CLEAN WATER ACT COMPLIANCE

Section 404(b)(1) Evaluation

Interstate 29 Road Raise
Fargo Moorhead Metropolitan Area Flood Risk Management Project
Cass County, North Dakota

August 2020
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I. PROJECT DESCRIPTION

A. Background – The U.S. Army Corps of Engineers (USACE) has invoked Clean Water Act Section 404(r) for the Fargo-Moorhead Metropolitan Area Flood Risk Management Project (FMM Project), and as such this Section 404(b)(1) evaluation is not strictly required. However, in order to fully convey the aquatic impacts of the Project, this evaluation was prepared.

A Final Feasibility Report and Environmental Impact Statement (FEIS) and Clean Water Act Section 404(b)(1) Evaluation for the Project was completed in July 2011. A Record of Decision for the FEIS was signed April 3, 2012. Detailed engineering and design studies conducted after the completion of the FEIS resulted in several proposed modifications to the Project. An initial round of modifications was addressed in the first Supplemental Environmental Assessment (2013 SEA), with a Finding of No Significant Impact (FONSI) signed September 19, 2013. A supplement to the FEIS Section 404(b)(1) Evaluation was prepared to address the modifications proposed in the 2013 SEA (Section 404(b)(1) Evaluation Supplement #1 or Supplement #1). A second round of modifications was addressed in the second Supplemental Environmental Assessment (2019 SEA), with a FONSI signed February 28, 2019. A supplement to the previous Section 404(b)(1) Evaluations was prepared to address the modifications proposed in the 2019 SEA (Section 404(b)(1) Evaluation Supplement #2 or Supplement #2). The Interstate 29 road raise was discussed in the 2019 SEA. To date the NEPA documentation described the road raise being constructed above the 1% annual exceedance probability (AEP) event. However, the current design will raise the roadway above the 0.2% AEP event. No substantial, additional environmental impacts are anticipated due to increasing the roadway to the 0.2% AEP event. This Section 404(b)(1) Evaluation is limited to the impacts for the Interstate 29 road raise, which is a feature of the overall FMM Project.

B. Location – The project area affected by the Interstate 29 road raise is located in Cass County, North Dakota. The proposed fill activities would affect wetlands in the area.¹

¹ Note that for the purposes of previous Section 404(b)(1) evaluations for this Project and for this evaluation, it was assumed that any wetland was a water of the United States, and therefore jurisdictional under the Clean Water Act. A jurisdictional determination was not completed, and some of the wetlands may in fact not be jurisdictional.
C. **General Description** – For the FMM Project, land upstream of the Southern Embankment will be used for staging of floodwaters during high flows. As a result, Interstate 29, which floods under existing conditions, will be elevated so that traffic can continue during staging of floodwaters and the Interstate can cross over the Southern Embankment. The Interstate 29 road raise will consist of raising the existing interstate system from mile marker 49.59 to 53.80 (Figure 1) to maintain the driving lanes above the 0.2% AEP flood elevation with project, as well as to pass over the Southern Embankment at mile marker 53.42. Due to the grade raise along the interstate, the County Road 18 interchange and overpass will also be reconstructed to maintain a minimum vertical clearance of 16.5 feet. Twin bridges will also be constructed along the interstate system in order to pass over the borrow channel constructed near mile marker 53.31. A four lane temporary bypass will be constructed east of the existing interstate to maintain traffic during construction.

A significant grade raise of Interstate 29 is required at the Southern Embankment. The interstate grade raise to maintain the edge of driving lane above the 0.2% AEP flood elevation extends south beyond the County Road 18 overpass at the Hickson Interchange. As a result, the existing structure at that location no longer provided the necessary overhead clearance. Through coordination with the North Dakota Department of Transportation and the Diversion Authority, the decision was made to remove and replace the overpass.

