



US Army Corps
of Engineers
Kansas City District

**U.S. Army Corps of Engineers - Kansas City District,
and
Iowa Tribe of Kansas and Nebraska**

**Environmental Assessment
&
Finding of No Significant Impact**

**Iowa Tribe Water Pump Station
Section 14 Emergency Streambank Stabilization Project
White Cloud, Brown County, Kansas**

June 2012



DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
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Finding of No Significant Impact

Iowa Tribe Water Pump Station Section 14 Emergency Streambank Stabilization Project White Cloud, Brown County, Kansas

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Summary

The U.S. Army Corps of Engineers - Kansas City District (USACE), in cooperation with the Iowa Tribe of Kansas and Nebraska, propose an emergency streambank stabilization project under the authority of Section 14 of the Flood Control Act of 1946 (Public Law 79-526), as amended. The purpose of the project is to address bank instability and a damaged energy dissipator end sill on an unnamed creek that is threatening to damage two water wells and a water pump station that are the primary source of the Iowa Tribe's water supply. Previous actions to modify the culvert under 330th Road led to the addition of flared wingwalls and raising the roadway approximately one foot. This increased the culverts efficiency resulting in higher stream velocities increasing the erosion near the wells and pump station. It is estimated the water wells and pump station would be unusable within five years if erosion of the stream bank continues at its present rate. They could be rendered unusable sooner if there were a series of high flow events. The water wells and pump station are located on the Iowa Tribe reservation in White Cloud, Kansas near the intersection of 330th Road and Thrasher Road.

Alternatives

A "No-Action" alternative and four build alternatives were assessed for individual and cumulative effects. Solely using biostabilization techniques to stabilize the streambanks was determined not to be a feasible option at this site because it would have a high probability of failure.

Alternative 1 - "No-Action" Alternative: A "No-Action" alternative would result in eventual damage to the wells and pump station requiring complete replacement. This would require finding an alternate water source while a new pump station would be constructed. Replacing or relocating the pump station and wells is technically feasible;

however, this would be far more expensive than stabilizing the channel banks. Any damage to the culvert or roadway could also cut-off a primary access road for the nearby White Cloud Casino.

Alternative 2 - Riprap Channel with Downstream Sheet Pile Grade Control

Structure (Recommended Plan): The Recommended Plan would consist of a sheet pile grade control structure that would be 8 feet tall downstream of the wells and pump station along with a riprap lined channel. The riprap protected channel would be about 140-ft in length, 30 inches thick, have a 6-ft flat bottom, and have 2H:1V side slopes. The area upstream of a culvert under 330th Road would be protected with a combination of riprap and a High Performance Turf Reinforcement Mat (HPTRM).

Alternative 3 - Riprap Channel with Seven 2-ft Drops: This alternative would consist of a riprap channel beginning at the end of a culvert under 330th Road and continuing downstream for about 250-ft. The channel would be constructed with seven 2-ft drops. The drops would have a 5:1 slope and have sheet pile cut-off walls to reduce riprap displacement. The channel would have a flat slope between drops. The riprap protection would have a bottom width of 4-ft, a thickness of 48 inches, and be sloped to a height of 7.5ft. Above the riprap protection, the side slopes of the channel would consist of woody and herbaceous vegetation. This alternative would have a top channel width significantly greater than the existing conditions. The area upstream of the culvert would be protected with a combination of riprap and a HPTRM.

Alternative 4 - Riprap Channel with Sheet Pile Energy Dissipator and Grade

Control Structure: This alternative would consist of driving sheet pile at the downstream end of the culvert to replace the fallen concrete energy dissipator end sill. The old masonry grade control structure would also be replaced by a sheet pile drop. A 250-ft long riprap channel would be constructed beginning at the downstream end of the culvert. This alternative would have a top channel width significantly greater than the existing conditions. The area upstream of the culvert would be protected with a combination of riprap and a HPTRM.

Alternative 5 - Sheet Pile Wall, Energy Dissipator, and Grade Control Structure:

The right bank of the channel near the wells and pump station would be protected with a sheet pile wall. The sheet pile wall would protect the entire height of the bank from the culvert end to approximately 20-ft downstream of the furthest well. The sheet pile wall would be about 140-ft in length and 37.5-ft high, of which 22.5-ft would be embedded into the ground. Sheet pile would be placed at the end of the culvert to reestablish the damaged energy dissipator. Sheet pile would also be used to reestablish the grade control structure. The area upstream of the culvert would be protected with a combination of riprap and a HPTRM.

Alternatives Evaluation

The five alternatives were evaluated as they relate to bank stability, channel stability, maintenance, and damage potential. Emphasis was placed on long-term function and

low initial cost. Evaluation results were determined from engineering data compiled for the Iowa Tribe Water Pump Station Section 14 Emergency Streambank Stabilization Project Feasibility Report. All structural alternatives were determined technically feasible. Additionally, project alternatives were also evaluated with regards to potential natural, cultural, and economic impacts, which are discussed in the Environmental Assessment. Based on these evaluations, Alternative 2 has been determined as the Recommended Plan.

Summary of Environmental Impacts

The Recommended Plan would have no impacts to Federally-listed threatened or endangered species, or their designated critical habitat, and would not have negative impacts to sites listed, or eligible for inclusion, on the National Register of Historic Places. Temporary, short-term construction impacts to water quality and fish and wildlife resources would be related to noise, and physical disturbance of the creek channel and riparian corridor. There would be a minor long-term impact to approximately 0.5 acres of land around the project that would be planted with native trees and grasses. There would be no impacts to wetlands. The Recommended Plan would best meet the purpose and need of the project by providing protection to the Iowa Tribe water wells and pump station. It would not result in any significant, long-term adverse impacts to the human environment.

Mitigation Measures

Any locations that are filled and/or disturbed as part of the Recommended Plan would be planted with native trees and/or grasses following construction. Construction would most likely occur during the autumn of 2012, which would minimize impacts to water quality, and fish and wildlife because of reduced biological activity during this time of the year.

Public Availability

Prior to a decision on whether to prepare an Environmental Impact Statement, the USACE will circulate a Notice of Availability (Notice) for the Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI), dated XXXX, 2012, for a thirty-day public comment period. This Notice will also be e-mailed to individuals/agencies/ businesses listed on the USACE Regulatory e-mail distribution list. The Draft EA and FONSI are also available on the USACE webpage and hard copies are available upon request.

Conclusion

After evaluating the anticipated environmental, economic, and social effects of the proposed activity, it is my determination that the proposed Iowa Tribe Pump Station Section 14 Emergency Streambank Stabilization Project does not constitute a major Federal action that would significantly affect the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

Date: _____

Anthony J. Hofmann
Colonel, Corps of Engineers
District Commander

DRAFT

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1.0 Introduction

The U.S. Army Corps of Engineers - Kansas City District (USACE), in cooperation with the Iowa Tribe of Kansas and Nebraska, propose an emergency streambank stabilization project under the authority of Section 14 of the Flood Control Act of 1946 (Public Law 79-526), as amended. The purpose of the project is to address bank instability and a damaged energy dissipator end sill on an unnamed creek that is threatening to damage two water wells and a water pump station that are the primary source of the Iowa Tribe's water supply (Appendix I – Figure 1). It is estimated the water wells and pump station would be unusable within five years if erosion of the stream bank continues at its present rate. They could be rendered unusable sooner if there were a series of high flow events. The pump station is located on the Iowa Tribe reservation in White Cloud, Kansas near the intersection of 330th Road and Thrasher Road.

Section 14 of the 1946 Flood Control Act (Public Law 79-526), as amended, provides authority for the USACE to plan and construct emergency streambank and shoreline protection projects to protect endangered highways, highway bridge approaches, public facilities such as water and sewer lines, churches, public and private nonprofit schools and hospitals, and other nonprofit public facilities. A Section 14 project may include new streambank or shoreline protection works, or may repair, restore, or modify existing works.

The Iowa Tribe of Kansas and Nebraska reservation covers approximately 2,100 acres and has an approximate current population of 300. The water wells and pump station are the primary source of water for the reservation. The 330th Road serves as one of the main access routes to the nearby White Cloud Casino, especially for residents to the south and east of the project site. Failure of the roadway could create significant travel delays for patrons of the casino, which would then lead to lost revenue for the tribe. An Iowa Tribe representative stated that the culvert under 330th Road was modified at one time by adding flared wingwalls at the upstream entrance. The roadway was also said to be raised 10 to 20 years ago by about one foot. This has increased the efficiency of the culvert and has likely resulted in higher velocities downstream of the roadway, which is causing erosion of the right bank near the pump station. Prior to the culvert improvements, flow would likely overtop the roadway. Currently, there is an old masonry structure about 20 feet downstream of the roadway that is acting as grade control. This masonry structure is undermining and deteriorating (Appendix I – Figure 2). Stabilizing and/or replacing this structure with an alternative means of grade control as part of the Section 14 project would increase the total benefits of the project by increasing the long-term stability of the roadway and culvert.

