



**US Army Corps
of Engineers®**
Tulsa District

**FINAL
ENVIRONMENTAL ASSESSMENT**

**MIDWEST CITY WATER INFRASTRUCTURE
IMPROVEMENTS PROJECT
MIDWEST CITY, OKLAHOMA**

EAXX-202-00-M5W-1739291122

**U.S. Army Corps of Engineers
Southwestern Division
Tulsa District**

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ACRONYMS

APE	Area of Potential Effect	FWCA	Fish and Wildlife Coordination Act
BCC	Birds of Conservation Concern	GHG	greenhouse gas
BGEPA	Bald and Golden Eagle Protection Act	HPRI	Historic Preservation Resource Identification
BMPs	Best Management Practices	HSPS	high service pump station
CAA	Clean Air Act	HTRW	Hazardous, Toxic, and Radioactive Waste
CAR	Coordination Act Report	HUC	Hydrologic Units Code
CEQ	Council on Environmental Quality	IPaC	Information for Planning and Consultation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	LF	linear feet
CFR	Code of Federal Regulations	MBTA	Migratory Bird Treaty Act
CO	Carbon Monoxide	MPRSA	Marine Protection, Research and Sanctuaries Act
CWA	Clean Water Act	NAAQS	National Ambient Air Quality Standards
DEQ	Department of Environmental Quality	NEPA	National Environmental Policy Act
EA	Environmental Assessment	NHL	National Historic Landmarks
EIS	Environmental Impact Statement	NMFS	National Marine Fisheries Service
EO	Executive Order	NOx	Nitrogen Oxides
EPA	Environmental Protection Agency	NPDES	National Pollutant Discharge Elimination System
ER	Engineer Regulation	NRCS	Natural Resources Conservation Service
ESA	Endangered Species Act	NRHP	National Register of Historic Places
EST	elevated storage tank	O3	Ozone
FAA	Federal Aviation Administration	OAS	Oklahoma Archeological Survey
FONSI	Finding of No Significant Impact	OASIS	Oklahoma Archeological Survey's Information System
FPPA	Farmland Protection Policy Act	ODWC	Oklahoma Department of Wildlife Conservation

ODEQ	Oklahoma Department of Environmental Quality	USGS	United States Geologic Survey
OkIPC	Oklahoma Invasive Plant Council	UST	Underground Storage Tank
OWRB	Oklahoma Water Resources Board	VOCs	Volatine Organic Compounds
Phase I ESA	Phase I Environmental Site Assessment	WDS	water distribution system
Pb	Lead	WRDA	Water Resources Development Act
PL	Public Law	WTP	water treatment plant
PM10	particulate matter < diameter 10 micrometers		
PM2.5	particulate matter < diameter 2.5 micrometers		
PRV	pressure reducing valve		
PUD	Planned Unit Development		
RCRA	Resource Conservation and Recovery Act		
REC	Recognized Environmental Condition		
SDWA	Safe Drinking Water Act		
SF	square feet		
SHPO	State Historic Preservation Officer		
SO2	Sulfur Dioxide		
THPO	Tribal Historic Preservation Officers		
TSCA	Toxic Substances Control Act		
USACE	U.S. Army Corps of Engineers		
USC	United States Code		
USDA	U.S. Department of Agriculture		
USFWS	U.S. Fish and Wildlife Service		
USGCRP	U.S. Global Change Research Program		

1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared by the U.S. Army Corps of Engineers (USACE) to evaluate the alternatives associated with the Midwest City Water Infrastructure Improvements Project. This EA is an assessment of potential impacts that could result from the implementation of Alternative 1 (the No Action Alternative) and Alternative 2 (the Proposed Action). The EA has been prepared in accordance with the National Environmental Policy Act of 1969, (42 United States Code [USC] § 4321 *et seq.*) as amended, including the Fiscal Responsibility Act of 2023, and USACE regulations at 33 Code of Federal Regulations (CFR) Part 230: Procedures for Implementing NEPA (1988). Preparation of this EA began prior to the new NEPA implementation guidance issued on 30 June 2025 by the Department of Defense and follows the previous Army and USACE NEPA implementation guidance. The City of Midwest City is non-federal sponsor for the project.

1.1 PROJECT AUTHORITY

The Midwest City Water Infrastructure Improvements Project was authorized under Section 219(f)(231) of the Water Resources Development Act (WRDA) of 1992, Public Law (PL) 102-580, as amended in Section 5158 of WRDA 2007, PL 110-114, in Section 352(b)(8) of WRDA 2020, PL 116-260, and in Section 1304(b)(2)(YY) of WRDA 2024, PL 118-272. Appropriations were provided under the Consolidated Appropriations Act of 2022, PL 117-10 for a portion of the authorized project.

1.2 PURPOSE AND NEED

The purpose of the Proposed Action is to improve water pressure to second-story structures within the study area. Midwest City continues to experience residential, commercial, and industrial growth. The 2012 Hydraulic Analysis and Engineering Report identified low pressures in the southeastern portion of the water distribution system (WDS). Currently, most of the WDS operates on a single pressure plane (Main Pressure Zone), except for the small existing high-pressure zone adjacent to the water treatment plant (WTP). An expanded high-pressure zone is needed to improve the low pressures within the southeastern portion of the WDS.

1.3 PROJECT HISTORY

Over ten years ago, a portion of the west clearwell roof collapsed into the clearwell requiring it to be taken out of service. Originally constructed during the 1940s and 1950s, the remaining infrastructure is still operational but has far exceeded its useful lifespan and is in need of replacement.

Midwest City plans to improve their water infrastructure in two phases. The USACE was not involved in Phase I of the project, which was fully funded by the City of Midwest City through a general obligation bond and completed in January 2025. Phase I involved constructing one new above-ground storage tank and a new booster pump station to replace aging facilities. The current facilities consist of two below-ground clearwells and are currently filled by water from a deep well field; high service pumps convey the water into the main distribution network.

Midwest City sought to provide the required match on this project as the non-federal sponsor and complete Phase II of the Midwest City Water Infrastructure Improvements Project, previously referred to as the Booster Pump Station Reconstruction Project or Timber Ridge

The study area is roughly 2,200 acres in Midwest City, Oklahoma. This area spans from South Post Rd. to the west, Timber Ridge Blvd. to the east, Southeast 15th St. to the north, and Southeast 29th St. to the south (Figure 1-1). The study area is defined by the region currently being serviced by the existing water distribution system that is in need of improvements related to water pressure. Midwest City is located approximately 10 miles outside of Oklahoma City, OK, and is part of the Oklahoma City metropolitan area with a population of 60,000 people (US Census, 2023a).

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 NO ACTION

USACE is required to consider the No Action Alternative during the assessment of impacts to comply with NEPA and the USACE regulations at 33 CFR Part 230: Procedures for Implementing NEPA.

NEPA defines a No Action as the continuation of existing conditions in the affected environment without the implementation, or in the absence of the Proposed Action. The No Action Alternative (Alternative 1), serves as the benchmark against which Federal actions are to be evaluated. The implementation of the No Action Alternative would result in continued low pressures in the southeastern portion of Midwest City's WDS. The alternative allows low pressures in the southeastern portion of the WDS to continue while both avoiding both the monetary investment and ignoring public needs associated with water pressure for indoor plumbing. Therefore, the No Action Alternative was deemed unacceptable.

2.2 PROPOSED ACTION

The Proposed Action (Alternative 2), consists of improvements to the water distribution system in Midwest City. The Eastside EST, a new elevated storage tank, is proposed to be built on the east side of the study area on property acquired by Midwest City. An access driveway approximately 600 feet long would be required to provide access to the Eastside EST site from Southeast 29th St. A new electrical service would be required to serve the Eastside EST site. Detailed design for several of the components of the Eastside EST, including the foundation, would be completed by USACE's selected construction contractor based on the proprietary designs, fabrication techniques, and erection methods established by USACE. A new HSPS is proposed at the existing WTP site to serve the proposed Timber Ridge Zone. New vertical turbine pumps are anticipated to pump water from the clearwell directly to the new high-pressure zone distribution piping. Modifications to the existing electrical system at the WTP and HSPS site would be required to power the new pumps. Appendix A provides a more detailed look at what is being proposed to be constructed at each of the four sites associated with this project.

Transmission/Distribution Improvements associated with the project include:

- Approximately 1,500 linear feet (LF) of 12-inch water main would be required to connect the new Eastside EST to the distribution system at the existing 12-inch water main west of Timber Ridge Boulevard.
- A reconfiguration of yard piping at the Titan Tower site, including swapping the inlet and outlet connections of the tank, is proposed to reverse the direction of the filling and drain lines of the tank so that the tank is fed by the WTP from the north instead of the east 18-inch line along Southeast 29th St., as this line would become part of the proposed Timber Ridge Zone.
- A reconfiguration of distribution system piping at the corner of 15th St. and Westminster Rd., including a new connection from the 24-inch water main on the west side of Westminster to the 12-inch water main on the north side of 15th St.

- Removal of the pressure reducing valve (PRV) on SE 23rd St. east of South Post Rd. The PRV would be replaced with a spool but may be reinstalled as part of future improvements.
- At least three isolation valves should be closed to isolate the new high-pressure zone.

The proposed project would be constructed in the following order:

1. WTP and HSPS site and Eastside EST site construction
2. South Westminster site connection
3. Timber Ridge Blvd. connection
4. Titan Tower site refiguration

This zone is expected to be isolated into two phases, with Phase I not included as part of this project.

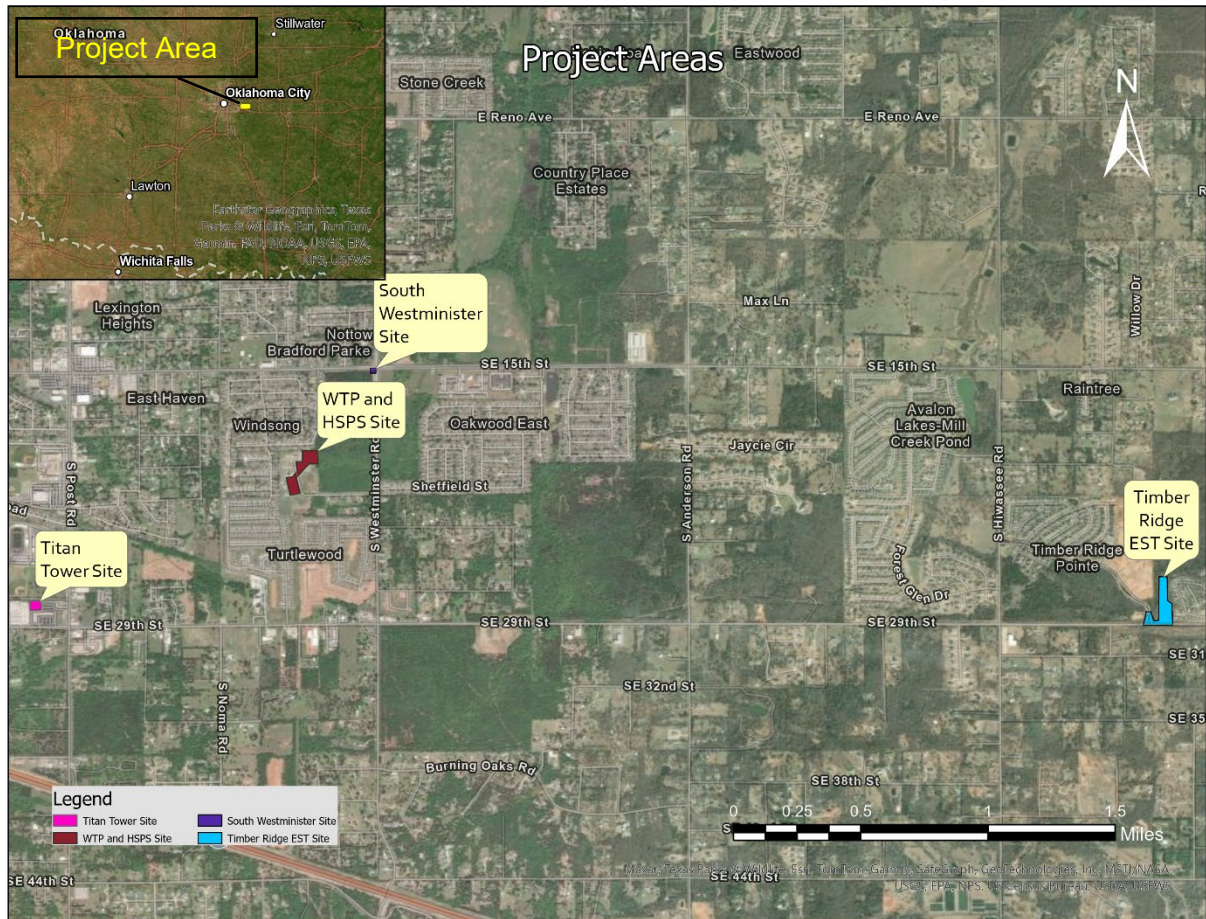
The project area includes four separate sites which are listed below (Figure 2-1):