New bridges are required to carry Interstate 29 traffic over the proposed borrow channel. The two bridges will be the same geometry with the only difference being the location of the roadway crown. A haul road will also be constructed just south of 124th Avenue South and west of County Road 81 South (Figure 1). The Interstate 29 road raise would result in approximately 101.06 acres of wetland impacts. A summary of wetland impacts by type can be found on Figure 1.
Figure 1. Project location and wetland impacts
D. Authority and Purpose – The Project was authorized by Congress in the Water Resources Reform and Development Act of 2014. The action proposed here is part of the broader FMM Project, which has been the subject of previous Section 404(b)(1) evaluations.

E. General Description of Dredged or Fill Material

1. General Characteristics of Material – Embankment fill (dam embankment, road raise and bypass) will be predominantly fat clay (CH) and will be placed in compacted lifts to a certain density and moisture content. Those lift thicknesses, compaction and moisture content requirements are different depending on location within the project area.

The Interstate 29 road raise also includes several road materials (lime treated subgrade, hot mix asphalt, bituminous mix, reinforced concrete, several aggregate base courses) and a drainage sand layer for a pre-load embankment.

The Interstate 29 road raise will require topsoil be stripped from the foundation of the road raise, bypass, and dam embankments, as well as the borrow areas. That topsoil is to be reused as will be shown in the plans and specifications.

2. Quantity of Material – The estimated quantities of material include:
   Clay borrow – 1,297,000 cubic yards
   Aggregate – 261,000 tons
   Concrete – 172,000 tons
   Asphalt – 4,300

3. Source of Material – Borrow for the dam embankment, road embankment, and temporary bypass embankments are from either the Red River Structure location or a borrow pit to the east of the existing Interstate 29 roadway. Road materials will be from a commercial source to be determined at a later date.

F. Description of the Proposed Discharge Sites

1. Location – The impacted wetlands are located along Interstate 29 in Hickson, North Dakota (Figure 1).

2. Size – The Interstate 29 road raise would impact 25.02 acres of seasonally flooded basin, 53.88 acres of wet meadow and 22.16 acres of marsh type wetlands within the project area.

3. Type of Site/Type of Habitat – The area along Interstate 29 is predominantly agricultural. Wetlands within the project area are farmed or within roadside ditches. Wetland types include seasonally flooded basin, wet meadow and shallow marsh.
4. **Timing and Duration** - Construction is expected to begin spring 2021 and end winter 2024.

G. **Description of Disposal Method** – Material would be moved and placed mechanically. Cranes, backhoes, scrapers, dump trucks, and other heavy machinery suited to working with road/bridge construction materials would be used to deliver and place materials during construction.

II. **FACTUAL DETERMINATIONS**

A. **Physical Substrate Determinations**

1. **Substrate Elevation and Slope** – The project area is relatively flat. Raising Interstate 29 would place the road above the 0.2% AEP flood elevation. The highway would be raised as much as 6 to 7 feet above existing grade, except the area over the dam embankment which would be raised 16 feet. Elevation of the surrounding area would not change.

2. **Sediment Type** – Sediments within the project area are mainly silty clays.

3. **Dredged/Fill Material Movement** – Fill material is generally described above and is not expected to move significantly once placed.

4. **Actions Taken to Minimize Impacts** – Standard construction procedures in compliance with Federal and State requirements and best management practices would be used during construction to minimize impacts. Temporary erosion prevention and sedimentation control measures would be used project-wide and would be operated and maintained in accordance with necessary permit(s).

B. **Water Circulation, Fluctuation, and Salinity Determinations**

1. **General Water Chemistry** – Some minor, short-term decreases in water clarity are expected from the proposed fill actions. The Interstate 29 road raise will have no effect on salinity, water chemistry, color, odor, taste, dissolved oxygen, nutrients, eutrophication or temperature.

