Sedimentation Detention Basin will be part of the Park and assume the "no action" mandate, similar to Shorr's plan mentioned previously.

Looking at the Parks historical record for clearing log jams our farm would be flooded for MANY years. If the Sediment Detention Basin is implemented and maintained we would lose the south part of our farm to flood at least annually. If it is NOT maintained we lose our farm completely and with the gradual increase in ground level to the north, hundreds of acres will be affected upstream. This basin will be placed in the perfect position to destroy nearly all farmland contained in a private levee system. We estimate this loss to be 1500 acres of good farmland. The drainage of farms on the west side of the Locust Creek will also be affected by your dam/berm across Locust Creek. Hopefully those landowners will send comments, if they are aware of the Feasibility Study.

To summarize our comments. The last 40 year history of Pershing Parks/DNR attempts to maintain the flow of water through the Park via Locust Creek have failed due to their "no action alternative". The Park has managed to obtain more land in efforts to contain sedimentation and control flow instead of simply keeping Locust Creek open by dredging and log jam removal that worked well in 1997. Your Feasibility Report and proposed Sedimentation Detention Basin has all the characteristics that have been tried before; blocking waterways, constructing sedimentation collections sites, and selective dredging - all ending in failure.

Cheaper Locust Creek Alternatives have been dismissed as they may affect habitat or would be constructed on already acquired Park property. The site of this proposed Sediment Basin (1200 acres of productive farmland) starts where the Park ends on the east side and goes north to meet up where the Park ends on the West side. Pershing Park/DNR will be increased in size at the expense of taxpayers. Another 1500 acres of productive farmland to the north of the Basin will not be farmable. Heavy siltation from the channelized waterway banks will continue and DNR land acquisition will move steadily north.

We will lose our financial livelihood, and our family farm as we know it. What is sad for us is that we have operated our farm in a conservation manner. We have used filtration strips to manage sediment. We preserve forestland and the original Locust Creek cutoffs for wildlife diversity. Also, for more than 40 years our farm has been a true refuge for all forms of wildlife. We have not tolerated any recreational killing of any wildlife on our 600 acres and I am confident our farm contains many of the species found in the Park.

We feel the study and assessment and the proposed Sedimentation Basin is biased towards the Parks agenda. What you are proposing can be done on land already owned by DNR and the plan is oblivious to the feelings and

livelihoods of private landowners that have worked hard to buy and maintain the farms they love.

Sincerely,

Colin and Alice Smith

[REDACTED]

[REDACTED]

[REDACTED]

From: [Alex Smith](#)
To: [GrandRiver](#)
Subject: [Non-DoD Source] Grand River Draft Feasibility Study and Integrated Environmental Assessment
Date: Tuesday, November 19, 2019 5:36:11 PM

Dear USACE,

Our family farm and livelihood is threatened by the construction of this Sedimentation Detention Basin. My wife and I moved back from Texas to row crop farm the land and this Sedimentation Detention Basin will severely inhibit the farms ability to drain. The farm is primarily bottom land that has been prosperous with row crop farming for over sixty years.

Below is a letter written by the owners and operators of the farm explaining why the Construction of the Sedimentation Detention Basin will be so detrimental to farming in the area, more than 3000 acres.

Please read the letter and give second thought to this plan.

Sincerely,

Alex Smith

[REDACTED]

[REDACTED]

[REDACTED]

Dear US Army Corp of Engineers,

Today, 11/13/2019 we received more details of the Sedimentation Detention Basin from the Corps. Erin Reinkemeyer answered a series of questions we had on the proposed berms, channels, levee raise and levee notches. We thank him for his cooperation but his answers have CONFIRMED our biggest fears. The proposed levee heights, spillway height and the diversion berm height will certainly flood us and our neighbors and not allow our farms to drain.

This letter is in reference to the Grand River Draft Feasibility Study. My wife and I own and operate a 600 acre farm just north of the proposed Large Sediment Detention Basin on Locust Creek. Our farm has been the center of our life, our family and our financial livelihood for more than 40 years. We were unaware of the open house meetings in October held in the midst of harvest but were told of them by a neighbor. We would like to enter some comments for the record.

We are not ignorant of the problems in the Locust Creek area as they have directly impacted our farm since the early 1950s when the farm was initially purchased by our family. We have supported actions by the park to clear log jams, contributed financially for brush removal from the park and I was on the board of the Locust Creek Drainage District for many years.

We would like to start our comments with a July 8th 1997 quote from the Director of Natural Resources, David A. Shorr. "The best management practice to preserve and protect Pershing State Park and continue its ecosystem is the no action alternative." Shorr was addressing the president of the Farm Bureau, Charles Kruse concerning the initial and subsequent log jams due to no action by Pershing Park staff. The landowners in the Locust Creek Drainage District and the Missouri Farm Bureau proposed an alternative action - clear the log jams from Locust Creek that slow the flow and cause sedimentation.

Since 1997 DNR has acquired continuous tracts of farmland and woodland on the east and west side of Locust Creek (north and south of Highway 36). With increasing DNR ownership, drainage problems for landowners north of these acquisitions are getting worse. In 1997 DNR did clear some major log jams north and south of Highway 36 in Locust Creek when pressure was applied by private landowners and the Missouri Farm bureau. This action successfully helped drainage for landowners in the area.

On January 16th, 1998, the Director of the Division of State Parks, Doug Eicken told me in a letter that the 1997 DNR clearing had, "routed well through Locust Creek and not Higgins Ditch this time." Later in 2010 structures were placed across Higgins Ditch in a poor attempt to force more water down Locust Creek. This failed miserably. Since then Locust Creek has gone naturally into the old Locust Creek channel on the west side, owned primarily by DNR.

Your proposal for a Sedimentation Detention Basin will not address the problems causing sedimentation. For us it will destroy our financial livelihood and our son's financial livelihood.

We have studied your complete draft. The Locust Creek section will be our focal point since it directly affects us.

Our farm is approximately 90% bottom land. We estimate that 3500+ acres of upland and bottom land drain through our farm. Small rains are contained within levees that take the water into old Locust Creek cut-offs. This water then drains through a 6 ft tube that is gated to Locust Creek. When Locust Creek is high, the 6 ft tube closes and then drainage water flows over an emergency spillway. This allows the drainage water to go south into an old stream bed that runs south and makes its way to a large levee on a neighbor, Baudendistal. Here it starts to flood and floods to the east and north. It floods approximately 600 acres. When the level of Locust Creek falls, this flood water drains through two large gated tubes into Locust Creek.

We now wish to explain the detriment the Sedimentation Detention Basin will cause. The proposed Basin Levee Raise around the Sedimentation Detention Basin is estimated at 6 ft. The height of the land at Drum Road which is at the north end of the Sediment Detention Basin is 212 ft. This six foot raise will block the natural flow of water and cause extensive flooding to the south side of our farm. Normally that water floods over 600 acres. Your raise will cause it to be held back on less than half that amount of acreage. With no flow to the south, other than topping over your north spillway, the stair step of water level to the north will impact farms all on the east side up to 218 ft. This will devastate all farmland north to the Locust Creek road bridge on Dexter road.