Due to the compact project site, aerial photographs do not provide much information as to the rate of erosion. However, an eroded area along the right descending bank can be seen in the 2008 aerial photograph (Appendix I – Figure 3) near the northernmost well

that was not seen in the 2003 aerial photograph. Land use in the project area appears to have remained the same since 1991, according to available aerial photography.

This Environmental Assessment (EA) provides the necessary information to properly and fully assess the information that was developed during the public review of the proposed Iowa Tribe Water Pump Station Emergency Streambank Stabilization Project as required under the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S. Code [USC] 4321 et seq.); the President's Council of Environmental Quality (CEQ) Regulations (40 Code of Federal Regulations [CFR] 1500 – 1508)(CEQ, 1992); US Army Corps of Engineers (USACE) ER 200-2-2 (33 CFR 230) (USACE, 2008).

1.1 Purpose and Need for Action

The purpose of the project is to address severely eroding banks along an unnamed creek that is threatening two water wells and a water pump station that serve as the primary source of water for the Iowa Tribe of Kansas and Nebraska reservation. It is estimated the water wells and pump station would be unusable within five years if erosion of the stream bank continues at its present rate. They could be rendered unusable sooner if there were a series of high flow events. The Iowa Tribe of Kansas and Nebraska has requested assistance from the USACE to provide emergency streambank stabilization in the vicinity of the Iowa Tribe Water Pump Station to prevent failure or damage to the pump due to erosion.

1.2 Project Location

The project area is located at the Iowa Tribe Pump Station adjacent to an unnamed creek near the intersection of 330th Road and Thrasher Road in White Cloud, Kansas. It is on the northern edge of Section 11 of Township 1 South, Range 18 East (Latitude 39.986919, Longitude -95.363229). Vicinity and location maps for the project are shown in Appendix I – Figure 4, and the general layout of the site is depicted in Appendix I – Figure 5. The creek flows generally north to south for several hundred feet downstream of the pump station, which is situated west of the creek, on the right descending bank.

2.0 Recommended Plan and Alternatives

A “No-Action” alternative and four construction alternatives are being assessed for individual and cumulative effects in this document. Solely using biostabilization techniques to stabilize the streambank was determined not to be a feasible option at this site because it would have a high probability of failure (HNTB Corporation, 2011). If any plantings used for biostabilization were inundated before growing sufficiently, the slopes would be damaged. Additionally, the slopes would have to be graded to 3:1 to insure stability, which would require extensive excavation and filling due to the lack of space between the channel and the water facilities (HNTB Corporation, 2011). Although solely using biostabilization techniques to stabilize the bank is not feasible,

biostabilization elements have been incorporated into all four of the build alternatives through the use of vegetative plantings.

2.1 Alternative 1 - “No-Action” Alternative: A “No-Action” alternative would result in eventual damage to the wells and pump station requiring complete replacement. This would require finding an alternate water source while a new pump station would be constructed. Replacing or relocating the pump station and wells is technically feasible; however, this would be far more expensive than stabilizing the channel banks. As well, any damage to the culvert or roadway could cut-off a primary access road for the nearby White Cloud Casino. A constant water supply for the reservation is extremely important to maintain current living standards.

2.2 Alternative 2 - Riprap Channel with Downstream Sheet Pile Grade Control Structure (Appendix I – Figure 6) (Recommended Plan): The Recommended Plan consists of an 8 ft tall sheet pile grade control structure downstream of the wells and pump station along with a riprap lined channel. This design allows for a riprap lined channel that would have a top width similar to the existing channel. The sheet pile drop structure would be embedded 28-ft into the ground to protect against undermining from scour and future erosion. The channel would have a 3.6% slope from the culvert end to the drop structure, similar to the natural channel slope. This alternative would require filling in a portion of the channel to raise the bed and reduce the slope. It was considered to leave the existing slope and allow sediment to raise the grade naturally over time, however, this would create a ponding situation that could saturate the banks and possibly cause unwanted slope failures in the area of the wells. The riprap protected channel would be about 140-ft in length, 30 inches thick, have a 6-ft flat bottom, and have 2H:1V side slopes. Approximately 5 large trees would be removed from along the existing riparian corridor. The root wads from these trees would be placed downstream of the grade control structure to reduce the amount of scour below the structure and provide woody debris to diversify the aquatic habitat.

The area upstream of the culvert would be protected with a combination of riprap and a HPTRM. The eroding embankment of the roadway would be graded to a 3H:1V slope and protected with the HPTRM that would stabilize the slope and allow grasses and herbaceous vegetation to grow through the mat. The area immediately at the culvert entrance would be protected with a 2-ft thick layer of riprap to ensure stability of the flowline. Alternative 2 is estimated to cost **\$524,000**, with construction overhead and profit, design fee, engineering during construction fee, real estate costs, and contingency.

2.3 Alternative 3 - Riprap Channel with Seven 2-ft Drops (Appendix I – Figure 7): This alternative consists of a riprap channel beginning at the end of the culvert and continuing downstream for about 250-ft. The channel would be constructed with seven 2-ft drops in order to tie into natural ground. The drops would have a 5:1 slope and have sheet pile cut-off walls to reduce riprap displacement. The channel would have a flat slope between drops. The riprap protection would have a bottom width of 4-ft, a

thickness of 48 inches, and be placed on 1.5H:1V side slopes up to a height of 7.5-ft. The side slopes of the channel would consist of woody and herbaceous vegetation. This alternative would have a top channel width greater than the existing conditions. This wider channel width is required to ensure that the rebuilt bank is stable and that the pump station and wells are protected. The area upstream of the culvert would be protected with a combination of riprap and a HPTRM. The eroding embankment of the roadway would be graded to a 3H:1V slope and protected with the HPTRM that would stabilize the slope and allow grasses and herbaceous vegetation to grow through the mat. The area immediately at the culvert entrance would be protected with a 2-ft thick layer of riprap to ensure stability of the flowline. Alternative 3 is estimated to cost **\$716,000**, with construction overhead and profit, design fee, engineering during construction fee, real estate costs, and contingency.

2.4 Alternative 4 - Riprap Channel with Sheet Pile Energy Dissipator and Grade Control Structure (Appendix I – Figure 8): Alternative 4 consists of driving sheet pile at the downstream end of the culvert to replace the fallen concrete energy dissipator end sill. The old masonry grade control structure would also be replaced by a sheet pile drop. These two sheet pile walls would act as energy dissipating baffle devices to slow velocities in the area of the wells and also prevent any future channel erosion moving upstream. A 250-ft long riprap channel would be constructed beginning at the downstream end of the culvert. The riprap channel would have a D50 of about 24 inches and would be constructed with a 4-ft flat bottom, 1.5H:1V riprap side slopes to a height of 7.5-ft, and then 3H:1V soil side slopes. This alternative would have a top channel width greater than the existing conditions. This wider channel width is required to ensure that the rebuilt bank is stable and that the pump station and wells are protected. The area upstream of the culvert would be protected with a combination of riprap and a HPTRM. The eroding embankment of the roadway would be graded to a 3H:1V slope and protected with the HPTRM that would stabilize the slope and allow grasses and herbaceous vegetation to grow through the mat. The area immediately at the culvert entrance would be protected with a 2-ft thick layer of riprap to ensure stability of the flowline. Alternative 4 is estimated to cost **\$686,000** with construction overhead and profit, design fee, engineering during construction fee, real estate costs, and contingency.

2.5 Alternative 5 - Sheet Pile Wall, Energy Dissipator, and Grade Control Structure (Appendix I – Figure 9): The right bank of the channel near the wells and pump station would be protected with a sheet pile wall. The sheet pile wall would be about 140-ft in length, 37.5-ft high, of which 22.5-ft is to be embedded into the ground, protecting the entire height of the bank from the culvert end to approximately 20-ft downstream of the furthest well. Sheet pile would be placed at the end of the culvert to reestablish the damaged energy dissipator. This would slow velocities exiting the culvert and reestablish the grade control structure. The sheet pile would be buried to a depth equal to twice the exposed height to protect against scour and future headcutting in the channel. The area upstream of the culvert would be protected with a combination of riprap and a HPTRM. The eroding embankment of the roadway would be graded to a

3H:1V slope and protected with the HPTRM that would stabilize the slope and allow grasses and herbaceous vegetation to grow through the mat. The area immediately at the culvert entrance would be protected with a 2-ft thick layer of riprap to ensure stability of the flowline. Alternative 5 is estimated to cost **\$793,000**, with construction overhead and profit, design fee, engineering during construction fee, real estate costs, and contingency.

2.6 Alternatives Evaluation

To evaluate the four construction alternatives, a matrix was developed as part of the feasibility study. Each alternative was rated between 1 and 4, with a lower score being more desirable, as it related to cost, maintenance, channel stability, bank stability, environmental impacts, and damage potential (HNTB Corporation, 2011). The average ratings have been summarized in Table 1. All structural alternatives were determined technically feasible. Alternative 2, consisting of a riprap channel with downstream sheet pile grade control structure, had the best overall score.

