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Phone (512) 463-7847, Fax (512) 475-2053

ENVIRONMENTAL DETERMINATION

TO: File
FROM: T. Clay Schultz, Ph.D., Director, Regional Water Project Development
SUBJECT: City of Junction, Kimble County, Texas
TWDB FIF Category 2 Project No. 40123
Dam Repairs and Mitigation Project
Total Commitment Amount: \$4,121,000
Loan No. L1001268
Grant No. G1001269

Clay Schultz
Digitally signed by Clay Schultz
Date: 2026.03.05 16:24:46 -06'00'

The environmental review for the proposed City of Junction (City) Dam Repairs and Mitigation project has been completed consistent with 31 Texas Administrative Code (TAC) § 363.14 and 363.16. The City is proposing to use \$4,121,000 in financing from the Flood Infrastructure Fund (FIF) Program to design and construct repairs and improvements to the Lake Junction Dam located on the South Llano River in Junction, Texas. This project is needed to address damage incurred during an October 8, 2018, major flooding event, protecting the integrity of the dam and preventing future catastrophic failure. The Texas Water Development Board (TWDB) committed this financing on February 25, 2021, and the City closed the financing on June 29, 2021.

This environmental review is documented by the enclosed Environmental Determination (ED), which contains mitigative environmental conditions that will be applied to the project to avoid significant adverse impact on waters of the U.S., floodplains, cultural or historical resources, threatened or endangered species, and protected migratory bird species.

Based on a detailed environmental review of the planning information, the Environmental Data Form received by the TWDB on November 5, 2023, with the supplementary materials submitted to the TWDB on March 3, 2025, the project meets the requirements of 31 TAC § 363.14 with the following special and standard environmental conditions:

Special Environmental Conditions

- Consistent with the Flood Insurance Reform Act of 2004, federal Executive Order 11988, Texas Water Code Section 16.315, and local floodplain development ordinances, a floodplain development permit will be obtained from the local floodplain administrator prior to construction in a Special Flood Hazard Area.

- The project will be constructed to comply with the terms and conditions of the USACE Nationwide Permit (NWP) program, specifically with NWP 3 - Maintenance. Additional conditions for the use of these NWPs may result from ongoing coordination between the USACE and USFWS.
- As per an agreement with the Texas Parks and Wildlife Department (TPWD), Ecological & Environmental Planning Program (TPWD Project No. 51630), to ensure compliance with 31 Texas Administrative Code (TAC) Chapter 57, Texas Parks and Wildlife Code, Chapters 1, 12, 64, 67, and 68, the Endangered Species Act of 1973, as amended, the Migratory Bird Treaty Act, and applicable federal regulations pertaining to protected and invasive species, the following measures will be implemented:
 - Consistent with the Endangered Species Act of 1973 as amended, the Migratory Bird Treaty Act, and Texas Parks and Wildlife Code Chapter 64, vegetation clearing must be excluded during the general bird nesting season, March 15 through September 15, to avoid adverse impacts to breeding birds. If vegetation clearing during this time is unavoidable, the area proposed for disturbance will be surveyed by a qualified biologist during the nesting period to identify occupied nests. If nests are observed during surveys, a vegetation buffer area of no less than 100 feet in diameter will remain around the nest until all young have fledged. State and federal regulations as currently interpreted do not permit incidental take.
 - The project will occur within the USFWS-designated Critical Habitat within the South Llano River for the State- and Federally-listed freshwater mussel species Texas fatmucket (*Lampsilis bracteata*), and is also identified as a Group 1 stream within the Texas Freshwater Mussel Sampling Protocol Stream Grouping. Where practicable, the City of Junction (City) will avoid placement of temporary fills or temporary structures into waters serving as suitable habitat for freshwater mussels. Prior to construction, the City's consultant will prepare an Aquatic Resource Relocation Plan (ARRP) and acquire a TPWD Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters in coordination with the TPWD Kills and Spills Team (KAST). The approved ARRP and TPWD-issued permit will facilitate the monitoring and recovery of aquatic resources during dewatering activities. If protected species are identified, then they will be relocated in accordance with the ARRP prepared for the project. Additional permissions and/or documentation that may be required by the USFWS will be conducted according to their guidance and protocols.
 - To avoid and/or minimize impacts to the Species of Greatest Conservation Need (SGCN) Texas map turtle (*Graptemys versa*), the City will avoid impacts to snags, logs, emergent rocks or woody debris, gravel bars, riffles, and sand bar habitat, and will avoid construction and disturbance of sandy areas during spring and summer breeding and nesting season as practicable.