- **WTP and HSPS site** – proposed location of the Timber Ridge HSPS. Approximately 0.04 acres in total.
- **Eastside EST site** – proposed location of the Eastside EST. Approximately 4.21 acres in total.
- **Titan Tower site** – location of the Titan Tower EST, where improvements to the yard piping are proposed to reverse the normal flow through the Titan Tower. Additionally, a Pressure Reducing Valve (PRV) at SE 23rd St. east of South Post Rd. and would be removed and replaced with a spool piece to allow flow from the Titan Tower. Approximately 0.80 acres in total.
- **South Westminster site** – location of the distribution system improvements at the southwest corner of the Southeast 15th St. and South Westminster Rd. intersection proposed as part of the Timber Ridge Zone isolation from the Main Zone of the distribution system. Approximately 0.23 acres in total.
- Additionally, there are several valve closures that are required to isolate the Timber Ridge Zone.

2.3 SELECTED ACTION

The Draft EA was made available to the public for review and feedback from March 20 to April 19, 2026. No feedback on the alternatives were received, therefore the Proposed Action (Alternative 2) was chosen as the Selected Action. The "Proposed Action" and "Selected Action" are herein referred to synonymously.

Figure 2-1. Project Area



3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION

This section describes the natural and human environments that exist in the project area and the potential impacts of the No Action Alternative (Alternative 1) and the Selected Action (Alternative 2), outlined in Section 2.0 of this document. Some topics are limited in scope due to the lack of direct effect from either alternative on the resource or because that particular resource is not located within the project area. For example, there are not any Federally designated Wild or Scenic Rivers or wetlands in or near the project area, therefore those resources will either not be discussed or only briefly mentioned if required by law, policy, etc.

Impacts (consequence or effect) can be either beneficial or adverse and can be either directly related to the action or indirectly caused by the action. Direct effects are caused by the action and occur at the same time and place. Indirect effects are caused by the action and are later in time or further removed in distance but are still reasonably foreseeable. As discussed in this section, the alternatives may create temporary (less than 1 year), short-term (up to 3 years), long-term (3 to 10 years), or permanent effects.

Whether an impact is significant depends on the context in which the impact occurs and the intensity of the impact. The context refers to the setting in which the impact occurs and may include society as a whole, the affected region, the affected interests, and the locality. Impacts on each resource can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For the purpose of this analysis, the intensity of impacts would be classified as negligible, minor, moderate, or major. The intensity thresholds are defined as follows:

- Negligible: A resource would not be affected, or the effects would be at or below the level of detection, and changes would not be of any measurable or perceptible consequence.
- Minor: Effects on a resource would be detectable, although the effects would be localized, small, and of little consequence to the sustainability of the resource. Mitigation measures, if needed to offset adverse effects, would be simple and achievable.
- Moderate: Effects on a resource would be readily detectable, long-term, localized, and measurable. Mitigation measures, if needed to offset adverse effects, would be extensive and likely achievable.
- Major: Effects on a resource would be obvious and long-term, and would have substantial consequences on a regional scale. Mitigation measures to offset the adverse effects would be required and extensive, and success of the mitigation measures would not be guaranteed.

This chapter presents a description of the environmental resources and baseline conditions that could be affected from implementing the alternatives. All potentially relevant environmental resource areas were considered for analysis in this EA.

3.2 CLIMATE AND CHANGING CONDITIONS

3.2.1 Affected Environment

Climate

Midwest City is located centrally in the state of Oklahoma, about 10 miles east of Oklahoma City, OK. The region is characterized by short, mild winters and long, humid summers with high temperatures. Rainfall usually occurs as high intensity with local thunderstorms occurring primarily in the late spring and early summer months. These storms are frequently accompanied by high winds, hail, and frequent tornadoes. Midwest City is located in Oklahoma County, OK which has one of the highest tornado occurrences in the state, with 125 tornadoes recorded from 1950 to 2021 (Oklahoma Climatological Survey, 2025). The mean annual temperature in Oklahoma County is about 63.2 degrees Fahrenheit (°F). January, the coldest month, has an average temperature of 40.3°F and average minimum temperature of about 28.5°F. July has the highest average temperature of 85.4°F and the highest average maximum temperature of 97.1°F. The normal average annual precipitation is 37.2 inches with greater precipitation during spring and summer and less precipitation during winter. The highest annual precipitation recorded since 2000 was in 2007 at 56.96 inches. The lowest annual precipitation recorded in the area since 2000 was in 2003 at 22.64 inches (NOAA, 2025). The average length of the growing season is 213 days (Oklahoma Climatological Survey, 2025). Midwest City is located within the U.S. Department of Agriculture (USDA) Plant Hardiness Zone 7B, which is determined by the winter extreme low temperatures, with 7B having normal winter lows between 5° F and 10° F (USDA, 2023).

Changing Conditions

The U.S. Global Change Research Program (USGCRP) looks at potential impacts of changing conditions globally, nationally, regionally, and by resource (e.g., water resources, ecosystems, human health). The proposed Midwest City water tower is located within the Southern Great Plains region of analysis. The Southern Great Plains region has already seen evidence of changing conditions in the form of rising temperatures that are leading to increased demand for water and energy and impacts on agricultural practices. Over the last few decades, the Southern Great Plains has seen fewer cold days in winter and more hot days in summer, as well as changes to precipitation patterns. The decrease in the cold days has resulted in an overall increase of the frost-free season. Within this region, there has been an increase in average temperatures 1° – 2° Fahrenheit (F) since 1901 (Kloesel et al., 2018). The changing precipitation patterns in the region has led to more frequent extreme droughts, storms, and flood events.

3.2.2 Environmental Consequences

3.2.2.1 No Action

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions. There would be no change from current impacts to climate and changing conditions as a result of implementing the No Action Alternative.

3.2.2.2 *Selected Action*

Construction activities associated with the proposed project would result in minor, short-term adverse effects on local climate conditions. Temporary ground disturbance, operation of machinery, and material transport could slightly influence localized temperature within the immediate work areas. However, these effects would be temporary, lasting only for the duration of active construction at each of the four project sites, and would dissipate quickly once construction is complete.

Following construction, the proposed facilities, including the Eastside EST, the WTP and HSPS, Titan Tower, and South Westminster sites, would have negligible, long-term adverse effects on local climate conditions. The facilities would be located within developed or previously disturbed areas and would not substantially alter land cover, topography, or surface reflectivity. The project would not be expected to result in any measurable change in regional temperature patterns, humidity, or other climatic parameters.

3.3 AIR QUALITY

3.3.1 Affected Environment

The U.S. Environmental Protection Agency (EPA) established nationwide air quality standards to protect public health and welfare in 1971. The Air Quality Division of the Oklahoma Department of Environmental Quality has adopted the National Ambient Air Quality Standards (NAAQS) as the state's air quality criteria. NAAQS standards specify maximum permissible short- and long-term concentrations of various air contaminants including primary and secondary standards for six criteria pollutants: Ozone (O₃), Carbon Monoxide (CO), Sulfur Dioxide (SO₂), Nitrogen Oxides (NO_x), particulate matter (PM₁₀ and PM_{2.5}), and Lead (Pb). If the concentrations of one or more criteria pollutants in a geographic area is found to exceed the regulated "threshold" level for one or more of the NAAQS, the area may be classified as a nonattainment area. Areas with concentrations that are below the established NAAQS levels are considered either an attainment or unclassifiable area. There are currently no non-attainment areas for any monitored pollutants in the State of Oklahoma including the counties around the proposed project area (Oklahoma Department of Environmental Quality, OKDEQ, 2026). However, if the current global rate of GHG emissions continues, emission levels would be much higher by 2100.

3.3.2 Environmental Consequences

3.3.2.1 *No Action*

Under the No Action Alternative, there would be no changing from current impacts to air quality within the project area as no action would take place and existing conditions would not be altered.

3.3.2.2 *Selected Action*

Implementation of the Selected Action Alternative would result in minor, short-term adverse impacts on air quality during construction. Temporary increases in airborne dust and vehicle exhaust would occur from ground disturbance, equipment operation, and material transport at the Eastside EST, WTP and HSPS, Titan Tower, and South Westminster sites. These activities

would generate small quantities of criteria pollutants such as particulate matter (PM), carbon monoxide (CO), nitrogen oxides (NO_x), and volatile organic compounds (VOCs).

Because construction would occur intermittently and within previously developed or disturbed areas, these effects would be localized and temporary. Standard best management practices (BMPs), such as watering exposed soils, limiting vehicle idling, and maintaining equipment in good working order, would minimize fugitive dust and exhaust emissions. Given the limited construction duration and area, pollutant concentrations would not be expected to exceed National Ambient Air Quality Standards (NAAQS). The project area is currently in attainment for all criteria pollutants, and the proposed work would not alter that status.

Construction activities would also produce minor, short-term greenhouse gas (GHG) emissions associated with the use of fuel-powered equipment, haul trucks, and worker vehicles. These emissions would end once construction is complete. During operation, the new facilities would require limited electrical power for the HSPS and occasional vehicle trips for inspection and maintenance. Operational emissions would be negligible compared to existing conditions.

Overall, implementation of the Selected Action Alternative would result in negligible to minor, short-term adverse impacts on local air quality during construction and negligible long-term impacts during operation. The project's contribution to regional air quality or GHG emissions would be minimal and would not represent a measurable change in air quality conditions or exceed State and regional air quality standards (i.e. attainment status).

3.4 LAND USE

3.4.1 Affected Environment

Land use within the project area is largely urbanized. Midwest City is largely divided into various residential and commercial districts. It also includes an agriculture district, an industrial district, as well as office, hospitality, commercial and shopping districts. The City also has a Planned Unit Development (PUD) District, which encourages unique, creative, progressive, or quality land developments (City of Midwest City, OK; 2025).

3.4.2 Environmental Consequences

3.4.2.1 No Action

Under the No Action Alternative, there would be no changes from current impacts to land use within the project area as no action would take place and existing conditions would not be altered.

3.4.2.2 Selected Action

Under the Selected Action, land use of the project area sites would remain largely unchanged. The project area sites occurring throughout the city are in an urbanized setting, which are consistent with water infrastructure features. All areas that would require ground disturbance would be returned to their original pre-construction state. The Eastside EST site would be the only site that entails a change to its original land use. The land at this site is currently forested with some areas that have been previously paved. Under the Selected Action, the Eastside EST would be converted to a utility site, with a concrete access road starting from SE 29th St. Sites with temporary vegetation impacts would be revegetated as part of standard construction

protocols, where appropriate, the site would be replanted with native plants after the construction has finished. However, areas that are expected to be mowed and maintained long-term, such as right-of-ways, would be revegetated with turf grass. In the surrounding areas, the current land use is urbanizing, with land use being primarily urban sprawl over the last several years. The Eastside EST site contains a small patch of undeveloped lands with subdivisions bracketing immediately to the east and west. To the south, is an adjacent highway and to the north is a large tract of forested land. Therefore there would be a minor adverse impact to land use as only 0.5 acres will be converted to impervious surfaces in the project area if the Selected Action is implemented.