Table 1: Summary of the Construction Alternatives Evaluation Matrix. A lower value indicates a better rating.

Alternative	Description	Overall Rating (Lower is Better)	Overall Rank
2	Riprap Channel with Downstream Sheet Pile Grade Control Structure	1.5	1
3	Riprap Channel with Seven (7) 2-ft Drops	1.7	3
4	Riprap Channel with Sheet Pile Energy Dissipator and Grade Control Structure	1.8	2
5	Sheet Pile Wall, Energy Dissipator, and Grade Control Structure	1.7	4

Source: Modified from HNTB Corporation, 2011.

3.0 Affected Environment

Most of the affected area is adjacent to agricultural fields. The unnamed creek drains an area of approximately 77 acres in the northeast portion of Brown County, Kansas. The soils along the banks of the creek are made of silt loam. In general, this section of the creek is ephemeral and the banks have areas of moderate vegetative cover with dense undergrowth and very few large trees (greater than 9 inch dbh).

3.1 Aquatic Resources

A records search of the U.S. EPA STORET, Kansas Department of Health and Environment (KDHE) were searched for water quality data. Neither the U.S. EPA STORET nor KDHE had any data from this unnamed creek in Brown County, Kansas (KDHE, 2012). The creek was determined to be a water of the U.S. according to 33 CFR Section 328.3.

3.2 Wetlands

Field reconnaissance was conducted on May 11, 2012 to assess the natural resources within the proposed project area. No wetlands were identified within the project area. Approximately 600-ft south of the project area the unnamed creek drains into an approximately 1.5 acre retention pond and forested wetland area. However, these wetlands are separated from the project area by a small woodland area.

3.3 Terrestrial Habitat

Approximately 73% of Brown County, Kansas is classified as cropland, 17% as pastureland and rangeland, and 5% as forested (USDA, 2005). The remaining land cover is composed of developed areas, wetlands, and water. The project boundary is approximately .5 acres in size including the staging and access areas and is bordered by a riparian area. The riparian corridor within the project area is approximately 60-ft wide. Within the project boundary, the terrestrial habitat consists of lands that have been previously disturbed by agriculture and bank erosion. The staging area adjacent to the project is made up of cropland, native and non-native grasses in previously disturbed habitat. Approximately 10 trees are located within the project site. Of those only approximately 5 have a dbh greater than 9 inches, 3 elms and 2 willows. The remaining woody vegetation within this area is consists of elms, willows, mulberries, and various sumacs. The creek bed is approximately 15-ft below the channel banks.

3.4 Fish and Wildlife

Wildlife that likely utilizes the narrow riparian corridor along the creek includes small mammals such as eastern cottontail rabbit, opossum, and raccoon. Whitetail deer, red fox, and various other wildlife species are also expected to utilize the area. The creek is also expected to be utilized by chorus frogs, American toads, common gartersnakes, ornate box turtles, and common snapping turtles. In addition, numerous bird species inhabit the woodlands such as downy woodpeckers, wild turkeys, indigo buntings, and American kestrels. A survey of any fish or aquatic invertebrates could not be found referencing this unnamed creek. Due to the ephemeral nature of the creek in the project area there would be very few fish or aquatic invertebrates present.

3.5 Threatened or Endangered Species

There are no Federally-listed threatened or endangered species known to occur within or adjacent to the proposed project area and anticipated time frame of work. The U.S. Fish and Wildlife Service was consulted and they also concluded that no Federally-listed species, candidate species, or designated critical habitat are located within or adjacent to the project area (Appendix II).

3.6 Invasive Species

Invasive species have the potential to displace native plants and animals. According to Executive Order 13122, Federal agencies may not authorize, fund, or carry out actions that are likely to cause or promote the introduction or spread of invasive species. Invasive aquatic species that are a concern in Kansas which have the potential to be introduced into new water bodies by contaminated construction equipment include zebra mussels (*Dreissena polymorpha*), quagga mussels (*Dreissena bugensis*), New Zealand mudsnails (*Potamogyrpus antiposarum*), purple loosestrife (*Lythrum salicaria*), and Eurasian watermilfoil (*Myriophyllum spicatum*), among others. Invasive terrestrial species often flourish on land that has recently been disturbed. They may also be transported to new locations on construction equipment. Examples of invasive terrestrial species of concern in Kansas include Johnson grass (*Sorghum halepense*), reed canary grass (*Phalaris arundinacea*), and salt cedar (*Tamarix spp*). No invasive species were observed within the project area during a May 11, 2012 field assessment.

3.7 Floodplain

The floodplain for the unnamed creek has been greatly impacted by agricultural practices. A nearly the entire watershed has been converted to cropland, and only a narrow riparian corridor remains along portions of the creek. This has likely contributed to bank erosion, channel instability. The part of the floodplain adjacent to the project area includes the Iowa Tribe Water Pump Station and associated wells.

3.8 Land Use

Approximately 73% of the land within Brown County, Kansas is cropland and approximately 17% is pastureland and rangeland (USDA, 2005). The area immediately surrounding the project location is agricultural fields.

3.9 Socioeconomics

Brown County is a rural area in the northeast corner of Kansas. As of 2010, the total population of Brown County, Kansas was approximately 10,000 persons with a density of approximately 17.5 persons per square mile. (U.S. Census Bureau, 2011). Currently, the total population in the Iowa Tribe of Kansas and Nebraska Reservation is

approximately 600 persons (HNTB, 2011). Educational services, entertainment, retail trade, and manufacturing are the major industries in Brown County (U.S. Census Bureau, 2011). The Iowa Tribe Water Pump is an important piece of the infrastructure maintaining the water supply to portions of Brown County.

3.10 Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966 (amended June 17, 1999) requires Federal agencies to take into account the effects of their undertakings on historic properties. By definition, historic properties are properties eligible for or listed on the National Register of Historic Places (NRHP). Federal undertakings refer to any Federal involvement including funding, permitting, licensing, or approval. Federal agencies are required to define and document the Area of Potential Effect (APE) for undertakings. The APE is defined as the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist.

A background review of the project area was conducted using the Kansas Historical Society Archeological Map viewer on-line. No sites were identified in the project area or the immediate vicinity. An archeological survey of the project area was conducted in April 2012. The survey found no archeological sites within the proposed project area.

The results of the background review and survey were coordinated by letter with State Historic Preservation Officer (SHPO) on May 16, 2012 (Appendix III). In that letter, the Corps requested concurrence that any proposed work in the project area would have no effect on historical properties and that any work could proceed with any further coordination, unless in the unlikely event that archeological materials were discovered during construction. SHPO concurred with this recommendation in a letter dated the XXXX, 2012 (Appendix III).

4.0 Environmental Consequences (Impacts)

Primary resources of concern identified during impact evaluation for the “No-Action” alternative and four build alternatives included: water quality, wetlands, terrestrial habitat, fish and wildlife, threatened and endangered species, invasive species, floodplain, land use, socioeconomics, and cultural resources.

4.1 Aquatic Resources

Alternative 1 - “No-Action” Alternative: In the short-term, there would be no change in the existing water quality of the unnamed creek under this alternative. There would be continued erosion of the stream banks at the proposed project location. If the Iowa Tribe Water Pump needed to be replaced, it would likely have a larger construction footprint and have a greater impact to water quality than the other alternatives.

Alternative 2 - Riprap Channel with Downstream Sheet Pile Grade Control

Structure (Recommended Plan): The Recommended Plan would have minor, short-term construction related impacts to water quality due to activities taking place within the creek channel and on the creek banks. During construction, downstream waters would see an increase in turbidity if water was present in the stream at the time. The increased turbidity would only be expected to go downstream approximately 600-ft to the retention pond when the suspended materials would settle out. Construction activities with this alternative would occur in a jurisdictional water of the United States. The project would impact 140-ft of the unnamed creek and only 0.71 cubic yards per running foot of fill material would be placed below the ordinary high water mark (HNTB, 2011). The Recommended Plan fits the criteria of Nationwide Permit 13 and its associated water quality certification to comply with Clean Water Act Sections 404 and 401 (Appendix IV). Because the construction footprint is expected to be less than 1 acre in size, a NPDES permit is not needed. However, Best Management Practices (BMPs) would be implemented to minimize the incidental fallback of material into the waterway and to minimize the introduction of fuel, petroleum products, or other deleterious material from entering the waterway. Such measures could include the use of erosion control fences; storing equipment, solid waste, and petroleum products above the ordinary high water mark and away from areas prone to runoff; and requiring that all equipment be clean and free of leaks. To prevent fill from reaching water sources by wind or runoff, fill would be covered, stabilized or mulched, and silt fences would be used as required. Other measures to minimize adverse effects would include using clean rock fill with minimal fines, stabilizing the earthen material with rock, using appropriate construction equipment, minimizing the amount of time that equipment would be in the creek channel, and not placing fill in the creek during unusual high water events. Once construction has been completed, the water quality of the unnamed creek would return to its current state. No measurable adverse long-term impacts to water quality would occur as a result of this alternative.