2. **Water Circulation, Fluctuation, and Salinity Determination**

   a. **Current Patterns and Flow** – The filling of 101.06 acres of wetland would result in a permanent impact on water circulation within the project area.

   b. **Velocity** – Interstate 29 road raise would have no effect on velocity.
c. **Stratification** – The Interstate 29 road raise would have no effect on stratification.

d. **Hydrologic Regime** – The Interstate 29 road raise would have no effect on the hydrologic regime.

e. **Normal Water Level Fluctuations** – The Interstate 29 road raise would not result in water levels outside the normal seasonal range.

f. **Salinity** – The Interstate 29 road raise would not affect salinity.

3. **Actions Taken to Minimize Impact** – No special actions would be taken to minimize the effects of the Interstate 29 road raise on water fluctuation or salinity.

C. **Suspended Particulate/Turbidity Determination**

1. **Suspended Particulates and Turbidity** - Turbidity and the concentration of suspended solids would be expected to increase temporarily during construction of project features. However, increases would be relatively minor and restricted to a relatively localized area. No long-term adverse impacts on water quality are expected.

2. **Effects on Chemical and Physical Properties of the Water Column** – Some minor short-term impacts on light penetration would occur during construction. However, these effects would be rapidly dissipated upon project completion. No effects are expected on toxic metal concentrations, pathogens, or the aesthetics of the water column.

3. **Actions Taken to Minimize Impacts** – Impacts would be minimized by requiring that best management practices to limit the extent of turbidity plumes, such as silt curtains, would be followed during construction.

D. **Contaminant Determinations** – The use of clean fill materials for construction would not introduce contaminants into the aquatic system. Neither the materials used nor the placement method would cause relocation or increases of contaminants in the aquatic system.

E. **Aquatic Ecosystem and Organism Determinations**

1. **Effects on Plankton** – Wetlands within the project area are either farmed or within roadside ditches. These wetlands would not have water in them for most of the year and would likely not continuously support plankton.

2. **Effects on Benthos** – Farmed wetlands within the project area are unlikely to provide habitat for benthos due to draining and disturbance of the wetland by farm equipment. Wetlands within ditches are less disturbed and may provide limited habitat for benthos but would be destroyed when these ditches are filled. New ditches
would be relocated upon completion of construction and benthos would re-establish in these areas.

3. Effects on Fish – Wetlands within the project area are not deep enough to support fish; therefore, the Interstate 29 road raise will have no effect on fish.

4. Effects on Aquatic Food Web – The impacts on benthos and plankton productivity as described above could cause a short-term minor temporary impact on the local aquatic food web.

5. Effects on Special Aquatic Sites – Approximately 101.06 acres of wetland would be impacted by construction of the Interstate 29 road raise. Filling of wetlands would result in a reduction in water quality protection, wildlife habitat, and groundwater recharge and discharge.

There are no sanctuaries or refuges, mud flats, coral reefs, vegetated shallow, or riffle and pool complexes within or adjacent to the project area.

6. Threatened and Endangered Species – The USFWS Information for Planning and Consultation website was consulted to identify potential federally listed threatened and endangered species within the project area. The northern long-eared bat (*Myotis septentrionalis*; NLEB) and whooping crane (*Grus americana*) are listed for the action area. The action area does not contain critical habitat for either of these species. Approximately 2 acres of trees will need to be cleared, and therefore the Interstate 29 road raise may affect the NLEB. USFWS has concurred with the determination that the Interstate 29 road raise may affect the NLEB but that any resulting incidental take is not prohibited. The whooping crane may occur in the vicinity of the action area during migration (April to mid-May and September to early November); however, the primary migratory corridor lies further west from the project area. Primary habitat for the whooping crane includes palustrine wetlands and cropland ponds which are not found within the project area. The Interstate 29 road raise will have no effect on whooping crane.

7. Other Wildlife – The project area along Interstate 29 has farm fields located on both sides of the highway. This area provides little habitat for wildlife and any wildlife that may be present would likely avoid the area during construction. Removing 2 acres of trees near the Red and Wild Rice Rivers would reduce wildlife habitat in those immediate areas; however, these areas are small portions of contiguous riparian habitats that would continue to support wildlife. There are no bald eagle nests within 660 feet of the project area.