3.5 TOPOGRAPHY, GEOLOGY, SOILS, AND PRIME FARMLAND

3.5.1.1 *Affected Environment*

Topography

Midwest City is located in central Oklahoma, about 8 miles east of Oklahoma City, OK. The project area is generally flat, with the elevation ranging from 1,150 to 1,300 feet above sea level throughout the entire project area. The nearest hills or low mountains is the Arbuckles, about 85 miles south of the city.

Geology

The woodlands of central Oklahoma are the transition from our eastern forests to the western prairies. These woodlands, known as the Cross Timbers, are a mosaic of thick forest, open woodland, and prairie patches. The formation underlying the project area is Garber Sandstone, which is mostly orange-brown, fine- to medium-grained quartzose sandstone and conglomerate, grading northward into shale and calcitic siltstone. Thickness, about 600 feet (180 m) (Garver, 2023).

Soils

The Midwest City area consists of 36 different soil series. The most abundant soil series is the Harrah fine sandy loam, 3 to 5 percent slopes, which makes up 18.8% of soils found within the project area. The soil is well drained and is considered a prime farmland soil. The second is the Stephenville-Darnell complex, 1 to 5 percent slopes, which makes up 14.2% of the project area. The complex consists of 55% Stephenville, 30% Darnell, and 15% minor components. Stephenville is well drained and Darnell is excessively drained. The complex is not considered prime farmland. The third is the Stephenville-Darnell-Newalla complex, 3 to 8 percent slopes, which makes up 12.0% of the project area. The complex consists of 45% Stephenville, 30% Darnell, and 15% Newalla. Stephenville is well drained, Darnell is excessively drained, and Newalla is moderately well drained. The complex is not considered prime farmland (USDA, 2024a). Table 3-1 shows the acreages and farmland status associated with each soil and surface type in the project area and Figure 3-1 shows where these soils can be found within the Midwest City project area. The Eastside EST site is the only site that is forested, therefore a soils map is included to show potential soil disturbance in Figure 3-2.

Prime Farmland

As required by Section 1541(b) of the Farmland Protection Policy Act (FPPA) of 1980 and 1995, 7 U.S.C. 4202(b), federal and state agencies, as well as projects funded with federal funds, are required to (a) use the criteria to identify and take into account the adverse effects of their

programs on the preservation of farmland, (b) consider alternative actions, as appropriate, that could lessen adverse effects, and (c) ensure that their programs, to the extent practicable, are compatible with state and units of local government and private programs and policies to protect farmland. There are several soil types in the study area that are considered prime farmland soils or soils associated with farmlands of state importance. However, only 10.3% of the project area sites contain prime farmland (USDA, 2024a).

Table 3-1. Soil Acreages and Prime Farmland Status

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	Prime Farmland
AstA	Ashport silt loam, 0 to 1 percent slopes, frequently flooded	13.8	0.2%	No
BeUB	Bethany-Urban land complex, 0 to 3 percent slopes	51.0	0.6%	No
DerE	Derby loamy fine sand, 8 to 15 percent slopes	13.6	0.2%	No
GrIE	Grainola-Ironmound complex, 3 to 12 percent slopes	16.8	0.2%	No
GUIE	Grainola-Urban land-Ironmound complex, 3 to 12 percent slopes	19.0	0.2%	No
HarC	Harrah fine sandy loam, 3 to 5 percent slopes	1,696.8	18.8%	Yes
HarC2	Harrah fine sandy loam, 3 to 5 percent slopes, eroded	60.9	0.7%	No
HarC4	Harrah fine sandy loam, 3 to 5 percent slopes, gullied	6.2	0.1%	No
HarG	Harrah fine sandy loam, 3 to 45 percent slopes	5.6	0.1%	No
HarUC	Harrah-Urban land complex, 3 to 5 percent slopes	289.9	3.2%	No
KrdA	Kirkland silt loam, 0 to 1 percent slopes	45.4	0.5%	Yes
KrUA	Kirkland-Urban land complex, 0 to 1 percent slopes	409.7	4.5%	No
KUIC	Kingfisher-Urban land- Ironmound complex, 1 to 5 percent slopes	11.5	0.1%	No
LawA	Lawrie loam, 0 to 1 percent slopes, rarely flooded	47.7	0.5%	No
LitB	Littleaxe fine sandy loam, 1 to 3 percent slopes	570.7	6.3%	Yes
LitC	Littleaxe fine sandy loam, 3 to 5 percent slopes	0.1	0.0%	Yes
LitC2	Littleaxe fine sandy loam, 3 to 5 percent slopes, eroded	3.0	0.0%	No
LtUC	Littleaxe-Urban land complex, 1 to 5 percent slopes	511.3	5.6%	No

LwUA	Lawrie-Urban land complex, 0 to 1 percent slopes, rarely flooded	69.7	0.8%	No
M-W	Miscellaneous water	1.9	0.0%	No
NewB	Newalla fine sandy loam, 1 to 5 percent slopes	10.4	0.1%	Yes
NoUC	Norge-Urban land complex, 1 to 5 percent slopes	295.6	3.3%	No
PIT	Pits	21.9	0.2%	No
PuIA	Pulaski fine sandy loam, 0 to 1 percent slopes, occasionally flooded	196.4	2.2%	Yes
RnUC	Renthin-Urban land complex, 1 to 5 percent slopes	308.9	3.4%	No
SEGD4	Stephenville-Darnell-Gullied land complex, 3 to 8 percent slopes	67.3	0.7%	No
SEND	Stephenville-Darnell-Newalla complex, 3 to 8 percent slopes	1,082.1	12.0%	No
SEND2	Stephenville-Darnell-Newalla complex, 3 to 8 percent slopes, eroded	130.1	1.4%	No
SUND	Stephenville-Urban land- Newalla complex, 1 to 8 percent slopes	726.4	8.0%	No
SvDC	Stephenville-Darnell complex, 1 to 5 percent slopes	1,282.9	14.2%	No
SvDC2	Stephenville-Darnell complex, 1 to 5 percent slopes, eroded	27.1	0.3%	No
TlrB	Teller fine sandy loam, 1 to 3 percent slopes	46.8	0.5%	Yes
TlrC	Teller fine sandy loam, 3 to 5 percent slopes	32.1	0.4%	Yes
TlrC2	Teller fine sandy loam, 3 to 5 percent slopes, eroded	13.9	0.2%	No
TlrD	Teller fine sandy loam, 5 to 8 percent slopes	44.9	0.5%	No
TIUD	Teller-Urban land complex, 1 to 8 percent slopes	269.7	3.0%	No
TriA	Tribbey fine sandy loam, 0 to 1 percent slopes, frequently flooded	183.8	2.0%	No
URB	Urban land	439.6	4.9%	No
VanB	Vanoss silt loam, 1 to 3 percent slopes	9.0	0.1%	Yes
W	Water	12.4	0.1%	No
Totals for Area of Interest		9,049.2	100.0%	
<i>Source: USDA, Natural Resources Conservation Service, 2024</i>				

Figure 3-1. Project Area Soils Map

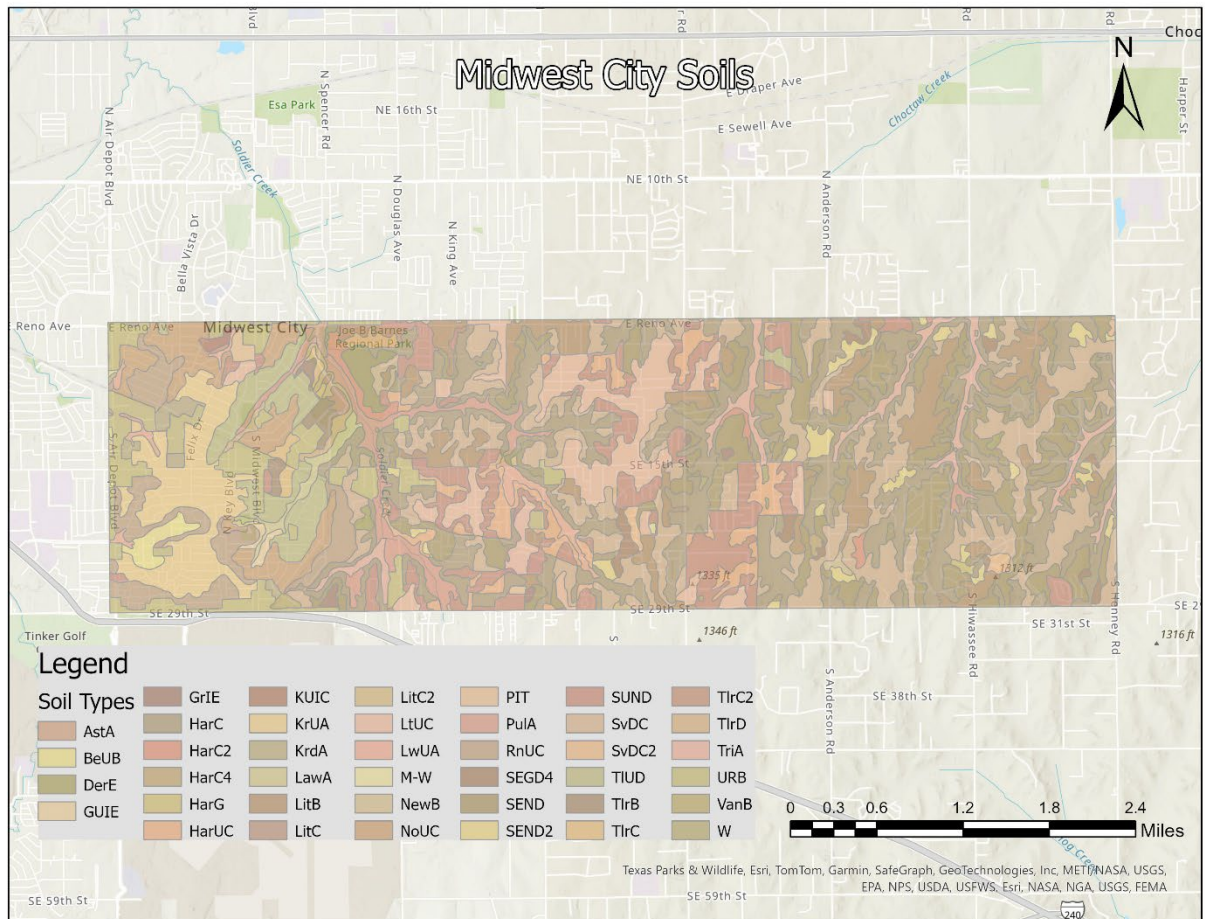


Figure 3-2. Eastside EST Site Soils Map



3.5.1.2 *Environmental Consequences*

3.5.1.2.1 *No Action*

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions, therefore there would be no changes from current impacts on topography, geology, soils, or prime farmland as a result of implementing the No Action Alternative.

3.5.1.2.2 *Selected Action*

The ground disturbance associated with existing piping reconfigurations at the Titan Tower site, (2,000 SF) and South Westminster site (800 SF) would have temporary, negligible adverse impacts on topography, geology, and soils within the Midwest City area as all disturbed areas will be resodded upon completion.

There will be permanent, minor adverse impacts to soils, topography, and geology associated with the Eastside EST site (Figure 3-2) associated with the excavation and grading for the access road, driveway, and turnaround area which is roughly 900 ft in length. These actions would alter the steep cliff face and natural slopes, potentially destabilizing them and increasing erosion risk. Additionally, the construction of concrete surfaces and a vegetated drainage ditch with culverts would modify drainage patterns, concentrating water flow and potentially increasing sediment transport which could result in negligible to minor, long-term adverse impacts. Similarly, the demolition of the existing concrete-lined channel at the WTP and HSPS site and installation of a new storm drain system may further alter subsurface drainage, resulting in permanent minor impacts the site's topography, geology, and soils.