Alternative 3 - Riprap Channel with Seven 2-ft Drops: Similar to the Recommended Plan, this alternative would have minor, short-term construction related impacts to water quality due to activities taking place within the creek channel and on the creek banks. Construction activities would occur in jurisdictional waters of the United States. The project would impact 250-ft of the unnamed creek and is not expected to have more than one cubic yard per running foot of fill material to be placed below the ordinary high water mark (HNTB, 2011). This alternative fits the criteria of Nationwide Permit 13 and its associated water quality certification to comply with Clean Water Act Sections 404 and 401 (Appendix IV). Because the construction footprint is expected to be less than 1 acre in size, a NPDES permit is not needed. BMPs, as described in the Recommended Plan, would also be implemented. This alternative would not result in any significant long-term impacts to water quality.

Alternative 4 - Riprap Channel with Sheet Pile Energy Dissipator and Grade

Control Structure: As with the other alternatives, this plan would also result in minor, short-term construction related impacts to water quality. The project would impact 250-

ft of the unnamed creek and is not expected to have more than one cubic yard per running foot of fill material to be placed below the ordinary high water mark (HNTB, 2011). Alternative 4 fits the criteria of Nationwide Permit 13 and its associated water quality certification to comply with Clean Water Act Sections 404 and 401 (Appendix IV). Because the construction footprint is expected to be less than 1 acre in size, a NPDES permit is not needed. BMPs, as previously described would also be implemented during construction. No significant adverse long-term impacts to water quality would occur as a result of this alternative.

Alternative 5 - Sheet Pile Wall, Energy Dissipator, and Grade Control Structure:

This alternative would also result in minor, short-term construction related impacts to water quality. The project would impact 140-ft of the unnamed creek and is not expected to have more than one cubic yard per running foot of fill material to be placed below the ordinary high water mark (HNTB, 2011). This alternative fits the criteria of Nationwide Permit 13 and its associated water quality certification to comply with Clean Water Act Sections 404 and 401 (Appendix IV). Because the construction footprint is expected to be less than 1 acre in size, a NPDES permit is not needed. BMPs, as previously described, would also be implemented during construction. No significant adverse long-term impacts to water quality would occur as a result of this alternative.

4.2 Wetlands

Alternative 1 - “No-Action” Alternative: The “No-Action” alternative would not be expected to have an impact on existing wetlands adjacent to the project area.

Alternative 2 - Riprap Channel with Downstream Sheet Pile Grade Control Structure (Recommended Plan): There would not be any impacts to wetlands, due to project construction, because no wetlands are located within the project area.

Alternative 3 - Riprap Channel with Seven 2-ft Drops: There would not be an expect impact on the adjacent wetlands due to construction process. No wetlands are located within the project area.

Alternative 4 - Riprap Channel with Sheet Pile Energy Dissipator and Grade Control Structure: There would not be an expect impact on the adjacent wetlands due to construction process. No wetlands are located within the project area.

Alternative 5 - Sheet Pile Wall, Energy Dissipator, and Grade Control Structure: There would not be an expect impact on the adjacent wetlands due to construction process. No wetlands are located within the project area.

4.3 Terrestrial Habitat

Alternative 1 - “No-Action” Alternative: The “No-Action” alternative would have minor long-term impacts to the terrestrial habitat along the unnamed creek. The streambanks

would continue to erode, which would continue to impact existing vegetation along the banks. If the Iowa Tribe Water Pump needs to be replaced, it would likely have a larger construction footprint and have a greater impact to the terrestrial habitat than the other alternatives.

Alternative 2 - Riprap Channel with Downstream Sheet Pile Grade Control Structure (Recommended Plan): The Recommended Plan would result in minor, intermediate term impacts to the terrestrial habitat along the creek. These impacts would result from the removal of various grasses, smart weed (*Polygonum spp.*) and approximately 10 trees, necessary for accessing the creek during construction. Only approximately 5 trees larger than 9 inches diameter breast height (dbh) would be removed. A number of trees equal to or greater than the number removed would be replanted with new trees of the same or similar species at the conclusion of the project. The natural woody vegetation is expected to recover and become established over time. Additionally, the HPTRM would stabilize the slope and allow herbaceous vegetation to grow through the mat; other areas disturbed during project construction would be planted with native vegetation.

Staging and material storage areas would be located on the top of each bank above the unnamed creek and in adjacent cropland. Again, the areas outside the cropland would be planted with native trees and grasses following project construction. The staging and material storage locations would be the same for Alternatives 2 – 5.

Alternative 3 - Riprap Channel with Seven 2-ft Drops: This alternative would have a similar project footprint as the Recommended Plan and have minor, intermediate term impacts to the terrestrial habitat along the creek.

Alternative 4 - Riprap Channel with Sheet Pile Energy Dissipator and Grade Control Structure: This alternative would have a similar project footprint as the Recommended Plan and have minor, intermediate term impacts to the terrestrial habitat along the creek.

Alternative 5 - Sheet Pile Wall, Energy Dissipator, and Grade Control Structure: This alternative would have a similar project footprint as the Recommended Plan and have minor, intermediate term impacts to the terrestrial habitat along the creek.

4.4 Fish and Wildlife

Alternative 1 - “No-Action” Alternative: The “No-Action” alternative would not directly impact any fish and wildlife resources. However, if the Iowa Tribe Water Pump needed to be replaced, it would likely have a greater impact on fish and wildlife than the other alternatives because of a larger construction footprint.

Alternative 2 - Riprap Channel with Downstream Sheet Pile Grade Control

Structure (Recommended Plan): This plan would have minor impacts to fish and wildlife in the unnamed creek. Short-term impacts to the aquatic community may result from the direct displacement of individual organisms, and an increase in turbidity, during project construction. These impacts may affect individual organisms in the creek, but would be unlikely to have a significant impact on the overall population of any particular species within the creek. Although slope ratios of 20:1 are typically most desirable to allow passage of aquatic organisms in a perennial creek, a sheet pile grade control structure is expected have minimal, if any, adverse impacts to aquatic organisms in an ephemeral creek. Aquatic organisms that utilize ephemeral creeks typically consist of aquatic insects that have very short aquatic life stages and do not migrate large distances during this part of their life cycle. Also, a pool is expected to form downstream of the grade control structure that would likely benefit aquatic organisms by retaining open water for a longer period of time compared to the existing condition.

There would be minor, short-term impacts to terrestrial wildlife during project construction as a result of noise and land disturbance. Additionally, individual organisms would be displaced that utilize the small number of trees that would be cleared along the creek banks. Because of the relatively small size of the area in which trees would be cleared, this is not expected to negatively impact the overall population of any species. Following project construction, the cleared area would be replanted with new trees. This would result in a minor intermediate-term impact to wildlife within the project area. No significant long-term adverse impacts to fish and wildlife would occur under this alternative.

Alternative 3 - Riprap Channel with Seven 2-ft Drops: This plan would have similar impacts to fish and wildlife as described for the Recommended Plan. No significant long-term impacts to fish and wildlife would occur under this alternative.

Alternative 4 - Riprap Channel with Sheet Pile Energy Dissipator and Grade Control Structure: This plan would have similar impacts to fish and wildlife as described for the Recommended Plan. No significant long-term impacts to fish and wildlife would occur under this alternative.

Alternative 5 - Sheet Pile Wall, Energy Dissipator, and Grade Control Structure: This plan would have similar impacts to fish and wildlife as described for the Recommended Plan. No significant long-term impacts to fish and wildlife would occur under this alternative.

4.5 Threatened or Endangered Species

Alternative 1 - “No-Action” Alternative: The “No-Action” alternative would not result in any impacts to Federally-listed threatened or endangered species.

Alternative 2 - Riprap Channel with Downstream Sheet Pile Grade Control

Structure (Recommended Plan): The Recommended Plan would not impact any Federally-listed threatened or endangered species, candidate species, or designated critical habitat. No Federally-listed threatened or endangered species, candidate species, or designated critical habitats are located within or adjacent to the project area.

Alternative 3 - Riprap Channel with Seven 2-ft Drops: As with Recommended Plan, this alternative would not impact any Federally-listed threatened or endangered species, candidate species, or designated critical habitat. No Federally-listed threatened or endangered species, candidate species, or designated critical habitats are located within or adjacent to the project area.

Alternative 4 - Riprap Channel with Sheet Pile Energy Dissipator and Grade Control Structure: As with the other alternatives, this alternative would not impact any Federally-listed threatened or endangered species, candidate species, or designated critical habitat.