8. Actions Taken to Minimize Impacts – Standard BMPs will be used to minimize impacts to biota and other resources. These actions are anticipated to ensure compliance with associated laws and regulations.

F. Proposed Disposal Site Determinations
1. **Mixing Zone Determination** – The placement of fill material would cause a minor, temporary increase in turbidity in the immediate vicinity; however, no long-term adverse impacts to water quality would occur from the Interstate 29 road raise.

2. **Determination of Compliance with Applicable Water Quality Standards**

   It is not anticipated that the Interstate 29 road raise would violate North Dakota water quality standards for toxicity. Fill material would be free of contaminants. The Project proponents intend to apply for water quality certification from North Dakota.

3. **Potential Effects on Human Use Characteristics**

   a. **Municipal and Private Water Supply** – The Interstate 29 road raise will have no effect on municipal or private water supplies.

   b. **Recreational and Commercial Fisheries** – The Interstate 29 road raise will have no effect on recreational or commercial fisheries.

   c. **Water Related Recreation and Aesthetics** – The Interstate 29 road raise will have no effect on water related recreation or aesthetics.

   d. **Cultural Resources** – All of the work limits within the Interstate 29 road raise footprint have been surveyed for cultural resources and no historic properties have been identified. As required to comply with a 2011 Programmatic Agreement (PA) that was amended in 2013, surveys were performed as access to properties became available. Between 2010 and 2015 and prior to development of Plan B, Phase I cultural resources surveys were conducted along the Interstate 29 corridor from immediately north of Cass County Highway 16 and continuing south to the boundary between Cass and Richland Counties. No historic properties were recommended for further testing or for mitigation along the Interstate 29 road raise corridor. Additional survey was undertaken in June 2020, for areas including the proposed haul road and borrow areas required as a consequence of design alterations. No historic properties were identified and no further work is recommended based on these surveys. Submission of results of the most recent surveys and consultation with SHPO, Tribes, and other interested parties will be coordinated upon receipt of the survey reports from the cultural resources contractor.

G. **Mitigation** – Impacted roadside ditches would be reconstructed along the new stretch of Interstate 29 and would be self-mitigating (61.07 acres). Remaining wetland impacts due to the Interstate 29 road raise (39.99 acres) are being mitigated for as a portion of the proposed Drain 27 wetland mitigation site.
H. Determination of Cumulative Effects on the Aquatic Ecosystem – The cumulative impacts of the FMM Project were addressed in the FEIS and Supplemental Environmental Assessments. The Interstate 29 road raise would not result in any substantial new adverse effects, and are not anticipated to materially contribute to cumulative conditions in the area when considered in combination with other activities associated with the FMM Project.

I. Determination of Secondary Effects on the Aquatic Ecosystem – No significant secondary effects on the aquatic ecosystem occurred from the completed action.

III. FINDING OF COMPLIANCE WITH RESTRICTIONS ON DISCHARGE

As noted above, USACE has invoked Section 404(r) for the FMM Project, and therefore compliance with the Section 404(b)(1) guidelines is not necessary. That said, the proposed fill activities would comply with Section 404(b)(1) guidelines of the Clean Water Act.

The proposed fill activities would comply with Section 307 of the Clean Water Act, and the Endangered Species Act of 1973, as amended. The proposed fill activities, as modified, would not have significant adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing, plankton, fish, shellfish, wildlife, and special aquatic sites. The life stages of aquatic life and other wildlife would not be adversely affected. Significant adverse effects on aquatic ecosystem diversity, productivity, and stability and on recreational, aesthetic, and economic values would not occur.

On the basis of this evaluation, the proposed action would comply with Section 404(b)(1) guidelines for the discharge of fill material if the guidelines applied to the FMM Project and the Interstate 29 road raise.

_________________     Karl Jansen
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District Commander