Environmental Assessment Draft

City of Omaha

Papio Creek Inverted Siphon Reconstruction

FEMA- DR-4420-NE-0023

Omaha, Nebraska

Hazard Mitigation Grant Program

Project Number HMGP-00023

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FEMA

U.S. Department of Homeland Security
Federal Emergency Management Agency
FEMA Region 7
11224 Holmes Road
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1.0 INTRODUCTION

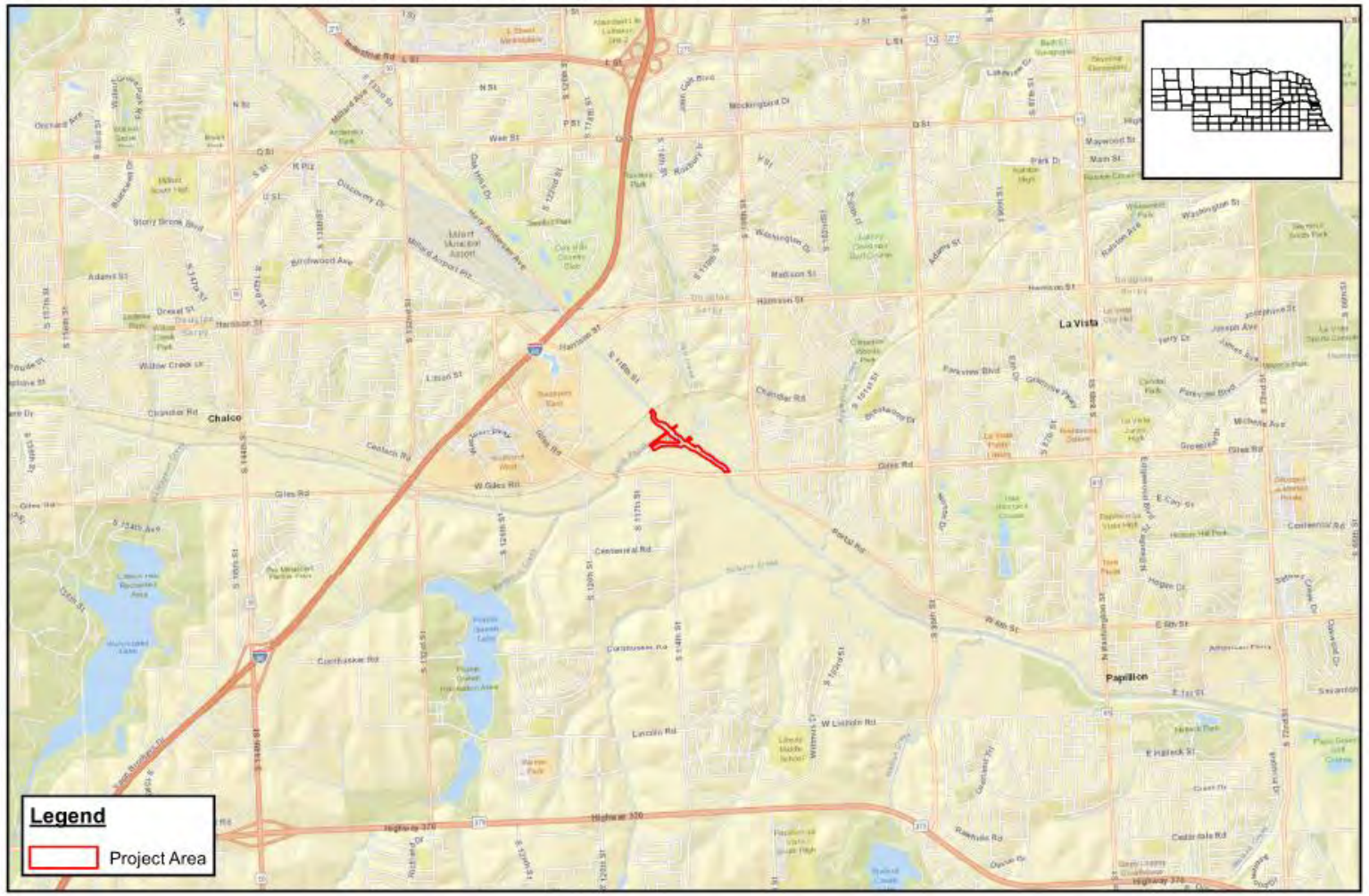
Omaha, Nebraska is the largest metropolitan city in the state, the County Seat of Douglas County, and the hub of the eight-county, bi-state, Omaha-Council Bluffs (Iowa) metropolitan area. The Omaha metropolitan area is approximately 145 square miles in size, has a median household income of $61,305, a poverty rate of 13.4%, and unemployment rate of 2.6%. The project study area **(Figure 1**) is predominately surrounded by properties with industrial and commercial uses. The West Papillion Trail (also known as West Papio Trail) traverses the project study area. The project study area may be found using the following coordinates: Latitude: 41.179784° and Longitude: -96.091332°.

The project area experienced significant snowfall and low temperatures in January through early March 2019. Temperatures increased substantially (to approximately 60 degrees Fahrenheit) while a 1.5-inch rain event occurred over the course of March 11-13, 2019. In addition, warm temperatures caused rapid snowmelt to occur, but the frozen ground was not able to absorb increased flows, which led to unprecedented amounts of runoff into local streams and rivers, including those within the project area. This sharp increase in flow and water velocities through West Papillion Creek (also known as West Papio Creek) exacerbated the existing degradation experienced within the streambed and exposed the Papillion Creek inverted siphon.

On March 21, 2019, President Trump declared a major disaster in the State of Nebraska as a result of severe storms, straight-line winds and flooding (DR-4420-NE) pursuant to the Robert T. Stafford Disaster and Emergency Assistance Act, as amended 42 U.S.C. Section 5121-5206, implementing regulations at Title 42 Code of Federal Regulations (CFR) Part 206. The incident period began on March 9, 2019 and closed on July 14, 2019. The disaster declaration authorized FEMA to provide assistance pursuant to its Public Assistance Program to state and local Nebraska governments and agencies, and eligible private nonprofit organizations for costs incurred to repair and/or replace eligible facilities damaged during the event in designated counties. The disaster declaration authorized assistance pursuant to FEMA's Individual Assistance Program to eligible Native American Tribes and designated counties. All counties in the State of Nebraska are eligible for the Hazard Mitigation Grant Program (HMGP). The disaster declaration was amended 15 times including the 15th amendment by President Biden on May 28, 2021, to increase the level of the federal share of funding for Public Assistance projects.

The National Environmental Policy Act (NEPA) requires that Federal agencies evaluate the environmental effects of their proposed and alternative actions before deciding to fund an action. The President's Council on Environmental Quality (CEQ) has developed a series of regulations for implementing the NEPA. These regulations are included in Title 40 of the Code of Federal Regulations (CFR), Parts 1500–1508. They require the preparation of an Environmental Assessment (EA) that includes an evaluation of alternative means of addressing the problem and a discussion of the potential environmental impacts of a proposed Federal action. An EA provides the evidence and analysis to determine whether the proposed Federal action will have a significant adverse effect on human health and the environment. An EA, as it relates to the FEMA program, is prepared according to the requirements of the U.S. Department of Homeland Security (DHS) Instruction Manual on Implementation of the NEPA, Instruction Number: 023-01-001, Revision

01 (DHS Instruction 023-01); and FEMA Directive 108-1, and FEMA Instruction 108-01-1: *Instruction on Implementation* of the *Environmental Planning and Historic Preservation Responsibilities and Program Requirements* (EHP Instruction). This guidance and policy require that FEMA take environmental considerations into account when authorizing funding or approving actions. This EA was conducted in accordance with CEQ, DHS, and FEMA regulations for NEPA and will address the environmental issues associated with the FEMA grant funding as applied to the proposed Papillion (Papio) Creek inverted siphon reconstruction and bank stabilization in Sarpy County, Nebraska.



SNYDER & ASSOCIATES

Figure 1 - Vicinity Map

Papio Creek Inverted Siphon Reconstruction | La Vista, Nebraska | 8/24/2022

2.0 PURPOSE AND NEED

Pursuant to Section 404 of the Robert T. Stafford Disaster and Emergency Assistance Act of 1974, as amended and 44 CFR 206 subpart N, The City of Omaha has requested funding through FEMA's Hazard Mitigation Grant Program (HMGP). FEMA's HMGP provides grants to state and local governments to implement long-term hazard mitigation measures after major disaster declarations. The purpose of the HMGP is to reduce the loss of life and property due to natural and human-related disasters and to enable mitigation measures to be implemented during the disaster recovery process.

The purpose of the proposed project is to assist the City of Omaha in the protection of critical infrastructure under West Papillion Creek. The need for the proposed action is to maintain sanitary service to parts of Omaha, La Vista, and Sarpy County.

The City of Omaha proposes to abandon the current siphon crossing Papillion Creek and the siphon's associated structures. Reconstruction of the siphon pipe will require installation of new structures north of the existing line and reconnection to the existing sanitary network.

The inverted siphon, consisting of two 16-inch and one 12-inch cast iron pipe, serves approximately 26,000 residential customers in Omaha, La Vista, and Sarpy County. The service area is approximately 3,700 acres with an average daily flow rate of 2.1 million gallons per day and a peak flow rate of 5 million gallons per day (MGD).

The siphon was originally constructed in the 1970s with five feet of ground cover at the low point of the channel. Severe creek erosion has cut down the stream bed and exposed approximately 35 feet of the interceptor sewer with an apparent 2-3 feet of undercutting. The pipe joints are exposed and vulnerable to damage from debris and flow in the creek which could cause a break or leak. A break within this siphon could result in a loss of service to the customers and untreated sanitary sewage reaching Waters of the United States, a violation of the Clean Water Act, impacting the environment and the community. Additionally, if the siphon fails and wastewater is released there is the possibility of contamination within the potable water supply.

3.0 ALTERNATIVES

NEPA requires the investigation and evaluation of reasonable project alternatives as part of the project's environmental review process. EO 11988 requires the investigation of practicable alternatives prior to Federal agencies taking actions that provide direct or indirect support of floodplain development. Inclusion of a No Action Alternative in the environmental analysis and documentation is required under NEPA.

3.1 NO ACTION ALTERNATIVE

The No Action Alternative, as required under NEPA, is used to evaluate the effects of not providing eligible assistance for the project, thus providing a benchmark against which "action alternatives" may be evaluated. For the purposes of this alternative, the City of Omaha would not receive FEMA funds to replace the siphon under West Papillion Creek or stabilize the banks of West Papillion Creek.

3.2 PREFERRED ALTERNATIVE

The project scope for the preferred alternative consists of two components: the siphon crossing, which will be removed and reconstructed at a lower elevation to eliminate the hazard of the exposed sewer; and creek channels, which will be stabilized to mitigate future stream erosion and re-exposure of the siphon crossing.

To protect the new siphon installation from ongoing channel degradation (downcutting) and re-exposure, comprehensive stream stabilization is proposed. The primary goal of this approach is to mitigate future downcutting of the channel which could re-expose the new siphon and to stabilize the streambanks to limit ongoing erosion. Stream channel stabilization will encompass approximately 1,700 linear feet of the channel and include the installation of multiple grade control structures, including in-stream structures that slow the flow of water to reduce erosive potential. The streambanks will be graded back to a more stable slope (2:1) and stabilized with Armorflex blocks and native vegetation to prevent channel erosion from progressing further upstream (**Figure 2**).

These improvements will provide long-term protection and stabilization of the sewer siphon which will be lowered by several feet. Beginning at the west side of West Papillion Creek, a new distribution box will be constructed to distribute flow from the 30-inch gravity sewer to the new siphon lines. The new siphon sewer pipes will cross the creek at an elevation lower than the existing siphon lines and 10 feet lower than the existing bottom of channel to ensure they are protected from debris and heavy stream flows. On the east side of West Papillion Creek, the siphon lines will discharge into a collection box constructed on the existing 60-inch trunk sewer.

3.3 Alternatives Considered and Dismissed

A second alternative considered is abandoning the existing siphon and structures. A new siphon and two new structures would be constructed north of the existing line and reconnected to the existing sanitary network. Sheet pile protection would be installed at the siphon crossing. Streambanks would be graded to stabilize slopes and toe protection would be installed for approximately 400 feet of West Papillion Creek, near the confluence of South Papillion Creek and Hell Creek. This alternative would improve West Papillion Creek near the siphon location but does not address the current condition of South Papillion Creek.

Without stabilization and protection measures, South Papillion Creek will continue to erode and put infrastructure at risk. Also, localized stabilization and grade control cannot guarantee that the proposed siphon will remain secure and immune to erosion and downcutting up and downstream within the West Papillion Creek channel. Selective siphon protection will likely require the need for additional stabilization improvements and maintenance in the near future. Because this channel has already demonstrated significant erosion and headcutting has migrated upstream, targeting stabilization only at the siphon location could exacerbate erosion up and downstream. A local improvement will not address the larger erosion issues experienced by this channel, so a corridor wide solution is needed. Therefore, this alternative does not meet the project purpose and need because stabilization does not address the erosion of South Papillion Creek or further up and downstream of West Papillion Creek.

Figure 2- Proposed Improvements

Papio Creek Inverted Siphon Reconstruction | La Vista, Nebraska | 8/24/2022

4.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

Chapter 4 describes the existing environmental conditions that may be affected by the proposed FEMA grant funding being applied to the reconstruction of the siphon and stabilization along West Papillion Creek. A no action alternative was also analyzed as a baseline for existing conditions.

This chapter also describes the potential environmental consequences of the proposed alternatives by comparing them with the potentially affected environmental components. The proposed activity was also evaluated against existing environmental documentation on current and planned actions and information on known future projects. This evaluation quantified cumulative impacts. The potential for significant environmental consequences was evaluated utilizing the context and intensity considerations as defined in CEQ regulations for implementing the procedural provisions of NEPA (40 CFR 1508.27).

4.1 PHYSICAL RESOURCES

4.1.1 Geology and Soils

The geological formation was shaped by Pleistocene glaciation and the formation of the Missouri River alluvial plains and adjacent Loess Hills. The typical profile in a river floodplain is characterized by alluvial silt and clay sediments, which gradually grade with depth to alluvial sand and gravel sediments. The alluvial sand and gravel tend to be highly permeable sediments that allow for significant migration of groundwater and groundwater contamination through the subsurface.

The Farmland Protection Policy Act (FPPA) was enacted in 1981 (P.L. 98-98) to minimize the unnecessary conversion of farmland to nonagricultural uses as a result of federal actions. In addition, the act seeks to ensure that federal programs are administered in a manner that will be compatible with State and Local policies and programs that have been developed to protect farmland. The policy of the Natural Resources Conservation Service (NRCS) is to protect significant agricultural lands from conversions that are irreversible and result in the loss of essential food and environmental resources. The NRCS has developed criteria for assessing the efforts of federal actions on converting farmland to other uses, including the Farmland Conversion Impact Rating form AD-1066 that contains a site-scoring evaluation process to assess potential agricultural value. In accordance with Section 1541 of the FPPA, the alternatives were reviewed for potential impacts on prime farmlands. **Figure 3** identifies the approximate soil locations.

Table 4.1: Soil Types within the Project Area

Soil Map Unit	Soil Description	Farmland Classification
7235	Judson-Nodaway channeled-Contrary complex, 3 to 10 percent slopes	Yes
7812	Smithland-Kenridge silty clay loams, occasionally flooded	Yes

4.1.1.1 Alternative 1 – No Action

Under the no action alternative, construction activities would not take place and ground disturbance would not occur. There would be no impact to soils classified as prime farmland or farmland of statewide importance.

4.1.1.2 Alternative 2 – Proposed Action

The proposed project would require grading to reconstruct the siphon and stabilize the creek banks. Because the project site is located within a highly urbanized area, agricultural lands would not be impacted. The proposed action would not have an impact on prime farmland or farmland of statewide importance.

Construction activities would result in temporary disturbance of surface soils within the project area and would have a moderate to major impact to soils if unmitigated. Implementation of Best Management Practices (BMP) identified in a Storm Water Pollution Prevention Plan (SWPPP) would minimize soil erosion and loss until after construction when the site is permanently stabilized. Impacts to geology and soils are anticipated to be minor with the incorporation of BMPs as detailed in the SWPPP. Section 4.2 Water Quality further discusses the SWPPP.

Mitigation Measures

During site preparation and construction, the following measures shall be implemented:

- Coordinate locations of staging area with the landowner and record in the SWPPP.
- Control runoff from staging areas with diversion berms and/or silt barriers and direct to a sediment basin or other control device where possible. Concrete washout must be contained onsite.
- Utilize outlet structures that withdraw water from the surface when discharging from basins, provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, and minimize soil compaction.
- Install perimeter and final sediment control measures such as silt barriers, ditch checks, diversion berms, or sedimentation basins downstream of soil disturbing activities prior to site clearing and grading operations.
- Preserve existing vegetation in areas not needed for construction and minimize the total area disturbed by construction operations.
- Maintain all temporary and permanent erosion control measures in working order, including cleaning, repairing, replacement, and sediment removal throughout the permit period. Clean or replace silt control devices when measures have lost 50% of their original capacity.
- Qualified personnel assigned by the contractor will inspect the project area and control devices every 7 calendar days. Inspection findings will be recorded and submitted weekly to the owner or engineer during construction.
- SWPPP revisions will be implemented within 7 calendar days.
- Prevent accumulation of earth and debris from construction activities on adjoining public or private properties, including streets, driveways, sidewalks, drainageways, or

underground sewers. Remove any accumulation of earth or debris immediately and take remedial actions for future prevention.

- Install necessary control measures such as silt barriers, erosion control mats, mulch, ditch checks or riprap as soon as areas reach their final grades and as construction operations progress to ensure continuous run off control. Provide inlet and outlet control measures as soon as storm sewers are installed.

During site restoration, the following measures shall be implemented:

- Respread a minimum of 4 inches of topsoil (including topsoil found in sod) on all disturbed areas, except where pavement, buildings, or other improvements are located.
- Stabilize undeveloped, disturbed areas with mulch, temporary seed mix, permanent seed mix, sod, or pavement immediately upon completion or delay of grading operations. Initiate stabilization measures immediately after construction is completed or temporarily ceased on any portion of the site and which will not resume for a period exceeding 14 calendar days.
- Remove all temporary erosion control measures and site waste prior to filing the "Notice of Discontinuation".

4.1.2 Air Quality

The 1990 Clean Air Act, its amendments, and NEPA require that air quality impacts be addressed in the preparation of NEPA documents. The U.S. Environmental Protection Agency (EPA) established the National Ambient Air Quality Standards (NAAQS) for six "criteria" pollutants; carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM10 and PM2.5), sulfur dioxide (SO_2) and lead (Pb). The NAAQS defines the allowable concentrations that may be reached but not exceeded in a given time period to protect human health (primary standard) and welfare (secondary standard) with a reasonable margin of safety.

Primary and secondary standards for NAAQS have been established for most of the criteria pollutants. The EPA is authorized to designate locations that have not met the NAAQS as non-attainment and to classify these non-attainment areas according to their degree of severity. Attainment pertains to the compliance/violation of any of the NAAQS. Each year, states are required to submit an annual monitoring network plan to EPA. The network plans provide information for the creation and maintenance of monitoring stations, in accordance with EPA monitoring requirements specified in 40 CFR, Part 58. The State of Nebraska's most recent Ambient Air Quality Monitoring Network Plan was approved by EPA Region 7 in October 2021. The 2022 Ambient Air Monitoring Network Plan has been submitted to the EPA for approval.

As of July 2022, only Douglas County was considered a non-attainment area for any of the six criteria pollutants within the State of Nebraska.