Alternative 5 - Sheet Pile Wall, Energy Dissipator, and Grade Control Structure: As with the other alternatives, this plan would not impact any Federally-listed threatened or endangered species, candidate species, or designated critical habitat.

4.6 Invasive Species

Alternative 1 - “No-Action” Alternative: The “No-Action” alternative would not result in the introduction of any invasive species.

Alternative 2 - Riprap Channel with Downstream Sheet Pile Grade Control Structure (Recommended Plan): The Recommended Plan is not expected to introduce any invasive species to the project site. The construction contractor would be required to ensure that all construction equipment has been cleaned and is free from soil residuals, egg deposits from plant pests, noxious weeds, plant seeds, and aquatic nuisance species prior to its use on the project. Disturbed land areas would be replanted with native plant species to minimize the likelihood that invasive plants would become established.

Alternative 3 – Riprap Channel with Seven 2-ft Drops: This alternative is not expected to introduce any invasive species to the project site. Precautions to prevent the introduction of invasive species as described in the Recommended Plan would also be used for this alternative.

Alternative 4 – Riprap Channel with Sheet Pile Energy Dissipator and Grade Control Structure: As with the other alternatives, this plan is not expected to introduce any invasive species to the project site. Precautions to prevent the introduction of invasive species as described in Recommended Plan would also be implemented under this alternative.

Alternative 5 – Sheet Pile Wall, Energy Dissipator, and Grade Control Structure:

This alternative is not expected to introduce any invasive species to the project site. Precautions to prevent the introduction of invasive species as described in Recommended Plan would also be used for this plan.

4.7 Floodplain

Alternative 1 - “No-Action” Alternative: The “No-Action” alternative would result in continued erosion of the bank and channel, modifying the existing floodplain and threatening the stability of the Iowa Tribe Water Pump Station.

Alternative 2 - Riprap Channel with Downstream Sheet Pile Grade Control Structure (Recommended Plan): The Recommended Plan would not appreciably change the peak flows, flood flow volume, water velocities, or the flashiness of the unnamed creek. Furthermore, the project would not affect local surface drainage or substantially contribute to downstream sedimentation. This alternative is designed to prevent erosion and protect the Iowa Tribe Water Pump Station. No significant adverse impacts to the floodplain or the floodplain hydraulics would be anticipated.

Alternative 3 - Riprap Channel with Seven 2-ft Drops: As with the Recommended Plan, this alternative would not change the peak flows, flood flow volume, water velocities, or the flashiness of the river. Furthermore, the project would not affect local surface drainage or substantially contribute to downstream sedimentation. This alternative is designed to prevent erosion and protect Iowa Tribe Water Pump Station. No significant adverse impacts to the floodplain or the floodplain hydraulics would be anticipated.

Alternative 4 - Riprap Channel with Sheet Pile Energy Dissipator and Grade Control Structure: As with the Recommended Plan, this alternative would not change the peak flows, flood flow volume, water velocities, or the flashiness of the river. Furthermore, the project would not affect local surface drainage or substantially contribute to downstream sedimentation. This alternative is designed to prevent erosion and protect Iowa Tribe Water Pump Station. No significant adverse impacts to the floodplain or the floodplain hydraulics would be anticipated.

Alternative 5 - Sheet Pile Wall, Energy Dissipator, and Grade Control Structure: As with the Recommended Plan, this alternative would not change the peak flows, flood flow volume, water velocities, or the flashiness of the river. Furthermore, the project would not affect local surface drainage or substantially contribute to downstream sedimentation. This alternative is designed to prevent erosion and protect Iowa Tribe Water Pump Station. No significant adverse impacts to the floodplain or the floodplain hydraulics would be anticipated.

4.8 Land Use

Alternative 1 - “No-Action” Alternative: The “No-Action” alternative could potentially have minor, long-term impacts to land use in the vicinity of Iowa Tribe Water Pump in Brown County, Kansas if the pump was to fail and was not replaced forcing the tribe to find an alternative source of water. If the pump failed and was replaced, it would likely result in minor, short-term impacts to land use in the immediate area because the larger construction footprint could have an impact on the adjacent agricultural land. Also, if the culvert or roadway needed to be replaced the resulting project area would impact the surrounding agricultural land.

Alternative 2 - Riprap Channel with Downstream Sheet Pile Grade Control Structure (Recommended Plan): The Recommended Plan would have minor, short-term impacts to land use. The staging areas for the project would impact the edges of the adjacent agricultural land. In total, approximately .5 acres of land habitat would be impacted during construction. Following project construction, this area would be planted with native trees and grasses.

Alternative 3 - Riprap Channel with Seven 2-ft Drops: This alternative would have a similar project footprint as the Recommended Plan. It would also result in similar minor, short-term, impacts to existing agricultural lands necessary for the project staging areas.

Alternative 4 - Riprap Channel with Sheet Pile Energy Dissipator and Grade Control Structure: This alternative would have a similar project footprint as the Recommended Plan. It would also result in similar minor, short-term, impacts to existing agricultural lands as described for the Recommended Plan.

Alternative 5 - Sheet Pile Wall, Energy Dissipator, and Grade Control Structure: As with the other alternatives, the project footprint would be similar to the Recommended Plan. It would also result in similar minor, short-term, impacts to existing agricultural lands as previously described.

4.9 Socioeconomics

Alternative 1 - “No-Action” Alternative: If the Iowa Tribe Water Pump Station were to fail, it would need to be replaced. This would cost approximately twice as much as the Recommended Plan. Furthermore, during the time that the Iowa Tribe Pump Station was not functioning, an alternative water source would need to be found for the approximately 600 residents of the Iowa Tribe Reservation of Kansas and Nebraska, creating a moderate, short-term socioeconomic impact to the local area. Also, if the roadway was compromised by the erosion and the culvert or roadway needed to be replaced, the main access to the White Cloud Casino would have a major negative impact.

Alternative 2 - Riprap Channel with Downstream Sheet Pile Grade Control

Structure (Recommended Plan): The Recommended Plan has a benefit-cost ratio of 1.7 and the greatest net benefits of the alternatives evaluated. A functioning Iowa Tribe Water Pump Station and roadway are necessary to maintain the existing economic conditions in the area.

Alternative 3 - Riprap Channel with Seven 2-ft Drops: The benefit-cost ratio of this alternative is 1.2. It also has lower net benefits compared to the Recommended Plan. A functioning Iowa Tribe Water Pump Station and roadway are necessary to maintain the existing economic conditions in the area.

Alternative 4 - Riprap Channel with Sheet Pile Energy Dissipator and Grade Control Structure: The benefit-cost ratio of this alternative is 1.3. It also has lower net benefits compared to the Recommended Plan. A functioning Iowa Tribe Water Pump Station and roadway are necessary to maintain the existing economic conditions in the area.

Alternative 5 - Sheet Pile Wall, Energy Dissipator, and Grade Control Structure: The benefit-cost ratio of this alternative is 1.1. It also has lower net benefits compared to the Recommended Plan. A functioning Iowa Tribe Water Pump Station and roadway are necessary to maintain the existing economic conditions in the area.

4.10 Cultural Resources

Alternative 1 - “No-Action” Alternative: The “No-Action” alternative would not impact any cultural resources.

Alternative 2 - Riprap Channel with Downstream Sheet Pile Grade Control Structure (Recommended Plan): Because no archeological material was identified within the project area, this alternative would not adversely impact cultural resource sites.

Alternative 3 - Riprap Channel with Seven 2-ft Drops: As with the Recommended Plan, this alternative would not adversely impact any cultural resource sites.

Alternative 4 - Riprap Channel with Sheet Pile Energy Dissipator and Grade Control Structure: As with the other alternatives, this alternative would not adversely impact any cultural resource sites.

Alternative 5 - Sheet Pile Wall, Energy Dissipator, and Grade Control Structure: As with the other alternatives, this alternative would not adversely impact any cultural resource sites.

5.0 Cumulative Impacts

The Council on Environmental Quality (CEQ) Regulations defines cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (CEQ, 1997). The cumulative impacts addressed in this document consist of the impacts of multiple actions that result in similar effects on the natural resources. The geographical areas of consideration are actions located within/along the 77 acre watershed for the unnamed creek and approximately 600-ft beyond the project site to the retention pond.

A review of USACE Regulatory Branch records for Clean Water Act Section 404 regulatory actions indicate that there is only one other project along the unnamed creek in Brown County that has required permitting. A permit was issued in 2009 to allow for the adding of a back-up generator and security fence to the Iowa Tribe Water Pump area. The project had no significant impact to the creek or the area. There are no other known on-going or proposed construction projects along the creek. The watershed is rural in nature and is primarily used for agriculture. The Recommended Plan is not expected to result in any significant long-term adverse cumulative impacts in combination with the previous project, or ongoing agricultural activities within the watershed.