The diversion berm/dam you propose in Locust Creek is suggested at 1.5 feet above the floodplain. If the floodplain is at the south end of Higgins Ditch, one could estimate it is at least 6 - 10 ft high. Historically, any obstruction in Locust Creek has caused log jams and large silt deposits. Your berm/dam is a MAJOR obstruction that will prevent all drainage from our farm and farms from the north and south from draining through our 6 ft tube. We would also like to point out that future log jams forming at the north end of DNR property/Sedimentation Detention Basin will conveniently become the responsibility of private landowners up-stream.

The stairsteps you have proposed south through levy notches could block easily within the Sedimentation Detention Basin. Blockages would obviously cause a water height increase in the Basin, which would cause a water height increase within the creek which would render our main 6 ft tube useless. You do not mention or suggest how these logs and sediment caught by the stair steps will be removed QUICKLY to prevent the destruction of farmers crops.

The Sedimentation Detention Basin will resemble a wider, more clogged man made Locust Creek that will cost millions of taxpayers dollars. One must assume the Sedimentation Detention Basin will be part of the Park and assume the "no action" mandate, similar to Shorr's plan mentioned previously.

Looking at the Parks historical record for clearing log jams our farm would be flooded for MANY years. If the Sediment Detention Basin is implemented and maintained we would lose the south part of our farm to flood at least annually. If it is NOT maintained we lose our farm completely and with the gradual increase in ground level to the north, hundreds of acres will be affected upstream. This basin will be placed in the perfect position to destroy nearly all farmland contained in a private levee system. We estimate this loss to be 1500 acres of good farmland. The drainage of farms on the west side of the Locust Creek will also be affected by your dam/berm across Locust Creek. Hopefully those landowners will send comments, if they are aware of the Feasibility Study.

To summarize our comments. The last 40 year history of Pershing Parks/DNR attempts to maintain the flow of water through the Park via Locust Creek have failed due to their "no action alternative". The Park has managed to obtain more land in efforts to contain sedimentation and control flow instead of simply keeping Locust Creek open by dredging and log jam removal that worked well in 1997. Your Feasibility Report and proposed Sedimentation Detention Basin has all the characteristics that have been tried before; blocking waterways, constructing sedimentation collections sites, and selective dredging - all ending in failure.

Cheaper Locust Creek Alternatives have been dismissed as they may affect habitat or would be constructed on already acquired Park property . The site of this proposed Sediment Basin (1200 acres of productive farmland) starts where the Park ends on the east side and goes north to meet up where the Park ends on the West side. Pershing Park/DNR will be increased in size at the expense of taxpayers. Another 1500 acres of productive farmland to the north of the Basin will not be farmable. Heavy siltation from the channelized waterway banks will continue and DNR land acquisition will move steadily north.

We will lose our financial livelihood, and our family farm as we know it. What is sad for us is that we have operated our farm in a conservation manner. We have used filtration strips to manage sediment. We preserve forestland and the original Locust Creek cutoffs for wildlife diversity. Also, for more than 40 years our farm has been a true refuge for all forms of wildlife. We have not tolerated any recreational killing of any wildlife on our 600 acres and I am confident our farm contains many of the species found in the Park.

We feel the study and assessment and the proposed Sedimentation Basin is biased towards the Parks agenda. What you are proposing can be done on land already owned by DNR and the plan is oblivious to the feelings and livelihoods of private landowners that have worked hard to buy and maintain the farms they love.

Sincerely,

Colin and Alice Smith

[REDACTED]

[REDACTED]

[REDACTED]

From: [REDACTED]
To: [GrandRiver](#)
Subject: [Non-DoD Source] US Army Corps of Engineers Grand River Feasibility Study
Date: Wednesday, November 20, 2019 8:17:13 AM
Attachments: [GrandRiver FeasibilityStudy Comments Mike Nov 19 2019 .docx](#)

Grand River USACE.Army.Mil,

Please find attached my comments regarding the Study of the Lower Grand River Watershed.

Please feel to contact me regarding any concerns that you may have. I really appreciate your efforts in this matter. I know that the solution is very difficult. Thanks for your efforts!

Respectfully,

Mike Moore
Twin Lakes Gun Club

[REDACTED]

[REDACTED]

November 20, 2019

To: US Army Corps of Engineers, Kansas City District

Attn: PMP-R Grand River Feasibility Study

Please see below and consider my comments to the draft Grand River Feasibility Study.

First off, I would like to thank you for your concern in the Lower Grand River watershed and for your efforts to develop proposals concerning the current situations and impact on the landowners and citizens of this watershed. This is an area that is very significant for landowners as well as various habitat types and wildlife species.

I would like to offer a couple thoughts before I get to specifics. The study indicates that sedimentation has increased dramatically, especially in the recent past. I agree that sedimentation is a significant issue. Do you have any specific data to show an increased trend in siltation/sedimentation in the watershed? I see an increase in siltation with virtually every flood event. My family has either rented or owned property next to Fountain Grove Wildlife Area since before 1944. I believe that this watershed has flooded for hundreds of years and will continue to do so as this is a floodplain. I do know that flooding has increased recently and with that increase comes an increase in sedimentation. Do you have data to indicate the sedimentation has increased recently and if so, what do you attribute that increase to? I suspect you will reference upstream farming practices, streambank degradation, flood frequency, etc. I would also be interested to see trend data reflecting flood frequency in this watershed. We have seen numerous floods in the recent past, but have you compared that data to long term trends, I am curious if we are only experiencing an upward trend or something more significant. You mentioned the increased rate of siltation by showing photos of silt on buildings in the watershed or referencing its impact on mature stands of pin oak trees dying off. Was it possible that a long-term trend in weather/climate at that time allowed for suitable conditions and that the climate allowed for the establishment of pin oak flats and other species composition that are currently struggling with today's conditions? I do believe we have a major issue with the effect of sedimentation in our watershed. However, I am curious just how much worse it is now than in decades or periods past.

Here are my concerns for the **Tentatively Selected Plan**. I am mostly concerned about the TSP for FOUNTAIN GROVE as it will have a direct impact on private property that I have a significant interest in.