4.1.2.1 Alternative 1 – No Action

Under the no action alternative, construction activities would not take place and ground disturbance would not occur. There would be no change to air emissions and no impact associated with this alternative.

4.1.2.2 Alternative 2 – Proposed Action

Under this alternative, the Proposed Action is anticipated to have minor to moderate impacts to localized air quality. Short-term emissions of criteria pollutants are anticipated during the construction phase from use of construction equipment and personal vehicles, including NO_2 and CO; such impacts are anticipated to be within existing regulatory limits and not significant.

The operation of motor vehicles on unpaved surfaces and the use of earthmoving equipment may also generate particulate matter. The moving and handling of soil during construction would increase the potential for emissions of fugitive dust; however, any deterioration of air quality would be a localized, short-term condition that would be discontinued when the project has been completed and disturbed soils have been stabilized or permanently covered. The proposed action would require approximately 18 months of construction and heavy equipment including cranes, bulldozers, scrapers, and backhoes.

Construction activities are required to include BMP appropriate to the site and the scope of work to minimize fugitive dust emissions. Such measures implemented by the City's contractors and staff may include the mitigation examples below, however, this is not intended to be an exhaustive list.

Mitigation Measures

During site preparation and construction, the following measures shall be implemented:

- Minimize land disturbance;
- Suppress dust on traveled paths that are not paved through wetting, use of watering trucks, chemical dust suppressants, or other reasonable precautions to prevent dust from entering ambient air;
- Cover trucks when hauling soil;
- Minimize soil track-out by washing or cleaning truck wheels before leaving the construction site;
- Stabilize the surface of soil piles; and
- Create windbreaks.

During site restoration, the following measures shall be implemented:

- Revegetate any disturbed land not used with native species in accordance with Executive Order (EO) 13112;
- Remove unused material; and
- Remove soil piles via covered trucks.

Increases in ambient concentrations of the criteria pollutants resulting from heavy equipment would be minimal and federal or state air quality attainment levels would not be exceeded. The proposed action is expected to have no long-term adverse impacts on the air quality of the area.

4.1.3 Climate Change

Climate change encompasses changes in precipitation, sea level, temperature, and other climatic variables including natural cycles and the climatic changes attributed to human actions on the

environment. The EPA identifies climate change to be largely associated with human actions as "abrupt climate change" occurring over decades to distinguish it from that which occurs gradually over centuries. In 2010, the CEQ issued draft guidance for federal agencies to consider climate change in NEPA documentation. The guidance uses the EPA-defined threshold for mandatory greenhouse gas (GHG) emission reporting of 25,000 metric tons per year as a level where NEPA documents determine whether a quantitative analysis is required. This threshold is equivalent to the energy needed to power 2,300 homes for a year or the emissions from 4,600 passenger vehicles per year (USEPA, 2009).

Average daily high temperatures in the Omaha area reach a peak comparable to the high range of national averages in July around 85 degrees Fahrenheit. Average daily lows are considerably below national averages in January at about 10 degrees Fahrenheit in Omaha compared to the low range of 30 degrees in the national averages. Average daily high temperatures in January reach about 30 degrees Fahrenheit. Omaha area morning humidity levels compare closely to the average national levels between 75 and 85 percent, however, afternoon humidity levels tend to be on the high range of the national averages, peaking around 70 percent in December. Precipitation in the Omaha area is highest in May and closely followed by August with four to five inches measured on average; average low precipitation levels are around one inch in December and January. Average snowfall peaks around eight inches in January in the Omaha area (City-Data 2012).

Between 1958 and 2007, amounts of very heavy precipitation increased by 31 percent in the Upper Midwest encompassing Nebraska, Iowa, Missouri, Minnesota, Michigan, Illinois, Indiana, Ohio, and Wisconsin. During the same period, the Upper Midwest experienced a 27 percent increase in the average number of days with heavy precipitation, defined as the heaviest one percent of all events. Heavy downpours currently occur one time in 20 years, on average, and are projected to increase in frequency between 10 and 25 percent through the 2090s (USGCRP, 2009).

Average temperatures in the United States have increased by more than two degrees Fahrenheit in the last 50 years. Average temperatures in Nebraska and portions of surrounding states are projected to increase by another four to six degrees, under low-emission models, or eight to 10 degrees, under high-emission models, by the end of the century. Under current projections, Nebraska can anticipate increases in flooding, heat waves, droughts, invasive plant and insect species, and insect-borne diseases (USGCRP, 2009). While data needed to predict specific events and the full range of climate impacts are still being developed, enough data is available to suggest that climatic events, such as severe storms, will be localized and increasingly unpredictable and severe.

4.1.3.1 Alternative 1 – No Action

Under the no action alternative, construction activities would not take place and there would be no discernible change in GHG emissions.

4.1.3.2 Alternative 2 – Proposed Action

The actions considered in this EA are temporary, incremental changes compared to existing conditions, and the overall effects are expected to be significantly below the EPA threshold for GHG quantification and evaluation. The majority of GHG emissions result from industry, heating, and cooling of buildings, and automobile non-point sources. Comparatively, emissions associated with this project will result from construction activities and periodic maintenance. However, changes in vegetation are anticipated to have a minor, incremental loss of GHG sequestration.

Some of this sequestration impact will reverse with the revegetation of the project sites and is expected to be a negligible change from current climate conditions.

Construction of the proposed project would protect the siphon. In addition, the proposed action would stabilize banks along West Papillion Creek, decrease sediment loading, and reduce future maintenance of the bank and channel. FEMA anticipates that the project design will have a moderate positive impact on the effects of climate change in the ability to improve water flow and water quality in the watershed.

4.2 WATER RESOURCES

4.2.1 Water Quality

Congress enacted the Federal Water Pollution Control Act in 1948, which was reorganized and expanded in 1972 and became known as the Clean Water Act (CWA) in 1977, as amended. The CWA regulates discharge of pollutants into water with portions falling under the jurisdiction of the U.S Army Corps of Engineers (USACE) and the EPA. Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into Waters of the United States and traditional navigable waterways. USACE regulation of activities within navigable waters is also authorized under the 1899 Rivers and Harbors Act. The USACE jurisdiction extends to tributaries and wetlands where a "significant nexus" exists between the resources as articulated in two recent Supreme Court decisions known as the SWANCC and Rapanos decisions. Under the National Pollution Discharge Elimination System (NPDES) the EPA regulates both point and non-point pollutant sources, including stormwater and stormwater runoff. Activities that disturb one acre of ground or more are required to prepare a SWPPP and apply for an NPDES permit through the Nebraska Department of Environmental Quality (NDEQ), as authorized by the EPA.

The Wild and Scenic Rivers Act is another regulatory framework related to water resources. The state of Nebraska has approximately 79,000 miles of river, of which, 197 miles are designated wild and scenic. There are no designated wild and scenic rivers within the project study area limits.

The Papillion Creek watershed (**Figure 4**) drains approximately 402 square miles in Washington, Douglas, and Sarpy Counties with surface water emptying into the Missouri River. The Papillion Creek Watershed includes West Papillion Creek, South Papillion Creek, and Hell Creek, which are located within the project study area. Many of the drainageways within the watershed are intermittent streams that generally have water flowing after rain events and during the spring as the snowpack melts.

4.2.1.1 Alternative 1 – No Action

Under the no action alternative, construction would not take place and there would be no direct impacts to water quality. The banks of West Papillion Creek would continue to erode, increasing sedimentation downstream while undermining the existing siphon. Sediment and surface contaminants would continue to be conveyed to the locations where they naturally settle out of the stormwater.

4.2.1.2 Alternative 2 – Proposed Action

The Proposed Action would impact greater than one acre of land and an NPDES permit would be required. The contractor would be required to implement the City of Omaha Standard Specifications for Public Works Construction manual provisions to minimize temporary impacts on water quality during construction. Nebraska Department of Environment and Energy (NDEE)

administers the federal NPDES program and issues general permits for stormwater discharges from construction activities. The purpose of the program is to improve water quality by reducing or eliminating contaminants in stormwater. The NPDES program requires preparation of a SWPPP for construction sites of more than one acre.

The specific sediment, erosion control, and spill prevention measures would be developed during the detailed design phase and would be included in the plans and specifications. Although it is not possible to speculate on specific details of the SWPPP at this stage in the design process, the SWPPP is likely to include the installation of silt fences, buffer strips, or other sediment control BMPs in various combinations as well as a stipulation that drums of petroleum products used onsite be placed in secondary containment to prevent leakage onto ground surfaces. A standard construction BMP is revegetation and stabilization of roadside ditches to provide opportunities for the runoff from the impermeable area to infiltrate, reduce the runoff velocities, and minimize increases in sedimentation. The State of Nebraska would require the contractor to comply with measures specified in the SWPPP.

Prior to construction of the project, a stormwater discharge permit for construction activities would be obtained from NDEE and a Section 404 authorization would be acquired from USACE. A Section 404 permit would include Section 401 water quality certification from NDEE. While permitting will be required, adverse impacts on water quality are not anticipated.

Required Permits

- NPDES Permit and associated Storm Water Pollution and Prevention Plan
- NDEE Stormwater Discharge Permit
- USACE CWA Section 404 Permit

4.2.2 Wetlands

In addition to the CWA, Executive Order (EO) 11990 Protection of Wetlands requires federal agencies to avoid, to the extent practicable, adverse impacts to wetlands. Under the CWA, two types of authorization are available from the USACE for activities regulated under Section 404 of the CWA: nationwide permits, which are issued for a specific category of similar activities and include nationwide permits defined in 33 CFR, Part 30, and individual permits issued after review of the project, project alternative, and proposed mitigation.

In a letter dated July 6, 2020, the Nebraska Game and Parks Commission (NGPC) recommended utilizing best management practices to control erosion and water quality at the project site during construction (**Appendix A**).

In a letter dated July 15, 2020 the Omaha Island District Corps of Engineers stated that a Department of the Army permit would be required for this project (**Appendix B**).

The 1987 Corps of Engineers Wetlands Delineation Manual provides the technical guidelines for identifying and delineating wetlands. The USACE manual requires the presence of all three parameters (greater than 50 percent dominance of hydrophytic vegetation, evidence of hydric soils, and presence of hydrologic indicators) for an area to be considered a wetland. The U.S. Fish and Wildlife Service maintains the National Wetlands Inventory (NWI) maps (**Figure 5**) including conventional maps, downloadable digital map data, dynamic online maps, and geographic information system (GIS) data. NWI mapping involves limited variability with regard to exact outer boundaries of a wetland; however, the presence of wetland conditions and approximate size

is reliable for desktop evaluation of project alternatives and is the accepted federal standard for electronic wetland identification and analysis.

The NWI map indicates the following wetlands within the project area:

- R2UBGx: Riverine, lower perennial, unconsolidated bottom, intermittently exposed, excavated
- R4SBCx: Riverine, intermittent, streambed, seasonally flooded, excavated
- R5UBH: Riverine, unknown perennial, unconsolidated bottom, permanently flooded

Wetland delineation fieldwork was completed by Geoff Barnes, Environmental Scientist, of Snyder & Associates, Inc. on May 21, 2021 (**Appendix C**). No wetlands were identified at the project site as part of a wetland delineation. West Papillion Creek, South Papillion Creek, and Hell Creek are considered jurisdictional streams and regulated under the CWA. They are also identified on the NWI map.

Federal actions within identified wetlands require the federal agency to conduct an 8-Step process, which like NEPA, requires the evaluation of alternatives prior to funding the action. FEMA's regulations on conducting 8-Step processes are contained in 44 CFR, Part 9.5; alternatives must consider avoiding impacts to wetlands first, followed by minimizing impact. If avoiding or minimizing impacts to wetlands are not practicable, then commensurate mitigation is required as part of the proposed project.

4.2.2.1 Alternative 1 – No Action

Under the no action alternative, construction would not take place and there would be no direct impacts to wetlands.

4.2.2.2 Alternative 2 – Proposed Action

No wetlands were identified during field investigations while completing a wetland delineation in accordance with the 1987 Corps of Engineers Wetland Delineation Manual. West Papillion Creek, South Papillion Creek, and Hell Creek are considered jurisdictional streams and regulated under the CWA. This project would not reduce stream length and would help by stabilizing channel erosion.

4.2.3 Floodplains

EO 11988 (Floodplain Management) requires that a federal agency avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. FEMA uses Flood Insurance Rate Maps (FIRM) to identify the floodplains for the National Flood Insurance Program **(Figure 6**). Under EO 11988, federal actions within the 100-year floodplain, or 500-year floodplain for critical actions, require the federal agency to conduct an 8-Step review process as detailed in 44 CFR, Part 9.5. This process, like NEPA, requires the evaluation of practicable alternatives prior to funding an action; if a practicable action exists outside of the floodplain, the federal agency is required to select that action. In accordance with 44 CFR Part 9.12(c) FEMA will include the required information in the FONSI to constitute a final public notice. After providing the final notice, the Agency shall, without good cause shown, wait at least 15 days before carrying out the action.

4.2.3.1 Alternative 1 – No Action

Under the no action alternative, construction would not take place and there would be no direct impacts to the floodplain or floodway. However, erosion would continue to persist under the No Action Alternative. Additionally, further erosion could alter the existing floodplain and could put new homes and businesses at risk.

4.2.3.2 Alternative 2 – Proposed Action

The proposed action would be located within the 100-year floodplain and floodway of West Papillion Creek (National Flood Insurance Panel 0062H). The West Papillion Creek 100-year floodplain and floodway stretch up and downstream of the project area, therefore adjustment of the project area would still be located in the floodplain and floodway. Floodplain and floodway impacts would be temporary, including temporary fill for access roads, clearing and grubbing, and trenching for pipe installation. Temporary impacts to the floodplain and floodway would occur during construction.

Required Permit

- In a memo dated July 6, 2020, the Nebraska Department of Natural Resources indicated that a floodplain permit would be required prior to construction activities (**Appendix D**)

Mitigation Measures

- Temporarily disturbed areas shall be regraded to pre-construction conditions and reseeded upon completion of the proposed action

4.3 BIOLOGICAL RESOURCES

4.3.1 Protected Species and Habitat

The Endangered Species Act (ESA) of 1973 establishes a federal program to conserve, protect, and restore threatened or endangered plants and animals and their habitats. The ESA specifically charges federal agencies with the responsibility of using their authority to conserve threatened or endangered species. Beginning with a windshield survey in May 2020 and followed by field surveys in May 2021, January 2022, and May 2022, Jeff Walters PWS Environmental Scientist and Geoff Barnes, Environmental Scientist with Snyder & Associates, Inc. conducted the initial species and habitat evaluation of the proposed sites.

As part of this initial evaluation, Snyder & Associates sent early coordination letters to the U.S. Fish and Wildlife Service (USFWS) and the NDEE. In a letter dated, July 6, 2020 the Nebraska Game and Parks Commission (**Appendix A**) indicated that the project study area is located within the range of the federally and state-listed northern long-eared bat (*Myotis septentrionalis*), western prairie fringed orchid (*Platanthera praeclara*) and state listed river otter *(Lontra canadensis*). NGPC noted that if listed species or rare communities are found during the planning or construction, additional studies and/or mitigation may be required.

A technical memo, provided by Snyder & Associates, Inc. and dated August 25, 2022, included the findings of a desktop review, agency coordination and habitat evaluations. Northern long-eared bat (*Myotis septentrionalis*) is the only listed species that has potential habitat within the project study area (**Figure 7**).

Table 4.2: Federally Listed Species

Common Name	Scientific Name	Status	Potential Occurrence at Site	Reason
Northern long-eared bat	*Myotis septentrionalis*	Endangered	Possible	Suitable habitat present
Piping Plover	*Charadrius melodus*	Threatened	No	No habitat present
Pallid sturgeon	*Scaphirhynchus Albus*	Endangered	No	No habitat present
Monarch butterfly	*Danaus plexippus*	Candidate	Possible	Suitable habitat present
Western prairie-fringed orchid	*Platanthera praeclara*	Threatened	No	No habitat present

Executive Order 13112 prohibits federal agencies from funding, authorizing, or carrying out actions that are likely to cause or promote the introduction or spread of invasive species in the United States.

4.3.1.1 Alternative 1 – No Action

Under the no action alternative, construction activities would not take place and there would be no impact to protected species.

4.3.1.2 Alternative 2 – Proposed Action

The proposed project would require disturbing soil and vegetation. In addition to the early coordination letter sent by Snyder & Associates during the planning process, September 22, 2022, and FEMA submitted Section 7 ESA consultation to the USFWS on October 25, 2022. Utilizing Snyder & Associates Rare, Threatened, And Endangered Species Technical Memorandum and the parameters specified in FEMA's project specific Section 7 ESA consultation with the USFWS, FEMA will require the following Avoidance and Minimization Measure (AMM) to be implemented:

- Tree removal will not occur from April 1 through October 15, in order to avoid impacts to the species during its active season.
- During the NLEB active season, April 1 through October 15, all work will be performed during daylight hours.

4.3.2 Terrestrial and Aquatic Habitat

Much of the area within and adjacent to the project site is substantially developed with residential and park land uses. Terrestrial and aquatic vascular plants were surveyed using the Relevé Method of sampling consisting of non-random sampling in which the observer attempts to visit each micro-climate in an area to maximize the number of species observed. While only songbirds were

identified during the survey, habitat is present for mammals such as the Eastern cottontail rabbit (*Sylvilagus floridanus*), Grey squirrel (*Sciurus carolinesis*), and Racoon (*Procyon lotor*).

4.3.2.1 Alternative 1 – No Action

Under the no action alternative, construction activities would not take place and there would be no direct impact to terrestrial and aquatic species or their habitat. Continuous sloughing streambanks within the project area would have an impact to downstream aquatic habitat and reduce water quality within the channel.

4.3.2.2 Alternative 2 – Proposed Action

The proposed action will require the removal of vegetation and existing habitat. Where possible, construction activities will be minimized to limit the removal of larger trees along the banks of West Papillion Creek. Revegetation at the end of construction will include native tree and shrub plantings such as Silver maple (*Acer saccanium L.),* Sugar maple (*Acer saccharum*), Red-osier dogwood (*Aornus stolonifera*), Black willow (*Salix nigra*), and Eastern cottonwood (*Populus deltoids*). In addition to native tree and shrub plantings, the disturbed sites will be required to be reseeded with native grasses and similar understory trees in accordance with EO 13112 (Invasive Species). Removal of existing invasive species and seeding native species is anticipated to be a minor to moderate positive impact. If revegetation is to include fast-growing, woody species, additional maintenance may be required to ensure that the channel does not become overwhelmed by vegetation that compromises its intended function.

4.4 CULTURAL RESOURCES

In addition to review under NEPA, consideration of impacts to cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA), as amended and implemented by 36 CFR Part 800. August 25, 2015, a Programmatic Agreement (Agreement) among the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA), the Nebraska State Historic Preservation Officer (SHPO), and the Nebraska Emergency Management Agency (NEMA) (the Parties or Signatories) was signed and filed with the Advisory Council on Historic Preservation (ACHP). The Agreement is based on FEMA's Prototype Programmatic Agreement (PPA) that was designated by the ACHP on December 17, 2013. By carrying out the terms of the Agreement, FEMA fulfills its responsibilities under Section 106 of the NHPA, and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800) for the review of its individual Undertakings in Nebraska. The duration of the 2015 Agreement was seven (7) years, and it would expire August 25, 2022. The signatories collectively agreed to extend its duration to cover an additional calendar year, in accordance with Stipulation IV.D.2. With this Amendment the Agreement will expire August 25, 2023.

Requirements include the identification of significant cultural resources that may be impacted by the undertaking. Cultural resources are prehistoric and historic sites, structures, districts, buildings, objects, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons.