Geological impacts include rock excavation through a visible rock face for the selected pipe alignment, which could disrupt the site's structural integrity, possibly leading to slope instability or microfractures. Soil impacts include topsoil removal, compaction from heavy equipment, and vulnerability to erosion, all of which could increase sedimentation in nearby waterways. Vegetation loss during clearing and grubbing would exacerbate these issues, reducing soil cohesion and making slopes more prone to erosion.

0.1% of the WTP and HSPS site are prime farmland; however, all of this land is in an urbanized area that is not currently being utilized as farmland. At the Eastside EST site 10.3% are considered prime farmland, however no part of this area would be converted to unusable prime farmland as the access road that would be the only impervious surface that would impact prime farmland is not located on soils that are classified as prime farmland soils. Therefore all project area sites associated with the Selected Action would not impact prime farmlands.

3.6 *WATER RESOURCES*

3.6.1 *SURFACE WATER, WETLANDS, GROUNDWATER, AND HYDROLOGY*

3.6.1.1 *Affected Environment*

Surface Water

According to the U.S. Geological Survey (USGS), the Midwest City proposed water tower is located in the Upper Little River watershed in the Little Sub Basin (USGS, 2025).

Wetlands

Wetlands are those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, and under normal circumstances these wetlands do support this vegetation type. Wetlands are a subset of the Waters of the United States that may be subject to regulation under Section 404 of the CWA (40 CFR 230.3), which are defined within the Clean Water Act (CWA). Jurisdiction for these waters is addressed with the USACE and EPA.

Wetland classifications presented are derived from the National Wetlands Inventory, which was established by the U.S. Fish and Wildlife Service (USFWS) to aid in conservation efforts by collecting nationwide wetland distribution and type information. The inventory is based on a single “snapshot” at the time of their survey and may not reflect present day conditions (USFWS, 2024). There are no wetlands within the construction sites for Midwest City.

Groundwater

The project area is located within the boundaries of a major aquifer, the Garber-Wellington aquifer. The Garber-Wellington aquifer stores roughly 98,676,000 acre-feet of water and covers an area of 1,850,240 acres (OWRB, 2019). Water from the aquifer is normally suitable for public water supply but in some areas concentrations of nitrate, arsenic, chromium, uranium, and selenium may exceed drinking water standards. With the exception of Oklahoma City, all the major communities in central Oklahoma rely either solely or partly on groundwater from the Garber-Wellington (OWRB, 2012).

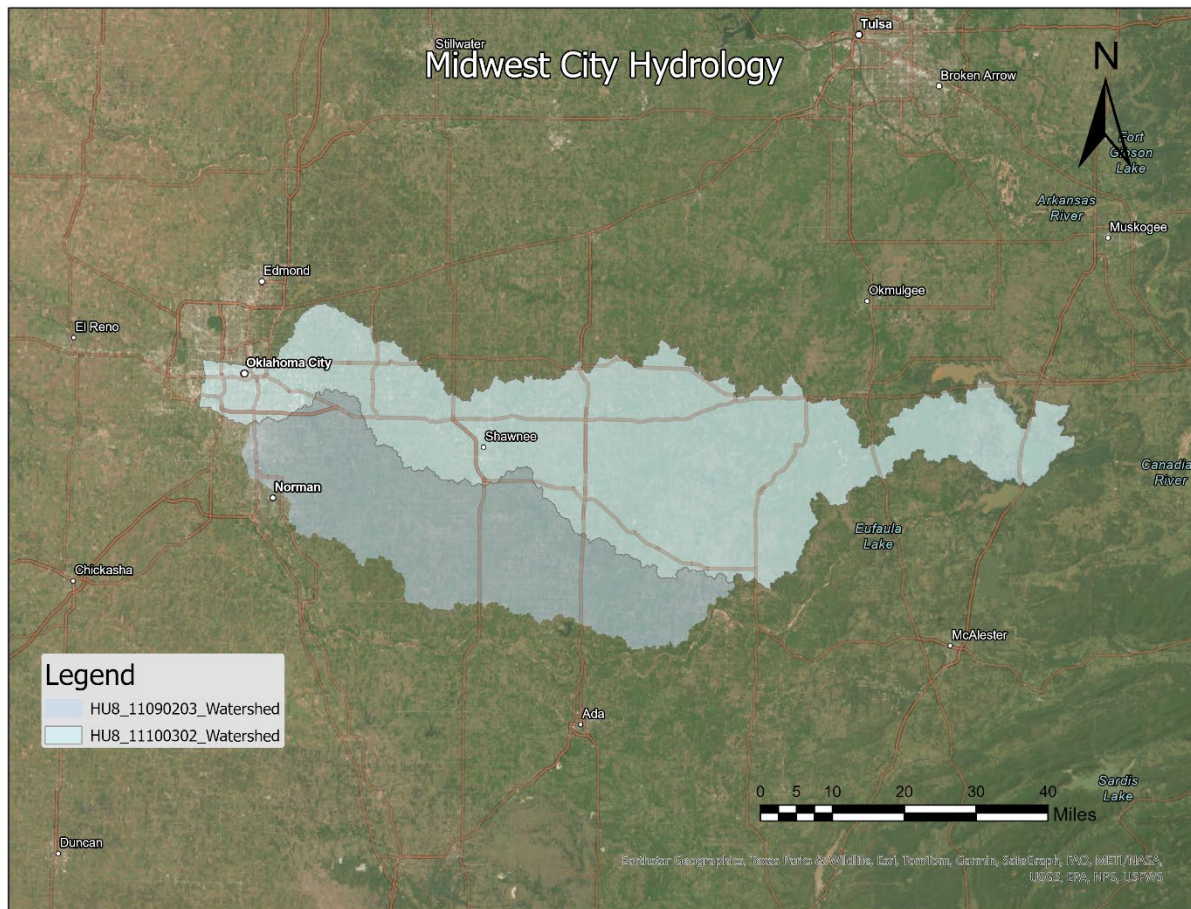
Hydrology

Surface waters are categorized by hydrologic units. Hydrologic units are classified by the United States Geologic Survey (USGS) using a Hydrologic Units Code (HUC) system. The units are classified from largest HUC with a two-digit region (i.e., the Arkansas-White-Red Region), encompassing the largest area, to a twelve-digit subwatershed HUC. The Midwest City project area is classified by watershed boundaries as follows:

- 11100302 (HUC 8: Sub Basin) – Lower Northern Canadian
- 11090203 (HUC 8: Sub Basin) – Lower Wolf
- 1110030201 (HUC 10: Sub Basin) – Oklahoma City-North Canadian
- 1109020301 (HUC 10: Sub Basin) – Upper Little River

The Midwest City project area is primarily located in the Lower North Canadian (11100302). However, the southeast portion overlaps a portion of the Lower Wolf (11100302). Figure 3-3 shows the extent of these HUC 8 watersheds across the region (USGS, 2025).

Figure 3-3. Midwest City Hydrology



3.6.1.2 Environmental Consequences

3.6.1.2.1 No Action

There would be no reasonably foreseeable short- or long-term impacts on surface water, wetlands, groundwater, and hydrology as a result of implementing the No Action Alternative, since there would be no change to existing conditions.

3.6.1.2.2 Selected Action

The proposed design for the project area would impact surface water, wetlands, groundwater, and hydrology in several ways.

The introduction of a vegetated drainage ditch at the EST site would collect and manage surface runoff, directing it to a culvert and subsequently a level spreader or existing channel. This design aims to control runoff and prevent erosion, but the conversion of natural surfaces to impervious ones (e.g., concrete roads and driveways) may increase the volume and speed of surface water flow, potentially leading to localized flooding or sediment transport. At the WTP and HSPS Site, replacing the concrete-lined channel with an underground storm drain system would alter surface flow patterns, with the new system discharging to an existing channel.

protected by rip rap to mitigate erosion. These changes may result in permanent, negligible to minor effects to surface water.

The grading and drainage improvements at the WTP and HSPS Site and Eastside EST Site would modify the natural hydrology, concentrating flows and increasing impervious surfaces, which may elevate stormwater runoff volumes and alter infiltration rates. While the drainage systems are designed to manage runoff from a 10-year storm event, extreme weather conditions could overwhelm these systems, causing downstream impacts. These changes may result in permanent, negligible to minor effects to hydrology.

Indirectly, the improved water distribution system and the new high-pressure Timber Ridge Zone could influence regional water usage patterns, potentially affecting groundwater recharge rates and flow dynamics in the broader area. These changes may result in permanent, minor effects to hydrology.

No wetlands are present in the proposed project area sites. However, changes in surface flow and stormwater management could indirectly affect nearby wetlands and shallow groundwater by altering recharge rates or introducing sediment and pollutants. Mitigation measures associated with the project, including the use of level spreaders, rip rap, and vegetated drainage, offset some of these risks. Therefore, reasonably foreseeable adverse impacts to wetlands are expected to be negligible.

3.7 TERRESTRIAL RESOURCES

3.7.1 VEGETATION

3.7.1.1 Affected Environment

The project area is located within the Cross Timbers ecoregion (Level IV). The Cross Timbers ecoregion vegetation is made up of a complex mosaic of upland deciduous forest, savanna, and prairie. The common tree species are post oak (*Quercus stellata*), blackjack oak (*Quercus marilandica*), black hickory (*Carya texana*), bitternut hickory (*Carya cordiformis*), black oak (*Quercus velutina*), Shumard oak (*Quercus shumardii*), and red cedar (*Juniperus virginiana*). Common grasses found in the Cross Timber are little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardi*) and Indian grass (*Sorghastrum nutans*) (University of Oklahoma, 2025). However, the project area is predominantly urbanized with pockets of open space consisting of regularly mowed disturbed areas to undisturbed, more natural habitat communities.

The WTP and HSPS site, Titan Tower site, and South Westminster site are disturbed sites consisting of mowed grass and dirt.

Eastside EST site – Project site consisting of 4.21 acres that is primarily forested land with some disturbed areas.

3.7.1.2 Environmental Consequences

3.7.1.2.1 No Action

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions; therefore, no changes from current impacts to vegetation resources in the project area would be anticipated as a result of implementing the No Action Alternative.

3.7.1.2.2 Selected Action

Impacts to vegetation are expected to be negligible at the Titan Tower site, WTP and HSPS site, and South Westminster site as all these project area sites are disturbed areas consisting of mowed grass and dirt.

Construction activities at the Eastside EST site involves clearing, grading, and construction activities. The 4.21-acre site includes forested areas, some disturbed land, and paved areas. Vegetation removal would occur during site clearing and grubbing, permanently altering the 0.54 acres of landscape where impervious surfaces or structures, such as access roads, parking, and the elevated storage tank, would be built. This loss of vegetation would reduce habitat availability, disrupt ecosystem services, and contribute to localized habitat fragmentation.

Excavation and grading activities at the Eastside EST would further disturb the land, disrupting root systems and removing topsoil essential for vegetation regrowth. While temporary impacts may be mitigated through revegetation of 1.08 acres in areas not permanently paved, the conversion of forested land to impervious surfaces would result in permanent vegetation loss.

Overall, the adverse impacts on vegetation are expected to be minor. They would be localized but long-term, especially in areas permanently cleared for infrastructure. Mitigation measures, such as revegetating disturbed areas with native species, would be critical to minimize ecological consequences and restore some of the site's vegetation cover. However, in areas permanently converted to roads and paved surfaces, vegetation loss would remain unavoidable.

3.7.2 WILDLIFE

3.7.2.1 Affected Environment

The project area is located in an urbanized area, providing minimal wildlife habitat. Common species found in Oklahoma that may be present within the project area are white-tailed deer (*Odocoileus virginianus*), eastern gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), eastern cottontail (*Sylvilagus floridanus*), coyote (*Canis latrans*), Virginia opossum (*Didelphis virginiana*), bobcat (*Lynx rufus*), striped skunk (*Mephitis mephitis*), mallard (*Anas platyrhynchos*), American robin (*Turdus migratorius*), red-tailed hawk (*Buteo jamaicensis*), and Canada goose (*Branta canadensis*) (Bird Watching HQ, 2024).