My main concern involves the conveyance channel planned to move flow from Parson's Creek through Fountain Grove and dumping the channel in Pool 3 WCS into Jackson's Ditch. Please allow me to set the stage for why this plan is so concerning. In the 1950's Jackson's Ditch was small enough that a man could cross it easily. When this WCS was installed, one of the Twin Lakes owners approached MDC with our concerns about the impacts of releasing water into Jackson's Ditch and the effects it could have on their property. In the 1970's this was brought up to MDC again. In the early 2000's the WCS was reconstructed and again a property owner of Twin Lakes Gun Club approached MDC and Doreen Mingle assured us that flows would be regulated to the point that damage would not occur on Twin Lakes. The flows were not regulated until recently. However, Jackson's Ditch has changed dramatically since the

1950's. It has deepened in excess of 15ft and widened more than 50ft. The banks are severely degraded and each flood event and the corresponding dewatering of Fountain Grove through that structure cause more damage to the east side of the streambank. At high flows we are taking a significant amount of sedimentation as that water pours out of Jackson's Ditch flowing east or southeast. The implementation of the planned conveyance channel would only subject us to more and faster flows. The Study indicates that channel would allow for increased dewatering capability of Fountain Grove. If high flows of Parson's Creek are directed at our west property boundary it is inevitable that we will see an increased rate of sedimentation as those flows slow when hitting our timber. We have endured more than a half a decade of erosion along Jackson's Ditch and would prefer that situation not be compounded by directing more flows our direction. I understand the need of getting the water off the pools in a timely manner and improving the moist soil plants.

I see in the TSP that 2 acres are planned for bank armoring and while that may help with channel and bank degradation it will have no impact on the amount of sedimentation we would expect to see. Why are you only planning to armor the area of Jackson's Ditch along the Twin Lakes boundary? If you go that route why would you not armor Jackson's Ditch all the way to Grand River to protect the neighbor (Stewart) to our south? The TSP also indicated that 2 ac of easement would be needed along Jackson's Ditch. Please explain why this is necessary and how you intend to obtain that easement? If Twin Lakes was unwilling or unable to offer that easement would bank armoring still be available? If no easement was obtained and no bank armoring was installed would you still intend to utilize that WCS as planned in the TSP? If Twin Lakes agreed to bank armoring how would that be constructed? I suspect it would be planned to shape the bank and work from both sides of Jackson's Ditch. We would be very reluctant to lose more timber along Jackson's Ditch to allow for the implementation of bank armoring. Would it be possible that equipment could work from the west bank or from the channel to implement the bank armoring? By law, is it legal to outlet water in a different location than where that water originally left your property? I am not sure that is legal, nor do I support that plan knowing the potential implications on the Twin Lakes property.

We would be in greater support of the conveyance channel being constructed to utilize the WCS in Pool 3 South at the Grand River. Possibly this would help to direct high flows away from the 90-degree impact with our west property line where we see the most significant sedimentation and flooding damage. While this may not be the easiest option, it would be possible and would keep the flows and dewatering discharge on the Fountain Grove property only without negatively impacting the adjacent landowners.

Also, I have questions pertaining to the floodplain modeling of Parson's Creek. Were those models ran only considering rain events in the Parson's Creek watershed or were models ran with flood events taking place on the Grand River, Medicine Creek, Turkey Creek, at Fountain Grove as well? We rarely see only a Parson's Creek flood when the Grand River is not above flood stage in the studied area.

I have a couple of other questions regarding the TSP for Fountain Grove. Why is it planned to move the levee between pools 2 and 3 to the west? What advantages does this provide? Is the East Side levee setback location really the point of restriction in that portion of the floodplain? You indicated it is anticipated that the levee will breach in the next 25 years...how is that derived? Is the plan to revamp the East Side solely to improve the aesthetics of that area of Fountain Grove or will the money being spent for the planned restoration significantly improve wildlife usage over what we see in the existing

pools today? If you were to set back the levee along the creek on the East side how would you intend to manage those acres between the new levee and the creek?

Just a couple quick questions regarding the TSP for LOCUST CREEK (LC 15.25). How do you intend to obtain the 1,394 ac of private property where the planned sediment detention basin is located? I believe the purchase of those acres will be difficult. How will the TSP be affected if that property is not able to be obtained? Also, who would be responsible for maintaining the log capture feature?

Thank you again for your interest in the Lower Grand River watershed and working to develop plans to ensure this area remains an important part of the landscape. I would ask you to carefully consider the comments mentioned above. I would also invite you to find a time to meet and discuss our concerns with the TSP and how they might affect the overall watershed plan. I can be reached at the contact info below and am looking forward to the opportunity to visit about our concerns.

Respectfully,

Mike Moore

Twin Lakes Gun Club

[REDACTED]

[REDACTED]

RECEIVED

NOV 29 2019

DIRECTOR'S OFFICE
DEPT. OF NATURAL RESOURCES

11-15-19

Grand River Feasibility Report / TSP

WRC
Tim R.
Rob H

I Am strongly opposed to the Tentatively Selected Plan (TSP) presented in this Report as it is not the most effective plan to address the hydrological and environmental problems. Secondly, the TSP has much higher economic and social costs than the effectively superior plan. Lastly, the ongoing maintenance and repair that is integral in the TSP further drops the ordinal ranking of an inferior plan, not as much due to the ongoing costs of such activities but more so because they cannot be expected to be performed by a state department that at this site has a twenty five year documented history of in action and noncompliance with previously issued USACE permits.

The perched nature of Locust Creek above and below US Highway 36 on public land and the complete relocation of its flow to Higgins Ditch on public land north of US Highway 36 is natural maturity progression of a stream and exhibits nothing that hasn't been understood for a very long time. The preponderance of natural conditions and force of this progression negates the ability to affect it north of US Highway 36 due to the unalterable restrictions

imposed by finite flow options under US Highway 36. Any viable plan must respect the reality that Locust Creek flow is going to move through the US Highway 36 barrier at the Higgins Ditch opening. An effective plan will promote this to mitigate damage from flooding and siltation north of the barrier.

The wetland construction awarded September 26, 2011 by USDA NRCS and completed that fall and winter converted the approximately 1,500 acre Zell tract of MODNR/Pershing State Park from agricultural use. The work involved lowering a segment of the westernmost levee of the tract a short distance south of US Highway 36. This levee is on the east bank of Higgins Ditch, and lowering the segment allows high flow in Higgins Ditch to enter the tract. Also at that time a segment of the easternmost levee was removed and hardened at grade with rip rap at the southernmost reach of the tract. To connect the lowered segment in the NW portion to the exit section removed in the SE corner swales and oxbows were constructed through the tract.

Where the flow exits the Zell tract is located approximately 1 mile north and west of Locust Creek. The exit point is also approximately $1\frac{1}{2}$ miles SW of the point where the TSP would attempt to re-introduce flow to Locust Creek after diverting and impounding it north of US Highway 36 and

Approximately $\frac{1}{2}$ mile SW of points where Locust Creek dredging from the north would end and a $\frac{1}{4}$ mile diversion berm would be built.