Only those cultural resources determined to be potentially significant under NHPA are subject to protection from adverse impacts resulting from an undertaking. To be considered significant, a cultural resource must meet one or more of the criteria established by the National Park Service. This would make that resource eligible for inclusion in the National Register of Historic Places (NRHP). The term "eligible for inclusion in the NRHP" includes all properties that meet the NRHP

listing criteria, which are specified in the Department of Interior regulations Title 36, Part 60.4 and NRHP Bulletin 15. Sites not yet evaluated may be considered potentially eligible for inclusion in the NRHP and, as such, are afforded the same regulatory consideration as nominated properties. Whether prehistoric, historic, or traditional, significant cultural resources are referred to as "historic properties."

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of a property's location, design, setting, materials, workmanship, feeling, or association. Through FEMA's application of the criteria of adverse effect and consultation with the Nebraska State Historic Preservation Office (NeSHPO), if it is determined that a selected action may constitute adverse effects to historic standing structures within the Area of Potential Effects (APE), FEMA would initiate adverse effects consultation with the NeSHPO and other consulting parties. FEMA would then develop a Memorandum of Agreement (MOA) under Section 106, and evaluate alternatives or modifications to the undertaking that could avoid, minimize or mitigate adverse effects on historic properties. Through the resolution of adverse effects, FEMA would make information regarding the undertaking and effected historic properties available to the public and provide an opportunity for the public to express their views on resolving adverse effects of the undertaking on historic structures. The resultant MOA would be evidence of FEMA's compliance with its statutory responsibilities under Section 106 of the NHPA.

For the purposes of this analysis, the APE as defined under cultural resources legislation, defines all historic properties that could be affected by each alternative action and encompasses areas requiring ground disturbance (e.g., areas of grading, cut and fill, etc.) associated with the proposed federal undertaking. For the no action alternative and proposed action alternative in this EA, the APE includes identified areas required to reconstruct the siphon and modify the banks of West Papillion Creek.

4.4.1 Historic Properties

FEMA has conducted Section 106 NHPA review of the proposed Undertaking in accordance with the 2015 Programmatic Agreement, as amended in 2022. FEMA has considered the potential for these alternatives to affect historic structures. Various sources were checked to determine if any previously identified historic properties are located within the APE of the alternatives considered for this undertaking and to determine the potential for the APE to contain previously unidentified historic properties. The investigation included an archival review and an examination of the project area. Both the archival research and field surveys were conducted as indicated by the Nebraska guidelines (NeSHPO 2017). The archival review was conducted prior to field surveys.

4.4.1.1 Alternative 1 – No Action

The No Action Alternative would not result in construction activities associated with a federal undertaking; therefore Section 106 review would not apply.

4.4.1.2 Alternative 2 – Proposed Action

FEMA has evaluated the resources within the APE of the proposed action. No historic standing structures were identified within the APE.

4.4.2 Archaeological Resources

FEMA has considered the potential for the alternatives to affect archaeological resources. Various sources were checked to determine if any previously identified historic properties, including archeological sites, are located within the APE of these Alternatives and to determine the potential for the APE to contain previously unidentified historic properties. The investigation included an archival review and an examination of the project area. Both the archival research and field survey were conducted as indicted by the Nebraska guidelines (NeSHPO 2017). The archival review was conducted prior to the fieldwork. Also preceding the fieldwork, a brief geomorphic review was conducted to assess the general landform context of the survey area. A 3.2 cm hand probe was frequently used to inspect subsurface deposits and monitor the depth of the plow zone and other modern impacts. Representative soil profiles were recorded for various landscape positions, supplemented by visual assessments of the project area.

4.4.2.1 Alternative 1 – No Action

The No Action Alternative would not result in construction activities associated with a federal undertaking; therefore Section 106 review would not apply.

4.4.2.2 Alternative 2 – Proposed Action

A Phase I Cultural Resources Investigation was completed in 2022 by Bear Creek Archaeology from Cresco, Iowa. The Phase I Cultural Resources Investigation results did not identify archaeological or cultural resources within the APE.

In a letter dated July 14, 2022 (**Appendix F**) FEMA requested concurrence from NeSHPO with the findings of the Bear Creek Archaeology Phase I Cultural Resources Investigation. NeSHPO concurred with the findings via letter on July 15, 2022, that No Historic Properties Affected is appropriate for the undertaking of the project (**Appendix G**).

In a letter dated July 14, 2022 (**Appendix H**), FEMA notified federally recognized Native American Tribes that have been identified through a search of The Tribal Directory Assessment Tool (TDAT) and other resources who may have knowledge of cultural resources in the project area or who may have other concerns about the proposed action. FEMA requested concurrence with the finding "the Undertaking will result in No Historic Properties Affected" from the tribes. However, no responses were provided.

Based on the findings of Bear Creek Archeology, Inc. during their Phase I Cultural Resources Investigation, the proposed action will not affect archaeological resources or historic properties.

If archaeological resources are encountered and subsequently recommended eligible for listing in the NRHP by an archaeologist who meets the Secretary of the Interior's (SOI) Professional Qualifications Standards for archaeology, construction activities on the site shall halt until FEMA has re-opened and concluded consultation with the NeSHPO. In the event that NRHP eligible archaeological resources are identified and the project cannot be modified to avoid adverse effects to archaeological resources, FEMA would initiate adverse effects consultation with the NeSHPO and other consulting parties. Through the development of a MOA under Section 106, FEMA would develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize or mitigate adverse effects on historic archaeological resources. Through resolution of adverse effects, FEMA would make information regarding the undertaking and effected historic properties available to the public and provide an opportunity for the public to express their views on resolving

adverse effects of the undertaking on historic standing structures. The resultant MOA would evidence FEMA's compliance with its statutory responsibilities under Section 106 of the NHPA.

4.5 SOCIOECONOMIC CONSIDERATIONS

4.5.1 Environmental Justice

On February 11, 1994, President William J. Clinton signed Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." The EO directs federal agencies to focus attention on human health and environmental conditions in minority and/or low-income communities. Its goals are to achieve environmental justice, fostering non-discrimination in federal programs that substantially affect human health or the environment, and to give minority or low-income communities greater opportunities for public participation in and access to public information on matters relating to human health and the environment. Also identified and addressed, as appropriate, are disproportionately high and adverse human health, or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.

Environmental Justice and Census data was utilized from the United States Census 2020 Demographic Data Map Viewer. The project boundary is located within the 2020 Census Tract 106.29 in Sarpy County, Nebraska. Queries made on the 2020 Census database using Sarpy County Census Tract 106.29 were used to determine demographic information regarding the project boundary and surrounding areas. The demographic analysis uses 2020 U.S. Census figures and terminology consisting of a 100 percent count as well as data from the Census Bureau's American Community Survey (ACS) as averaged over a 5-year period to attain additional demographic estimates. ACS data is accompanied with a margin of error as the data are obtained through estimates; smaller sample sizes naturally result in higher margins of error.

Table 4.3: Population by Age

	Nebraska	Sarpy County	Census Tract 106.29 Sarpy County, NE
Total Population	1,961,504	190,604	3,765
Population Children <5 years	137,305	13,343	40
Percent of Children <5 years	7.0%	7.0%	3.2%
Population 5-19	404,070	42,886	776
Percent Population 5-19	20.6%	22.5%	20.6%
Population 20-59	1,120,019	112,647	2,492
Percent Population 20-59	57.1%	59.1%	66.2%
Population 65+	300,110	21,728	457
Percent Population 65+	15.3%	11.4%	10%

The population of Sarpy County Tract 106.29 was estimated at 3,765 individuals in the 2020 census, which is significantly larger than the estimation of 1,815 residents from the 2010 census. According to the 2020 census, 1,689 households are within Sarpy County Census Tract 106.29. There were 948 total housing units in 2010. In the past ten years, there has been a 78.2% increase in houses present in the area. A higher proportion of individuals of working age (20-64) is in this area when compared to the rest of the county or state, while the proportion of young children is smaller. The proportion of older residents near the project area is smaller than that of the county or state as well.

Similar to the proportions for the state as a whole, the project area has a significant majority white population. However, the county and state census both have a high Hispanic population filling the largest group within the non-white or minority population, while the 1-mile radius around the project area has a higher Asian population. The proportion of the population reporting as Hispanic or Latino of any race within the project area is around 2.6%, which is significantly lower than the 7.2% of the population that identify as Hispanic or Latino in Sarpy County and 9.2% statewide in 2010.

Table 4.4: Population by Race

	Nebraska	Sarpy County	Census Tract 106.29 Sarpy County, NE
Total Population	1,961,504	190,604	3,765
White Population	1,538,052	152,525	3,231
Percent White	78.4%	80.0%	85.8%
Black Population	96,535	7,459	75
Percent Black	4.9%	3.9%	2.0%
American Indian Population	23,102	1,012	8
Percent American Indian	1.2%	0.5%	0.2%
Asian Population	52,951	4,794	117
Asian Percent	2.7%	2.5%	3.1%
Pacific Islander Population	1,534	239	3
Percent Pacific Islander	0.1%	0.1%	0.1%
Other Population	105,167	7,064	89
Percent Other	5.4%	3.7%	2.4%
Two or more Population	144,163	17,511	242
Percent Two or more	7.3%	9.2%	6.4%

Source: https://data.oklahoman.com/census/total-population

According to the 2020 ACS 5-year, median household incomes in the project area are higher than the Sarpy County and the State of Nebraska as a whole. The estimated percentage of the population in poverty as defined in the Census is higher than both the county and state estimates again attributed to the high volume of young individuals who have yet to enter the full-time workforce.
Table 4.5: Income

	Median HH Income Estimate	Median HH Income Margin of Error	Average HH Income Estimate	Average HH Income Margin of Error	Percent In Poverty Estimate	Percent In Poverty Margin of Error
Nebraska	$48,408	± $904	$61,630	± $909	22.2%	± 0.001
Sarpy County	$69,538	± $2,965	$77,863	± $3,162	17.0%	± 0.001
Project Area (1-mi. radius)	~$75,000				8%	± 0.001

4.5.1.1 Alternative 1 – No Action

Under the no action alternative, construction activities would not take place and there would be no direct impact to low income or minority populations. The siphon would not be reconstructed and the existing siphon could potentially fail which would release wastewater into the watershed and cause a disruption of service for those living in the sewershed as well as potentially contaminate the potable water supply. Concurrently, communities within the sewershed would experience a disruption of service and would negatively impact human health and safety. The no action alternative would also allow continued erosion along the West Papillion Creek banks that could result in future property damage and economic hardship. These conditions may indirectly impact low income or minority populations disproportionately; however, the level of these indirect impacts is undetermined.

4.5.1.2 Alternative 2 – Proposed Action

The proposed action is anticipated to have a temporary and negligible impact to low income or minority populations during construction. Long-term impacts are anticipated to be positive by slowing the release of stormwater and reducing flooding. These effects are expected to be positive regardless of socio-economic or minority status for property owners adjacent to and downstream from proposed improvements.

4.5.2 Noise

As a result of the human health and welfare impacts of uncontrolled noise, the Noise Control Act was enacted in 1972; however, EPA does not have regulatory authority governing noise in local communities. In 1982, the EPA shifted on a federal noise control policy and transferred the primary responsibility of regulating noise to state and local governments. The Noise Control Act of 1972 and the Quiet Communities Act of 1978 were not rescinded by Congress and remain in effect.

The term “noise” is considered unwanted or nuisance sound and is typically measured in decibels (dB). The day-night average sound level (Ldn) is the 24-hour average sound level, in dB, obtained after the addition of 10 dB to the sound levels occurring between 10 p.m. and 7 a.m. and is used by agencies for estimating sound impacts and establishing guidelines for compatible land uses. The U.S. Department of Housing and Urban Development (HUD) regulations set acceptable noise levels at 65 Ldn or less (24 CFR, Part 51). The EPA identifies a 24-hour exposure level of 70 dB as the level of environmental noise which will prevent any measurable hearing loss over a lifetime. Likewise, levels of 55 dB outdoors and 45 dB indoors are identified as preventing activity interference and annoyance (e.g., spoken conversation, sleeping, working, recreation). The levels represent averages of acoustic energy over long periods such as eight hours or 24 hours rather than single events. Table 4.6, below, presents some common construction equipment with their estimated noise levels and levels at various distances. Noise regulations take into account sensitive receptors which are populations or land uses that may be impacted to a greater extent by increases in ambient noise levels. Sensitive receptors generally include museums, libraries, daycare centers, schools, hospitals, and places of worship, among others.

Table 4.6: Noise Levels of Typical Construction Equipment

Equipment	Typical Noise Level (dBA) at 50 ft. from Source	Estimate at 100 ft.	Estimate at 200 ft.	Estimate at 500 ft.	Estimate at 1,000 ft.
Air compressor	81	75	69	61	55
Backhoe	80	74	68	60	54
Concrete mixer	85	79	73	65	59
Dozer	85	79	73	65	59
Generator	81	75	69	61	55
Loader	85	79	73	65	59
Paver	89	83	77	69	63
Pneumatic tool	85	79	73	65	59
Pump	76	70	64	56	50
Saw	76	70	64	56	50
Shovel	82	76	79	62	56
Truck	88	82	76	68	62

Source: FHWA 2006

4.5.2.1 Alternative 1 – No Action

Under the no action alternative, construction activities would not take place and there would be no impact to the ambient noise levels or sensitive noise receptors.

4.5.2.2 Alternative 2 – Proposed Action

The Proposed Action would result in temporary increases in noise levels within the vicinity of the project area for the construction of the proposed project. Construction activities would require approximately 18 months of construction and the use of heavy equipment; BMPs to minimize noise impacts to the identified sensitive noise receptors are required. According to the Center for

Environmental Excellence by the American Association of State Highway and Transportation Officials (AASHTO), BMPs for noise reduction include (AASHTO 2009):

- Early and frequent communication with the public;
- Planning noisier activities and equipment usage for mid-morning to mid-afternoon;
- Planning site access and staging to minimize or eliminate "back-up alarm" noise;
- Limiting equipment on site to only what is necessary;
- Imposing seasonal limitations on construction noise as spring and fall are critical times when windows are left open in residential areas;
- Using newer, "low-noise" models of equipment;
- Limiting construction activities to daylight hours; and
- Shift work to weekends rather than weeknights.

Once construction activities are completed, noise levels should return to pre-project levels. Applying BMPs for construction noise reduction is expected to minimize the short-term adverse impacts of the project. FEMA has determined that the proposed action will have no long-term adverse impacts on the noise quality of the area.

4.5.3 Land Use and Planning

The City of Omaha Planning Department is responsible for comprehensive planning and enforcement of the City's zoning ordinance. The current Land Use Plan was originally adopted in August 2017. The existing land use of the project area is identified as Parks and Open Space defined as- public-controlled areas for recreation, involving facilities and/or structured programs for a variety of recreational opportunities. The future land use plan looks to address issues regarding the environment, mobility, neighborhoods, downtown and economic development all while preserving and enhancing natural streams and greenways, parks and open spaces and other environmental preservation areas and avenues.

Additional development and land use changes have taken place since the original land use plan was developed in 1997. According to aerial imagery and City annexation maps, development has spread to the north, south, and east of Omaha, respectively; this development has advanced progressively to higher topography within the watershed (see Appendix A). This development has had the effect of altering the watershed by way of increased impervious surfaces upstream thus increasing the likelihood of surface runoff and reducing the ability of the watershed to infiltrate stormwater.

4.5.3.1 Alternative 1 – No Action

Under the no action alternative, FEMA funding would not be committed to the reconstruction of the siphon or stabilization of the West Papillion Creek banks. There would be no impact to land use or planning issues.

4.5.3.2 Alternative 2 – Proposed Action

The proposed project is not expected to require any change to land use or planning activities. The City is responsible for enforcing its land use and zoning regulations for all new construction and development proposals which may require stormwater improvements as a condition of construction permits. Construction and long-term maintenance of the proposed improvements will

require ongoing coordination with neighboring properties if land use changes impact the hydrology and hydraulics of the watershed.

4.5.4 Transportation

The Metro Area Planning Agency (MAPA) provides metropolitan-wide transportation planning services. The West Papillion Creek Watershed is crossed by several major routes, including Giles Road, South 108th Street, and Portal Road. Several roadways in the project area carry significant traffic. West Giles Road carries the highest volumes within the immediate vicinity with approximately 22,000-26,000 annual average daily vehicle trips or more. The majority of other roads in the area carry half or less of this volume.

The West Papio Trail runs parallel to West Papillion Creek, on the east/north side of the channel. This trail is approximately 23 miles in length. The trail begins just west of S. 36th Street in Bellevue, Nebraska and terminates in an open field adjacent to a residential development south of State Route 64/W.

4.5.4.1 Alternative 1 – No Action

Under the no action alternative, construction activities would not take place and no further impact could be anticipated.

4.5.4.2 Alternative 2 – Proposed Action

Reconstruction of the siphon and streambank stabilization along West Papillion Creek would include short-term construction impacts to traffic flow on the surrounding streets and trail. Impacts are expected to include delays due to entry and exit of construction vehicles, lane closures and flaggers, and potential temporary road closures for work that extends out of the primary construction area.

While impacts to traffic flow and timing are expected to be minor for most of the work locations, moderate impacts along the West Papio Trail are possible and typical for routine public works projects in urbanized areas. The trail will remain open; however, there will be dedicated haul route crossings. Signage will warn trail users of construction crossing locations. Mitigation activities for impacts to the trail are recommended and may include planning work on West Papillion Creek to take place outside of times when extracurricular activities may be scheduled; careful site planning to limit equipment access in terms of location and times; and coordinating with neighboring property owners for potential alternate site access.

4.5.5 Public Health and Safety

Hazardous wastes, as defined by the Resource Conservation and Recovery Act (RCRA), are defined as “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may; (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or; (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of or otherwise managed.” Hazardous materials and wastes are regulated in Nebraska by a combination of federal and state laws. Federal regulations governing the assessment and disposal of hazardous wastes include RCRA, the RCRA Hazardous and Solid Waste Amendments, Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Solid Waste Act, and the Toxic Substances Control Act.

A review of state and federal databases, historic aerial photographs, and historic records did not identify any potential Recognized Environmental Conditions (REC) at or within proximity to the project area. A site visit conducted in May 2022 did not identify any RECs. No RECs were found within the vicinity of the proposed action. Therefore, Phase I and Phase II Environmental Site Assessment were not necessary.

4.5.5.1 Alternative 1 – No Action

Under the no action alternative, soils would not be disturbed and any contaminants potentially present would remain undisturbed.

4.5.5.2 Alternative 2 – Proposed Action

Significant amounts of contaminants are not anticipated to be discovered during construction activities. Phase II Environmental Site Assessment investigations are not recommended.