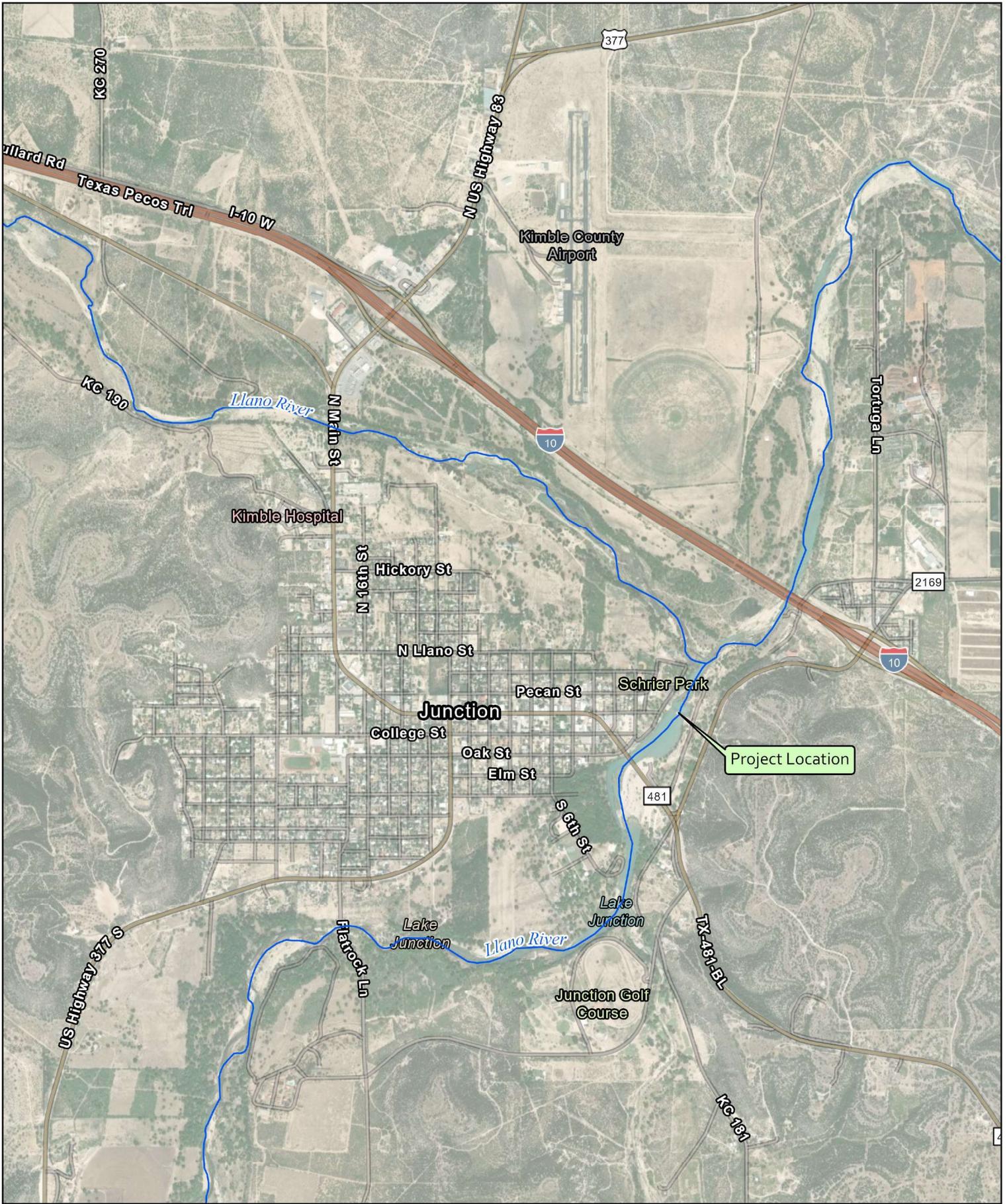
These habitats should be inspected for presence of wildlife prior to construction, and any disturbance, handling, or relocation should be conducted by persons authorized through the TPWD Wildlife Permit Program and/or in coordination with the TPWD KAST.