Migratory Birds

In addition to the common birds listed above, the project may support nesting for birds of conservation concern protected under the MBTA.

Table 3-2. Birds of Conservation Concern that May Occur in the Project Area

Species Name	Scientific Name	BCC Status	Breeding Season
--------------	-----------------	------------	-----------------

bald eagle	<i>Haliaeetus leucocephalus</i>	N/A	Breeds Sep 1 to Jul 31
chimney swift	<i>Chaetura pelagica</i>	BCC rangewide	Breeds Mar 15 to Aug 15
lesser yellowlegs	<i>Tringa flavipes</i>	BCC rangewide	Breeds elsewhere
little blue heron	<i>Egretta caerulea</i>	BCC only in specific regions	Breed Mar 10 to Oct 15
prairie loggerhead shrike	<i>Lanius ludovicianus excubitorides</i>	BCC only in specific regions	Breeds Feb 1 to Jul 31
red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	BCC rangewide	Breeds May 10 to Sep 10
Source: USFWS, 2026			

3.7.2.2 Environmental Consequences

3.7.2.2.1 No Action

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions; therefore, no reasonably foreseeable significant short- or long-term adverse impacts to wildlife would be anticipated as a result of implementing the No Action Alternative.

3.7.2.2.2 Selected Action

Impacts to wildlife are expected to be negligible at the Titan Tower, WTP and HSPS, South Westminster sites as all these project area sites are disturbed urban areas and do not contain habitat that promote wildlife activity.

The loss of vegetation at the Eastside EST site would have long-term, minor to moderate adverse impacts to wildlife by reducing available habitat and fragmenting existing ecosystems. Forested areas that currently support birds, small mammals, reptiles, and insects would be permanently cleared to make way for roads, parking areas, and the storage tank. This habitat loss would displace wildlife, forcing them to seek resources in nearby areas, which may lead to increased competition and stress. Less mobile species, such as amphibians and burrowing animals, would be particularly vulnerable during construction. Habitat fragmentation would further isolate remaining natural areas, disrupting movement and connectivity essential for maintaining genetic diversity and healthy wildlife populations. If the project cannot avoid vegetation removal during the breeding season (Table 3-2) for neotropical migratory birds, a qualified biologist will survey the area during the breeding season to determine the presence of adult birds. If active nests are found (i.e. eggs or young birds), construction would cease until the nest(s) have been abandoned or the young have fledged, or a permit will be secured from the USFWS to permit the take of birds and/or nests.

These impacts are expected to be minor to moderate, with long-term to permanent effects due to the irreversible loss of habitat and changes to local ecosystem dynamics. Construction activities would temporarily displace wildlife, but the permanent conversion of forested land to impervious surfaces would reduce the site's capacity to support wildlife in the future. Mitigation measures, such as restoring vegetation in non-paved areas with native plant species could help reduce some of these effects.

3.8 THREATENED AND ENDANGERED SPECIES

There are many species in the Cross Timbers ecoregion that are considered either threatened, endangered, or state species of concern. Species become listed for a variety of reasons including over-hunting, over-fishing, and habitat loss as a result of human development and pollution. Of these, habitat loss is the main contributor that imperils most species.

3.8.1 FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES

The Endangered Species Act establishes protections for fish, wildlife, and plants that are listed as threatened or endangered. The USFWS Information for Planning and Consultation (IPaC) tool was utilized to generate a list of federally listed species potentially located in the project area. The IPaC report can be found in Appendix B (USFWS, 2026).

Table 3-3 below depicts federally listed species that may occur on project and/or surrounding lands. No critical habitat is designated within the project area.

Table 3-3. Federally Listed Species

Scientific Name	Common Name	Status	Habitat
Birds			
<i>Laterallus jamaicensis jamaicensis</i>	Eastern Black Rail	Threatened	Found in salt, brackish, and freshwater marshes with dense herbaceous cover as well as upland areas of these marshes.
<i>Charadius melodus</i>	Piping Plover	Threatened	Coastal beaches. Transiently found feeding along sandy/gravel shorelines, marshes, or flooded fields during migration periods.
<i>Calidris canutus rufa</i>	Rufa Red Knot	Threatened	Coastal areas (bays, estuaries, tidal flats, unimproved tidal inlets). Transiently found feeding along sandy/gravel shorelines, marshes, or flooded fields during migration periods.
<i>Grus americana</i>	Whooping Crane	Endangered	Coastal marshes and estuaries, inland marshes, lakes, open ponds, shallow bays, salt marsh and sand or tidal flats, upland swales, wet meadows and rivers, pastures and agricultural fields
Fishes			
<i>Notropis girardi</i>	Arkansas River Shiner	Threatened	Main channels of wide, shallow, sandy bottomed rivers and larger streams within the Arkansas River Basin
<i>Macrhybopsis tetranema</i>	Peppered Chub	Endangered	Extirpated from the majority of the Arkansas River basin. Current distribution is limited to the South Canadian River between Ute Reservoir in New Mexico and Lake Meredith in the Texas panhandle.
Insects			
<i>Danaus plexippus</i>	Monarch	Proposed	Prairies, meadows, grasslands, and along

	Butterfly	Threatened	roadsides
Source: USFWS, 2026			

3.8.2 STATE LISTED THREATENED AND ENDANGERED SPECIES

The Oklahoma Department of Wildlife Conservation (ODWC) maintains a biodiversity database of federally endangered, federally threatened, state endangered, or state threatened species in Oklahoma and information pertaining to their habitat and life cycle. Table 3-4 below depicts state listed species of concern that may be located within the Midwest City project and/or surrounding areas (ODWC, 2025).

Table 3-4. State of Oklahoma Listed Species

Scientific Name	Common Name	State Classification	Habitat
<i>Percina nasuta</i>	longnose darter	Endangered	Streams and rivers with high water quality and a mixture of gravel and larger cobble (rock) substrate
<i>Cambarus tatarus</i>	Oklahoma cave crayfish	Endangered	Subterranean pools and streams in the limestone caves of the Ozark highlands
<i>Percina maculata</i>	blacksided darter	Endangered	Streams with high water quality and substrates containing a mix of gravel and larger cobble (rock)
Source: ODWC, 2025			

3.8.3 Environmental Consequences

3.8.3.1 No Action

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions; therefore, there would not be No Effect on Federally threatened and endangered species within the Midwest City Water Infrastructure Improvements study area, and Not Likely to Jeopardize the Continued Existence of Species proposed for federal listing. No impacts are anticipated to State listed species as none of these habitats occur within the project area.

3.8.3.2 Selected Action

The Selected Action involves ground disturbance activities at the Titan Tower site, South Westminster site, WTP and HSPS site, and Eastside EST site. The Titan Tower site, South Westminster site and WTP and HSPS site are in urbanized areas with minimal wildlife habitat.

The Eastside EST site is a forested site consisting of 4.21 acres. Approximately 0.54 acres will be converted to impervious surfaces and, upon completion of construction and vegetation, approx. 1.08 acres will require reestablishment of vegetation at the Timber Ridge EST site, which includes the area along the proposed 12" pipeline.

The project area does not contain suitable habitat for the Eastern Black Rail, Piping Plover, Rufa Red Knot, Whooping Crane, Arkansas River Shiner, or Peppered Chub. Therefore, USACE has determined that the Selected Action will have No Effect on any federally listed endangered or threatened species. Suitable habitat for the Monarch Butterfly does not exist within the project area. USACE has determined that the Selected Action will Not Jeopardize the Continued Existence of the Monarch Butterfly. No impacts are anticipated to State listed species as none of these habitats occur within the project area.

3.9 INVASIVE SPECIES

3.9.1 Affected Environment

A healthy ecosystem with plentiful species diversity will help deter the spread and establishment of invasive species. The alteration of native habitats creates areas conducive to encroachment by invasive species (e.g. open areas with bare soils).

In accordance with Executive Order (EO) 13112, an invasive species means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health. Invasive species can be microbes, fungi, plants, or animals that are not native to an ecosystem. Invasive species can take over and out-compete native species by consuming their forage, invading their habitat, and altering the ecosystem in ways that harm native species. Invasive species can be accidentally transported, or they can be deliberately introduced because they are thought to be helpful in some way. Invasive species cost local, state, and federal agencies billions of dollars every year (USGS, 2022).

The Oklahoma Invasive Plant Council (OkIPC) lists species emerging as invasive plants by region (Table 3-5). These are species that are not abundant yet in the area, but should be monitored, reported and controlled before they become a bigger problem in the state. Below is a list of that could occur in the Midwest City project area.

Table 3-5. Invasive Species Potentially Occurring in the Project Area

Scientific Name	Common Name
<i>Ailanthus altissima</i> (Mill.) Swingle	Tree of heaven
<i>Albizia julibrissin</i> Durazz.	Persian silk tree
<i>Alternanthera philoxeroides</i> (Mart.) Griseb.	Alligator weed
<i>Arundo donax</i> L.	Giant reed
<i>Bothriochloa bladhii</i> (Retz.) S.T. Blake	Australian bluestem
<i>Broussonetia papyrifera</i> (L.) L'Hér. ex Vent.	Paper mulberry
<i>Cyperus rotundus</i> L.	Nut grass
<i>Eichhornia crassipes</i> (Mart.) Solms	Water hyacinth
<i>Elaeagnus pungens</i> Thunb.	Thorny olive
<i>Elaeagnus umbellata</i> Thunb.	Autumn olive
<i>Lonicera maackii</i> (Rupr.) Herder	Amur honeysuckle
<i>Lythrum salicaria</i> L.	Purple loosestrife
<i>Onopordum acanthium</i> L.**	Scotch thistle
<i>Perilla frutescens</i> (L.) Britt.	Mint family
<i>Potentilla recta</i> L.	Sulhur cinquefoil

<i>Pueraria montana</i> (Lour.) Merr.	Kudzu
<i>Pyrus calleryana</i> Decne.	Bradford pear
<i>Saccharum ravennae</i> (L.) L.	Plume grass
Source: OkIPAC, 2025	

3.9.2 Environmental Consequences

3.9.2.1 No Action

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions; therefore, no changes from current impacts to invasive species would be anticipated as a result of implementing the No Action Alternative.

3.9.2.2 Selected Action

EO 13112, Invasive Species, dated February 3, 1999, directs federal agencies to expand and coordinate their efforts to combat the introduction and spread of invasive species (i.e., noxious plants and animals not native to the U.S.). Implementation of BMPs such as cleaning equipment prior to entering project area sites and monitoring post construction for invasive species would prevent further spread of invasive species. Implementation of such BMPs would comply with EO 13112.

Construction activities at the Eastside EST site include clearing land, grading and excavation which can disrupt existing habitat, giving rise to invasive species establishment. Additionally, construction equipment and vehicles at this project area could inadvertently transport seeds and spores of invasive species. Changes in hydrology from hydrology alternations and soil disturbance could further exacerbate the potential for invasive species to establish in this project area. However, the native species vegetation will be reestablished in this project area upon construction completion. If invasive species become established in spite of native vegetation, invasive species control methods would be employed in this project area. Therefore, adverse impacts associated with potential invasive species spread is expected to be temporary to long-term and minor.