Figure 3 - USDA Soil Survey

Papio Creek Inverted Siphon Reconstruction | La Vista, Nebraska | 8/24/2022

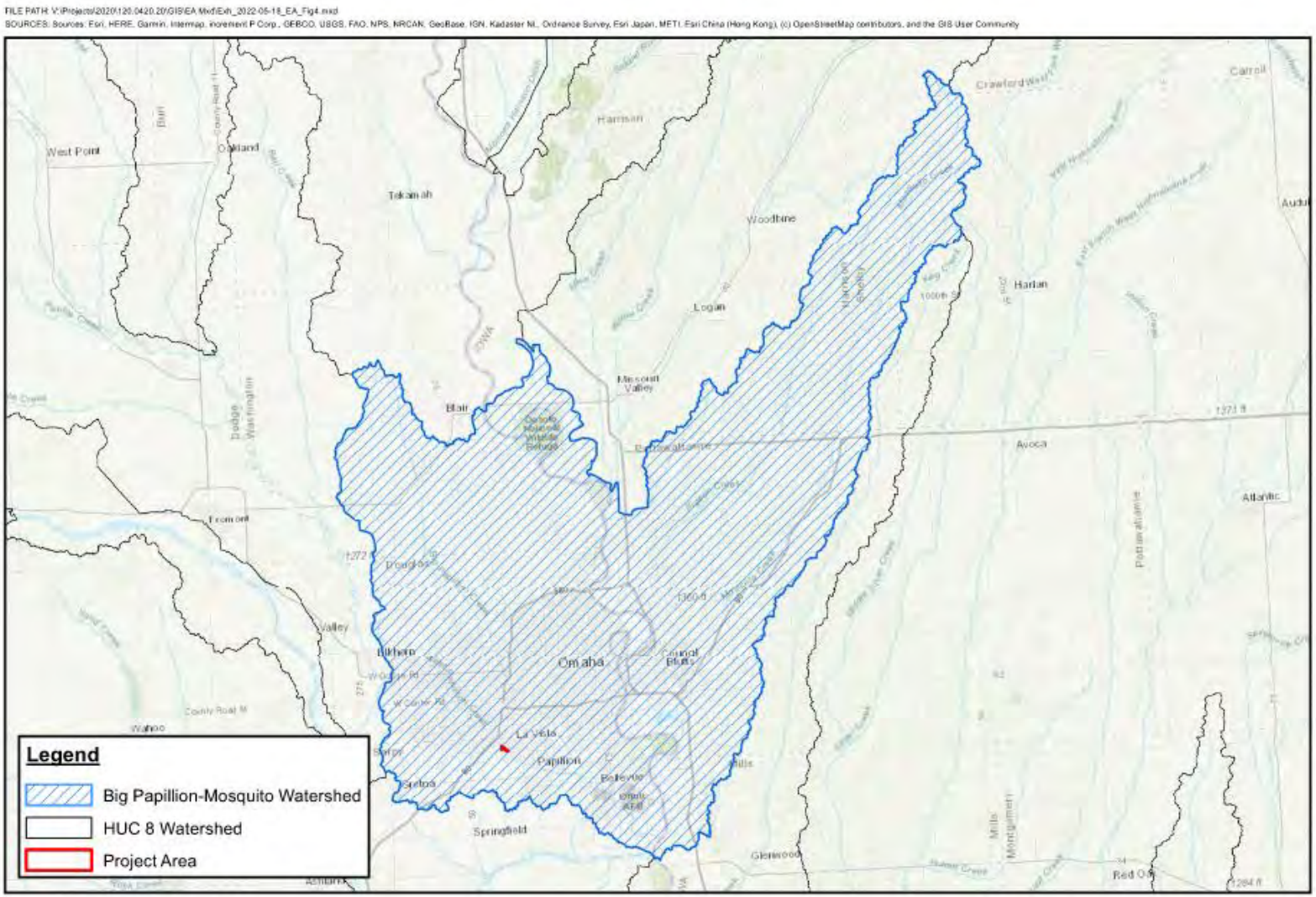


Figure 4 - HUC 8 Watershed

Papio Creek Inverted Siphon Reconstruction | La Vista, Nebraska | 8/24/2022

Figure 5 - National Wetlands Inventory

Papio Creek Inverted Siphon Reconstruction | La Vista, Nebraska | 8/24/2022

Figure 6 - FEMA Flood Hazard

Papio Creek Inverted Siphon Reconstruction | La Vista, Nebraska | 8/24/2022

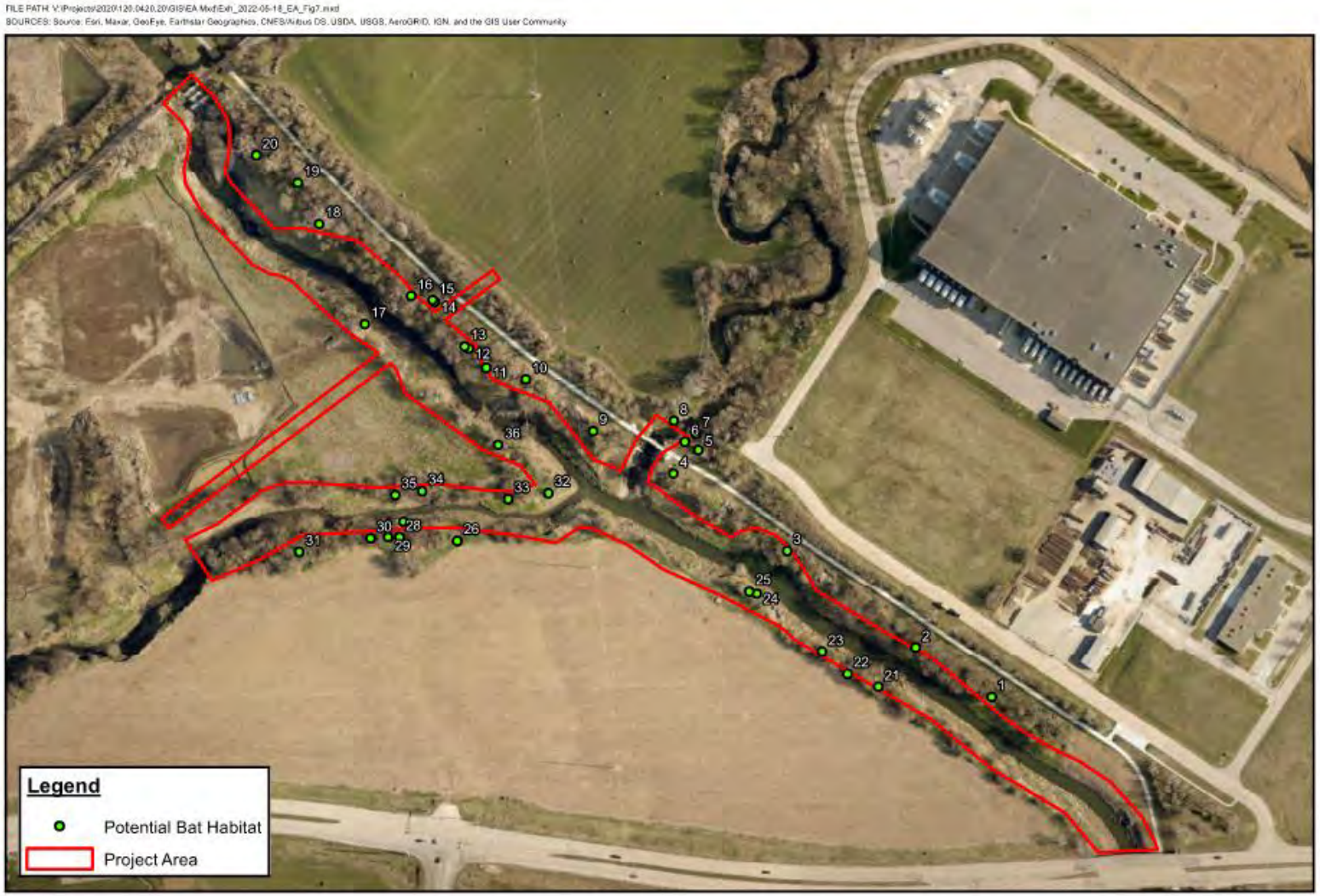


Figure 7 - Bat Habitat Survey

Papio Creek Inverted Siphon Reconstruction | La Vista, Nebraska | 8/24/2022

5.0 CUMULATIVE IMPACTS

Cumulative effects are defined by the CEQ as the impact on the environment resulting from the incremental impacts of the evaluated actions when combined with other past, present, and reasonably foreseeable future actions, regardless of the source, such as federal or non-federal. Cumulative impacts can result from individually minor but collectively significant actions over time.

Over time, West Papillion Creek may erode away enough soil to expose the siphon, which in turn could compromise the integrity of the siphon. If the main were to be broken, there would be a disruption in service to a portion of the citizens in the area. Repair to a broken siphon within West Papillion Creek would create a financial burden on the City of Omaha. Wastewater from the broken line would enter West Papillion Creek and would be a detriment to the biological system within the stream. In addition, West Papillion Creek would be impacted by the repair, potentially increasing sediment downstream.

6.0 AGENCY COORDINATION, PUBLIC INVOLVEMENT AND PERMITS

6.1 Agency Coordination

The following agencies and individuals were consulted in the preparation of this Environmental Assessment:

Nebraska Department of Environment and Energy (NDEE)

Nebraska Department of Natural Resources (NeDNR)

Nebraska State Historic Preservation Office (SHPO)

U.S. Army Corps of Engineers (USACE) Omaha District

U.S. Fish and Wildlife Service (USFWS) Nebraska Field Office

10 Tribes: Apache Tribe of Oklahoma; Cheyenne and Arapaho Tribes, Oklahoma; Iowa Tribe of Kansas and Nebraska; Iowa Tribe of Oklahoma; Omaha Tribe of Nebraska; Otoe-Missouria Tribe of Indians; Ponca Tribe of Nebraska; Sac and Fox Nation of Missouri in Kansas and Nebraska; Sac and Fox Nation, Oklahoma; and the Sac and Fox Tribe of the Mississippi in Iowa.

6.2 Public Involvement

The draft Environmental Assessment will be made available for public review and comment. A public notice will be issued requesting comments from the public on the Proposed Action for a 30-day public comment period, publicized in the Omaha World Herald, as well as on the websites of FEMA, the City of Omaha, and Nebraska Emergency Management Agency (NEMA). A copy of the Environmental Assessment, prepared for the action, will be made available for public review at the City of Omaha, City Hall (1819 Fanam Street, Omaha, NE 68183) as well as the Millard Branch, Omaha Public Library (13214 Westwood Lane, Omaha, NE 68144), La Vista Public Library (9110 Giles Road, La Vista, NE 68128), and the Papillion Public Library (222 North Jefferson Street, Papillion, NE, 68046). Input received during the 30-day public comment period will be documented, together with responses thereto, in a subsequent Final Environmental Assessment and FEMA decision document.

6.3 Permits

Work disturbing one acre or more of ground must have a SWPPP developed and acquire a NPDES permit from the NDEE. Sediment and erosion control BMPs must be implemented. The City of Omaha will issue any required local permits to its selected contractors who will be required to abide by any associated conditions according to the City's standard processes. The City will be required to coordinate with the NDEE, NDNR, and the USACE for appropriate floodplain and stream impact permitting.

In accordance with FEMA's Section 7 ESA Consultation with the USFWS, the following AMMs are required to be implemented: Tree removal will not occur from April 1 through October 15, in order to avoid impacts to the species during its active season; any tree cutting that cannot take place during this period on trees greater than or equal to 3 inches in diameter at human breast height must be coordinated with the USFWS. This coordination may require an incidental take permit; and during the NLEB active season, April 1 through October 15, all work will be performed

during daylight hours. While Bald eagle nests have not been identified in the project area, if an active nest is identified prior to initiation of work, work should avoid the nest by at least 660 feet. If work must take place closer, then work is limited to August to Mid-January. If these conditions cannot be met, additional coordination and possible permitting from the USFWS is required.

In the event that any archaeological deposits (soils, features, or any other remnants of human activity) are uncovered during the undertaking, this project shall be halted, the applicant shall stop all work immediately in the vicinity of the discovery and take reasonable measures to avoid or minimize harm to the finds. The City will inform NEMA immediately, secure all archaeological findings, and restrict access to the area. NEMA shall notify FEMA and FEMA will consult with the NeSHPO and the State Archaeologist of Nebraska. Work in sensitive areas may not resume until consultations are completed or until an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards determines the extent and historical significance of the discovery. Work may not resume at or around the delineated archaeological deposit until the applicant is notified by NEMA.

7.0 REFERENCES

Federal Highway Administration, Highway Construction Noise Handbook, FHWA-HEP-06-015, DOT- VNTSC-FHWA-06-02, NTIS No. PB2006-109102, August 2006

Papio Creek Watershed. https://www.papionrd.org/flood-control/papillion-creek-watershed/. June 8, 2022

2021 Ambient Air Quality Monitoring Network Plan. http://deq.ne.gov/Publica.nsf/PubsForm.xsp?documentId=0DF532A3E8AD1548862586CE004CF764&action=openDocument. July 15, 2022

United States Census 2020 Demographic Data Map Viewer

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U.S. Environmental Protection Agency, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, March 1974, Available: http://www.nonoise.org/library/levels74/levels74.htm (USEPA, 1974)

United States Fish and Wildlife Services. Nebraska Protected Species and Habitats.

United States Government 1972 Noise Control Act, Public Law 92-574

United States Government 1977 Clean Water Act

United States Government 1981 Farmland Protection Policy Act, Public Law 97-98

United States Government 1994 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. Executive Order 12898

United States Government. 1977 Floodplain Management. Executive Order 11988

United States Government 2021 Code of Federal Regulations, Floodplain Management and Protection of Wetlands Title 44, Chapter I, Subchapter A, Part 9

United States Government 2022 Code of Federal Regulations, Housing and Urban Development Environmental Criteria and Standards, Title 24, Subpart A Part 51

United States Department of Homeland Security (DHS) Instruction Manual on Implementation of the NEPA, Instruction Number: 023-01-001, Revision 01 (DHS Instruction 023-01); and FEMA Directive 108-1, and FEMA Instruction 108-01-1

United States Government 2021 Code of Federal Regulations, National Environmental Policy Act, Title 40, Parts 1500 1508

United States Government 2021 Code of Federal Regulations, National Register of Historic Places, Title 36, Chapter I, Part 60

United States Government 2021 Code of Federal Regulations, Protection of Historic Properties, Title 36, Chapter VIII, Part 800

8.0 LIST OF PREPARERS

The following individuals have contributed to the technical content of the EA. Listed are FEMA staff and consultant support staff.

FEMA Staff

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Consultant Staff

Jeff Walters, PWS, Principal Environmental Scientist, Snyder & Associates, Inc. Ankeny, IA

Nichoel Church, PWS, Environmental Scientist, Snyder Associates, Ankeny, IA

9.0 APPENDICES

FEMA has worked to ensure that this EA document is accessible to persons with disabilities, in compliance with Section 508 of the Rehabilitation Act of 1973. Regarding the EA's Appendices, which are provided in a separate document, this EA has reported what was done and how those results affect the decision that will be made based on the totality of the EA findings. In case any of these appendices poses a challenge to be read electronically by persons with disabilities, each appendix is briefly described and summarized below, rather than being simply listed.

Appendix A: *Nebraska Department of Games and Parks Letter*. This letter is three pages long and is dated July 6, 2020. It was signed by Shannon Sjolie. It was addressed to Jeff Walters of Snyder and Associates, Inc. The letter recommended utilizing best management practices to control erosion and water quality at the project site during construction.

Appendix B: *USACE Letter*. This letter is two pages long and is dated July 15, 2020. It was signed by Drew Vlazny. It was addressed to Jeff Walters of Snyder and Associates, Inc. The letter stated that a Department of the Army permit would be required for this project.

Appendix B: *USACE Section 404 Permit*. The permit is two pages long and is dated October 20, 2022. It was signed by Jeremy Grauf. It was addressed to Tim Papstein with the City of Omaha. The letter stated the project was covered under Department of the Army Regional General Permit 11-02, Flood Protection and Repair.

Appendix C. *Wetland Delineation.* This report was prepared by Geoff Barnes and reviewed by Jeff Walters of Snyder and Associates, Inc. The report is 21 pages long. Fieldwork was completed in June 2022. The document includes report text, aerial photos, ground-level photos of delineated Waters of the United States, and USACE wetland determination forms.

Appendix D. *Floodplain Letter.* This letter is two pages long and is dated July 6, 2020. It was sent by John Miller of the Nebraska Department of Natural Resources. It was addressed to Jeff Walters of Snyder and Associates, Inc. The letter stated that the project would require a floodplain development permit prior to construction of the proposed action.

Appendix E. *Section 7 Informal Consultation between FEMA and the USFWS.* This letter is 4 pages long and dated October 25, 2022. The letter was signed by Teri Toye, Acting Regional Environmental Officer for FEMA Region 7 in Kansas City, Missouri. It was addressed to Mark Porath, Nebraska Field Supervisor, USFWS Nebraska Ecological Services Field Office, in Wood River, Nebraska. Mr. On Page 1, Mr. Porath signed the concurrence stamp on December 14, 2022 The letter describes the Action Area, the Proposed Action, justification for the action, and the anticipated effects and proposed mitigation regarding the Northern Long Eared Bat.

Appendix F: *Section 106 NHPA Consultation between FEMA and the Nebraska State Historic Preservation Office.* This letter is seven pages long and dated July 14, 2022. The letter was signed by Teri Toye, Deputy Regional Environmental Officer for FEMA Region 7 in Kansas City, Missouri. It was addressed to Jill Dolberg, Deputy State Historic Preservation Officer, Nebraska State Historic Preservation Office, in Lincoln, Nebraska. The letter discusses a Finding of No Adverse Effect to Historic Properties for the project. It describes the Undertaking, the Area of Potential Effect (APE), Identification and Evaluation of Resources (including four standing structures and the results of a Phase I Cultural Resources Survey of the APE), Tribal Involvement, and Determination of Effect. Its conclusion requests SHPO concurrence with the finding.

***Appendix G**: SHPO Letter of Concurrence with FEMA Section 106 NHPA Findings*. This is a one-page letter signed by John Swigart, Preservation Archeologist, Nebraska State Historic Preservation Office, in Lincoln, Nebraska and dated July 15, 2022. It is addressed to Teri Toye, Deputy Regional Environmental Officer for FEMA Region 7 in Kansas City, Missouri, and was sent via email. The letter states: "Based on the information provided, the proposed undertaking is unlikely to affect any cultural resources listed on the National Register of Historic Places or eligible for such listing. Therefore, NeSHPO concurs with the determination that **No Historic Properties Affected** is appropriate for this undertaking and the project should proceed as planned."

***Appendix H**: Example of FEMA Section 106 NHPA Tribal Consultation Letter*. This seven-page letter, dated July 14, 2022, was signed by Kate Stojsavljevic, Regional Environmental Officer for FEMA Region 7 in Kansas City, Missouri. A copy of this letter was sent by FEMA and individually addressed to ten Native American Tribes with a known interest in Sarpy County, Nebraska. The ten tribes FEMA consulted with are: Apache Tribe of Oklahoma; Cheyenne and Arapaho Tribes, Oklahoma; Iowa Tribe of Kansas and Nebraska; Iowa Tribe of Oklahoma; Omaha Tribe of Nebraska; Otoe-Missouria Tribe of Indians; Ponca Tribe of Nebraska; Sac and Fox Nation of Missouri in Kansas and Nebraska; Sac and Fox Nation, Oklahoma; and the Sac and Fox Tribe of the Mississippi in Iowa. The example letter provided herein was addressed to Stacy Larvaie, Tribal Historic Preservation Officer of the Ponca Tribe of Nebraska, in Niobrara, Nebraska. It describes the Undertaking, the Area of Potential Effects (APE), and Identification and Evaluation of Resources (including the results of a Phase I Cultural Resources Survey of the APE). The letter requested input from the Tribe(s) regarding the Undertaking and reported a proposed Finding of Effect as follows: "Based on the results of the Phase I Cultural Resources Survey of the APE, FEMA finds the Undertaking will result in **No Historic Properties Affected** in accordance with Stipulation II.C.4.a of the Agreement."