The TSP does not make any changes to the Locust Creek channel in the southern portion of Pershing State Park. The approximately 4 miles of dredging would end just downstream of the camping and most publicly accessible area in the park. Locust Creek in the south portion of the park is not perched to near the extent as it is in the north. However, the southern portion of the channel has been in a dry condition or holding only surface water for most of the last twenty years due to upstream log jams and the migration of primary flow to Higgins Ditch. As flow that is envisioned in the TSP to be brought down Locust Creek via a newly constructed and improved (dredged) channel would result in flooding and stream cutting upon encountering the obstructed channel it presents what should be considered an unacceptable loss of habitat and natural resources. The southeastern portion of Pershing State Park and the northeastern portion of Fountain Grove have not experienced these destructions which have occurred upstream in the park due to the aforementioned log jams and western migration of flow. Much of the area that would be damaged is riparian forest. The land cover map contained in the TSP as Figure 2-11 does not identify forest area that has

Already been lost but satellite imagery makes apparent the area and totality of devastation.

The Zell tract must be a critical element of any responsible plan. The location and features of the Zell tract make it supremely suited to provide flow conveyance away from Higgins Ditch and be a silt basin and debris trap. These functions are the important mechanics of the TSP, and utilizing the Zell tract provides better results than the new channel and silt basin proposed in the TSP does. No changes would be made north of US Highway 36 by using the Zell tract.

Flow leaving the Zell tract could be allowed to stream cut to the south and west naturally as it would in the TSP. Doing so would result in somewhat less damage to habitat and natural resources as in the TSP due to the beginning point being approximately $\frac{1}{2}$ mile southwest and flowing through wet meadow instead of riparian forest.

If utilizing the Zell tract only, went to this extent it would provide better hydrological, environmental and habitat benefits than the TSP.

The results in all three of these areas could be greatly extended if efforts that the TSP would have exerted upstream are undertaken after flow leaves the Zell tract. The diversion channel and diversion berm that would have been built in the TSP to move flow to the newly constructed sediment

basin could be built to move this flow from the Zell tract to Locust Creek. The approximately 4 miles of dredging that would have been done under the TSP in Muddy Creek and Locust Creek to allow flow from the TSP sediment basin could now be done to sustain this flow from its reintroduction downstream in Locust Creek.

There are significant direct financial costs in acquiring and building the new sedimentation basin and constructing new channels and above grade diversions to attempt to move flow into and out of it that would be saved by utilizing the Zell tract. Work that was recently done on the Zell tract when it was acquired by MODNR configured it to accept, retain and discharge high flow.

I strongly recommend rejecting the TSP in favor of utilizing the Zell tract however not because of the relatively minor work (and costs) necessary for it to accept, retain and discharge normal flow but because it performs these functions superiorly and with less negative environmental impacts.

The envisioned results of constructing the TSP could be expected to provide more benefit to land I own adjacent to Higgins Ditch than utilizing the Zell tract would, since it would attempt to move flow further east. The environmental cost in trying to do so, along with the inability to sustain such unnatural flow requires me to recommend rejecting

the TSP even if doing so results in no Action.

I have hiked, ran, hunted, fished and farmed within the Locust Creek and Fountain Grove divisions of the TSP since the 1960's. The observations I have made during this timeframe allow me to feel confident in the recommendations offered in this critique.

Also, it was quite by luck that I learned this TSP was out for public comment. I respectfully request that as I own lands adjacent to Locust Creek, Higgins Ditch, Hickory Branch, Pershing State Park and Fountain Grove Conservation Area that I receive personal service letting me know of any important developments related to this matter.

Sincerely,

Thomas Parsons

cc Kenny Pointer, USACE

Mike Parson, Governor

Cindy O'Laughlin, State Senator

Rusty Black, State Representative

Dick King, Linn County Commissioner

Carol Comer, MODNR

From: [Clint](#)
To: [GrandRiver](#)
Subject: [Non-DoD Source] PMP-R Grand River Feasibility Study _ Public Comments
Date: Wednesday, November 20, 2019 8:59:58 PM

To: US Army Corps of Engineers, Kansas City District

Attn: PMP-R Grand River Feasibility Study

To whom it may concern:

Please see below and consider my comments to the draft Grand River Feasibility Study.

First off, I would like to thank you for your interest in the Lower Grand River watershed and for your efforts up to this point to evaluate the current situations as they impact the landowners and citizens of this watershed. As you mentioned in your Study this is an area of significance for many of us as well as various habitat types and wildlife species.

Before I get into the specifics of the proposed plans, I would like to offer a couple thoughts. It was mentioned numerous times in the Study that sedimentation has increased dramatically in the recent past. I do not disagree that sedimentation is significant recently but do you have any specific data to show an increased trend in siltation/sedimentation in the watershed? I am under the belief that this watershed has flooded for hundreds of years and will continue to do so as this is a floodplain. I do acknowledge that flooding has increased recently and with that increase comes an increase in sedimentation. Still I pose the question...do you have data to indicate the sedimentation has increased recently and if so, what do you attribute that increase to? I suspect you will reference upstream farming practices, streambank degradation, flood frequency, etc? I would also be interested to see trend data reflecting flood frequency in this watershed. We have seen numerous floods in the recent past but if we compared that data to long term trends, I am curious if we are only experiencing a small upward trend or something more significant. You refer to the increased rate of siltation by showing photos of silt on buildings in the watershed or referencing its impact on mature stands of pin oak trees dying off. Was it possible that a long-term trend in weather/climate at that time allowed for suitable conditions for people to believe building in the floodplain was a good idea or that the current climate allowed for the establishment of pin oak flats and other species composition that are currently struggling with today's conditions? Please understand, I do not discount the effect of sedimentation in our watershed but I am curious just how much worse it is now than in decades or periods past.

Now please allow me to discuss my concerns for the Tentatively Selected Plan. For this portion of my comments I will mostly discuss the TSP for Fountain Grove as it will have a direct impact on private property that I have a significant interest in. In addition, the team that worked on this study had years to develop this very in-depth plan while those commenting are limited to only 30 days.

My main concern involves the conveyance channel planned to move flow from Parson's Creek through Fountain Grove and dumping at the Pool 3 WCS into Jackson's Ditch. Please allow me to set the stage for why this plan is so concerning. In the 1950's Jackson's Ditch was small enough that a man could cross it easily. When this WCS was installed, one of the Twin Lakes owners approached MDC with his concerns about the impacts of releasing water into Jackson's Ditch and the effects it could have on their property. In the 1970's this was brought up to MDC again. In the early 2000's the WCS was reconstructed and again a property owner of Twin Lakes Gun Club approached MDC and Doreen Mingle assured us that flows would be regulated to the point that damage would not occur on Twin Lakes. The flows were not regulated until recently. However, Jackson's Ditch has changed dramatically since the 1950's. It has deepened in excess of 15ft and widened more than 50ft. The banks are severely degraded and each flood event and the corresponding dewatering of Fountain Grove through that structure cause more damage to the east side of the streambank. In addition, at high flows we are taking a significant amount of sedimentation as that water pours out of Jackson's Ditch flowing east or southeast. The implementation of the planned conveyance channel would only subject us to more flows and potentially faster flows as the Study indicates

that channel would allow for increased dewatering capability of Fountain Grove. If high flows of Parson's Creek are directed at our west boundary it is inevitable that we will see an increased rate of sedimentation as those flows slow when hitting our timber. We have endured more than a half a decade of erosion along Jackson's Ditch and would prefer that situation not be compounded by directing more flows our direction.