3.10 SOCIO-ECONOMIC RESOURCES

3.10.1 Affected Environment

Socioeconomics is defined as the basic attributes and resources associated with the human environment, particularly population, demographics, and economic development. Demographics entail population characteristics and include data pertaining to race, gender, income, housing, poverty status, and educational attainment. Economic development or activity typically includes employment, wages, business patterns, an area's industrial base, and its economic growth. The project study area is located in Oklahoma County, Oklahoma. The socio-economic characteristics of the Oklahoma County, Oklahoma compared to the rest of the state are presented in Table 3-6. Oklahoma County had a population of 800,487 living in 356,997 households in 2023. The racial makeup of the county was 59.9 percent White, 14.5 percent African American, 3.1 percent Native American, 3.4 percent Asian, 5.1 percent other race, and 13.8 percent from two or more races. Of the total population, 19.6 percent were of Hispanic or

Latino origin. Roughly 15.7 percent of families in the county live below the poverty line compared to 15.3 percent in the state (U.S. Census Bureau, 2023a-d).

Table 3-6. Population Data for Oklahoma County, Oklahoma and State of Oklahoma

Population Metric	Oklahoma County	Oklahoma
Population		
Total Population	800,487	3,995,260
Total Households	356,997	1,763,036
Race and Ethnicity		
White	59.9%	66.8%
Black or African American	14.5%	7.1%
Native American or Alaska Native	3.1%	7.4%
Asian	3.4%	2.3%
Native Hawaiian or Other Pacific Islander	0.1%	0.2%
Other Race	5.1%	3.4%
Two or More Races	13.8%	12.8%
Hispanic	19.6%	12.3%
Age		
Under 5 years	6.9%	6.2%
5 to 19 years	21.2%	20.7%
20 to 64 years	57.8%	57.0%
Over 64 years	14.2%	16.1%
Education		
High School Diploma	59.8%	68.5%
Bachelor's Degree or Higher	45.2%	36.2%
Household Income		
Median Household Income	\$65,374	\$63,603
Population below poverty level	15.7%	15.3%
Less than \$14,999	10.2%	11%
\$15,000 to \$24,999	7.4%	8%
\$25,00 to \$49,999	20.7%	21.5%
\$50,000 to \$74,999	17.8%	18%
Greater than \$75,000	43.7%	42.7%
<i>Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2023a-d</i>		

3.10.2 Environmental Consequences

3.10.2.1 No Action

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions; therefore, no changes from current impacts to socio-economic resources would be anticipated as a result of implementing the No Action Alternative.

3.10.2.2 Selected Action

Traffic delays, noise, and possible water service interruptions are expected to have temporary, negligible adverse impacts to the local population during construction of the project. The Timberland Mobile Home Park was initially considered for access to the Eastside EST but would not be affected, with access now planned from an existing driveway that traverses the park if an right-of-entry can be obtained. The Timber Ridge Zone, which includes areas from Post Road to Timber Ridge Boulevard between SE 29th St and SE 15th St, would improve water pressure and service reliability. By creating a new high-pressure zone, the project would increase the number of customers that can be serviced at an elevated hydraulic grade, improving overall water service for the local community. In the long-term, the project would have a potential for moderate, permanent beneficial impacts by supporting future growth and development in Midwest City by providing a water distribution system can meet the community's needs.

3.11 INCORPORATING THE NEEDS AND CONSIDERATIONS OF ALL AT-RISK COMMUNITIES

3.11.1 Affected Environment

Incorporating the needs and considerations of all at-risk communities is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Incorporating the needs and considerations of all at risk communities is achieved when everyone enjoys the same degree of protections and equal access to Civil Works programs and services to achieve a healthy environment in which to live.

3.11.2 Environmental Consequences

3.11.2.1 No Action

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions; therefore, no changes from current impacts to at-risk communities would be anticipated as a result of implementing the No Action Alternative.

3.11.2.2 Selected Action

The Selected Action would not have any short or long, adverse adverse impacts on at-risk communities in the study area. All populations within the study area, regardless of at-risk or not, would derive moderate, long-term benefits from the new high-pressure zone.

3.12 AESTHETIC RESOURCES

3.12.1 Affected Environment

Midwest City is a small town located on the eastern outskirts of Oklahoma City. Much of the environment is urbanized, with areas near the city dominated by concrete, mowed lawns, and housing subdivisions. In the less populated areas are scattered compartments of pastureland and disturbed forested areas.

3.12.2 Environmental Consequences

3.12.2.1 *No Action*

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions. There would be no changes from current impacts to aesthetic resources as a result of implementing the No Action Alternative.

3.12.2.2 *Selected Action*

The WTP and HSPS, Eastside EST, Titan Tower, and South Westminster sites are all disturbed sites consisting of mowed grass and dirt. The rock and vegetation removal associated with the road access construction for the Eastside EST site would entail taking away from the natural setting from the perspective from the road, however these settings are already characteristic of the surrounding area, an area that is largely urban sprawl. The vegetation clearing associated with this site additionally entails 0.54 acres of permanent vegetation removal through the creation of impervious surfaces, and 1.08 acres of temporary vegetation removal which will be reestablished upon completion of construction activities, however most of this removal will not be visible from the road and the areas surrounding the Eastside EST are urbanized or under development. The installation of a water tower generally takes away from the aesthetic value of an area, large towers that can be seen from miles away can be an eye sore. In conclusion, the majority of these sites would result in negligible adverse impacts to the aesthetics of Midwest City, with the exception of the Eastside EST which could potentially have minor to moderate adverse impacts to the aesthetics of the city.

3.13 NOISE

3.13.1 Affected Environment

Sensitive noise receptors are areas where occupants are more susceptible to the adverse effects of noise pollution. These include, but are not limited to, residential dwellings, hospitals, schools, day care facilities and care homes. Each project site is located within 1,000 feet of a residential area. The Eastside EST site is in close proximity to the Timberland Mobile Home Park. The Titan Tower site is roughly 900 feet south of Carl Albert Middle School. Sources of noise pollution can include areas such as road and air traffic, construction, and proximity to night life areas. The Eastside EST site and the South Westminster site are both located in close proximity to roads, which can contribute to noise pollution from car traffic. However, two site are slightly offset from major roads, with the WTP and HSPS site being roughly 1,500 feet from a major road and the Titan Tower site being roughly 450 feet from a major road.

3.13.2 Environmental Consequences

3.13.2.1 No Action

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions. There would be no changes from current impacts from noise as a result of implementing the No Action Alternative.

3.13.2.2 Selected Action

The Selected Action would have short-term, adverse impacts on noise within the area from heavy equipment use. Heavy equipment, including excavators, cranes, cement trucks, and frontend loaders would be used during the construction of this project, which will increase noise. Construction duration will take two years in total. Long-term, there would be no change from the No Action Alternative in regard to construction noise. Construction will comply with Section 4(b) of the Noise Control Act of 1972 (42 USC §§ 4901-4918), which directs federal agencies to comply with applicable federal, state, and local noise requirements with respect to the control and abatement of environmental noise.

Noise levels created by construction equipment would vary greatly depending on factors such as the type of equipment, the specific model, the operation being performed, and the condition of the equipment. The equivalent sound level of the construction activity also depends on the action of time that equipment is operated over the period of time of the construction. Construction would occur during daylight hours, thus reducing the day-night average sound levels and the chances of causing annoyances. Construction would also be in accordance with migratory bird nesting periods. The use of BMPs such as keeping equipment in good operating condition, proper training, and providing appropriate health and safety equipment would minimize the potential noise impacts associated with the Selected Action.

3.14 CULTURAL RESOURCES

3.14.1 Affected Environment

Federal agencies are required under Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. § 300101), as amended (NHPA), and its implementing regulations, 36 CFR Part 800.1(a-c) to “take into account the effects of their undertakings on historic properties” and consider alternatives “to avoid, minimize or mitigate the undertaking’s adverse effects on historic properties” in consultation with the State Historic Preservation Officer (SHPO) and appropriate federally recognized Indian Tribes (many of whom have Tribal Historic Preservation Officers - THPO) [(36 CFR 800.2(c)]. In accordance with this and other applicable regulations, including the National Environmental Policy Act of 1969 (NEPA) and Engineer Regulation (ER) 1105-2-100, USACE has reviewed Oklahoma Archeological Survey’s (OAS) Information System (OASIS) to better determine the existing conditions and potential risks of encountering cultural resources.

The review of the OASIS database revealed that no archeological sites had been identified in the project area sites, but there had not been a cultural resources survey performed in the vicinity of these locations. In addition, a review of the Oklahoma SHPO National Register of Historic Places (NRHP) map, Determination of Eligibility List, and the Oklahoma Landmarks

Inventory was performed and did not indicate any previously recorded historic buildings, structures, or objects.

The non-federal sponsor conducted a cultural resources investigation in November of 2023. The entire Area of Potential Effect (APE) was subject to a pedestrian survey; some areas were augmented with shovel tests spaced approximately 30 meters (98 feet) apart, and other areas were augmented with judgmental shovel tests which were placed where accessible or practical. No cultural resources were observed during the pedestrian survey or in excavated shovel tests within the APE. Much of the APE has been disturbed by road construction and residential and/or commercial development. In February 2025, the SHPO requested additional information and Historic Preservation Resource Identification (HPRI) forms for the standing structures indicated in project area sites 2, 3, and 6 of the proposed project. An addendum report with associated forms was submitted in July 2025, and USACE determined, with SHPO concurrence, that the structures are not eligible for the NRHP (Appendix C).

No historic properties (defined as those which are eligible for the NRHP, regardless of age or site type) had previously been identified in the APE, and none were located by the investigations for the proposed project. USACE finds that no historic properties will be affected by the undertaking, with SHPO concurrence, and no objections were received from consulted tribes (Appendix C).

3.14.2 Environmental Consequences

3.14.2.1 No Action

The No Action Alternative would result in no effects to cultural resources.

3.14.2.2 Selected Action

USACE has determined that no historic properties will be affected by the Selected Action. Consultation letters and the survey report have been provided to the Oklahoma SHPO and the appropriate federally recognized Native American tribes (Appendix C).

3.15 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)

3.15.1 Affected Environment

A feasibility level HTRW evaluation was completed for the Midwest City Water Tower project following the rules and guidance of ER 1165-2-132: *HTRW Guidance for Civil Works Projects*, and ASTM E1527-21: *Standard Practice for Environmental Site Assessment: Phase 1 Environmental Site Assessment Process*. A Phase I Environmental Site Assessment (Phase I ESA) was conducted by Garver in October 2023 for all sites and an updated Phase I ESA was conducted in February 2025 for the Eastside EST site due to the project area being updated during the Design Phase. An additional desktop records review was conducted by USACE in February 2025 to ensure accuracy of information from the previous Phase I ESAs. To complete the desktop records review, USACE reviewed publicly available databases and sources, using the proposed footprint of the project, along with an approximate 1-mile search distance for each of the sources. The Garver Phase I ESAs and the USACE desktop records search identified several potential HTRW sites in relative proximity (one mile) to the proposed project footprint, including two sites in the Federal National Priorities List, one site in the Superfund Enterprise

Management System, one Superfund site, one Underground Storage Tank (UST), and three Leaking Storage Tanks. Based on the information provided in the Phase I ESA, the identified potential HTRW sites within the project vicinity do not have any HTRW impacts within the project area and no recognized environmental conditions (REC) were identified. Additionally, these reviews identified two potential HTRW sites within the project footprint; one UST within the WTP and HSPS site boundary that was removed and closed out, and one oil well within the Eastside EST site that was found to be non-productive and sealed shortly after it was drilled. Neither of these sites have the potential to affect the proposed project. More information about these sites can be found in Appendix G: HTRW Evaluation.

Although petroleum is not classified as HTRW, pipelines and oil wells play an important role in the existing conditions in and around Midwest City Water Infrastructure Improvements project area. Approximate locations of identified oil and gas wells in and around the project area are identified in Appendix G: HTRW Evaluation. The well is located within the project footprint, but it is not considered a REC due to no signs of leakage during the Site Reconnaissance in October 2023 and being a non-productive well that was sealed shortly after drilling. Regardless, pipelines and wells within the project vicinity should be precisely located during the Pre-Construction Engineering and Design to ensure no unintended interaction occurs with the existing oil and gas facilities. Special care should be taken when performing work near the well to ensure that equipment does not impact the well infrastructure. The oil well located on the South part of the Eastside EST site should be avoided unless additional environmental investigations are conducted to identify if HTRW is present.