- To avoid and/or minimize impacts to the SGCN Guadalupe bass (*Micropterus treculii*), and Texas shiner (*Notropis amabilis*), the City will minimize disturbances to areas of flowing water and eddies and avoid construction during the spawning season from February through September. In addition, the City will use Beneficial Management Practices (BMPs) to prevent erosion and sedimentation into the river. Recommended BMPs include temporary or permanent seeding with native plants, mulching, earth dikes, silt fences, sediment traps, and sediment basins; avoiding disturbance to riparian corridor and stream bottoms; and avoiding the entanglement hazards of mesh erosion control blankets or mats.

Standard Environmental Conditions

- Consistent with the TWDB Supplemental Construction Contract Conditions (TWDB-0552), the City will abide by the standard emergency condition for the discovery of cultural resources.
- Consistent with the TWDB Supplemental Construction Contract Conditions (TWDB-0552), the City will abide by the standard emergency condition for the discovery of threatened and endangered species

Enclosures



PROJECT LOCATION MAP

**LAKE JUNCTION
DAM REPAIRS & MITIGATION**



Disclaimer: This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

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801 NAVIGATION, SUITE 300 PH. (361) 883-1984
 CORPUS CHRISTI, TEXAS 78408 FAX (361) 883-1986
 TBPE FIRM NO. F-366 WWW.LIVING.COM

**Topographic Map
 Lake Junction Dam Project
 Junction, Kimble County, Texas**



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 Miles



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MEMORANDUM

TO: T. Clay Schultz, Ph.D., Regional Water Project Development Clay Schultz
THROUGH: Bill Blaik, P.E., Regional Water Project Development Bill Blaik, P.E.
FROM: Gayla Duaine, Environmental Protection Specialist Gayla Duaine
SUBJECT: City of Junction, Kimble County, Texas
TWDB FIF Category 2 Project No. 40123
Dam Repairs and Mitigation Project
Total Commitment Amount: \$4,121,000
Loan No. L1001268
Grant No. G1001269

As required by the rules of the Texas Water Development Board (TWDB), 31 Texas Administrative Code (TAC) § 363.14 and 363.16, an environmental review has been performed for the Dam Repairs and Mitigation Project proposed by the City of Junction (City) in Kimble County, Texas. The City is proposing to use \$4,121,000 in financing from the Flood Infrastructure Fund (FIF) Program to design and construct repairs and improvements to the Lake Junction Dam located on the South Llano River in Junction, Texas. This project is needed to address damage incurred during an October 8, 2018, major flooding event, protecting the integrity of the dam and preventing future catastrophic failure. The Environmental Determination (ED) completed for the proposed project is based primarily on the Environmental Data Form (EDF)1 received by the TWDB.

PURPOSE AND NEED

The City's only supply of drinking water is drawn from Lake Junction, an impoundment of the South Llano River. The Lake Junction Dam, constructed in 1965, is a 17-foot high, rock-filled gravity dam with a concrete cap. The dam has a two-stage overflow spillway; two gates with 30-inch drain-pipes were originally used for outlets but are now inoperable due to sediment build-up.

Flood events have historically caused damages to the dam embankment, the downstream spillway, and the abutments on the left and right banks of the river. Previous inspection reports and records indicate the dam has been damaged by the erosive forces of extreme

1 City of Junction (November 2023). Environmental Data Form, Junction Dam Repairs and Mitigation Project, Prepared by Ardurra Group, Inc., San Antonio, Texas. Received by TWDB on November 5, 2023; supplementary materials received on March 3, 2025.

flood events that have resulted in various structural repairs to the dam abutments, cut-off walls, and downstream spillway over the years. On October 8, 2018, a major flood event occurred in the South Llano River watershed that significantly impacted the Lake Junction Dam. Damage to the dam included erosion around the upstream toe wall of the concrete abutments, damage to the sloping concrete abutments, and toe walls connected to the abutments. This flood event also caused scouring and washing out of the large derrick stones (rock riprap) at the downstream toe of the dam.

Repairs are warranted to protect the integrity of the dam for use as a critical municipal water supply for the City and to prevent future catastrophic failure of the dam. If left unattended, the dam is capable of breaching during high flows on the South Llano River due to abutment failure or excessive erosion on the downstream toe from sliding.

PROJECT DESCRIPTION

The City is proposing to utilize Flood Infrastructure Fund (FIF) financing for the following:

- place roller compacted concrete along the downstream toe of the dam to provide energy dissipation and increase the factor of safety for the dam from sliding downstream;
- widen and lengthen the cutoff walls under the concrete abutments to reduce flow through the alluvium on each side of the dam, which will assist in mitigating potential piping in the abutments;
- reconstruct the concrete abutments, including toe walls to prevent erosion through the abutments; and
- other appurtenances, as necessary.