Appendix A: *Nebraska Department of Games and Parks Letter*

2200 N. 33rd St. • P.O. Box 30370 • Lincoln, NE 68503-0370 • Phone: 402-471-0641

July 6, 2020

Jeff Walters
Snyder & Associates, Inc.
2727 SW Snyder Blvd.
P.O. Box 1159
Ankeny, IA 50023-0974

Re: Hazard Mitigation Grant Program (HMGP), South Papillion Interceptor Sewer Repair & Channel Stabilization, Sarpy County, Nebraska

Dear Mr. Walters:

Please make reference to your request for consultation letter dated June 10, 2020. This letter is in response to your request for a review of this project's potential impacts to endangered and threatened species in Sarpy County, Nebraska. As we understand it, the project consists of making improvements to the damaged sewer crossing as well as stabilize the banks and provide grade control of the South Papio Creek to mitigate future stream degradation. Nebraska Game and Parks Commission (Commission) staff have completed a review of the proposed project under the authority of the Nebraska Nongame and Endangered Species Conservation Act (NESCA) (Neb. Rev. Stat. § 37-801 to 37-811) and offer the following comments.

This project is within the range of the federally and state-listed threatened Northern Long-Eared Bat (*Myotis septentrionalis*) and Western Prairie Fringed Orchid (*Platanthera praeclara*); and the state-listed threatened River Otter (*Lontra Canadensis*). Based on the proposed site, the project does not appear that it will impact suitable habitat for western prairie fringed orchid or river otter. However, there does appear to be potentially suitable habitat for northern long-eared bats within the project area.

Northern Long-eared Bat
During the summer, northern long-eared bats (NLEBs) typically roosts singly or in colonies, during the summer, in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags (typically greater than or equal to 3 inches dbh). NLEB females give birth to and raise one pup in these selected maternal roosts during the summer months. This bat species is generally opportunistic in selecting roosts, using tree species based on presence of cavities/crevices or presence of peeling bark. NLEB have occasionally been found roosting in human structures, such as barns and sheds, particularly when other roosting habitat is scarce. This species forages for insects in upland and lowland woodlots and tree lined corridors, and over water surfaces. During the spring and fall, this species migrates from summer roosting habitat to winter hibernacula. NLEB typically overwinter in hibernacula that include caves and abandoned mines, but may also use other structures resembling caves or mines, such as abandoned railroad tunnels, storm sewer entrances, dry wells, aqueducts, and other similar structures. To avoid adverse impacts to NLEB, Nebraska Game and Parks Commission staff recommend that any tree clearing, which may be required as part of this project, be timed to avoid potential impacts to NLEB during the summer maternity roosting period (June 1 – July 31).

Additional Comments

Under the Migratory Bird Treaty Act (16 U.S.C. 703-712: Ch. 128 *as amended*) (MBTA) construction activities in grassland, wetland, stream, woodland, and river bank habitats that would otherwise result in the taking of migratory birds, eggs, young, and/or active nests should be avoided. Although the provisions of MBTA are applicable year-round, most migratory bird nesting activity in Nebraska occurs during the period of April 1 to July 15. However, some migratory birds are known to nest outside of the aforementioned primary nesting season period. For example, raptors can be expected to nest in woodland habitats during February 1 through July 15, whereas sedge wrens, which occur in some wetland habitats, normally nest from July 15 to September 10. If development in this area is planned to occur during the primary nesting season or at any other time which may result in the "take" of nesting migratory birds, we would request that the project proponent arrange to have a qualified biologist conduct a field survey of the affected habitats to determine the absence or presence of nesting migratory birds. If a field survey identifies the existence of one or more active bird nests that cannot be avoided by the planned construction activities, the Nebraska Game and Parks Commission and the Nebraska Field Office, U.S. Fish and Wildlife Service should be contacted immediately. For more information about the MBTA and avoiding impacts to migratory birds, or to report active bird nests that cannot be avoided by planned construction activities, please contact the Nebraska Field Office, U.S. Fish and Wildlife Service, 9325 South Alda Road, Wood River, NE 68883. Adherence to these guidelines will help avoid the unnecessary take of migratory birds.

For construction activities near waterways, we recommend that appropriate sediment and erosion control methods be established during and after demolition to prevent sediment or debris input into the aquatic system in order to avoid impacting aquatic species and habitat. Care should be taken to avoid the input of contaminants into waterways during demolition, such as construction byproducts, petroleum products, and other contaminants from equipment. Areas disturbed during demolition should be re-seeded with a mix of native grasses and forbs appropriate for the area, while avoiding the use of invasive or exotic vegetative species.

If the proposed project is changed or new information regarding endangered or threatened species becomes available, then this determination is no longer valid and further consultation with the Nebraska Game and Parks Commission will be necessary.

All federally listed endangered or threatened species are also state-listed. For an assessment of potential impacts to habitats and species protected under federal wildlife laws, including federally listed, candidate or proposed endangered or threatened species, please contact Eliza Hines (eliza.hines@fws.gov), Nebraska Field Office, U.S. Fish and Wildlife Service, 9325 South Alda Road, Wood River, Nebraska 68883.

Thank you for the opportunity to comment. If you have any questions or need additional information, please feel free to contact me at (402) 471-5423 or shannon.sjolie@nebraska.gov.

Sincerely,

Shannon Sjolie
Environmental Analyst Supervisor
Planning and Programming Division

Appendix B: *USACE Letter and Section 404 Permit*

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NEBRASKA REGULATORY OFFICE
8901 SOUTH 154TH STREET, SUITE 2
OMAHA, NEBRASKA 68138-3635

http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/Nebraska.aspx

July 15, 2020

Mr. Jeff Walters
Snyder and Associates
2727 SW Snyder Boulevard
P.O. Box 1159
Ankeny, Iowa 50023

RE: NWO-2020-01159-WEH / Sanitary Repair and Bank Stabilization

Dear Mr. Walters:

This letter pertains to your correspondence, received in our office on June 12, 2020, regarding the above-referenced project. The project proposes to make improvements to the damaged sanitary pipe crossing, stabilize the banks of the South Papio Creek and build a grade control structure within the channel. These activities are proposed within the City of Omaha. The project is located in Section 17, in Township 14 North, Range 21 East, of Sarpy County, Nebraska.

The U.S. Army Corps of Engineers is responsible for administering federal laws that regulate certain activities within waters of the United States. The authority applicable to this responsibility is Section 404 of the Clean Water Act (33 U.S.C. 1344), which prohibits the discharge of dredge or fill materials into lakes, streams or wetlands without authorization in the form of a Department of the Army permit and Section 10 of the Rivers and Harbors Act of 1899 which regulate all work or structures in or affecting the course, condition, or capacity of navigable waters of the United States.

A Department of the Army Section 404 permit is required to place fill material into any waters of the United States (wetlands, rivers, streams, ponds, lakes, etc.) in the project area, which includes any staging areas, temporary roads, etc. It appears from your correspondence that your projects may impact waters of the United States. If you plan on placing fill material into a water of the United States (includes wetlands and channel), please complete and return the following for each project:

1. Enclosed application;
2. Project location identified on an aerial photograph;
3. A detailed description of the activity you wish to conduct and the methods you plan to use (including type of machinery, type of rock, etc.);
4. A detailed description of special aquatic site (wetland) and stream channel impacts, including acreages and lengths. Impacts to wetlands include filling, excavation,

inundation, and draining. Impacts to stream channel include filling and excavation (dams are considered fill);
5. Source of any federal funding that will be used at any time during the project.
6. Project sketch/design plan.

When we receive the material, we will determine what type of permits, if any, are required.

If you have any questions you can write to the above address, email at Andrew.J.Vlazny@usace.army.mil, or call (402) 896-0896 and refer to file number **NWO-2020-01159-WEH.**

Sincerely,

Andrew Vlazny

Drew Vlazny
Project Manager

Copy:
NDEE (Pauley)

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NEBRASKA REGULATORY OFFICE
8901 SOUTH 154TH STREET, SUITE 2
OMAHA, NE 68138-3635

October 20, 2022

SUBJECT: Regional General Permit Verification, NWO-2022-00596-WEH (Omaha, Bank Protection, West Papillion Creek/South Papillion Creek, Sarpy County)

Mr. Tim Papstein
City of Omaha
1819 Farnam Street, Suite 600
Omaha, Nebraska 68183

Dear Mr. Papstein:

This letter is in response to your September 26, 2022 Pre-construction Notification (PCN), requesting Department of the Army (DA) Regional General Permit (RGP) verification for the above-referenced project. The project site is located at Latitude 41.1790860°, Longitude -96.089123°; Section 17, Township 14N, Range 12E, Sarpy County, Nebraska.

An inverted siphon pipe that has been exposed in West Papillion Creek due to the 2019 flood event will be replaced, a 29-foot wide by 25-foot-long grade control structure will be constructed immediately downstream of the siphon pipe. Bank stabilization will be constructed on the left and right banks of West Papillion Creek both upstream and downstream of the pipe to prevent further erosion. Additionally, bank stabilization will be installed along the left bank of the South Papillion Creek, just downstream of the grade control structure. Construction activities will permanently impact 0.387 acre of West Papillion Creek streambed and 0.075 acre of South Papillion streambed. The project will be constructed in accordance with design plans received October 12, 2022, from Snyder and Associates.

The U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged and fill material into waters of the United States under Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344). The Corps' regulations are published in the *Code of Federal Regulations* at 33 CFR parts 320 through 332. RGPs are defined in the *Federal Register* published on December 27, 2021 (86 FR 73522). Based on a review of the information you furnished and available to us, we have determined the above referenced work requires DA authorization under Section 404 of the CWA.

Based upon the information you provided, we hereby verify that the work described above, which would be performed in accordance with the plans you provided on August 11, 2022, is authorized by Regional General Permit 11-02, Flood Protection and Repair. Please note that deviations from the original plans and specifications of your project could require additional authorization from this office. This RGP and associated Regional and General Conditions are enclosed and can be accessed on our website at: *https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Nebraska/*. Failure to comply with the General and Regional Conditions of this RGP, or the project-specific special conditions of this authorization, may result in the suspension or revocation of your authorization, and you may be subject to appropriate enforcement action. You shall comply with all terms and conditions associated with this RGP.

Special Conditions:
See attached Regional General Permit 11-02 for Special Conditions 1 – 29.

Unless this RGP is suspended, modified, or revoked, it is valid until **March 31, 2027**. It is incumbent upon you to remain informed of changes to this RGP. We will issue a public notice when the RGPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant RGP is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the RGP to complete the activity under the present terms and conditions of this RGP unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization as per 33 CFR 330.6(b). Any project specific conditions listed in this letter continue to remain in effect after the RGP verification expires unless the district engineer removes those conditions.

Authorizations under this RGP does not relieve permittees from obtaining permits or other authorizations from any required federal, state, or local agency.

If you have any questions, please contact Keith Simmons via email at Timothy.K.Simmons@usace.army.mil, by mail at the address above, or by phone at (402) 896-0896.

Sincerely,

Jeremy Grauf
Chief, Nebraska Section

1 Enclosure
1. Regional General Permit 11-02

cc:
NDEE (Pauley)
NDOT (Harbison

Appendix C. *Wetland Delineation*

WETLAND DELINEATION

Papio Creek Inverted Siphon Reconstruction
Giles Rd

La Vista, Nebraska | April 1, 2022

Prepared for:

City Of Omaha
1819 Farnman St, Suite 600
Omaha, Nebraska 68183

Snyder & Associates, Inc. Project No. 120.0420.20

Prepared by:

4/1/2022

Geoff Barnes
Environmental Scientist

Reviewed by:

4/1/2022

Jeff Walters
Principal Environmental Scientist

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APPENDICES

1. Introduction

Snyder & Associates, Inc. delineated the project area for the proposed Papio Creek Inverted Siphon Reconstruction Project located North of Giles Street in La Vista, Nebraska for the presence of wetlands on May 25, 2021 in accordance with the proposal and general conditions. The project consists of the construction of an inverted siphon pipe crossing and stream stabilization. The project boundary is centrally located in the South ½ of Section 17, Township 14 North, Range 12 East in Sarpy County, Nebraska.

The scope of this investigation was to indicate the presence/absence of wetlands, identify wetlands that could be impacted by the project, and delineate the upper boundaries of potential jurisdictional wetlands within the project area. In addition to wetlands, Waters of the United States (WUS), which include lakes, ponds, rivers, and streams, were included in the delineation. This report is used by the United States Army Corps of Engineers (USACE) and the Nebraska Department of Environment and Energy (NDEE). The USACE has discretion to use this report for the purposes of making jurisdictional determinations and enforcing Section 404 of the Clean Water Act. The NDEE uses the report for the purpose of enforcing Section 401 of the Clean Water Act.

The information and recommendations presented in this report are professional opinions based on visual observation, review of available data pertaining to the subject property, and interpretation of available public records. The opinions and recommendations presented herein apply to the subject property conditions at the time of Snyder & Associates, Inc. investigation.

2. Methodology

Prior to performing the wetland delineation, several map and aerial photograph resources were reviewed to assist with identifying WUS within the project area.

USGS Topographic Maps

United States Geological Survey (USGS) topographic maps were used to identify drainage areas, streams, forests, and topography that may indicate the presence of WUS. West Papillion Creek, South Papillion Creek, and Hell Creek were identified within the project area.

National Wetlands Inventory

The National Wetlands Inventory (NWI), published by the United States Department of the Interior's Fish and Wildlife Services (USFWS), were reviewed for probable wetland areas. The following NWI-indicated wetland areas were identified on the project site.

- R2UBGx: Riverine, lower perennial, unconsolidated bottom, intermittently exposed, excavated.
- R4SBCx: Riverine, intermittent, streambed, seasonally flooded, excavated.
- R5UBH: Riverine, unknown perennial, unconsolidated bottom, permanently flooded.

USDA Soil Survey

The Sarpy County Soil Survey provided by the United States Department of Agriculture (USDA) was used to identify the hydric soils in the project area. As shown in Exhibit 4, *USDA Soil Survey*, two soils with hydric

components is indicated in the project area. The soil descriptions identified in the project area are identified in Table 1.

Table 1. Soil Map Units and Descriptions

Soil Map Unit	Description	Hydric
7235	Judson-Nodaway channeled-Contrary complex, 3 to 10 percent slopes	Yes
7812	Smithland-Kenridge silty clay loams, occasionally flooded	Yes

3. Site Review

During a pedestrian field survey potential wetlands were examined for wetland indicators using the Routine On-Site Determination Method as defined in the *1987 Corps of Engineers Wetlands Delineation Manual* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (2010 Midwest Supplement).* Wetlands are defined by the USACE and the Environmental Protection Agency (EPA) as:

"Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.[1]"

Under normal conditions, if one (1) or more of the wetland criteria are not identified, the area was not considered a wetland. If all three (3) wetland indicators were identified, the area was classified a wetland. Additional observations were made throughout the wetland areas to define the wetland/non-wetland boundary, which was mapped with GPS technology. Vegetation, soil, and hydrology assessment data from at least one (1) location within each wetland and the characteristics of one (1) upland location outside of the wetlands were recorded on a USDA Wetland Determination Form. The recorded data forms for the project area are enclosed in Appendix B and the data point locations are shown on Exhibit 5, *Wetland Delineation*.

Plant Community Assessment

The project area was visually observed to assess the plant species and absolute percentage of ground cover for four stratums of plant community types including tree, scrub/shrub, herbaceous and woody vine stratums. The vegetation for each selected area was identified using *Midwestern Wetland Flora, A Field Office Guide to Plant Species* (Mohlenbrock and Mohlenbrock), and *Wildflowers and other Plants of Iowa Wetlands* (Runkel and Roosa, 1999).

Each dominant species of vegetation observed was evaluated for their wetland indicator status. Indicator status was assessed using the USDA North American Digital Flora, National Wetland Plant List and the national List of Plant Species that Occur in Wetlands – Region 3 (Reed 1988). Indicator categories for vegetation are presented below:

- Obligate Wetland (OBL) – occurs almost always (estimated probability greater than 99%) under natural conditions in wetlands.

[1] Environmental Laboratory. 1987 Corps of Engineers Wetlands Delineation Manual. Vicksburg, MS: U.S. Army Corps of Engineers, 1987.

- Facultative Wetland (FACW) – usually occur in wetland (estimated probability 67% – 99%) but occasionally found in not-wetlands.
- Facultative (FAC) – equally likely to occur in wetlands or non-wetlands (estimated probability 34% - 66%).
- Facultative Upland (FACU) – usually occur in non-wetlands (estimated probability 67% - 99%) but occasionally found in wetlands.
- Obligate Upland (UPL) – rarely occurs in wetlands, but occur almost always (estimated probability greater than 99%) under natural conditions in non-wetlands.

Hydric Soil Assessment

Subsurface soil samples to a depth of approximately 24 inches were collected and evaluated using Munsell Soil Color Charts (Munsell 1994). The soil samples were also evaluated for hydric soil indicators listed on the USACE Midwest Region Wetland Determination Data Form including hydrogen sulfide, depletion below dark surface, thick dark surface, depleted matrix, redox depressions, loamy gleyed matrix and stripped matrix. Soil was considered to be hydric if hydric soil indicators were observed in the subsurface soil sample.

Wetland Hydrology Assessment

Potential wetlands were visually evaluated for wetland hydrology indicators. If one (1) primary or two (2) secondary indicators were observed, the location was considered to have wetland hydrology. Primary wetland indicators include surface water, high water table, saturation, water marks, drift deposits, iron deposits, presents of reduced iron, and oxidized rhizospheres on living roots. Secondary wetland indicators include surface soil cracks, drainage patterns, stunted or stressed plants and crayfish burrows.

4. Environmental Setting

Weather during the wetland delineation on May 25, 2021 was partly cloudy at approximately 73º F with winds calm winds[2].

According to the National Climatic Data Center,[3] data for SPRINGFIELD 7E, NE, the average precipitation in May was 4.92 inches. Current climate data was obtained from the Natural Resources Conservation Service (NRCS) Field Office Technical Guide website[4] for SPRINGFIELD 7E, NE. Total precipitation recorded to date between May 1-May 25, 2020, was 1.45 inches.

[2] http://www.wunderground.com/history/

[3] http://cdo.ncdc.noaa.gov/cgi-bin/climatenormals/climatenormals.pl?directive=prod_select2&prodtype=CLIM20&subrnum=

[4] http://efotg.sc.egov.usda.gov/efotg_locator.aspx

Table 2: Climatological Data for SPRINGFIELD 7E, NE – May 1-May 25 2020

Date	Max Temperature	Min Temperature	Avg Temperature	GDD Base 40	GDD Base 50	Precipitation
2020-05-01	M	M	M	M	M	0
2020-05-02	M	M	M	M	M	0
2020-05-03	M	M	M	M	M	0
2020-05-04	74	52	63	23	13	0.03
2020-05-05	57	44	50.5	11	1	0.22
2020-05-06	63	43	53	13	3	0
2020-05-07	61	41	51	11	1	0
2020-05-08	58	37	47.5	8	0	0.53
2020-05-09	M	M	M	M	M	0
2020-05-10	M	M	M	M	M	T
2020-05-11	55	37	46	6	0	0
2020-05-12	54	43	48.5	9	0	0
2020-05-13	62	46	54	14	4	0
2020-05-14	58	50	54	14	4	0.03
2020-05-15	65	51	58	18	8	0.24
2020-05-16	M	M	M	M	M	0
2020-05-17	71	53	62	22	12	0.4
2020-05-18	60	52	56	16	6	T
2020-05-19	57	52	54.5	15	5	0
2020-05-20	62	54	58	18	8	0
2020-05-21	67	58	62.5	23	13	0
2020-05-22	M	M	M	M	M	S
2020-05-23	M	M	M	M	M	M
2020-05-24	M	M	M	M	M	M
2020-05-25	78	59	68.5	29	19	1.21A
Average|Sum	62.6	48.3	55.4	221	78	1.45

Product generated by ACIS - NOAA Regional Climate Centers.

5. Field Observations

Field investigations were performed on May 25, 2021 by Snyder & Associates, Inc. to identify potential WUS, including wetlands within the project boundary. Three perennial streams and no wetlands were identified within the project boundary during the wetland delineation. WUS identified during the wetland delineation are shown on Exhibit 5, *Wetland Delineation*. Wetland Determination Data Forms for each wetland area can be found in Appendix B. Photographic documentation provide a record of the physical characteristics of the field sites observed during the field survey.