3.15.2 Environmental Consequences

3.15.2.1 No Action

The existing HTRW situation for the Midwest City Water Infrastructure Improvements project area would most likely stay the same under the No Action Alternative. The use of the site would remain the same under this alternative, therefore there would be no changes from current impacts to Hazardous, Toxic, and Radioactive Waste as a result of implementing the No Action Alternative. An updated HTRW survey would be required should the project area sites be reconsidered or altered at a future time.

3.15.2.2 Selected Action

Based on the findings identified in Section 3.15.1, the probability of encountering contaminated sites or toxic substances with project construction is considered low, for the reasonably foreseeable future. Therefore, impacts from HTRW sites is expected to be negligible. Should discovery of unanticipated contaminants occur during construction, work would stop in the area and appropriate authorities notified in order to handle the containments appropriately. Information compiled by this assessment indicates additional investigations are not warranted at this time, reasoning for each site can be found in Appendix G: HTRW Evaluation.

3.16 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Table 3-7. Resources likely Affected by the Implementation

Environmental Consequences

Resource	No Action Alternative	Selected Action
Climate and Changing Conditions	No change from current impacts	Overall, less than significant impacts.
Air Quality	No change from current impacts	Overall, less than significant impacts.
Topography, Geology, Soils, and Prime Farmland	No change from current impacts	Overall, less than significant impacts.
Wildlife	No change from current impacts	Negligible impacts from all sites except Eastside EST, which is expected to have minor to moderate, long-term to permanent effect on wildlife.
Threatened and Endangered Species	No Effect	No Effect on any federally listed endangered or threatened species, and any state listed species
Invasive Species	No change from current impacts	Temporary, to long-term minor adverse impacts from potential establishment of invasive species associated with construction activities
Socio-Economic Resources	No change from current impacts	Moderate, permanent beneficial impacts to local community associated with water distribution system improvements
Incorporating the Needs and Considerations of all At Risk Communities	No change from current impacts	Moderate permanent beneficial impacts. All populations within the study area, would derive benefits from the project
Aesthetic Resources	No change from current impacts	Overall, less than significant impacts.
Noise	No change from current impacts	Short-term, minor adverse impacts during construction
Cultural Resources	No Effect	No historic properties will be affected. Consultation was conducted with Oklahoma SHPO and tribes
Hazardous, Toxic, and Radioactive Waste	No change from current impacts	Impacts are expected to be negligible

4.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that federal agencies identify “any irreversible and irretrievable commitments of resources which would be involved in the Selected Action should it be implemented” (42 U.S.C. 4332). An irreversible commitment of resources occurs when the primary or secondary impacts of an action result in the loss of future options for a resource. Usually, this is when the action affects the use of a nonrenewable resource, or it affects a renewable resource that takes a long time to renew. The Selected Action would lead to an increase in water withdrawal from the Garber-Wellington aquifer within the study area, as the new system will be integrated with the city's existing water distribution infrastructure, which draws from this aquifer. This increase in withdrawal is expected to impact the groundwater recharge rate, potentially affecting the time required for resource renewal. However, given that the study area encompasses approximately 2,200 acres—a relatively small area in comparison to the overall size of the aquifer—reasonably foreseeable adverse impacts to groundwater resources are anticipated to be minimal and long-term in nature. Additionally, water availability would still be limited by existing water rights and allocations as well as distribution infrastructure. Therefore, the impacts of the project would not be considered an irreversible commitment. An irretrievable commitment of resources is typically associated with the loss of productivity or use of a natural resource (i.e., loss of production or harvest). No irreversible or irretrievable impacts on groundwater are anticipated from the implementation of the Selected Action for the Midwest City Water Infrastructure Improvements Project.

5.0 ENVIRONMENTAL COMPLIANCE

This EA has been prepared to satisfy the requirements of all applicable environmental laws and regulations and has been prepared in accordance with the NEPA, the Fiscal Responsibility Act of 2023, and USACE NEPA procedures. I certify that this NEPA document is consistent with page limits pursuant to 42 U.S.C. 4336a(e) and deadlines pursuant to 42 U.S.C. 4336a(g) or shall be reported according to 42 U.S.C. 4336a(g)2.

This section addresses the primary Federal environmental laws, implementing regulations, and executive orders potentially applicable to the Selected Action. The applicable environmental statutes are summarized below along with a brief description of the law, regulations, and executive orders. The status of compliance and environmental commitments identified for each to date are also included.

Compliance with Federal Acts and Executive Orders are summarized in Table 5-1 below:

Table 5-1. Federal Act/Executive Order Compliance

Act/Executive Order	Status	Compliance
National Environmental Policy Act of 1969	Complete	Compliant
Federal Water Pollution Control Act (Clean Water Act)	Complete	Compliant
Clean Air Act	Complete	Compliant
U.S. Fish and Wildlife Coordination Act	N/A	Compliant
Endangered Species Act	No Effect	Compliant
Migratory Bird Habitat Protection (EO 13186)	Complete	Compliant
Migratory Bird Treaty Act	Complete	Compliant
Bald and Golden Eagle Protection Act	Complete	Compliant
Farmland Protection Policy Act (FPPA) of 1981 and Council of Environmental Quality (CEQ) Memorandum on Prime and Unique Agricultural Lands	Complete	Compliant
Federal Water Project Recreation Act	N/A	Compliant
National Historic Preservation Act	No Effect	Compliant
Comprehensive Environmental Response, Compensation Liability Act	Complete	Compliant

5.1 FEDERAL STATUTES

5.1.1 National Environmental Policy Act of 1969

NEPA (42 USC 4321 et seq.) provides a commitment that Federal agencies will consider the environmental effects of their actions. It also requires that an Environmental Impact Statement (EIS) or EA be included in every recommendation or report on proposals for legislation and other major Federal actions. The EIS or EA must provide detailed information regarding the Selected Action and alternatives, the environmental impacts of the alternatives, and potential mitigation measures. Agencies are required to demonstrate that these factors have been considered by decision-makers prior to undertaking actions.

This EA is the primary vehicle to achieve NEPA compliance for this study. The 30-day public review period on the draft EA provided disclosure of the environmental effects of the alternatives to the public. After review and consideration of agency and public comment on the draft EA, USACE prepared a final EA. Following the 30-day public review of the draft EA, USACE decision makers signed a Finding of No Significant Impact (FONSI), outlining the rationale for their decision.

5.1.2 Federal Water Pollution Control Act (Clean Water Act)

The Federal Water Pollution Control Act (33 USC 1251 et seq.) is more commonly referred to as the Clean Water Act (CWA). This Act is the primary legislative vehicle for Federal water pollution control programs and the basic structure for regulating discharges of pollutants into waters of the United States. The CWA was established to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The CWA sets goals to eliminate discharges of pollutants into navigable water, protect fish and wildlife, and prohibit the discharge of toxic pollutants in quantities that could adversely affect the environment. The sections of the CWA that may apply to the Selected Action are Section 401, regarding state water quality certifications that existing water quality standards would not be violated if a Federal permit that causes discharges into navigable waters were issued, and Section 402, regarding discharges of pollutants from point sources under the National Pollutant Discharge Elimination System (NPDES).

In accordance with Section 404 of the CWA, the project was evaluated for any dredge or fill of wetlands. No wetlands would be impacted as part of the Selected Action. A stormwater pollution prevention plan would be developed and implemented to avoid impacts to any adjacent water bodies. As such, the project will be compliant with CWA.

5.1.3 Clean Air Act

The Clean Air Act (CAA) (42 USC 7401 et seq.), amended in 1977 and 1990, was established “to protect and enhance the quality of the nation’s air resources so as to promote public health and welfare and the productive capacity of its population.” The CAA authorizes the EPA to establish the National Ambient Air Quality Standards to protect public health and the environment. The CAA establishes emission standards for stationary sources, volatile organic compound emissions, hazardous air pollutants, and vehicles and other mobile sources. The

CAA also requires the states to develop implementation plans applicable to particular industrial sources.

The Green Book on the EPA website provides detailed information about area National Ambient Air Quality Standards designations, classifications and nonattainment status. Midwest City is located in Oklahoma County, which is in attainment as of the May 31, 2025 update to the Green Book. Because the county is in attainment status and is not a maintenance area, it meets CAA compliance. An emissions analysis was still conducted using a conservative worst-case scenario with equipment estimates provided by a contractor for Midwest City. More information on this analysis can be found in Appendix D Emissions Analysis.

5.1.4 U.S. Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act of 1934 (FWCA), as amended (16 U.S.C. §§ 661–667e), provides authority for USFWS and National Marine Fisheries Service (NMFS) involvement in evaluating impacts to fish and wildlife from proposed water resource development projects. It requires that fish and wildlife resources receive equal consideration to other development project features. It requires Federal agencies that construct, license, or permit water resource development projects to consult with the USFWS, NMFS, and state resource agencies regarding the impacts on fish and wildlife resources and measures to mitigate these impacts when waters of any stream or other body of water are “proposed to be impounded, diverted or otherwise controlled or modified” Section 2(b) requires the USFWS to produce a Coordination Act Report (CAR) that describes fish and wildlife resources in a project area, potential impacts of a proposed project, and recommendations for a project.

The purpose of the Midwest City Water Infrastructure Improvement Project is to update old water distribution systems. This project does not trigger compliance with the FWCA because it does not include the impoundment, diversion, control, or modification of any natural stream or body of water.

5.1.5 Endangered Species Act

The Endangered Species Act (ESA) of 1973 (16 U.S.C. §§ 1531–1544), amended in 1988, establishes a national program for the conservation of threatened and endangered species of fish, wildlife, and plants and the habitat upon which they depend. Section 7(a)(2) of the ESA requires that Federal agencies consult with the NMFS and USFWS, as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or to adversely modify or destroy their designated critical habitats.

USACE has determined the project would have No Effect on federally listed species that are likely to occur in the project area.

5.1.6 Migratory Bird Treaty Act and Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

The Migratory Bird Treaty Act (16 U.S.C. §§ 703–712), as amended, protects over 800 bird species and their habitat, and implements various treaties and conventions between the United States and other countries, including Canada, Japan, Mexico, and Russia, for the protection of migratory birds. Under the Act, taking, killing, or possessing migratory birds, or their eggs or nests, is unlawful. The Act classifies most species of birds as migratory, except for upland and non-native birds such as pheasant, chukar, gray partridge, house sparrow, European starling,

and rock dove. Executive Order 13186, dated January 10, 2001, directs Federal agencies to evaluate the effects of their actions on migratory birds, with emphasis on species of concern, and inform USFWS of potential negative effects to migratory birds.

The Selected Action is not expected to permanently impact migratory bird populations. Options to avoid migratory and nesting bird impacts may include adjusting the construction timeline to accommodate the nesting season or re-sequencing construction activities to work in areas where no active nests are present. Vegetation impacts will primarily occur in the winter when migratory birds would not be nesting. As such, the project would be compliance with the MBTA and EO 13186.

5.1.7 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA [16 U.S.C. §§ 668-668c]) prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions (primarily for Native American Tribes). Take under this Act includes both direct taking of individuals and take due to disturbance (further defined in 50 CFR 22.3).

The Selected Action is not expected to impact any Bald or Golden Eagles that may occur within the project area. Options to avoid migratory and nesting bird impacts may include adjusting the construction timeline to accommodate the nesting season or re-sequencing construction activities to work in areas where no active nests are present. Vegetation impacts will primarily occur in the winter, and this project occurs in an urbanized area away from any large bodies of water that would have a higher likelihood of nest occurrence. As such, the project would be compliant with the BGEPA.