I see in the TSP that 2 ac are planned for bank armoring and while that may help with channel and bank degradation it will have no impact on the amount of sedimentation we would expect to see. Why are you only planning to armor the area of Jackson's Ditch along the Twin Lakes boundary? If you go that route why would you not armor Jackson's Ditch all the way to Grand River to protect the neighbor to the south? The TSP also indicated that 2 ac of easement would be needed along Jackson's Ditch. Please explain why this is necessary and how you intend to obtain that easement? If Twin Lakes was unwilling or unable to offer that easement would bank armoring still be available? If no easement was obtained and no bank armoring was installed would you still intend to utilize that WCS as planned in the TSP? If Twin Lakes agreed to bank armoring how would that be constructed? I suspect it would be planned to shape the bank and work from both sides of Jackson's Ditch. We would be very reluctant to lose more timber along Jackson's Ditch to allow for the implementation of bank armoring. Would it be possible that equipment could work from the west bank or from the channel to implement the bank armoring? By law is it legal to outlet water in a different location than where that water originally left the property? I do not believe that is legal nor do I support that plan knowing the potential implications on the Twin Lakes property.

We would be in greater support of the conveyance channel being constructed to utilize the WCS in Pool 3 South at the Grand River. Possibly this would help to direct high flows away from the 90-degree impact with our west property line where we see the most significant sedimentation and flooding damage. While this may not be the easiest option it would be possible and would keep the flows and dewatering discharge on the Fountain Grove property only without negatively impacting the adjacent landowners.

I have questions pertaining to the floodplain modeling of Parson's Creek. Were those models ran only considering rain events in the Parson's Creek watershed or were models ran with flood events taking place on the Grand River at Fountain Grove as well? It seems to be me that we rarely see only a Parson's Creek flood when the Grand River is not above flood stage in the studied area.

Additional questions I have regarding the TSP for Fountain Grove. Why is it planned to move the levee between pools 2 and 3 to the west? What advantages does this provide? Is the East Side levee setback location really the point of restriction in that portion of the floodplain? You say it is anticipated that the levee will breach in the next 25 years...how is that derived? Is the plan to revamp the East Side solely to improve the ascetics of that area of Fountain Grove or will the money being spent for the planned restoration significantly improve wildlife usage over what we see in the existing pools today? If you were to set back the levee along the creek on the East side how would you intend to manage those acres between the new levee and the creek?

Just a couple quick questions regarding the TSP for Locust Creek (LC 15.25). How do you intend to obtain the 1,394 ac of private property where the planned sediment detention basin is located? How will the TSP be affected if that property is not able to be obtained? Who would be responsible for maintaining the log capture feature?

Thank you again for your interest in the Lower Grand River watershed and working to develop plans to ensure this area remains an important part of the landscape. I would ask you to carefully consider the comments mentioned above and would invite you to find a time to meet and discuss our concerns with the TSP and how they might affect the overall watershed plan. I can be reached at the contact info below and am looking forward to the opportunity to visit about our concerns.

Respectfully,

Clint Roby

Resource Professional, Concerned Citizen, and Neighbor to Fountain Grove

[REDACTED]

[REDACTED]

From: [DuPree, Gabriel](#)
To: [GrandRiver](#)
Cc: [Megaro, Kaelly M CIV USARMY CENWK \(US\)](#); [Snyder, Michael V CIV USARMY CENWK \(USA\)](#); [Gaggero, Jaime](#); [Means, Chrislyn](#); [Tapp, Joshua](#); [Tilley, Amber](#); [Weilert, Steven](#); [MDNR MVS External Stakeholder](#)
Subject: [Non-DoD Source] Draft Grand River Basin Integrated Feasibility Report and Environmental Assessment
Date: Wednesday, November 20, 2019 2:04:44 PM

Grand River Technical Team,

I have reviewed the Draft Grand River Basin Integrated Feasibility Report and Environmental Assessment, and have the following comments:

The study scope focused on the Lower Grand River sub-basin, which includes a wetland complex of over 24,000 acres of state and federal lands encompassing Pershing State Park, Fountain Grove Conservation Area, Swan Lake National Wildlife Refuge, Yellow Creek Conservation Area, thousands of acres of NRCS conservation easement lands, and other private lands. The feasibility report specifically focuses on the study areas of Locust Creek, Fountain Grove, and Yellow Creek. The three focus areas are located in a 4-county region, which includes Carroll, Chariton, Linn and Livingston counties in north central Missouri. The region is located approximately 75 miles northeast of Kansas City and 65 miles northwest of Columbia, Missouri.

- * Page ES-2, Figure ES-1 - Add location of Yellow Creek CA.
- * Page ES-11 has the following sentence: "It achieves the planning of objective of maximizing management capability and resulting natural ecosystem for and function to a larger degree than FG37." - This sentence needs some clarification.
- * Page ES-12, Table ES-7 - Reassess "no impacts" to floodplain under any alternatives. If there are impacts to geology and soils, prime and unique farmlands, and land use with the FWP Alternatives, wouldn't there be presumed impacts to floodplain with either No Action Alternative or FWP Alternatives? Page 10, section 1.5 states one of the purposes of the study is to reverse the trend of degradation of floodplain. Page 109, section 5.1.1 also states the floodplain would continue to degrade under the No Action Alternative.
- * Page ES-12, Table ES-7 - If there are beneficial impacts to water quality with the FWP Alternatives, wouldn't there be presumed adverse impacts with the No Action Alternative?
- * Page ES-12, Table ES-7 - If there are beneficial impacts to flood risk with the FWP Alternatives, wouldn't there be presumed impacts with the No Action Alternative? Specifically with avulsion channels and continued diversion of flow from areas such as Locust Creek to Higgins Ditch?
- * Page ES-12, Table ES-7 - If there are potential beneficial impacts to cultural resources with the FWP Alternatives, wouldn't there be presumed adverse impacts with the No Action Alternative, e.g. cultural sites buried in sediment, etc?
- * Page ES-12 and P.129 Will the in-channel log and sediment diversion structure proposed to cross the existing Locust Creek channel impact aquatic organism passage? Needs clarification this will not act as a dam or barrier to aquatic organism passage and how it will facilitate such passage.
- * Page ES-17, Figure ES-4 - The figure legend includes a USFWS boundary, but there isn't such a boundary visible on the map.
- * Further clarification of uses of the terms watershed and basin in the document would be beneficial. (Assuming "watershed" is used to be consistent with the NRCS use of the term and avoid confusion with "Mississippi River Basin", rather than the USGS HUC system terms, where "watershed" as currently used in the EA/study report would actually be a "basin". For example, page 1 section 1.2. states "Throughout this report, "watershed" will refer to the entire Grand River basin, and "sub-basin" will be used to refer to the HUC-8 level." Page ES-13 and several other pages refer to Watkins Creek, Locust Creek, East Locust Creek, and West Locust Creek as watersheds, so it could be confusing to the reader to also refer to the entire basin as a watershed. If the document is referencing the HUC system, it should be consistent in its naming to avoid confusion; for example a "watershed" is a HUC-10, whereas

the entire basin would be HUC-6 or "basin".