Stream 1 is a perennial stream named West Papillion Creek. The stream has steep vegetated banks with minimal sinuosity within the project area. The channel is deeply incised throughout the project study area.

Photo 1: Southwest view of Stream 1 near the north end of the project area.

Stream 2 is a perennial stream named South Papillion Creek. The stream has steep vegetated banks with minimal sinuosity within the project area. The channel is deeply incised throughout the project study area.

Photo 2: West view of South Papillion Creek.

Stream 2 is a perennial stream named Hell Creek. The stream has steep vegetated banks with minimal sinuosity within the project area. The channel is deeply incised throughout the project study area.

Photo 3: North view of Hell Creek at the trail crossing.

6. Summary

Snyder & Associates, Inc. has performed a Wetland Delineation in conformance with the *1987 Corps of Engineers Wetlands Delineation Manual and the Midwest Regional Supplement* of the proposed Papio Creek Inverted Siphon Reconstruction in La Vista, Nebraska. Based on the findings of the wetland and stream delineation, three perennial streams and no wetlands were identified within the project area. The three streams are jurisdictional.

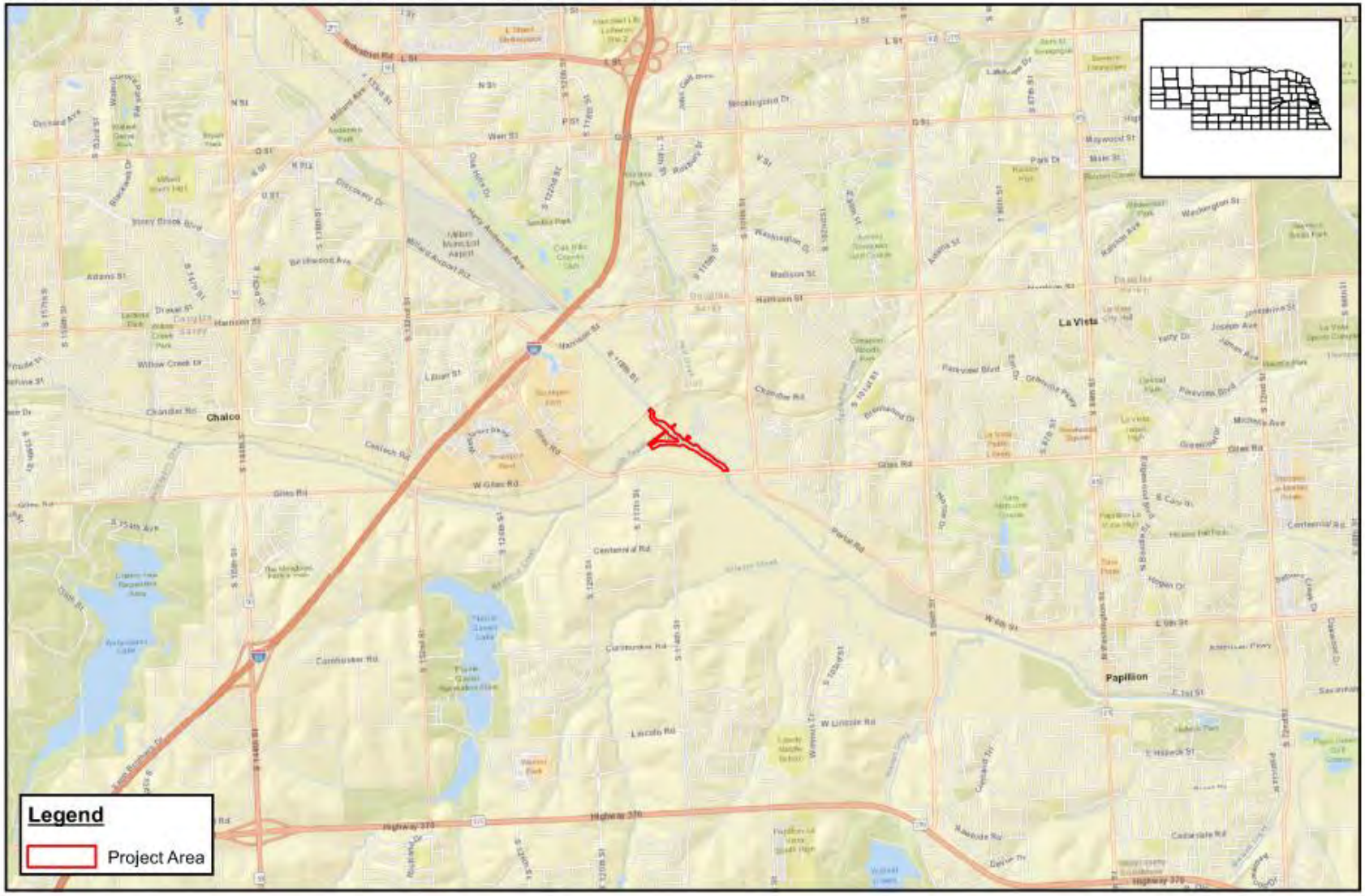
According to Regulation 33CFR §328.3, WUS include traditional navigable waters, interstate waters, tributaries of navigable and interstate waters, interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, and certain isolated wetlands. WUS are under the jurisdiction of the USACE.

Discharges of dredged or fill material, excavation, and mechanized land clearing in the WUS will require authorization from the USACE. Final determination of the limit of WUS, including wetlands, for permitting purposes rests with the USACE. For final authorization for activities in WUS, the USACE must approve these findings

APPENDIX A
EXHIBIT

FILE PATH: V:\Projects\2020\120.0420.20\GIS\Exh_20210205_WD_Ex1.mxd

SOURCES: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



SNYDER & ASSOCIATES

N

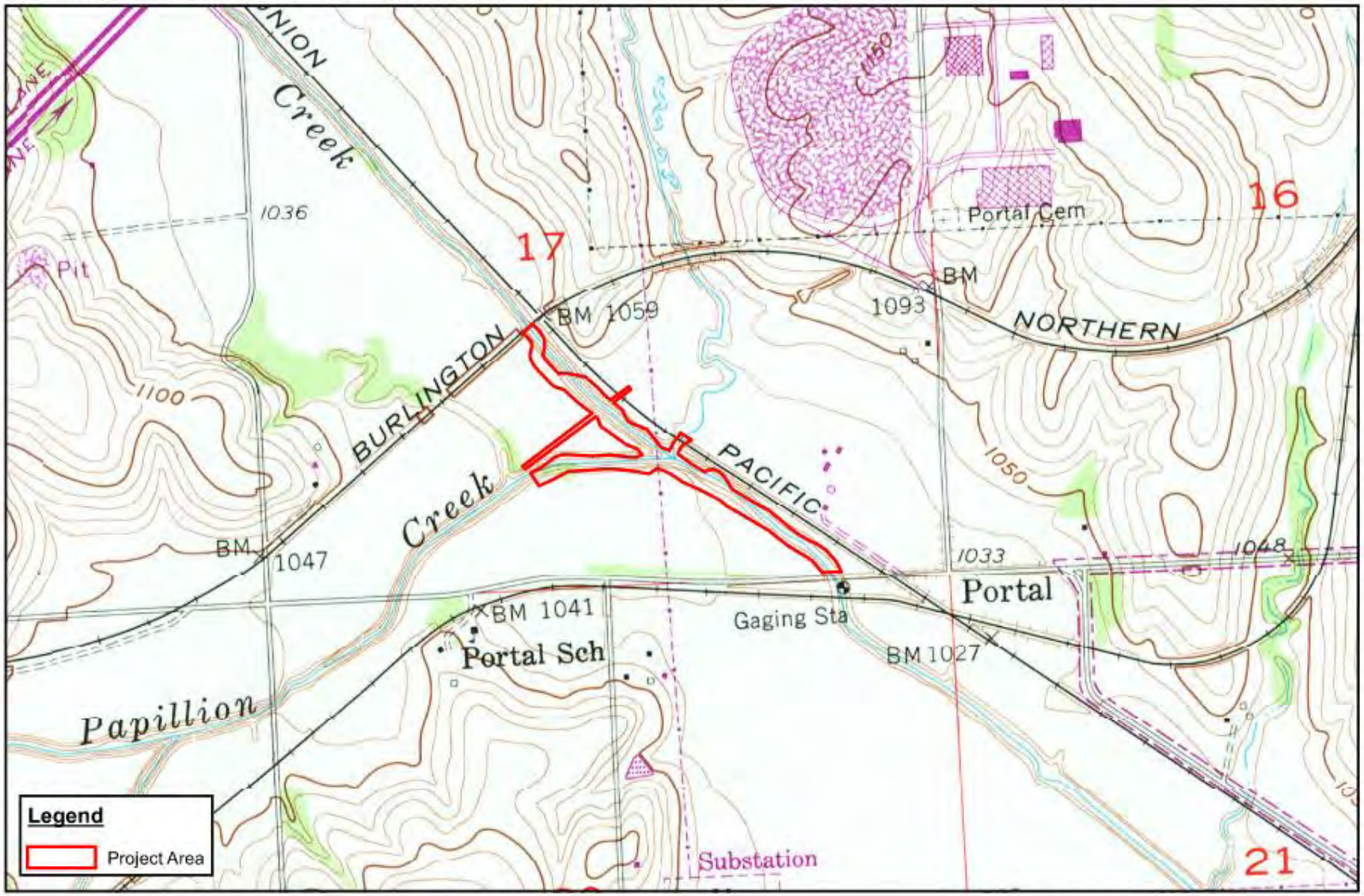
0 2,000 4,000

Feet

Exhibit 1 - Vicinity Map

Papio Creek Inverted Siphon Reconstruction | La Vista, Nebraska | 4/4/2022

FILE PATH: V:\Projects\2020\120.0420.20\GIS\Exh_20210205_WD_Ex2.mxd
SOURCES: Source: Historical Topographic Map Collection courtesy of the U.S. Geological Survey, Esri



SNYDER & ASSOCIATES

N

0 500 1,000
Feet

Exhibit 2 - USGS Topographic Map

Papio Creek Inverted Siphon Reconstruction | La Vista, Nebraska | 4/4/2022

FILE PATH: V:\Projects\2020\120.0420.20\GIS\Exh_20210205_WD_Ex3.mxd
SOURCES: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

SNYDER & ASSOCIATES

N

0 150 300
Feet

Exhibit 3 - National Wetlands Inventory

Papio Creek Inverted Siphon Reconstruction | La Vista, Nebraska | 4/4/2022

FILE PATH: Y:\Projects\2020\120.0420.20\GIS\Exh_20210205_WD_Ex4.mxd
SOURCES: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

SNYDER & ASSOCIATES

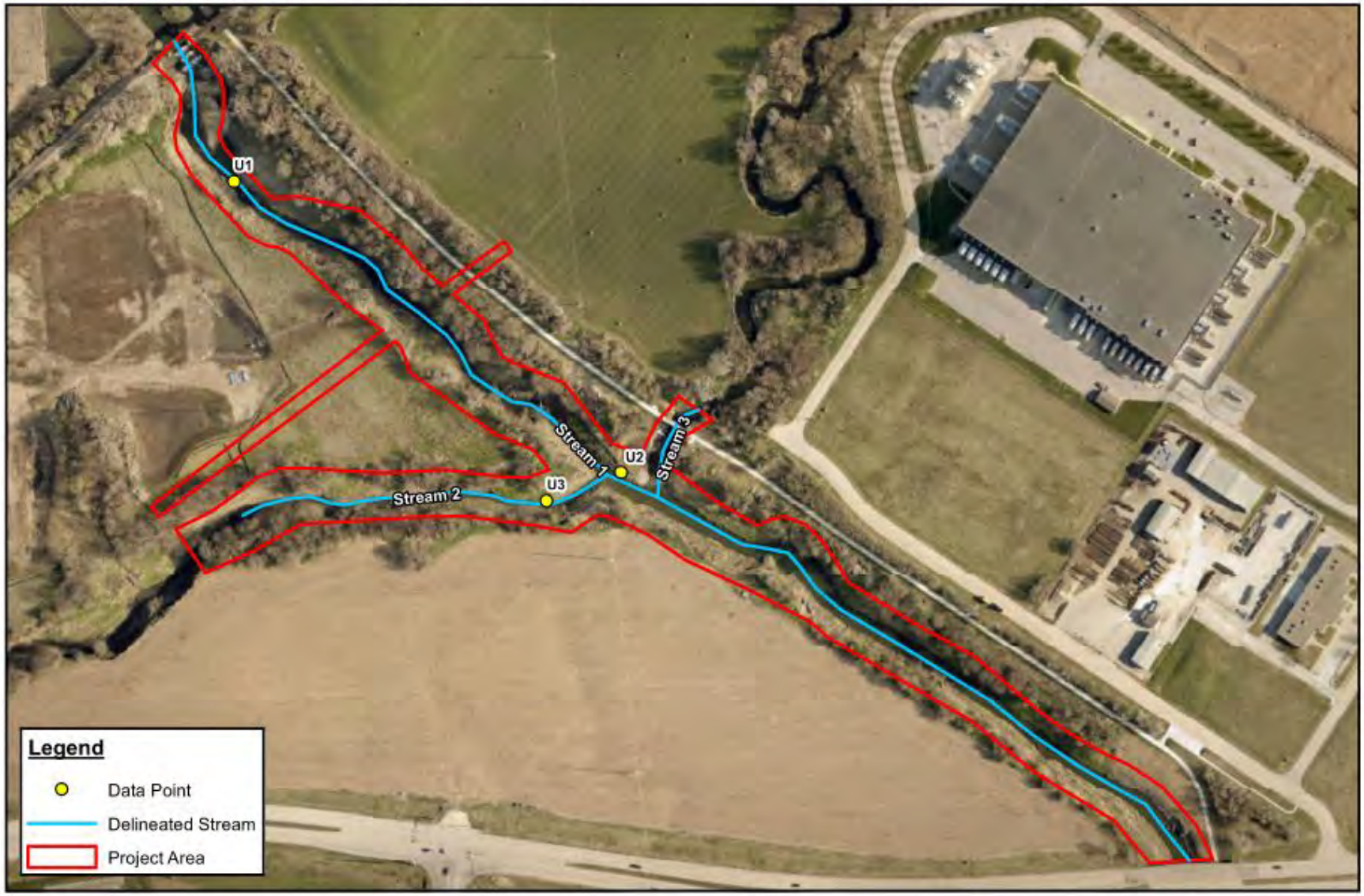
N

0 200 400
Feet

Exhibit 4 - USDA Soil Survey

Papio Creek Inverted Siphon Reconstruction | La Vista, Nebraska | 4/4/2022

FILE PATH: V:\Projects\2020\120.0420.20\GIS\Exh_20210205_WD_Ex5.mxd
SOURCES: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



SNYDER & ASSOCIATES

N

0 150 300
Feet

Exhibit 5 - Wetland Delineation

Papio Creek Inverted Siphon Reconstruction | La Vista, Nebraska | 4/4/2022

APPENDIX B
DATA FORMS

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Papio Creek Siphon City/County: Omaha Sampling Date: 5/25/2021

Applicant/Owner: City of Omaha State: NE Sampling Point: U1

Investigator(s): Walters Section, Township, Range: SW 1/4 Sect 15, T78N, R26W

Landform (hillside, terrace, etc.): Top of stream bank Local relief (concave, convex, none): flat

Slope (%): 10-15% Lat: 41.181046 Long: -96.092274 Datum: NAD 83

Soil Map Unit Name 7235 Judson Nodaway NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Gleditsia triacanthos*	20	Yes	FACU
2.			
3.			
4.			
5.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Bromus inermis*	75	Yes	FACU
2. *Ambrosia trifida*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	95	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	115 (A)		440 (B)
Prevalence Index = B/A =			3.83

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: U1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Loamy/Clayey	
8-24	10YR 4/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Rip-rap located along the slopes of the channel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Preser Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? Yes _____ No x Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Papio Creek Siphon City/County: Omaha Sampling Date: 5/25/2021

Applicant/Owner: City of Omaha State: NE Sampling Point: U2

Investigator(s): Walters Section, Township, Range: SW 1/4 Sect 15, T78N, R26W

Landform (hillside, terrace, etc.): Top of stream bank Local relief (concave, convex, none): flat

Slope (%): 10-15% Lat: 41.179078 Long: -96.069116 Datum: NAD 83

Soil Map Unit Name 7235 Judson Nodaway NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: ____)			
1. *Bromus inermis*	75	Yes	FACU
2. *Ambrosia trifida*	20	No	FAC
3. *Ambrosia artemisiifolia*	20	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	115 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	115 (A)		440 (B)

Prevalence Index = B/A = 3.83

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: U2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	
6-16	10YR 4/3	100					Loamy/Clayey	
16-24	10YR 4/4	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Preser Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? Yes _____ No x Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Papio Creek Siphon City/County: Omaha Sampling Date: 5/25/2021

Applicant/Owner: City of Omaha State: NE Sampling Point: U3

Investigator(s): Walters Section, Township, Range: SW 1/4 Sect 15, T78N, R26W

Landform (hillside, terrace, etc.): Top of stream bank Local relief (concave, convex, none): flat

Slope (%): 10-15% Lat: 41.17918 Long: -96.06956 Datum: NAD 83

Soil Map Unit Name 7235 Judson Nodaway NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: ____)			
1. *Bromus inermis*	80	Yes	FACU
2. *Ambrosia trifida*	10	No	FAC
3. *Trifolium pratense*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	100 (A)		390 (B)

Prevalence Index = B/A = 3.90

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: U3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Loamy/Clayey	
8-24	10YR 4/4	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

Rip-rap located along the slopes of the channel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Preser Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix D. *Floodplain Letter*

NEBRASKA
Good Life. Great Water.
DEPT. OF NATURAL RESOURCES

Project Review

DATE: July 6, 2020
TO: Jeff Walters, Snyder & Associates
FROM: John J. Miller, NeDNR
SUBJECT: South Papio Interceptor Sewer Repair

Comments

As requested, the Nebraska Department of Natural Resources (NeDNR) has reviewed the proposed project for potential impacts to jurisdictional dams, floodplain management, registered groundwater wells, stream gages, and surface water rights, and has listed the comments below:

According to Department records, no existing or proposed jurisdictional dams, registered groundwater wells, stream gages, or surface water rights are within the proposed project area.

Floodplain Management – General Construction in Floodplain/Floodway

The proposed project is located within a regulated (1% annual chance) floodplain and/or floodway, please see the attached figure. All development within a regulated floodplain and/or floodway needs to comply with local floodplain regulations, which includes obtaining a floodplain development permit. If you have any questions concerning floodplain management and permitting, please contact the local floodplain administrator, Donna Lynam in Sarpy County at 402-593-1555 or dlynam@sarpy.com and Robert Laroco of the City of Omaha at 402-444-5150 or robert.laroco@cityofomaha.org.