6.0 Mitigation Measures

Any locations that are filled and/or disturbed as part of the Recommended Plan would be planted with a native trees and/or grasses following construction. Construction would most likely occur during the autumn of 2012, which would minimize impacts to water quality, and fish and wildlife because of reduced biological activity during this time of the year. All disturbed land areas would be planted with native trees and/or grasses at the completion of the project.

7.0 Conclusion

The Recommended Plan would have no impacts to Federally-listed threatened or endangered species, or their designated critical habitat, and would not have negative impacts to sites listed, or eligible for inclusion, on the National Register of Historic Places. Temporary, short-term construction impacts to water quality, fish and wildlife resources, and land use would be related to noise, and physical disturbance of the creek channel and riparian corridor. There would be a minor intermediate term impact to approximately .5 acres of habitat that would be planted with native trees and grasses upon project completion. The Recommended Plan would best meet the purpose and need of the project by providing protection to the Iowa Tribe Water Pump Station. It

would not result in any significant, long-term adverse impacts to the human environment.

8.0 Coordination and Comments

The USACE will circulate a Notice of Availability for the Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for a thirty-day public comment period. This Public Notice will also be e-mailed to individuals/agencies/businesses listed on the USACE Regulatory e-mail distribution list.

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9.0 Agency Compliance with Other Environmental Laws

Compliance with other environmental laws is listed below.

Federal Polices

Compliance

Archeological Resources Protection Act, 16 U.S.C. 470, et seq.	Not Applicable
Clean Air Act, as amended, 42 U.S. C. 7401-7671g, et seq.	Full Compliance
Clean Water Act (Federal Water Pollution Control Act), 33 U.S.C. 1251, et seq.	Full Compliance
Coastal Zone Management Act, 16 U.S.C. 1451, et seq.	Not Applicable
Endangered Species Act, 16 U.S.C. 1531, et seq.	Full Compliance
Environmental Justice (Executive Order 12898)	Full Compliance
Estuary Protection Act, 16 U.S.C. 1221, et seq.	Not Applicable
Farmland Protection Policy Act, 7 U.S.C. 4201, et. seq.	Full Compliance
Federal Water Project Recreation Act, 16 U.S.C. 4601-12, et seq.	Full Compliance
Fish and Wildlife Coordination Act, 16 U.S.C. 661, et seq.	Full Compliance
Floodplain Management (Executive Order 11988)	Full Compliance
Invasive Species (Executive Order 13122)	Full Compliance
Land and Water Conservation Fund Act, 16 U.S.C. 4601-4, et seq.	Not Applicable
Marine Protection Research and Sanctuary Act, 33 U.S.C. 1401, et seq.	Not Applicable
Migratory Bird Treaty Act, 16 U.S.C. 703 – 712, et. seq.	Full Compliance
National Environmental Policy Act, 42 U.S.C. 4321, et seq.	Full Compliance
National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470a, et seq.	Full Compliance
Protection & Enhancement of the Cultural Environment (Executive Order 11593)	Full Compliance
Protection of Wetlands (Executive Order 11990)	Full Compliance
Rivers and Harbors Act, 33 U.S.C. 403, et seq.	Full Compliance
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, et seq.	Full Compliance
Wild and Scenic River Act, 16 U.S.C. 1271, et seq.	Not Applicable

NOTES:

- Full compliance. Having met all requirements of the statute for the current stage of planning (either preauthorization or post authorization).
- Partial compliance. Not having met some of the requirements that normally are met in the current stage of planning.
- Noncompliance. Violation of a requirement of the statute.
- Not applicable. No requirements for the statute required; compliance for the current stage of planning.

10.0 References

- Council on Environmental Quality (CEQ). 1992. Regulations for Implementing the Procedural Provisions of NEPA, 40 CFR Parts 1500-1508, in accordance with 40 CFR 1507.3.
- CEQ. 1997. January, 1997. Considering Cumulative Effects Under the National Environmental Policy Act. Executive Office of the President, Washington, D.C. pp ix-x, 28-29 and 49-57.
- HNTB Corporation. August 2011. Iowa Tribe Water Pump Station, Section 14 Emergency Streambank Stabilization Project, White Cloud, Brown County, Kansas, Feasibility Report.
- Kansas Department of Health & Environment (KDHE). April 2012. 2012 303(d) List of Waters Formerly Listed as Impaired.
http://www.kdheks.gov/tmdl/2012/303d_List_CAT2.pdf
- U.S. Army Corps of Engineers. 2008. Procedures for Implementing the National Environmental Policy Act. Engineer Regulation (ER) 200-2-2, 33 CFR 230.
- U.S. Census Bureau. 2011. Selected Economic Characteristics: 2005-2009 American Community Survey, Brown County, Kansas. Retrieved from
<http://factfinder.census.gov>.
- U.S. Department of Agriculture (USDA). 2005. Soil Survey of Brown County, Kansas.
<http://soildatamart.nrcs.usda.gov/manuscripts/KS013/0/brownks.pdf>

11.0 List of Preparers

This EA and draft FONSI were prepared by Mr. Rick Morrow, Biologist, with cultural resource assistance provided by Mr. David Cain, Archeologist. The address of the preparers is: U.S. Army Corps of Engineers, Kansas City District; PM-PR, Room 529, 601 E. 12th Street, Kansas City, Missouri 64106.

12.0 Appendices

APPENDIX I
PROJECT DRAWINGS

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Figure 1: Photos of site erosion