5.1.8 Farmland Protection Policy Act of 1981 and the CEQ Memorandum on Prime and Unique Agricultural Lands

The purpose of the Farmland Protection Policy Act is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. The act requires among other things, agencies to identify and take into account the adverse effects of Federal programs on the preservation of prime and unique farmlands, and consider alternative actions, as appropriate that could lessen such adverse effects. The CEQ issued a memorandum "Analysis of Prime and Unique Agricultural Lands in Implementing the National Environmental Policy Act" that supplemented NEPA procedures to include analysis of these impacts in NEPA documents. The regulation codifying the Act in 7 CFR Part 658 specified procedures and criteria for the analysis of these impacts. The Selected Action is primarily within a previously disturbed urbanized area.

No part of this project would be converted to unusable prime farmland as the only impervious surface being constructed is not located on soils that are classified as prime farmland soils. Therefore, all project area sites associated with the project would not impact prime farmlands.

5.1.9 Federal Water Project Recreation Act

In the planning of any Federal navigation, flood control, reclamation, or water resources project, the Federal Water Project Recreation Act, as amended (16 U.S.C. § 460l-12 et seq.) requires that full consideration be given to the opportunities that the project affords for outdoor recreation and fish and wildlife enhancement. The act requires planning with respect to development of

recreation potential. Projects must be constructed, maintained, and operated in such a manner if recreational opportunities are consistent with the purpose of the project.

The Selected Action does not contain any potential for recreational features and is compliant with the Federal Water Project Recreation Act.

5.1.10 National Historic Preservation Act

Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108) and its implementing regulations, 36 Code of Federal Regulations (C.F.R.) Part 800, provides a regulatory framework for the identification, documentation, and evaluation of historic and cultural resources that may be affected by Federal undertakings. Under the Act, Federal agencies must take into account the effects of their undertakings on historic properties, including resources that are listed or are eligible for listing in the National Register of Historic Places, and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertaking. Additionally, a Federal agency shall consult with any tribe that attaches religious and cultural significance to such properties. Section 110(f) of the NHPA (54 U.S.C. § 306107) requires USACE to minimize harm to all National Historic Landmarks (NHL) within the Area of Potential Effects to the maximum extent possible.

Cultural resources investigations were conducted by the non-federal sponsor in 2023 and 2025. No historic properties were identified, and the Corps determined that no historic properties will be affected by the undertaking. Copies of the survey reports were submitted to the Oklahoma SHPO, The Oklahoma Archeological Survey, and the appropriate federally recognized Native American Tribes for review (see section 3.14 above, and Appendix C).

5.1.11 Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended (42 U.S.C. § 9601 et seq.), which was later amended by the Superfund Amendments and Reauthorization Act of 1986, sets forth regulations for cleanup of hazardous substances after improper disposal; identifies federal response authority; and outlines responsibilities and liabilities of potentially responsible parties, who are past/present owners or operators of the site, a person who arranged disposal of hazardous substances at a site, or a person who transported hazardous substances to a site they selected for disposal. CERCLA also specifies where Superfund money can be used for site cleanup.

After conducting independent Phase I ESA reports for each project area, no RECs were identified in the project area sites or within a 1-mile search radius. More information can be found in section 3.15 Hazardous, Toxic, and Radioactive Waste and in Appendix G: HTRW Evaluation.

5.2 ADDITIONAL ACTS CONSIDERED

See below for all Acts that were considered, but not applicable to this project:

- Native American Graves Protection and Repatriation Act, 1990 – This act is only applicable on Federal and Tribal lands.
- Wild and Scenic Rivers Act, as amended – This act is not applicable because there are no wild or scenic rivers within the study area.

- Magnuson Fisheries Conservation and Management Act – This act is not applicable because the project area is not located near a marine fisheries resource.
- Coastal Zone Management Act 1972, as amended – This act is not applicable because the project area is not located within a coastal environment.
- Fish and Wildlife Coordination Act 1956 – This act is not applicable because the project would not impound, divert, deepen, or otherwise modify a body of water.
- Archaeological and Historic Preservation Act 1974, as amended – The project would provide for data recovery if archaeological sites were present.
- Archaeological Resources Protection Act 1979, as amended – This act is not applicable because it does not occur on Federal and Tribal lands.
- Rivers and Harbors Act, 1899 – This act is not applicable because the project does not impact any navigable water ways.
- Marine Mammal Protection Act of 1972 – This act is not applicable as the project would not impact marine mammals.
- Estuary Protection Act of 1968 – This act is not applicable as the project would not occur near an estuary.
- Federal Water Project Recreation Act of 1965, as amended – The project is not a federal water development project, therefore this act is not applicable.
- Fishery Conservation and Management Act of 1976 – This act is not applicable because no marine fisheries would be impacted by the construction of this project.
- Submerged Lands Act of 1953 – This act is not applicable as the project does not involve submerged lands beneath navigable coastal or Great Lakes waters.
- Coastal Barrier Resources Act and Coastal Barrier Improvement Act of 1990 – These acts are not applicable because the project is located in Oklahoma, a landlocked state, and not within a designated coastal barrier unit.
- Resource Conservation and Recovery Act (RCRA), As Amended by the Hazardous and Solid 119 Waste Amendments (HSWA) of 1984 – This act is not directly applicable as the project's primary scope is water infrastructure improvement, not the treatment, storage, or disposal of hazardous waste.
- Toxic Substances Control Act (TSCA) of 1976 – This act is not applicable as the project does not involve the manufacturing, use, or disposal of regulated toxic substances.
- Safe Drinking Water Act (SDWA) of 1974, As Amended, Marine Protection, Research and Sanctuaries Act (MPRSA) – The SDWA's operational compliance is outside the scope of this construction EA, and the MPRSA is not applicable as it governs ocean dumping, which is not a component of this inland project.
- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646) – This act is not applicable because all construction is planned within existing City property and public rights-of-way, requiring no private property acquisition or relocation.

- Anadromous Fish Conservation Act Marine Protection, Research and Sanctuaries Act – The Anadromous Fish Conservation Act is not applicable as the project area does not support fish that migrate between fresh and salt water, and the MPRSA is not applicable to this inland project.
- Compensatory Mitigation for Losses of Aquatic Resources (40 CFR Part 230 and 33 CFR Parts 325 and 33 – This rule is not triggered because the project does not impact wetlands and other waters of the U.S., thereby negating the requirement for compensatory mitigation.

5.3 EXECUTIVE ORDERS

5.3.1 Executive Order 11988, Floodplain Management

Executive Order 11988, Floodplain Management Guidelines, May 24, 1977, states that each Federal agency shall take action to reduce the risk of flood loss, minimize the impacts of floods on human safety, and restore and preserve the natural values of floodplains while carrying out its responsibilities for (1) acquiring, managing, and disposing of Federal lands; (2) providing Federal investments in construction and improvements; and (3) conducting activities affecting land use, including water resources planning and regulating activities. To comply with this order, each Federal agency has a responsibility to evaluate the potential effects of any actions it may take in the floodplain, to ensure its planning programs consider flood hazards and floodplain management, and to implement the policies and requirements of the order.

The proposed project has minimal footprint within an urbanized area in addition to not impacting the movement of stormwaters throughout the area. As such, the project is in compliance with EO 11988.

5.3.2 Executive Order 11990, Protection of Wetlands

Executive Order 11990, dated May 24, 1977, requires Federal agencies to take action to avoid adversely impacting wetlands wherever possible, to minimize wetland destruction and preserve the values of wetlands, and to prescribe procedures to implement the policies and procedures of this executive order. In addition, Federal agencies shall incorporate floodplain management goals and wetlands protection considerations into its planning, regulatory, and decision-making processes.

The proposed project has minimal footprint within an urbanized area in addition to not impacting wetlands throughout the area. As such, the project is in compliance with EO 11990.

5.3.3 Executive Order 13751, Safeguarding the Nation from the Impacts of Invasive Species

Executive Order 13751, December 8, 2016, Safeguarding the Nation from the Impacts of Invasive Species, December 5, 2016, amends Executive Order 13112 and directs Federal agencies to “refrain from authorizing, funding, or implementing actions that are likely to cause or promote the introduction, establishment, or spread of invasive species in the United States unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.”

Standard operating procedures for construction projects, such as revegetating temporarily disturbed areas, would be implemented to minimize the likelihood of invasive species being introduced into the project area. As such, the project would be compliant with EO 13751.

5.3.4 Executive Order 13175, Consultation and Coordination with Indian Tribal Governments

Executive Order 13175, November 6, 2000, Consultation and Coordination with Indian Tribal Governments, November 6, 2000, directs Federal agencies to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Indian Tribes, and to reduce the imposition of unfunded mandates upon Indian Tribes.

Cultural resources investigations were conducted by the non-federal sponsor in 2023 and 2025. No historic properties were identified, and the Corps determined that no historic properties will be affected by the undertaking. Copies of the survey report were submitted to the Oklahoma SHPO, The Oklahoma Archeological Survey, and the appropriate federally recognized Native American Tribes for review and no objections were received (see section 3.14 above, and Appendix C).

5.3.5 Executive Order 13007, Indian Sacred Sites

Executive Order 13007, dated May 24, 1996, directs Federal agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners. To the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, the co-lead agencies are to avoid adversely affecting the physical integrity of such sacred sites and to maintain the confidentiality of sacred sites when appropriate. The order encourages government-to-government consultation with tribes concerning sacred sites. Some sacred sites may qualify as historic properties under the National Historic Preservation Act. This E.O. is directed towards executive branch agencies with statutory or administrative responsibility for the management of federal lands. The undertaking would not affect federally owned or administered lands and is in compliance with this E.O.

5.3.6 Executive Order 13045, Protection of Children from Environmental and Safety Risks

Executive Order 13045, dated April 23, 1997, requires each federal agency to identify and assess environmental health and safety risks that may disproportionately affect children and ensures that policies, programs, activities, and standards address disproportionate risk to children that results from environmental health or safety risks. "Environmental health risks and safety risks" are defined as risks to health or safety that are attributable to products or substances that the child is likely to come in contact with or ingest, such as air, food, drinking or recreational use of water, soil children may live on, and products they use or are exposed to.

The project is being constructed in largely previously disturbed areas and would benefit everybody in the vicinity with improved water pressure. Construction would be temporary limiting exposure to emissions, construction areas, and noise. As such, the project is compliant with EO 13045.

6.0 COORDINATION AND PUBLIC INVOLVEMENT

6.1 PUBLIC INVOLVEMENT

In accordance with the National Environmental Policy Act of 1969, as amended (42 United States Code [USC] § 4321 et seq.), as amended by the Fiscal Responsibility Act, and U.S. Army Corps of Engineers (USACE) regulations at 33 Code of Federal Regulations (CFR) Part 230: Procedures for Implementing National Environmental Policy Act of 1969 (NEPA), the USACE held a 30-day public comment period for the Draft EA to solicit comments on the Midwest City Water Infrastructure Improvement Project, as well as identify appropriate measures, and identify significant issues related to the project. The USACE, Tulsa District, placed advertisements on the USACE webpage and social media prior to the 30-day public comment period. No public comments were received. A copy of the public notice is included in Appendix E of this EA.

6.2 AGENCY INVOLVEMENT

Copies of agency coordination are presented in Appendix F. Informal coordination has been and will continue to be conducted with the following resource agencies:

- EPA
- Federal Aviation Administration (FAA)
- USFWS
- USDA
- Natural Resources Conservation Service (NRCS)
- ODWC
- Oklahoma Department of Environmental Quality (ODEQ)
- Tinker Air Force Base
- Oklahoma SHPO

In addition, the following tribal nations were coordinated with:

- Absentee-Shawnee Tribe of Indians of Oklahoma
- Caddo Nation of Oklahoma
- Cherokee Nation
- Citizen Potawatomi Nation, Oklahoma
- Iowa Tribe of Oklahoma
- Kickapoo Tribe of Oklahoma
- The Osage Nation
- Ponca Tribe of Indians of Oklahoma
- The Seminole Nation of Oklahoma
- Wichita and Affiliated Tribes (Wichita, Keechi, Waco, & Tawakonie)

6.3 LIST OF PREPARERS

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Cecelia Marascalco	Environmental Resources
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