Closing

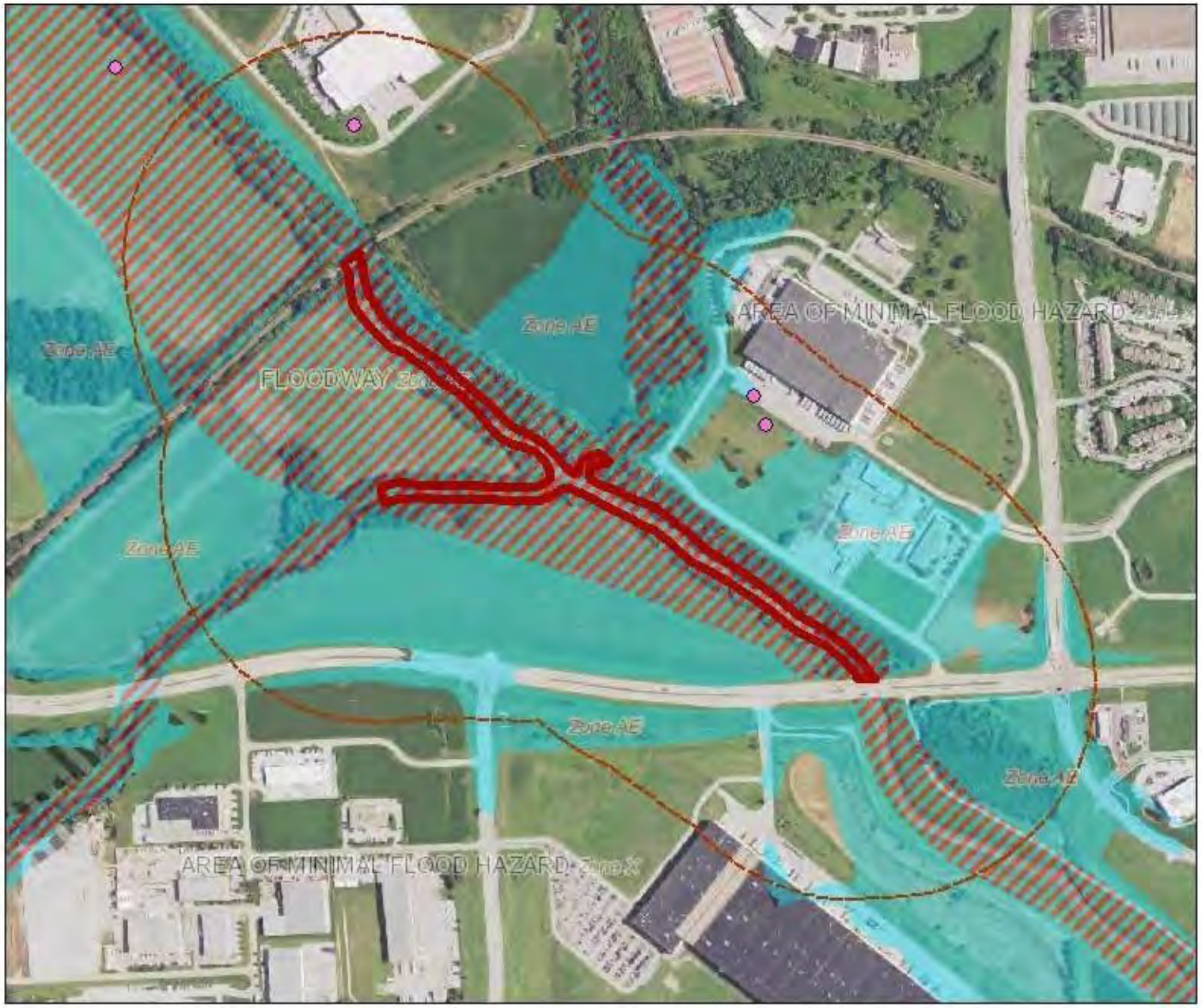
If you have any questions about this review, please feel free to contact me at 402-471-3969 or john.j.miller@nebraska.gov.

Enclosure(s)

Cc: Mike Thompson, NeDNR
Donna Lynam, Sarpy County
Robert Laroco, City of Omaha

South Papio Creek Interceptor Sewer
City of Omaha, Sarpy County, Nebraska
7/6/2020

NEBRASKA
Good Life. Great Water.
DEPT. OF NATURAL RESOURCES



Legend

- Approximate Project Area

1000ftBuffer

- 1,000 ft PWS Spacing

Registered Wells

- Registered Wells
- Abandoned Wells

Surface Water

- Irrigation
- Supplemental Irrigation
- Domestic
- Other
- Jurisdictional Dam
- Major Stream

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodw
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Hazard
- Area with Reduced Risk Due to Levee

N

0 500 1,000 Feet

Floodplain and Dam Safety Division. Cartographer: JM

Appendix E. *Section 7 Informal Consultation between FEMA and the USFWS*

The U.S. Fish and Wildlife Service concurs with your determinations that the described project will not adversely affect listed species or critical habitat. Contact this office if changes are made or new information becomes available.

MARK PORATH Digitally signed by MARK PORATH Date: 2022.11.14 12:56:30 -06'00'

Project Leader, Nebraska Field Office Supervisor

U.S. Department of Homeland Security
FEMA Region 7
11224 Holmes Road
Kansas City, MO 64131

FEMA

October 25, 2022

USFWS ECOSPHERE #2023-0015257

Mark Porath
Nebraska Field Supervisor
Nebraska Ecological Services Field Office
U.S. Fish and Wildlife Service
9325 South Alda Road
Wood River, NE 68883

Re: Project Number: FEMA-4420-DR-NE-HMGP-00023
Subrecipient: City of Omaha
Proposed Action: South Papio Interceptor Siphon Project
Location Coordinates: 41 179610, -96 091434

Dear Mark Porath,

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to provide Federal funds, through the Nebraska Emergency Management Agency (NEMA or Recipient) to the City of Omaha (Subrecipient) in accordance with FEMA's Hazard Mitigation Grant Program (HMGP), as authorized under Section 404 (42 U.S.C. 5170c) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288, as amended.

FEMA is requesting a Section 7 informal consultation with the U.S. Fish and Wildlife Service (USFWS) for the review of potential effects on any threatened and endangered species in accordance with the Endangered Species Act of 1973 (ESA; 16 U.S.C. § 1531(c)(1)) for the proposed construction of a sewer siphon in Sarpy County, Nebraska. Your review and concurrence in the *May Effect, Not Likely to Adversely Affect* determinations is requested.

Action Area
City of Omaha, Sarpy County, NE (appx. center 41.179610, -96.091434)
West Papillion Creek (41.18079, -96.09196 to 41.17803, -96.08720)
South Papillion Creek (41.17869, -96.09274 to 41.17897, -96.091324) (see figure 1 for project site aerial)

Proposed Action
The Subrecipient is proposing to construct a sewer siphon crossing at a lower elevation and to re-stabilize the existing channel embankments of South Papillion Creek and West Papillion Creek. Stream channel stabilization will encompass approximately 1,700 linear feet of the channel and include the installation of multiple grade control structures, including in-stream structures that slow the flow of water to reduce erosion. The streambanks would be graded to a more stable slope (2:1) and stabilized with Armorflex blocks and native vegetation to prevent channel erosion from progressing further upstream.

These improvements would provide long-term protection and stabilization of the proposed sewer

siphon. Beginning at the west side of West Papillion Creek, a new distribution box would be constructed to distribute flow from the 30-inch gravity sewer to the new siphon lines. The new siphon sewer pipes would cross the creek at an elevation lower than the existing siphon lines and 10-feet lower than the existing bottom of the channel. This will ensure they are protected from debris and heavy stream flows. On the east side of West Papillion Creek, the siphon lines will discharge into a collection box constructed on the existing 60-inch trunk sewer.

In addition to the proposed sewer siphon improvements and embankment work, a 0.5-mile-long gravel access road will be constructed for accessing the project site and a staging area. Tree removal will be necessary along both sides of West Papillion creek (see attached Site Plan).

Purpose and Need

The inverted siphon, consisting of two 16-inch and one 12-inch cast iron pipe, serves approximately 26,000 residential customers in Omaha, La Vista, and Sarpy County. The service area is approximately 3,700 acres with an average daily flow rate of 2.1 million gallons per day and a peak flow rate of 5 million gallons per day (MGD).

The siphon was originally constructed in the 1970s with five feet of ground cover at the low point of the channel. Severe creek erosion has cut down the stream bed and exposed approximately 35 feet of the interceptor sewer with an apparent 2-3 feet of undercutting. The pipe joints are exposed and vulnerable to damage from debris and flow in the creek which could cause a break or leak. A break within this siphon could result in a loss of service to the customers and untreated sanitary sewage reaching Waters of the State, a violation of the Clean Water Act, impacting the environment and the community.

Threatened and Endangered Species

The following threatened and endangered species are identified as potentially occurring within this portion of Sarpy County, Nebraska: Northern long-eared bat *(Myotis septentrionalis),* Pallid sturgeon *(Scaphirhynchus albus),* Piping plover *(Charadrius melodus),* Monarch butterfly *(Danaus plexippus).* No critical habitats are identified within the project area for the four species.

Based on the parameters specified in the May 14, 2019, Consultation Analysis, and Snyder & Associates Rare, Threatened, And Endangered Species Technical Memorandum (attached), FEMA determines there will be ***No Affect*** to the following species listed as occurring within or near the project site: Pallid sturgeon, Piping plover, and the candidate Monarch butterfly.

The remaining species, the Northern long-eared bat, has potential to be present near or at the project sites. With the following efforts of avoidance, FEMA determines that these construction activities *May Effect, but are Not Likely to Adversely Affect* this species.

Northern Long-Eared Bat (NLEB)

As of March 23, 2022 (87 FR 16442 -16452), the Service published a proposed rule to the Federal Register to list the Northern-long eared bat as an endangered species under the Endangered Species Act. If this rule is adopted by the Service, it would reclassify the northern long-eared bat from a threatened species to an endangered species on the List of Endangered and Threatened Wildlife. It would also remove the species'-specific section 4(d) rule prohibitions and exceptions it received under threatened status. A final ruling by the Service is expected early in calendar year 2023. The Action Area is located within the species' range and contains suitable roosting and foraging habitats

for the species. There are no known or documented maternity roost sites or hibernacula within one mile of the Action Area (Service, July 2022, personal communication). Based on the location and suitable habitat present in the Action Area, FEMA is opting to work outside of the Service's 4d Rule Framework and informally consult on the potential affects to NLEB.

In the Action Area, 37 mature trees have been identified as suitable habitat for this species by the applicant's consulting and engineering team. Some of these trees will require removal to complete the project. This tree removal will occur during the NLEB inactive season between October 15 — April 1. In addition to tree removal, a temporary increase in noise frequency will occur in the Action Area from daytime (i.e. diurnal) construction activities. This tree removal and noise associated with construction work is necessary to complete the installation of the new siphon. Some of the staging and construction work may occur during the species' inactive season of 2022-2023, however, this work is expected to extend into the NLEB active season after the completion of the FEMA approval process for this grant. While activities are expected to occur during the active season near the suitable roosting habitat, we do not anticipate that these daytime activities will adversely affect daytime roosting NLEB (maternal or nonmaternal) that may occur in the Action Area because the activities do not involve direct removal of roosting habitat and because work will not occur at night when the species would be actively in flight and foraging in the Action Area. To Avoid impacts to this species, FEMA will require the subrecipient to implement the following avoidance measures:

1. Tree removal will not occur from April 1 through October 15, in order to avoid impacts to the species during its active season.
2. During the NLEB active season, April 1 through October 15, all work will be performed during daylight hours.

With these measures of avoidance, we do not anticipate adverse impacts to the NLEB and determine that the proposed project ***May Affect, Not Likely to Adversely Affect*** the Northern long-eared bat.

FEMA is requesting your concurrence to its effects determination before approving funding for the proposed project. Should you have any questions or wish to discuss this project in greater detail, please feel free to contact me at teri.toye@fema.dhs.gov or 510-512-2373, or FEMA Environmental Specialist, Aaron Sole at aaron.sole@fema.dhs.gov or 202-805-6454.

Sincerely,

TERI L TOYE

Digitally signed by TERI L TOYE
Date: 2022.10.25 10:14:14 -05'00'

Teri Toye
Regional Environmental Officer, Acting
FEMA Region 7

Attachments:
Site Photos and Maps
Site Plan
Synder & Associates Rare, Threatened, And Endangered Species Technical Memorandum
Snyder & Associates IPaC submittal and 4(d) rule letter

Appendix F: *Section 106 NHPA Consultation between FEMA and the Nebraska State Historic Preservation Office*

U.S. Department of Homeland Security
FEMA Region VII
11224 Holmes Road
Kansas City, MO 64131

IN REPLY REFER TO:
TLT-FEMA-4420-DR-NE-HMGP-00023

July 14, 2022

Jill Dolberg
Deputy State Historic Preservation Officer
Nebraska State Historic Preservation Office
1500 R Street
Lincoln, Nebraska 68508-1651

Re: **Project Number:** FEMA-4420-DR-NE-HMGP-00023
Subrecipient: City of Omaha
Undertaking: South Papio Interceptor Siphon Project
Location: City of Omaha, Sarpy County, NE (appx. center 41.179610, -96.091434)
(West Papillion Creek: 41.18079, -96.09196 to 41.17803, -96.08720)
(South Papillion Creek: 41.17869, -96.09274 to 41.17897, -96.091324)
Finding: No Historic Properties Affected

Dear Jill Dolberg:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to provide a Federal grant, through the Nebraska Emergency Management Agency (NEMA or Recipient), to the City of Omaha (Subrecipient), authorized under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288, as amended, in response to major Disaster Declaration FEMA-4420-DR-NE, declared March 21, 2019, as a result of Severe Winter Storms, Straight-line Winds, and Flooding that occurred from March 9 through July 14, 2019. The Subrecipient has requested funding through FEMA's Hazard Mitigation Grant Program (HMGP) to replace an exposed sewer siphon pipe, install new distribution and collection structures, reconnect to the existing sanitary network, and stabilize creek embankments in the City of Omaha, Sarpy County, NE (Undertaking).

FEMA is reviewing the Undertaking for compliance with Section 106 of the National Historic Preservation Act (NHPA) in accordance with the 2015 *Programmatic Agreement Among the Federal Emergency Management Agency, the Nebraska State Historical Society, and the Nebraska*

Emergency Management Agency (Agreement). Accordingly, FEMA is providing the following information regarding the above referenced Undertaking.

Undertaking

The Subrecipient is proposing to reconstruct the sewer siphon crossing at a lower elevation and to re-stabilize the existing channel embankments of South Papillion Creek and West Papillion Creek (Figures 1-2). Stream channel stabilization will encompass approximately 1,700 linear feet of the channel and include the installation of multiple grade control structures, including in-stream structures that slow the flow of water to reduce erosion (see enclosed South Papio Interceptor Siphon Overall Site and Access Plan, Snyder and Associates, January 4, 2022). The streambanks would be graded back to a more stable slope (2:1) and stabilized with Armorflex blocks and native vegetation to prevent channel erosion from progressing further upstream.

These improvements would provide long-term protection and stabilization of the proposed sewer siphon. Beginning at the west side of West Papillion Creek, a new distribution box will be constructed to distribute flow from the 30-inch gravity sewer to the new siphon lines. The new siphon sewer pipes will cross the creek at an elevation lower than the existing siphon lines and 10-feet lower than the existing bottom of the channel. This will ensure they are protected from debris and heavy stream flows. On the east side of West Papillion Creek, the siphon lines will discharge into a collection box constructed on the existing 60-inch trunk sewer.

In addition to the proposed sewer siphon improvements and embankment work, a 0.5-mile-long gravel access road will be laid down for accessing the project site and a staging area (Figure 2). With approximately 10,400 cubic yards of soil excavation required for the proposed project, unused soils for the project will be hauled offsite and stockpiled at a preexisting facility.

The Subrecipient's consultant, Snyder & Associates, Inc., initiated consultation with the Nebraska State Historic Preservation Office (NeSHPO or SHPO) on June 10, 2020, regarding the scope of work (SOW) *to make improvements to the damaged sewer crossing as well as stabilize the banks and provide grade control of the South Papio Creek to mitigate future stream degradation* (see enclosed Agency Coordination (NeSHPO), Jeff Walters, Snyder and Associates, June 10, 2020, and HP# 2006-144-01 South Papio Interceptor Sewer Repair & Channel Stabilization, John Swigart, NeSHPO, July 9, 2020). The response and comments received from SHPO on July 29, 2020 (HP# 2006-144-01) stated: *According to the information provided along with a check of NeSHPO records, the ground disturbing activities associated with this project DO have the potential to affect historic properties eligible for listing on the National Register of Historic Places, if present.* SHPO *requested that all areas within the defined project alignment slated for ground disturbing activities (such as, but not limited to excavation, trenching, or grading) be surface surveyed, and where appropriate subsurface tested by a professional archeologist or archeological firm prior to project start. Areas in the project previously investigated for archeological resources do not need to be resurveyed.*

Area of Potential Effect (APE)

In accordance with Stipulation II.C.2.b of the Agreement, FEMA has determined the direct APE regarding ground disturbing activities is the approximately 1,700 feet of embankment work, the 0.5-mile gravel access road, the approximate 3-acres of staging area for an overall potential of 19.31-acres of construction staging, embankment excavation and stabilizing, creek excavation, and 0.5-mile access road for the construction activities (Figure 2).

The indirect APE is limited to visual effects, and auditory effects, during construction activities and would extend to any historic properties that may be adjacent to work areas. The construction activities will be temporary, therefore, there is no potential for indirect effects.

Identification and Evaluation

In accordance with Stipulation II.C.3 of the Agreement, FEMA has considered the Undertaking's potential to affect historic properties. The Subrecipient contracted with Bear Creek Archaeology, Inc. of Cresco, IA (BCA) to conduct the archaeological survey and the field work was completed in May and June of 2022. The enclosed *Phase I Cultural Resources Investigation for the Proposed Papillion Creek Siphon Project in the City of La Vista, Sarpy County, Nebraska* BCA 3083, was prepared by Jeremy L. Skeens (Principal Investigator) of BCA, in July of 2020. The investigation revealed no archaeological material or other cultural deposits or features within the APE, and BCA recommends no further cultural resources work for the project.

Tribal Involvement

Due to the volume of proposed ground disturbance associated with this project, FEMA is providing this documentation to the SHPO and federally recognized Native American Tribes that have been identified through a search of The Tribal Directory Assessment Tool (TDAT) and other resources who may have knowledge of cultural resources in the project area or who may have other concerns about the Undertaking. In view of construction season time constrains, FEMA is providing this documentation concurrently to the SHPO and tribes in accordance with Stipulation II.C. of the Agreement.

Determination of Effect

Based on the results of the Phase I Cultural Resources Survey of the APE, FEMA finds the Undertaking will result in No Historic Properties Affected in accordance with Stipulation II.C.4.a of the Agreement. Unless the SHPO or participating tribes object to this finding within 30 days from receipt of this documentation in accordance with Stipulation I.E.2.b, the Section 106 review of the Undertaking will have concluded, and FEMA may fund the Undertaking.

Request for Concurrence

FEMA respectfully requests your concurrence with this finding within 30 calendar days in accordance with Stipulation I.E.2.b of the Agreement. In the interest of time, however, your prompt attention to this matter would be greatly appreciated. Should you need additional information please do not hesitate to contact me at teri.toye@fema.dhs.gov or (510)-512-2373.

Sincerely,

Document digitally signed by Teri Toye on July 14, 2022

Teri Toye
Deputy Regional Environmental Officer
FEMA Region VII

Figures:
Figure 1: Project Location Quadrangle Map
Figure 2: Project Location Aerial Map
Figure 3: Project Location LiDAR Hillshade Map

Enclosures:
Agency Coordination (NeSHPO), Jeff Walters, Snyder and Associates, Inc., June 10, 2020
HP# 2006-144-01 South Papio Interceptor Sewer Repair & Channel Stabilization, John Swigart, NeSHPO, July 9, 2020
Phase I Cultural Resources Investigation for the Proposed Papillion Creek Siphon Project in the City of La Vista, Sarpy County, Nebraska, BCA 3083, Jeremy L. Skeens, July 2022
South Papio Interceptor Siphon Overall Site and Access Plan, Snyder and Associates, Inc., January 4, 2022

U.S. Department of Homeland Security
Federal Emergency Management Agency
DR-4420-NE-HMGP-00023
Section 106 Review: South Papio Interceptor Siphon Project
Project Location Coordinates: Approximate Center Point 41.179610, -96.091434

Figure 1: The proposed project is located off Giles Road in Section 17, Township 14 North, Range 12 East, in Ralston, Nebraska, 2021 Quadrangle. Overall APE and access roads in red polygon. Source: USGS.