Figure 2: Photo of grade control structure

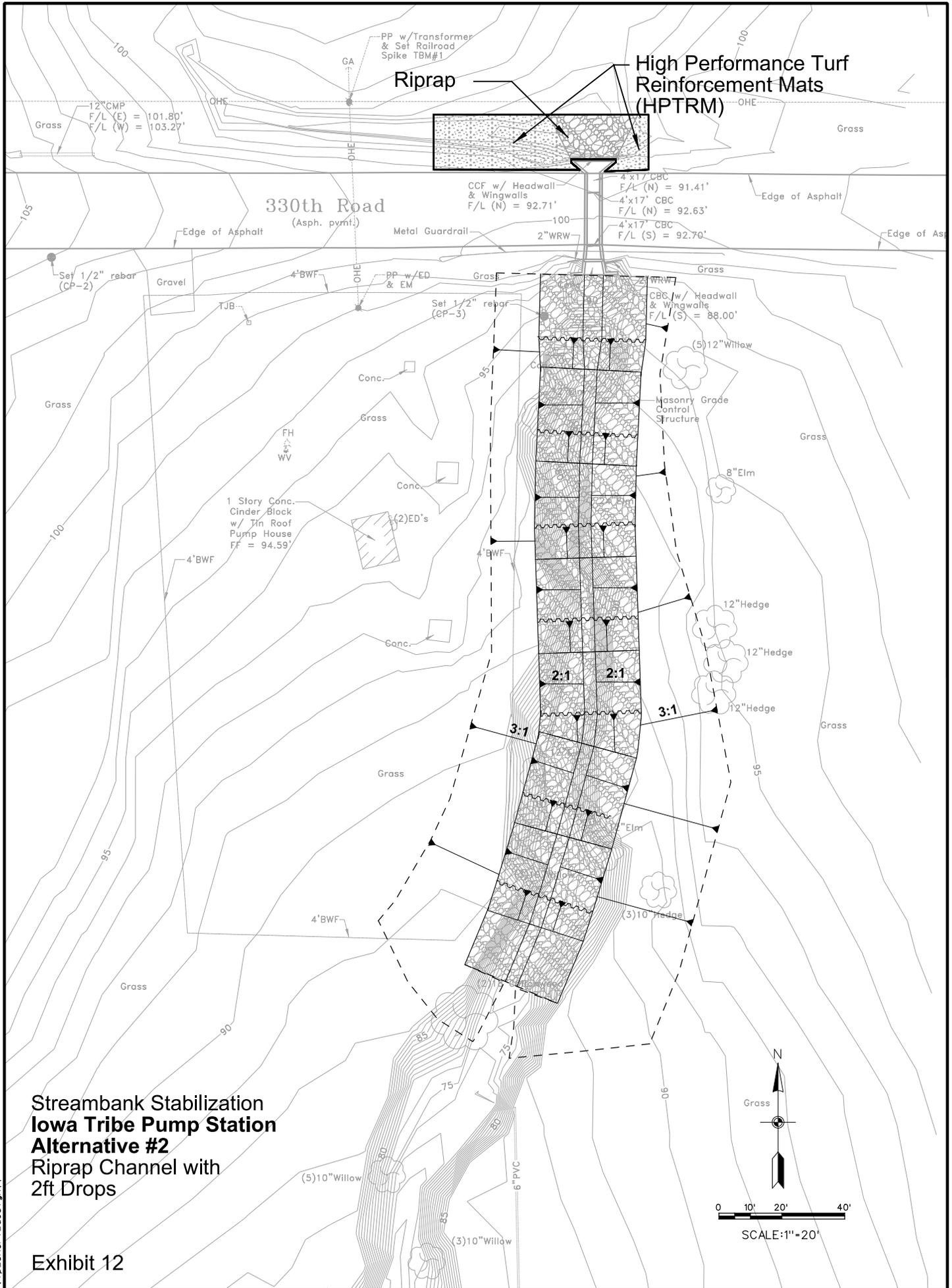


From Left to Right: 2003, 2008, 2009

Figure 3: Aerial photograph comparison

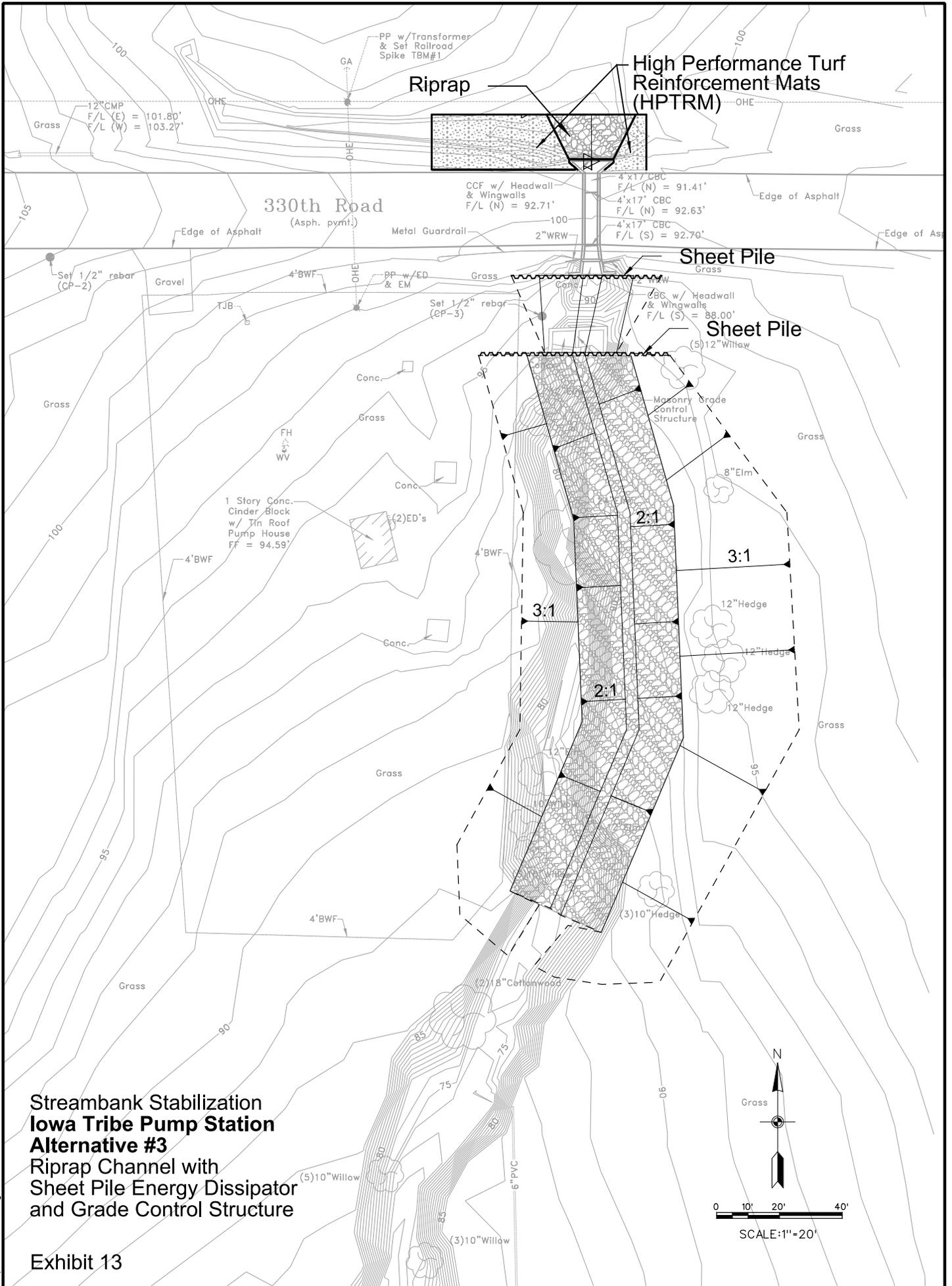


Figure 5: General site layout



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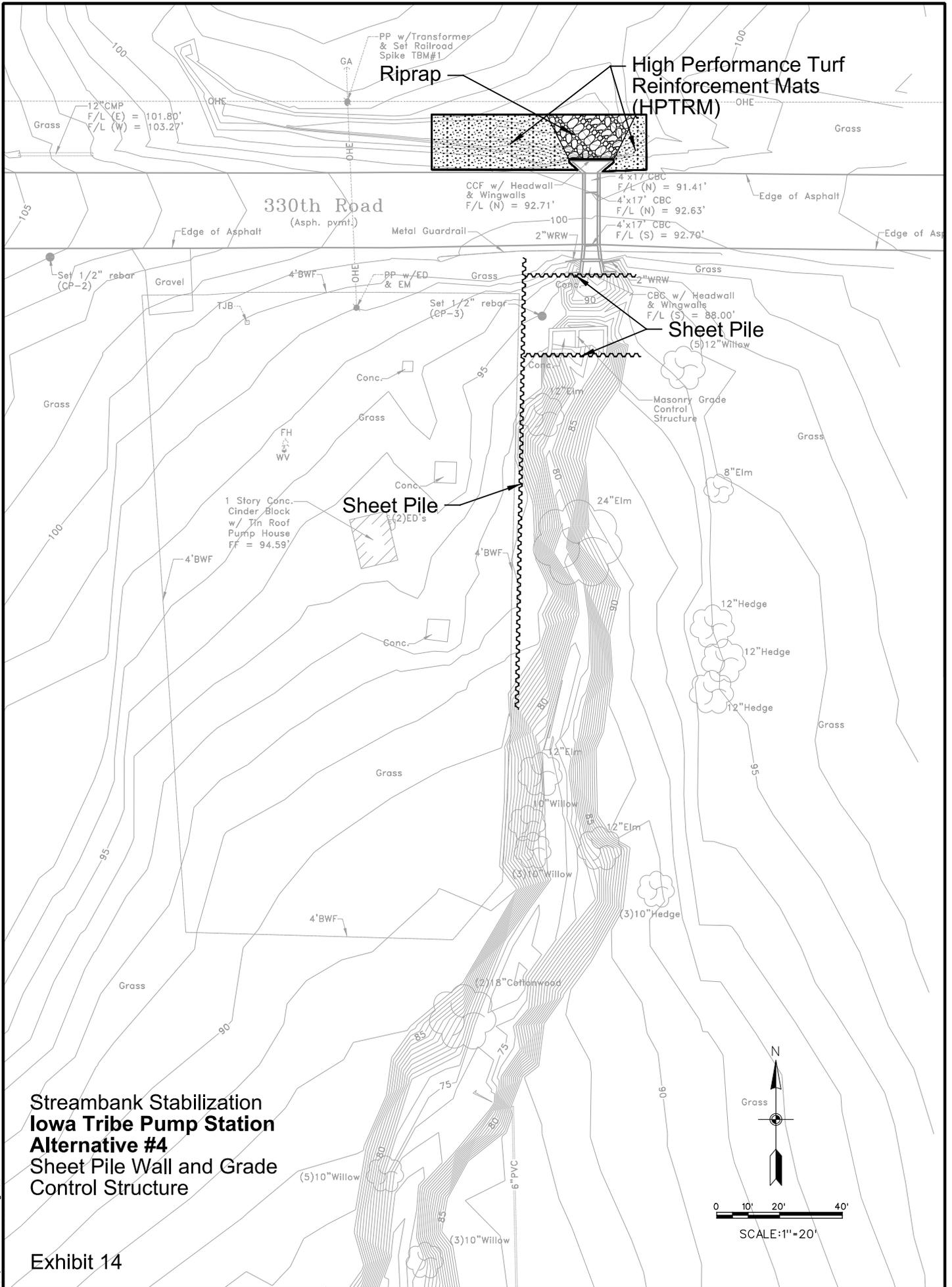
Figure 7: Alternative 3



Streambank Stabilization
Iowa Tribe Pump Station
Alternative #3
Riprap Channel with
Sheet Pile Energy Dissipator
and Grade Control Structure

Exhibit 13

Figure 8: Alternative 4



APPENDIX II
U.S. FISH AND WILDLIFE SERVICE COORDINATION

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kansas Ecological Services Office
2609 Anderson Avenue
Manhattan, Kansas 66502-2801

June 29, 2011

Mr. W. Glenn Covington, Acting Chief, Environmental Services Section
Planning, programs and Project Management Division, Planning Branch
Kansas City District, Corps of Engineers
600 Federal Building
Kansas City, Missouri 64106-2896

RE: Information Request for the Iowa Tribe Pump Station, Section 14 Emergency Streambank Stabilization Project, Brown County

FWS Tracking # 2011-CPA-0496

Dear Mr. Covington:

This letter is in response to your request for information on Federally-listed species and other fish and wildlife resources within or adjacent to the project area. Erosion of the right streambank in the proximity of a pump station is threatening wells and the pump station that are the source of the Iowa Tribes water supply. Additionally erosion is causing damage to the culvert under 330th Street. Your letter states that these structures are likely to be damaged within five years. Several alternatives are being considered to stabilize the stream bank and address the failing culvert. Each of the alternatives has a similar construction footprint. The proposed project would be conducted under the authority of Section 14 of the Flood Control Act of 1946. The project is location in Section 11, Township 1 south, Range 18 east, Brown County, Kansas.