* The EA/study report also references HUC-10s as "sub-watersheds" on page 115, section 5.15.2. and page 79, section 4.7 -- needs to be consistent to other references to HUC-10s as watersheds in the document (sub-watersheds are actually HUC-12s).

* Page 42, section 1.6.4 - Regarding land management practices, will there be an education/outreach component for improved BMP implementation?

* Page 77, section 4.6.1 - It would be beneficial to include discussion of re-sloping and revegetation of the upper bank. The project should limit the use of rock revetments to the maximum extent practicable, and focus on stabilizing the toe with LPSTP in conjunction with bioengineering and revegetation of the upper bank, where possible.

* Page 107, section 5.4.2 - If the project's in-stream fill and other such activities won't impact aquatic organism passage or will result in improvements (e.g. YC11 removal of culverts, etc), this should be clarified in this section.

* Page 119, Table 5-1 - Reassess "no impacts" to floodplain under No Action Alternative. Statements to the contrary throughout the document (continued degradation, etc).

* Page 120, section 5.19.1, Step 3 - Add RFFA (reasonably foreseeable future actions) to the Acronym & Abbreviations list.

* Page 126, section 5.20 - Verify number of HUC-4s, which are subregions.

* Page 129, section 6.1.1 - Describe how the in-stream portion of the diversion berm across Locust Creek won't act as a dam, and will facilitate aquatic organism passage.

* Page 129, section 6.1.1 - Add AEP (annual exceedance probability) to the Acronym & Abbreviations list.

* Page 139, section 6.3 mentions FY 19 discount rate as 2.75%, but notations at the bottom of Table ES-4, Table ES-5, Table ES-6, Table 4-7, Table 4-8, and Table 4-9 all apply the FY 19 discount rate at 2.875%.

* A brief explanation of the application of the discount rate would be beneficial.

Thank you for the opportunity to review and comment on the Draft Grand River Basin Integrated Feasibility Report and Environmental Assessment. If you have any questions or would like to discuss further, please contact me.

Sincerely,

Gabriel DuPree

U.S. Environmental Protection Agency, Region 7

Water Division

Watersheds and Grants Branch/Permits and Loans Branch

11201 Renner Blvd.

Lenexa, KS 66219

Office: 913-551-7751

From: [Snyder, Michael V CIV USARMY CENWK \(USA\)](#)
To: [Hector_Santiago@](#)
Cc: [Megaro, Kaely M CIV USARMY CENWK \(US\)](#); [Farmer, Jason W CIV USARMY CENWK \(US\)](#)
Subject: Draft Grand River Feasibility Study and Environmental Assessment
Date: Tuesday, October 8, 2019 1:50:00 PM

Mr. Santiago:

I wanted to bring to your attention that the U.S. Army Corps of Engineers - Kansas City District has released a draft Grand River Feasibility Report and Environmental Assessment. The Grand River study is an ecosystem restoration study. The USACE, Missouri Department of Natural Resources and the Missouri Department of Conservation in partnership with other federal and state agencies studied known problems in the Lower Grand River Watershed in north central Missouri. Problems included channel instability, stream bank erosion, sedimentation, logjams and stream capture. These problems alter water flowing in streams, impair public infrastructure, affect landowners and degrade aquatic and wetland habitats.

The study area includes a segment of Locust Creek that is listed on the National Rivers Inventory. The draft feasibility report/environmental assessment addresses the potential effects to this segment of Locust Creek in accordance with the CEQ executive memorandum under 5(d)(1) Wild and Scenic River Act authority. As the identified NRI contact for the state of Missouri, we are notifying you of the draft report/EA and the initiation of a public and agency comment period that will conclude on November 20, 2019. You may access the draft feasibility report/environmental assessment, draft FONSI, draft 404(b)(1) evaluation, and public notice at the following web page: <https://www.nwk.usace.army.mil/Missions/Civil-Works/Civil-Works-Programs-And-Projects/Grand-River-Basin/>. If you would like copies of any of the appendices, please direct that request to my attention.

If you have any questions regarding the study or the effects to the NRI-listed segment of Locust Creek, please contact me with any questions you may have.

Regards,

Michael V. Snyder
Environmental Resource Specialist, PMP-R
U.S. Army Corps of Engineers - Kansas City District
601 E. 12th St.
Kansas City, MO 64106

(816) 389-3141

From: [Snyder, Michael V CIV USARMY CENWK \(USA\)](#)
To: [Hector_Santiago@](#)
Subject: FW: Draft Grand River Feasibility Study and Environmental Assessment
Date: Wednesday, December 11, 2019 3:46:00 PM

Good Afternoon Hector,

Please see below for info on the draft Grand River Feasibility Report and link to the documents.

Please let me know if you have any questions,
Mike

Michael V. Snyder
Environmental Resource Specialist, PMP-R
U.S. Army Corps of Engineers - Kansas City District
601 E. 12th St.
Kansas City, MO 64106

(816) 389-3141

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

From: Snyder, Michael V CIV USARMY CENWK (USA)
Sent: Tuesday, October 8, 2019 1:51 PM
To: Hector_Santiago
Cc: Megaro, Kaely M CIV USARMY CENWK (US) ; Farmer, Jason W CIV
USARMY CENWK (US)
Subject: Draft Grand River Feasibility Study and Environmental Assessment

Mr. Santiago:

I wanted to bring to your attention that the U.S. Army Corps of Engineers - Kansas City District has released a draft Grand River Feasibility Report and Environmental Assessment. The Grand River study is an ecosystem restoration study. The USACE, Missouri Department of Natural Resources and the Missouri Department of Conservation in partnership with other federal and state agencies studied known problems in the Lower Grand River Watershed in north central Missouri. Problems included channel instability, stream bank erosion, sedimentation, logjams and stream capture. These problems alter water flowing in streams, impair public infrastructure, affect landowners and degrade aquatic and wetland habitats.

The study area includes a segment of Locust Creek that is listed on the National Rivers Inventory. The draft feasibility report/environmental assessment addresses the potential effects to this segment of Locust Creek in accordance with the CEQ executive memorandum under 5(d)(1) Wild and Scenic River Act authority. As the identified NRI contact for the state of Missouri, we are notifying you of the draft report/EA and the initiation of a public and agency comment period that will conclude on November 20, 2019. You may access the draft feasibility report/environmental assessment, draft FONSI, draft 404(b)(1) evaluation, and public notice at the following web page: <https://www.nwk.usace.army.mil/Missions/Civil-Works/Civil-Works-Programs-And-Projects/Grand-River-Basin/>. If you would like copies of any of the appendices, please direct that request to my attention.