U.S. Department of Homeland Security
Federal Emergency Management Agency
DR-4420-NE-HMGP-00023
Section 106 Review: South Papio Interceptor Siphon Project
Project Location Coordinates: Approximate Center Point 41.179610, -96.091434

Figure 2: Google Earth aerial image showing the proposed access roads and proposed staging and embankment APE (in red) (APE is enlarged). North access road is an existing recreational trail. Source: Google Earth Pro, image dated 06/12/2021

U.S. Department of Homeland Security
Federal Emergency Management Agency
DR-4420-NE-HMGP-00023
Section 106 Review: South Papio Interceptor Siphon Project
Project Location Coordinates: Approximate Center Point 41.17980, -96.09204

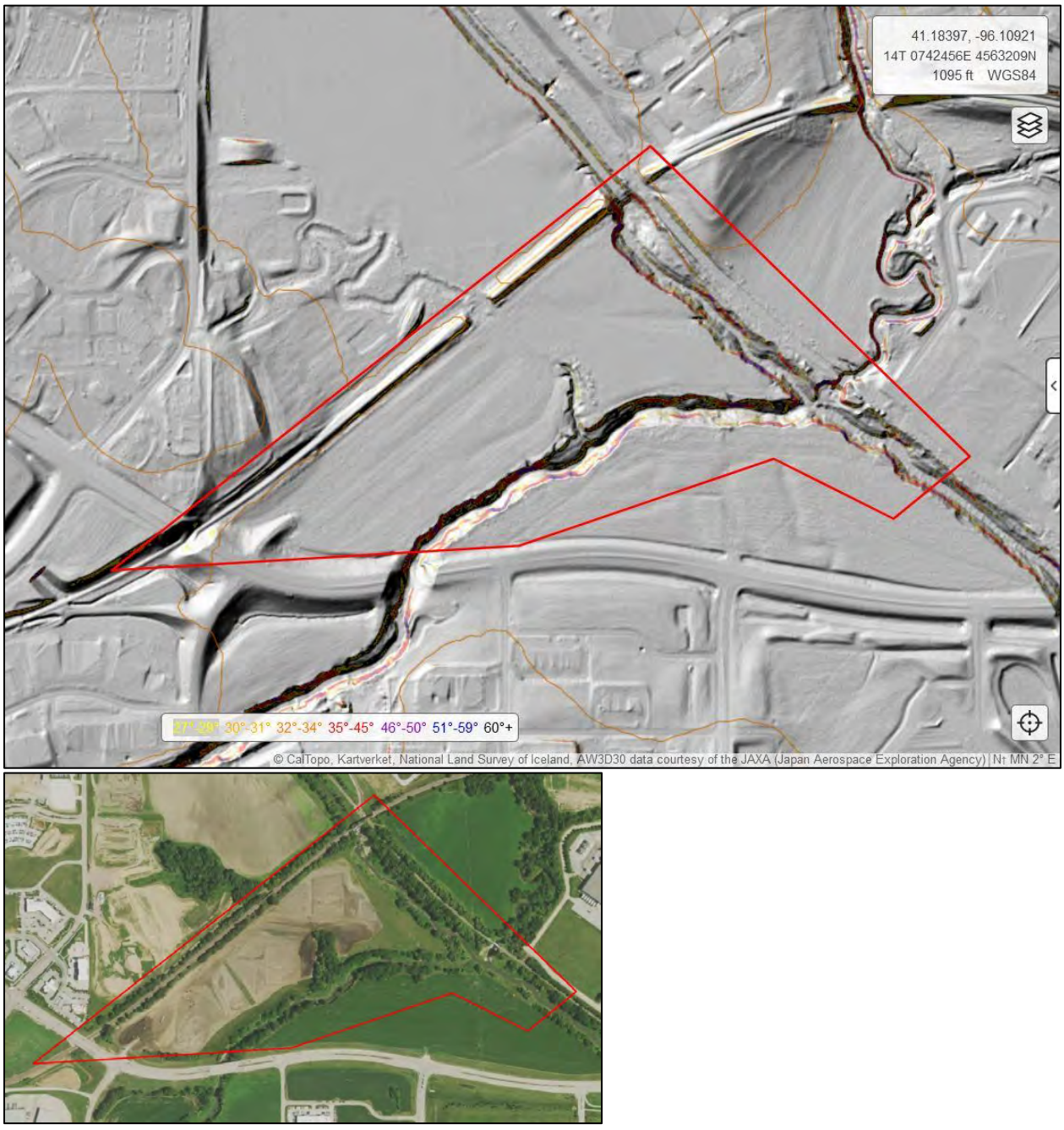


Figure 3: LiDAR Hillshade with contour and slope angle shading overlay. APE in red polygon is Lexpanded to show entire area, see aerial inset below. Source: CalTopo.

***Appendix G**: SHPO Letter of Concurrence with FEMA Section 106 NHPA Findings*

History NEBRASKA

Preserving the past. Building the future.

7/15/2022

Teri Toye
FEMA
VIA EMAIL

RE: HP# 2006-144-01; FEMA-4420-DR-NE-HMGP-00023, South Papio Interceptor Siphon Project, City of Omaha, Sarpy County, NE

Ms. Toye,

Thank you for submitting the cultural resource inventory report prepared for the above referenced project for Nebraska State Historic Preservation Office (NeSHPO) review and comment. Our comment on this project and its potential to affect historic properties is required by Section 106 of the National Historic Preservation Act of 1966, as amended in 2014, and implementing regulations 36 CFR Part 800.

This report documents the results of a cultural resources investigation prior to the project. Based on the information provided, the proposed undertaking is unlikely to affect any cultural resources listed on the National Register of Historic Places or eligible for such a listing. Therefore, the NeSHPO concurs with the determination that **No Historic Properties Affected** is appropriate for this undertaking and the project should proceed as planned.

Please retain this correspondence and your documented finding in order to show compliance with Section 106 of the National Historic Preservation Act, as amended. If you have any questions, please contact me at john.swigart@nebraska.gov or 402-560-0574.

Sincerely,

John Swigart
Preservation Archeologist

1500 R Street
Lincoln, NE 68508-1651
P: 402.471.3270
P: 800.833.6747
F: 402.471.3100
history.nebraska.gov

***Appendix H**: Example of FEMA Section 106 NHPA Tribal Consultation Letter*

U.S. Department of Homeland Security
FEMA Region VII
11224 Holmes Road
Kansas City, MO 64131

IN REPLY REFER TO:
TLT-FEMA-4420-DR-NE-HMGP-00023

July 14, 2022

Stacy Laravie
Tribal Historic Preservation Officer
Ponca Tribe of Nebraska
P.O. Box 288
Niobrara, NE 68760

Re: **Project Number:** FEMA-4420-DR-NE-HMGP-00023
Subrecipient: City of Omaha
Undertaking: South Papio Interceptor Siphon Project
Location: City of Omaha, Sarpy County, NE (appx. center 41.179610, -96.091434)
(West Papillion Creek: 41.18079, -96.09196 to 41.17803, -96.08720)
(South Papillion Creek: 41.17869, -96.09274 to 41.17897, -96.091324)
Finding: No Historic Properties Affected

Dear Stacy Laravie:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to provide a Federal grant, through the Nebraska Emergency Management Agency (NEMA or Recipient), to the City of Omaha (Subrecipient), authorized under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288, as amended, in response to major Disaster Declaration FEMA-4420-DR-NE, declared March 21, 2019, as a result of Severe Winter Storms, Straight-line Winds, and Flooding that occurred from March 9 through July 14, 2019. The Subrecipient has requested funding through FEMA's Hazard Mitigation Grant Program (HMGP) to replace an exposed sewer siphon pipe, install new distribution and collection structures, reconnect to the existing sanitary network, and stabilize creek embankments in the City of Omaha, Sarpy County, NE (Undertaking).

FEMA is reviewing the Undertaking for compliance with Section 106 of the National Historic Preservation Act (NHPA) in accordance with the 2015 *Programmatic Agreement Among the Federal Emergency Management Agency, the Nebraska State Historical Society, and the Nebraska*

Emergency Management Agency (Agreement). Accordingly, FEMA is providing the following information regarding the above referenced Undertaking.

Undertaking

The Subrecipient is proposing to reconstruct the sewer siphon crossing at a lower elevation and to re-stabilize the existing channel embankments of South Papillion Creek and West Papillion Creek (Figures 1-2). Stream channel stabilization will encompass approximately 1,700 linear feet of the channel and include the installation of multiple grade control structures, including in-stream structures that slow the flow of water to reduce erosion (see enclosed South Papio Interceptor Siphon Overall Site and Access Plan, Snyder and Associates, January 4, 2022). The streambanks would be graded back to a more stable slope (2:1) and stabilized with Armorflex blocks and native vegetation to prevent channel erosion from progressing further upstream.

These improvements would provide long-term protection and stabilization of the proposed sewer siphon. Beginning at the west side of West Papillion Creek, a new distribution box will be constructed to distribute flow from the 30-inch gravity sewer to the new siphon lines. The new siphon sewer pipes will cross the creek at an elevation lower than the existing siphon lines and 10-feet lower than the existing bottom of the channel. This will ensure they are protected from debris and heavy stream flows. On the east side of West Papillion Creek, the siphon lines will discharge into a collection box constructed on the existing 60-inch trunk sewer.

In addition to the proposed sewer siphon improvements and embankment work, a 0.5-mile-long gravel access road will be laid down for accessing the project site and a staging area (Figure 2). With approximately 10,400 cubic yards of soil excavation required for the proposed project, unused soils for the project will be hauled offsite and stockpiled at a preexisting facility.

The Subrecipient's consultant, Snyder & Associates, Inc., initiated consultation with the Nebraska State Historic Preservation Office (NeSHPO or SHPO) on June 10, 2020, regarding the scope of work (SOW) *to make improvements to the damaged sewer crossing as well as stabilize the banks and provide grade control of the South Papio Creek to mitigate future stream degradation* (see enclosed Agency Coordination (NeSHPO), Jeff Walters, Snyder and Associates, June 10, 2020, and HP# 2006-144-01 South Papio Interceptor Sewer Repair & Channel Stabilization, John Swigart, NeSHPO, July 9, 2020). The response and comments received from SHPO on July 29, 2020 (HP# 2006-144-01) stated: *According to the information provided along with a check of NeSHPO records, the ground disturbing activities associated with this project DO have the potential to affect historic properties eligible for listing on the National Register of Historic Places, if present.* SHPO *requested that all areas within the defined project alignment slated for ground disturbing activities (such as, but not limited to excavation, trenching, or grading) be surface surveyed, and where appropriate subsurface tested by a professional archeologist or archeological firm prior to project start. Areas in the project previously investigated for archeological resources do not need to be resurveyed.*

Area of Potential Effect (APE)

As defined in § 800.16(d) the APE for a project is "the geographic area within which an undertaking may directly or indirectly cause changes in the character of or use of historical properties, if any such properties exist". Delineation of an APE is based upon the potential for effect to historic resources, which may differ for aboveground resources (historic structures and landscapes) and subsurface resources (archaeological sites). Factors with potential to cause effects include, but are not limited to, noise, vibration, visual (setting), traffic, atmosphere, and construction. Effects can be both indirect and cumulative. In accordance with Stipulation II.C.2.b of the Agreement, FEMA has determined the direct APE regarding ground disturbing activities is the approximately 1,700 feet of embankment work, the 0.5-mile gravel access road, the approximate 3-acres of staging area for an overall potential of 19.31-acres of construction staging, embankment excavation and stabilizing, creek excavation, and 0.5-mile access road for the construction activities (Figure 2).

The indirect APE is limited to visual effects, and auditory effects, during construction activities and would extend to any historic properties that may be adjacent to work areas. The construction activities will be temporary, therefore, there is no potential for indirect effects.

Identification and Evaluation

In accordance with Stipulation II.C.3 of the Agreement, FEMA has considered the Undertaking's potential to affect historic properties. The Subrecipient contracted with Bear Creek Archaeology, Inc. of Cresco, IA (BCA) to conduct the archaeological survey and the field work was completed in May and June of 2022. The enclosed *Phase I Cultural Resources Investigation for the Proposed Papillion Creek Siphon Project in the City of La Vista, Sarpy County, Nebraska* BCA 3083, was prepared by Jeremy L. Skeens (Principal Investigator) of BCA, in July of 2020. The investigation revealed no archaeological material or other cultural deposits or features within the APE, and BCA recommends no further cultural resources work for the project.

Tribal Involvement

Due to the volume of proposed ground disturbance associated with this project, FEMA is providing this documentation to the SHPO and federally recognized Native American Tribes that have been identified through a search of The Tribal Directory Assessment Tool (TDAT) and other resources who may have knowledge of cultural resources in the project area or who may have other concerns about the Undertaking. In view of construction season time constrains, FEMA is providing this documentation concurrently to the SHPO and tribes in accordance with Stipulation II.C. of the Agreement.

Determination of Effect

Based on the results of the Phase I Cultural Resources Survey of the APE, FEMA finds the Undertaking will result in No Historic Properties Affected in accordance with Stipulation II.C.4.a of the Agreement. Unless the SHPO or participating tribes provides new information that would affect FEMA's finding or objects to this finding within 30 days from receipt of this documentation in accordance with Stipulation I.E.2.b, the Section 106 review of the Undertaking will have concluded, and FEMA may fund the Undertaking.

Conclusion

FEMA respectfully requests your concurrence with this finding within 30 calendar days in accordance with Stipulation I.E.2.b of the Agreement. In the interest of time, however, your prompt attention to this matter would be greatly appreciated. Should you need additional information please do not hesitate to contact me at kate.stojsavljevic@fema.dhs.gov or 202-705-1192, or Region VII Deputy Regional Environmental Officer, Teri Toye at teri.toye@fema.dhs.gov or 510-512-2373.

Sincerely,

Digitally signed by Kate Stojsavlejevic on July 15, 2022

Kate Stojsavljevic
Regional Environmental Officer
FEMA Region VII

Figures:
Figure 1: Project Location Quadrangle Map
Figure 2: Project Location Aerial Map
Figure 3: Project Location LiDAR Hillshade Map

Enclosures:
Agency Coordination (NeSHPO), Jeff Walters, Snyder and Associates, Inc., June 10, 2020
HP# 2006-144-01 South Papio Interceptor Sewer Repair & Channel Stabilization, John Swigart, NeSHPO, July 9, 2020
Phase I Cultural Resources Investigation for the Proposed Papillion Creek Siphon Project in the City of La Vista, Sarpy County, Nebraska, BCA 3083, Jeremy L. Skeens, July 2022
South Papio Interceptor Siphon Overall Site and Access Plan, Snyder and Associates, Inc., January 4, 2022

U.S. Department of Homeland Security
Federal Emergency Management Agency
DR-4420-NE-HMGP-00023
Section 106 Review: South Papio Interceptor Siphon Project
Project Location Coordinates: Approximate Center Point 41.179610, -96.091434

Map

Figure 1: The proposed project is located off Giles Road in Section 17, Township 14 North, Range 12 East, in Ralston, Nebraska, 2021 Quadrangle. Overall APE and access roads in red polygon. Source: USGS.

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Figure 2: Google Earth aerial image showing the proposed access roads and proposed staging and embankment APE (in red) (APE is enlarged). North access road is an existing recreational trail. Source: Google Earth Pro, image dated 06/12/2021

U.S. Department of Homeland Security
Federal Emergency Management Agency
DR-4420-NE-HMGP-00023
Section 106 Review: South Papio Interceptor Siphon Project
Project Location Coordinates: Approximate Center Point 41.17980, -96.09204

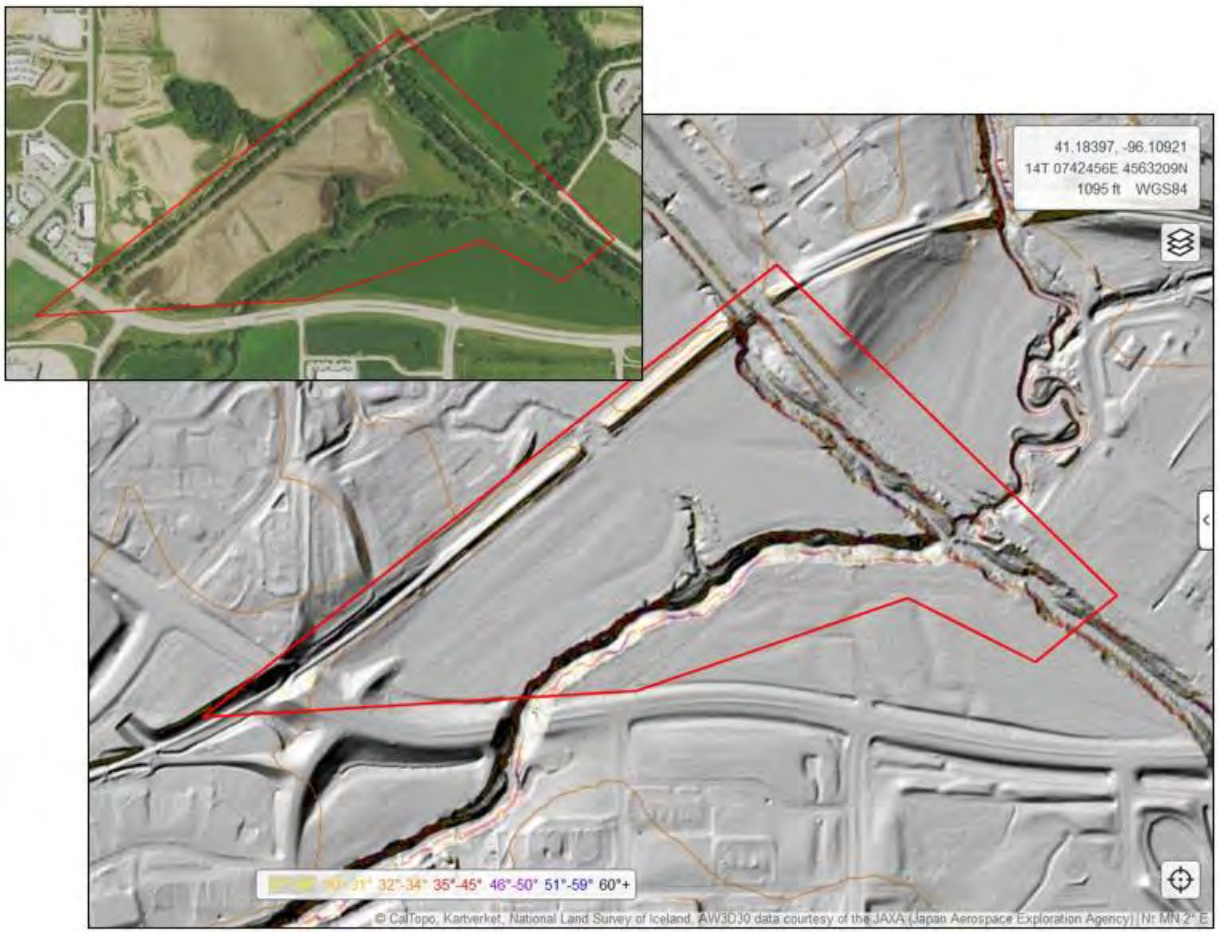

Figure 3: LiDAR Hillshade with contour and slope angle shading overlay. APE in red polygon is expanded to show entire area, see aerial inset. Source: CalTopo.