Endangered Species Comments

There are no federally listed as threatened or endangered species in Brown County. Additionally, there are no candidate species or designated critical habitat within Brown County.

Fish and Wildlife Coordination Act Comments

You state that erosion is damaging the culvert under 330th Street, however, from the photographs you sent the culvert appears to be undersized which has increased stream velocities which destabilized the stream. This likely lead to the addition of the masonry grade control structure and the energy dissipater end sill in attempts to alleviate the increased velocities and the resulting

downcutting of the stream. Both structures have failed causing additional damage to the stream. Impacts to the stream from past and cumulative actions has likely negatively affected instream and adjacent wetlands, aquatic habitat, and riparian areas; smothered aquatic habitat with sediment produced by the erosion; restricted the streams access to its floodplain; and hindered aquatic organism passage among other impacts.

We offer the following comments on the various alternatives:

Any attempt to stabilize the stream will likely fail unless the source of the problem is corrected. All the alternatives appear to be temporary solutions that will produce additional cumulative impacts to the stream. We recommend that any proposed action to stabilize the stream banks in this stream reach include replacing the culvert with a properly sized structure and the removal of the failing masonry grade control structure and energy dissipater end sill slab. We recommend the minimum width of the culvert to be 1.5 times bankfull width of the stream.

Grade control structures should have a maximum slope ratio of 20:1 to allow the passage of most aquatic organisms.

Riprapping the channel will prevent vegetation from establishing and further eliminate instream habitat.

A sheet pile wall will restrict riparian vegetation and may blow out into the stream channel. Riparian vegetation can provide very effective stream bank stabilization.

A buffer/riparian area of a minimum 100-foot width should be created /enhanced/maintained on both sides of the creek to add stability to the stream bank, filter surface water runoff, and provide wildlife habitat.

The Kansas Stream Mitigation Guidance should be used to determine the debits for stream impacts and the credits for proposed mitigation.

Erosion controls should be an integral component of the project to ensure that sediment originating from the project does not enter the stream or migrate downstream. Erosion controls should include on-land best management practices, such as mulching bare areas, properly maintaining silt fences, hay bales, or coir mats, and reseeding disturbed areas as-soon-as-possible. Good information on BMPs for erosion control can be found at http://www.dot.ca.gov/hq/construc/stormwater/BMP_Field_Master_FullSize_Final-Jan03.pdf, and <http://www.fws.gov/midwest/fisheries/streamcrossings/ErosionControl.htm>. In addition, in-stream sediment controls should also be considered in sensitive areas or where upland erosion controls may not be adequate. These practices should be properly maintained for the life of the project. Before removing any in-stream structures, the accumulated silt should be carefully removed, so as not to disturb the natural substrate or vegetation of the stream and to prevent the downstream migration of sediments that have accumulated behind the structure.

Invasive Species

Invasive species have been identified as a major factor in the decline of native flora and fauna and impact aquatic resources. Executive order 13112 Section 2 (3) directs Federal agencies to not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere and to ensure that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions. Tools to perform Hazard Analysis and Critical Control Points (HACCP) planning for invasive species control are available at <http://haccp-nrm.org/>. HACCP planning focuses attention on critical control points where non-target species can be removed. Documenting risks and methods used to remove non target species gives managers a strategic method to make consistent decisions based on identified risks. Planning builds a logical framework of information to weigh risks for species spread against management benefits. Invasive species of particular concern in Kansas include the zebra mussel (*Dreissena polymorpha*), Eurasian watermilfoil (*Myriophyllum spicatum*), purple loosestrife (*Lythrum salicaria*), Johnson grass (*Sorghum halepense*), sericea lespedeza (*Lespedeza cuneata*), salt cedar (*Tamarix spp.*), and reed canary grass (*Phalaris arundinacea*). Additional information on aquatic invasive species in Kansas can be found on KDWP's website

http://www.kdwp.state.ks.us/news/fishing/aquatic_nuisance_species. Human actions are the primary means of invasive species introductions. Prevention of introductions is the first and most cost-effective option for dealing with invasive species. We strongly encourage the inclusion of best management practices for the prevention of invasive species transfer in all mitigation plans. At the minimum the following should be included as a permit condition:

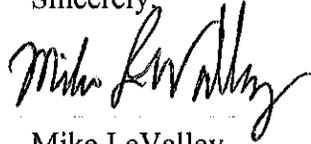
All equipment brought on site will be thoroughly washed to remove dirt, seeds, and plant parts. Any equipment that has been in any body of water within the past 30 days will be thoroughly cleaned with hot water greater 140° F (typically the temperature found at commercial truck washes) and dried for a minimum of five days before being used at this project site. In addition, before transporting equipment from the project site all visible mud, plants and fish/animals will be removed, all water will be eliminated, and the equipment will be thoroughly cleaned. Anything that came in contact with water will be cleaned and dried following the above procedure.

Migratory Bird Treaty Act

The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. Takings could result from projects in prairies, wetlands, stream and woodland habitats, and those that occur on bridges and other structures if swallow or phoebe nests are present. While the provisions of MBTA are applicable year-round, most migratory bird nesting activity in Kansas occurs during the period of January (owls, and hawks) through August (goldfinches). If the proposed project appears likely to result in the take of migratory birds, I recommend a field survey during the nesting season of the affected habitats and structures to determine the presence of active nests. Our office should be contacted immediately for further guidance if a field survey identifies the existence of one or more active bird nests that you believe cannot be avoided temporally or spatially by the planned activities.

Thank you for the opportunity to comment on this project. If you have any questions, please contact me or Susan Blackford of my staff at (785) 539-3474.

Sincerely,



Mike LeValley
Field Supervisor

cc: EPA, Kansas City, KS (Wetland Protection Section)
KDWP, Pratt, KS (Environmental Services)
KDHE, Topeka, KS (Bureau of Water)
COE, Jesse Granet (Planning Branch)

MJL/shb

APPENDIX III
KANSAS STATE HISTORIC PRESERVATION OFFICE
COORDINATION

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APPENDIX IV

2012 NATIONWIDE PERMITS #13

13. Bank Stabilization. Bank stabilization activities necessary for erosion prevention, provided the activity meets all of the following criteria:

- (a) No material is placed in excess of the minimum needed for erosion protection;
- (b) The activity is no more than 500 feet in length along the bank, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in minimal adverse effects;
- (c) The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark or the high tide line, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in minimal adverse effects;
- (d) The activity does not involve discharges of dredged or fill material into special aquatic sites, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in minimal adverse effects;
- (e) No material is of a type, or is placed in any location, or in any manner, that will impair surface water flow into or out of any waters of the United States;
- (f) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas); and,
- (g) The activity is not a stream channelization activity.

This NWP also authorizes temporary structures, fills, and work necessary to construct the bank stabilization activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Invasive plant species shall not be used for bioengineering or vegetative bank stabilization.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the bank stabilization activity: (1) involves discharges into special aquatic sites; or (2) is in excess of 500 feet in length; or (3) will involve the discharge of greater than an average of one cubic yard per running foot along the bank below the plane of the ordinary high water mark or the high tide line. (See general condition 31.) (Sections 10 and 404)

Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical

destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date.

Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species.

(a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete preconstruction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the

Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have “no effect” on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for obtaining any “take” permits required under the U.S. Fish and Wildlife Service’s regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such “take” permits are required for a particular activity.

20. Historic Properties.

(a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the

applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing

that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

(2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or

restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with 36 any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee responsible mitigation, including the achievement of ecological

performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
- (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

31. Pre-Construction Notification.

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

- (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
 - (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer.
- However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33

CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWP 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation

demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination:

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWP's and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and,

if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. For a linear project, this determination will include an evaluation of the individual crossings to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to intermittent or ephemeral streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51 or 52, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in minimal adverse effects. When making minimal effects determinations the district engineer will consider the

direct and indirect effects caused by the NWP activity. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

2. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

3. If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (a) that the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (c)

that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period, with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

DRAFT

APPENDIX V
AGENCY AND PUBLIC COMMENTS (PENDING)

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