PUBLIC PARTICIPATION

The project does not involve any known, significant socioeconomic or environmental impacts, or historical or cultural resource issues that may affect the evaluation of project alternatives or implementation of the project, such as rate increases, displacement of persons, disproportionate effects on minorities or those living beneath the poverty line, potential impacts to known cultural resources, waters of the U.S., or protected species, or similar public concerns. Therefore, no public meeting was required.

AGENCY COORDINATION

This environmental review included coordination with state and federal regulatory agencies, local authorities, and other stakeholders and interested parties regarding the project's potential impact. The City submitted notifications to and requests for input from all required parties. Some entities did not require a response. The respondents are listed below, and the results of coordination are summarized in the EDF and reflected in the environmental conditions listed below:

- Texas Historical Commission (THC), State Historic Preservation Officer, pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas (THC Tracking No. 202401830)
- United States Army Corps of Engineers (USACE), Regulatory Branch, Fort Worth District, in accordance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 (Project Number SWF-2023-00478, Nationwide Permit (NWP) 3)
- Texas Parks and Wildlife Department (TPWD), Wildlife Habitat Assessment Program, Wildlife Division, Austin, in accordance with the Endangered Species Act of 1973, as amended; Migratory Bird Treaty Act; Texas Parks and Wildlife Code; and other applicable regulations (TPWD Project No. 51630)
- United States Fish and Wildlife Service (USFWS), Austin Ecological Services Field Office, in accordance with the Endangered Species Act and statutes affecting other federally protected species (USFWS Project Code 2023-0074734)

The City also coordinated with the following entities, and no response was required from them:

- Bureau of Reclamation, Oklahoma-Texas Area Office
- Bureau of Land Management
- City of Junction Floodplain Administrator pursuant to the National Flood Insurance Program (NFIP)
- State of Texas NFIP State Coordinator, Texas Water Development Board

Texas Historical Commission

The THC was given the opportunity to review the project. There are no previously recorded significant or potentially significant sites within or adjacent to the project footprint according to THC Archeological Sites Atlas. The project is not within the protected area surrounding a historic cemetery, structure, or district. A cultural resources desktop study² was performed and submitted for review the THC staff in accordance with Section 106 of the National Historic Preservation Act (although not required for state-funded TWDB financial assistance programs) and the Antiquities Code of Texas (THC Tracking No. 202401830). The THC staff concurred that no historic properties, archeological sites, or other cultural resources would be affected by the project, in correspondence dated November 27, 2023. No additional field survey was determined to be warranted by the THC.

A biological field study of the project area was performed on June 26, 2019, and a report³ on potential impacts to threatened and endangered species and habitat was submitted to the TPWD Ecological & Environmental Planning Program staff for review, in accordance with the Texas Parks and Wildlife Code. TPWD provided a response dated December 8, 2023 (TPWD Project No. 51630).

² *Antiquities Code of Texas and Section 106 of the National Historic Preservation Act Archeological Resource Coordination Letter for the Proposed Lake Junction Dam Restoration in Kimble County, Texas.* August 2, 2019. Prepared by AmaTerra Environmental, Inc.

³ *Threatened and Endangered Species Report for the Lake Junction Dam Restoration Project.* July 2019. Prepared by AmaTerra Environmental, Inc.

The TPWD staff made general construction recommendations to prevent erosion and sedimentation into the river, including temporary or permanent seeding (with native plants), mulching, earth dikes, silt fences, sediment traps, and sediment basins. Other recommendations included avoidance of entanglement hazards of mesh erosion control blankets or mats, and the avoidance of undisturbed areas of the riparian corridor and stream bottoms.

Recommendations by TPWD intended to mitigate or avoid potential impacts to protected species were included for migratory birds, the State-listed freshwater mussel species Texas fatmucket (*Lampsilis bracteata*), and for Species of Greatest Conservation Need (SGCN) that have been recorded in the Texas Natural Diversity Database (TXNDD) near the project area, including the Texas map turtle (*Graptemys versa*), Guadalupe bass (*Micropterus treculii*), and Texas shiner (*Notropis amabilis*).