If you have any questions regarding the study or the effects to the NRI-listed segment of Locust Creek, please contact me with any questions you may have.

Regards,

Michael V. Snyder
Environmental Resource Specialist, PMP-R U.S. Army Corps of Engineers - Kansas City District

601 E. 12th St.
Kansas City, MO 64106

(816) 389-3141

From: [Larsen, Scott - NRCS, Palmyra, MO](#)
To: [Snyder, Michael V CIV USARMY CENWK \(USA\)](#)
Subject: [Non-DoD Source] RE: Grand River Feasibility Study - Form AD-1006
Date: Tuesday, June 2, 2020 9:17:35 AM
Attachments: [2020 05 14 Grand River Farmland Impact Rating From-NRCS2.pdf](#)

Mike,

Attached is the final completed AD-1006 for you project (as we discussed on the phone).

Let me know if you have any questions.

Thanks

Scott Larsen

Area Resource Soil Scientist

USDA-NRCS, Area Office

6465 Highway 168, Suite C

Palmyra, MO 63461-3023

(573)769-2235 Ext.133

Cell: (573) 248-8602

scott.larsen2@usda.gov

From: Snyder, Michael V CIV USARMY CENWK (USA) <Michael.V.Snyder@usace.army.mil>
Sent: Thursday, May 14, 2020 3:39 PM
To: Larsen, Scott - NRCS, Palmyra, MO < >
Subject: RE: Grand River Feasibility Study - Form AD-1006

Scott,

The attached Form AD-1006 has been updated to add information on two additional alternatives. Twenty-six alternative plans were considered in the initial array identified for the Locust Creek study area. Seven alternatives were included in the final array that was fully evaluated in the Draft Integrated Feasibility Report and Environmental Assessment published in October 2019. Site A in the Form AD-1006 reflects the prime farmland conversion associated with the large sediment detention basin that was a feature of Locust Creek Alternatives 3, 3.5, 15, and 15.5 in the final array. Site B represents a smaller version of the detention basin that was featured in Locust Creek Alternative 18 and 18.5. Site C represents Locust Creek Alternative 11 in the final array, which did not include a sediment detention basin.

The draft integrated report can be viewed here:

<https://www.nwk.usace.army.mil/Media/Public-Notices/Planning-Public-Notices/Article/1982752/draft-grand-river-feasibility-study-environmental-assessment/>

Please let me know if you require any additional information.

Thank you for your assistance,

Mike

Michael V. Snyder
Environmental Resource Specialist, PMP-R
U.S. Army Corps of Engineers - Kansas City District
601 E. 12th St.
Kansas City, MO 64106

(816) 389-3141

From: Larsen, Scott - NRCS, Palmyra, MO <scott.larsen2@usda.gov>
Sent: Thursday, May 7, 2020 3:29 PM
To: Snyder, Michael V CIV USARMY CENWK (USA) <Michael.V.Snyder@usace.army.mil>
Subject: [Non-DoD Source] RE: Grand River Feasibility Study - Form AD-1006

Michael,

Attached is the AD-1006 with the NRCS part completed and a cover letter.
Let me know if you have any questions.
Thanks

Scott Larsen
Area Resource Soil Scientist
USDA-NRCS, Area Office
6465 Highway 168, Suite C
Palmyra, MO 63461-3023
(573)769-2235 Ext.133
Cell: (573) 248-8602
scott.larsen2@usda.gov

From: Snyder, Michael V CIV USARMY CENWK (USA) <Michael.V.Snyder@usace.army.mil>
Sent: Tuesday, April 28, 2020 10:42 AM
To: Larsen, Scott - NRCS, Palmyra, MO <[s](mailto:scott.larsen2@usda.gov)>
Cc: Megaro, Kaely M CIV USARMY CENWK (USA) <Kaely.M.Megaro@usace.army.mil>
Subject: Grand River Feasibility Study - Form AD-1006

Good Morning Scott,

Attached is the AD-1006 form for the Grand River Feasibility Study. I have filled out the sections identified for the Federal Agency to complete. Attached is a figure "TSP_details" that is an overview of the different components of our recommended plan. This should orient you to where we are talking about. The proposed features for Fountain Grove and Swan Lake occur on existing public lands, so nothing was included in this evaluation. The evaluation focused on the proposed sediment detention basin near Pershing State Park because that is the proposed feature that would directly

convert existing farmland to another use. The second photo, titled "LC_north parcels_soils_publiclands" is a close-up of the parcels in the area of the sediment detention basin (the north is referring to north of HWY 36). We are basically talking about the parcels labeled 38, 40, 43, 49, 89, and 100. As you can see, they contain some area identified as "Prime Farmland if Drained".

Please let me know if you have any questions. I am currently on 100% telework, and you can reach me at 816-868-1097.

Thanks,
Mike

Michael V. Snyder
Environmental Resource Specialist, PMP-R
U.S. Army Corps of Engineers - Kansas City District
601 E. 12th St.
Kansas City, MO 64106

(816) 389-3141

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request			
Name of Project		Federal Agency Involved			
Proposed Land Use		County and State			
PART II (To be completed by NRCS)		Date Request Received By NRCS		Person Completing Form:	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>		YES <input type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %		Amount of Farmland As Defined in FPPA Acres: %		
Name of Land Evaluation System Used	Name of State or Local Site Assessment System		Date Land Evaluation Returned by NRCS		
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					
B. Total Acres To Be Converted Indirectly					
C. Total Acres In Site					
PART IV (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide Important or Local Important Farmland					
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value					
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)					
PART VI (To be completed by Federal Agency) Site Assessment Criteria <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>		Maximum Points	Site A	Site B	Site C
1. Area In Non-urban Use		(15)			
2. Perimeter In Non-urban Use		(10)			
3. Percent Of Site Being Farmed		(20)			
4. Protection Provided By State and Local Government		(20)			
5. Distance From Urban Built-up Area		(15)			
6. Distance To Urban Support Services		(15)			
7. Size Of Present Farm Unit Compared To Average		(10)			
8. Creation Of Non-farmable Farmland		(10)			
9. Availability Of Farm Support Services		(5)			
10. On-Farm Investments		(20)			
11. Effects Of Conversion On Farm Support Services		(10)			
12. Compatibility With Existing Agricultural Use		(10)			
TOTAL SITE ASSESSMENT POINTS		160			
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100			
Total Site Assessment (From Part VI above or local site assessment)		160			
TOTAL POINTS (Total of above 2 lines)		260			
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>			
Reason For Selection:					
Name of Federal agency representative completing this form:					Date:

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

- Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, <http://fppa.nrcs.usda.gov/lesa/>.
- Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s) of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map, or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)
- Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.
- Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.
- Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.
- Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.
- Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.
2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.

Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.



May 7, 2020

Michael V. Snyder
Environmental Resource Specialist, PMP-R
U.S Army Corps of Engineers – Kansas City District
601 E. 12th. Street
Kansas City, MO 64106

Dear Mr. Snyder

Attached is a Farmland Conversion Impact Rating (form AD-1006) for the proposed Grand River Ecosystem Restoration project in Linn County, Missouri. After you complete the form, please return one copy for our records.

Please note that if the Total Points (Parts V & VI) in Part VII exceeds 160, alternative sites should be considered. Two alternatives are required if the score is between 160-220, and three alternatives are required if the score is over 220.

If you have any questions, please call me at (573) 769-2235 Ext. # 133.

Sincerely,

Scott Larsen
Area Resource Soil Scientist

Attachment

cc: Clinton Roby, DC, NRCS, Brookfield, MO



United States Department of the Interior

Office of the Secretary
Office of Environmental Policy and Compliance
1849 C Street, NW - MS 2629 - MIB
Washington, D.C. 20240

9043.1
PEP/ER

ER 20/0438

Mr. Eric L. Bush
Acting Chief, Planning and Policy Division
Directorate of Civil Works
U.S. Army Corps of Engineers
441 G Street, NW
Washington, DC 20314-1000

Re: Grand River Basin, Iowa and Missouri Ecosystem Restoration Project – Draft Chief of Engineers Report

Dear Mr. Bush:

The Department of the Interior (Department) has reviewed the U.S. Army Corps of Engineers (USACE)'s draft Chief of Engineers Report for the Grand River Basin, Iowa and Missouri Ecosystem Restoration Project (the Project) and we submit the following from the National Park Service (NPS) for USACE's consideration moving forward.

The NPS notes that two segments of Locust Creek (Creek) within the Project area are listed on the Nationwide Rivers Inventory (NRI). The NRI is a register of rivers that may be eligible for inclusion in the National Wild and Scenic River System (System). The intent of the NRI is to provide information to assist Federal agencies in making balanced decisions regarding the use of the nation's river resources and to prevent potential impacts to the values for which a river has been placed on the list. Federal agencies and proponents are obligated to take care to avoid or mitigate adverse effects on rivers identified in the NRI as part of their project planning.

According to the NRI, Segment 1 of the Creek, 18 river miles from Sec. 28, T64N, R20W to the end channelization (sec. 8, T61N, R20W), has a unique riffle-pool arrangement and one of last unchannelized and undisturbed landform features in northern Missouri, exhibiting oxbow lakes, meanders, and unimpeded flooding typical of natural prairie stream. Segment 1 is listed on the NRI for its outstandingly remarkable fish and scenic values.

Segment 2 of the Creek, 29 miles from U.S. Highway 36 to Grand River, is located within the Locust Creek Natural Area, a rare landform type in northern Missouri consisting of an active meandering river system and associated oxbow sloughs, swamps, and rich flood plain forests. The Creek in Segment 2 is one of last unchannelized, undisturbed landform features in northern Missouri and has high recreation potential, especially in and near Pershing State Park. Segment 2 is listed on the NRI for its outstandingly remarkable fish, historic, recreational, scenic and wildlife values.

Together, these segments are considered one of best examples of an aquatic 2 community in the region with diverse fish assemblages, including a unique stonecat (*noturus flavus*).

The Project as proposed will implement over 316 bank stabilization practices within the Creek and divert stream flow into a sediment basin among other management strategies to improve hydraulic conveyance in the Creek while maintaining floodplain connectivity, reducing floodplain sediment deposition that leads to habitat degradation, and reducing the accumulation of large woody debris. The final feasibility report and environmental assessment for the Project notes that bank stabilization incorporates multiple techniques that include often a combination of conventional hard protection and soil bioengineering. The NPS recommends that any bank stabilization activities that occur on the NRI-listed Locust Creek incorporates bioengineering techniques to the maximum extent practicable to ensure the scenic and natural character of the area is maintained and as to not possibly preclude the Creek from future designation.

Thank you for the opportunity to review and comment on this Project. If there are any questions on the comments or for more information, please contact Hector Santiago, NPS' Regional Rivers Coordinator at 402-661-9112 or hector_santiago@nps.gov.

Sincerely,

**STEPHEN
TRYON**

Digitally signed by
STEPHEN TRYON
Date: 2020.11.17
09:57:45 -05'00'

Stephen G. Tryon
Director, Office of Environmental Policy
and Compliance

Electronic distribution: grand-river-chiefs-report@usace.army.mil

cc: John Nelson, REO Region 3: john_nelson@ios.doi.gov
Patricia Bee, USACE: patricia.l.bee@usace.army.mil
Christine Gabriel, Regional Environmental Coordinator, NPS: christine_gabriel@nps.gov
Hector Santiago, Regional Reivers Coordinator, NPS: hector_santiago@nps.gov



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
441 G STREET, NW
WASHINGTON, DC 20314-1000

December 4, 2020

Mr. Stephen G. Tryon
Director
Office of Environmental Policy and Compliance
U.S. Department of the Interior
1849 C St., NW - MS 2629 - MIB
Washington, D.C. 20240

Dear Mr. Tryon:

Thank you for your letter of November 17, 2020, responding to our notification of the proposed Report of the Chief of Engineers and the District Commander's Integrated Feasibility Report and Environmental Assessment (IFR/EA) regarding Grand River Basin, Iowa and Missouri ecosystem restoration. You indicated that two segments of Locust Creek within the project area are listed on the Nationwide Rivers Inventory (NRI) and recommend that the U.S. Army Corps of Engineers (USACE) incorporate soil bioengineering techniques for bank stabilization to the maximum extent practicable. USACE supports the use of bioengineered features where feasible.

The Locust Creek NRI-listed Segment 2 is located within the focused study area where the primary features of the recommended plan are proposed. We have identified potential bioengineering techniques that may be feasible within this section of the river to better restore the natural characteristics.

Locust Creek NRI-listed Segment 1 is within the Lower Grand River sub-basin and is located within a Hydrologic Unit Code 10 watershed identified as a possible location for bank stabilization or similar cost-effective projects to reduce sediment loading. As described in the IFR/EA, the project will emphasize the use of soil bioengineering techniques. Exact locations for stabilization and techniques will be determined during the Preconstruction Engineering and Design phase.

I appreciate your assistance with this review. I am providing a copy of this letter to Mr. Hector Santiago, National Park Service Regional Rivers Coordinator. If you have any questions on the proposed project, you may contact me or have a representative of your staff contact Mr. Scott Nicholson, Review Manager, at (202) 761-7770.

Sincerely,

A handwritten signature in black ink that reads "Wesley E. Coleman, Jr." in a cursive style.

Wesley E. Coleman, Jr.
Chief, Office of Water Project Review
Planning and Policy Division
Directorate of Civil Works