In correspondence dated December 9, 2024, Jonathan Teafatiller, P.E., on behalf of the City, responded regarding their commitment to the recommendations. In order to mitigate or avoid potential impacts, TPWD recommendations are summarized as environmental special conditions in this ED.

The TPWD Inland Fisheries Sand & Gravel Permitting Coordinator was also provided with project information for an opportunity for review, comment, and offer permitting guidance. No sand, shell, gravel or marl permit is required for this project, and no response was received to this correspondence.

United States Army Corps of Engineers

The USACE, Fort Worth District Office, Regulatory Branch staff was given the opportunity to review the project (USACE Project Number SWF-2023-00478) and jurisdictional determination/waters of the U.S. delineation report⁴ dated July 2019. The investigation concluded that the South Llano River in the project area is a jurisdictional Water of the United States (WOTUS) due to the observed Ordinary High Water Marks (OHWM). No adjacent wetlands were observed along the South Llano River.

The proposed construction activities on the Lake Junction Dam will be authorized by Nationwide Permit (NWP) 3 for dam maintenance and repair, as indicated in a letter from the USACE dated May 16, 2024 (SWF-2023-00478). Additional coordination with the USACE may be required depending on the outcome of a pending review by the USFWS regarding impacts to protected mussel species within a designated critical habitat.

⁴ *Wetlands and Waters of the U.S. Report for the Lake Junction Dam Restoration Project*, Kimble County, Texas. July 2019. Prepared by AmaTerra Environmental Inc.

United States Fish and Wildlife Service

The USFWS Austin Ecological Services Field Office, in accordance with the Endangered Species Act and statutes affecting other federally protected species, was given the opportunity to review the project through the Information for Planning and Consultation (IPaC) system (Project Code No. 2023-0074734). Results of this consultation indicate six threatened, endangered, or candidate species recommended for effects analysis. Of these, two species listed as threatened – piping plover (*Charadrius melodus*) and red knot (*Calidris canutus rufa*) – only need to be considered for wind energy projects. The remaining four species are the endangered golden-cheeked warbler (*Setophaga chrysoparia*), Texas fatmucket mussel (*Lampsilis bracteata*), and tricolored bat (*Perimyotis subflavus*), and the candidate monarch butterfly (*Danaus Plexippus*). In addition, there is proposed USFWS Critical Habitat in the South Llano River, within the project area, for the mussel species Texas fatmucket.

Local Floodplain Administrator

To ensure compliance with FEMA requirements, the City notified the local floodplain administrator for the City of Junction as well as the State of Texas NFIP Coordinator. The project is planned within a 100-year floodplain, as designated by the Federal Emergency Management Agency (FEMA). Projects involving construction in the 100-year floodplain, including replacement or borings, require a floodplain development permit from the local floodplain administrator prior to construction in the 100-year floodplain.

This environmental finding is conditioned to require a floodplain development permit prior to clearing or construction activities within any 100-year floodplain or floodway in order to comply with requirements of the Federal Emergency Management Agency regarding implementation of the National Flood Insurance Act, Flood Disaster Protection Act, National Flood Insurance Reform Act, Federal Executive Orders 11988 and 11990, and to comply with related state statutes.

CONDITIONS AND RECOMMENDATIONS

An environmental review of the project has been completed consistent with the guidelines provided in 31 TAC § 363.14 and 363.16. The environmental review is documented by this ED, which contains environmental conditions that will be applied to the project to avoid significant adverse impact on floodplains, cultural or historical resources, threatened or endangered species, and protected migratory bird species.

The TWDB may not fund testing, remediation, removal, disposal, or related works for contaminated or potentially contaminated materials. However, the project proponent should ensure that, if found, such materials are tested, removed, and disposed of in accordance with applicable state and federal laws.

The project must comply with the following special and standard environmental conditions:

Special Environmental Conditions

- Consistent with the Flood Insurance Reform Act of 2004, federal Executive Order 11988, Texas Water Code Section 16.315, and local floodplain development ordinances, a floodplain development permit will be obtained from the local floodplain administrator prior to construction in a Special Flood Hazard Area.
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Standard Environmental Conditions

- Consistent with the TWDB Supplemental Construction Contract Conditions (TWDB-0552), the City will abide by the standard emergency condition for the discovery of cultural resources.
- Consistent with the TWDB Supplemental Construction Contract Conditions (TWDB-0552), the City will abide by the standard emergency condition for the discovery of threatened and endangered species.

Therefore, it is recommended that an Environmental Determination be issued.