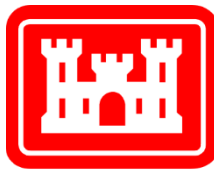


Environmental Assessment

Lake Norfork Water Intake



Baxter County, Arkansas



**US Army Corps
of Engineers®**

October 2021

Table of Contents

1.0	Introduction	1
1.1	Project Background	1
1.2	Scope of Assessment.....	1
1.3	Purpose and Need.....	3
1.3.1	Water Supply and Demand.....	3
2.0	Alternatives	4
2.1	Development of Alternatives.....	4
2.1.1	Intake Site Options Dropped from Further Consideration	4
2.2	Proposed Action	6
2.2.1	No Action Alternative	8
3.0	Affected Environment and Impacts of the Proposed Action	8
3.1	Land Use and Right-of-Way	8
3.1.1	Affected Environment.....	8
3.1.2	Proposed Action.....	9
3.1.3	No Action Alternative	9
3.2	Visual Effects.....	10
3.2.1	Affected Environment.....	10
3.2.2	Proposed Action.....	11
3.2.3	No Action Alternative	11
3.3	Air Quality	11
3.3.1	Affected Environment.....	11
3.3.2	Proposed Action.....	11
3.3.3	No Action Alternative	11
3.4	Cultural Resources	11
3.4.1	Affected Environment.....	12
3.4.2	Proposed Action.....	12
3.4.3	No Action Alternative	12
3.5	Geology and Soils	12
3.5.1	Affected Environment.....	12
3.5.2	Proposed Action.....	13
3.5.3	No Action Alternative	13

3.6	Farmland	13
3.6.1	Affected Environment.....	13
3.6.2	Proposed Action.....	13
3.6.3	No Action Alternative	13
3.7	Hydrology and Water Quality	13
3.7.1	Affected Environment.....	13
3.7.2	Proposed Action.....	14
3.7.3	No Action Alternative	14
3.8	Wildlife and Habitat.....	14
3.8.1	Affected Environment.....	14
3.8.2	Proposed Action.....	15
3.8.3	No Action Alternative	17
3.9	Noise	17
3.9.1	Affected Environment.....	18
3.9.2	Proposed Action.....	18
3.9.3	No Action Alternative	19
3.10	Floodplains	19
3.10.1	Affected Environment	19
3.10.2	Proposed Action	19
3.10.3	No Action Alternative	19
3.11	Waters and Wetlands	20
3.11.1	Affected Environment	21
3.12	Hazardous Materials.....	22
3.12.1	Affected Environment	23
3.12.2	Proposed Action	23
3.12.3	No Action Alternative	23
3.13	Utilities	23
3.13.1	Proposed Action	23
3.13.2	No Action Alternative	23
3.14	Environmental Justice	24
3.14.1	Affected Environment	24
3.14.2	Proposed Action	26
3.14.3	No Action Alternative	26

3.15	Greenhouse Gases and Climate Change.....	26
3.15.1	Affected Environment	27
3.15.2	Proposed Action	27
3.15.3	No Action Alternative	27
3.16	Reasonably Foreseeable Impacts	27
4.0	Public Involvement	28
5.0	Agency Coordination.....	28
6.0	Mitigation and Permits.....	29
6.1	Cultural Resources	29
6.2	Hydrology and Water Quality.....	29
6.3	Threatened and Endangered Species.....	29
6.4	Hazardous Materials.....	30
6.5	Tree Mitigation.....	30
6.6	USACE Property.....	31
6.7	USACE Permitting.....	31
7.0	Conclusion	31
8.0	References.....	32
9.0	List of Preparers.....	33

List of Figures

Figure 1.	General Project Location Map	2
Figure 2.	Options Dropped from Further Consideration.....	6
Figure 3.	Specific Project Location Map	8
Figure 4.	Land Use	10
Figure 5.	Glades Within the Project area	17
Figure 6.	Floodplain Map	20
Figure 7.	Waters and Wetlands Map.	22

List of Tables

Table 1. Threatened and Endangered Species	15
Table 2. Waters of the U.S. within the Project area	22
Table 3. Income Data.....	24
Table 4. Minority Statistics	25

List of Appendices

Appendix A – Preliminary Engineering Plans
Appendix B – Agency Coordination
Appendix C – Noise Study

List of Acronyms

ADEE	Arkansas Department of Energy and Environment
ADH	Arkansas Department of Health
AF	Acre feet
AGFC	Arkansas Game and Fish Commission
AHPP	Arkansas Historic Preservation Program
AMASDA	Automated Management of Archeological Site Data in Arkansas
ANHC	Arkansas Natural Heritage Commission
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
BMP	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
DHHS	Department of Health and Human Services
DOT	Department of Transportation
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
HUD	Department of Housing and Urban Development
LEP	Limited English Proficiency
MBTA	Migratory Bird Treaty Act
MDC	Missouri Department of Conservation

MGD	Million gallons per day
NAAQS	National Ambient Air Quality Standards
NAEC	North Arkansas Electric Cooperative
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resource Conservation Service
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
OPCC	Opinion of Probable Construction Cost
OSHA	Occupational Safety and Health Administration
REC	Recognized Environmental Condition
ROW	Right-of-Way
SGCN	Species of Greatest Conservation Need
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SWPPP	Stormwater Pollution Prevention Plan
T&E	Threatened and endangered
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGCRP	United States Global Change Research Program
USGS	United States Geological Survey

1.0 Introduction

1.1 Project Background

In 2012, the City of Mountain Home Water and Sewer Master Plan recognized the immediate need for a second alternative for obtaining additional water that not only serves the City of Mountain Home but also a majority of Baxter County, Arkansas. The City conducted an alternatives analysis that reviewed four potential alternatives including a well field supply, Bull Shoals Lake, riverbank filtration at White River, and a second intake at Lake Norfolk (Water Source Intake Study, December 2015, Garver, LLC). The analysis revealed that replacing the current intake located at Lake Norfolk would be the most feasible solution.

The planning for a new water source examined water demand and need, alternative sources of supply, intake specifics on hydraulics and structure, and cost. The selected source remained Lake Norfolk and the intake was to be a platform style intake founded on supporting piers down to the bottom of the lake.

The proposed project is located at least partly on U.S. Army Corps of Engineers (USACE) property and this jurisdiction led the USACE to be the lead federal agency for the current environmental study. **Figure 1** shows the general study area for this project.

1.2 Scope of Assessment

This Environmental Assessment (EA) is being conducted on behalf of the City of Mountain Home in conjunction with the USACE Little Rock District, pursuant to the National Environmental Policy Act (NEPA). This EA includes an assessment of the environmental effects of development, construction, and operation of a new Lake Norfolk intake and its accompanying pipeline and access road. The removal of the existing structure and transmission pipeline will also be evaluated, to the degree it is applicable, as part of this EA.

This EA has been prepared in accordance with the regulations set forth by the Council on Environmental Quality (CEQ) implementing the provisions of the NEPA (CEQ Regulations, Title 40 CFR 1500-1508) as amended in 2020; Executive Order 12898; and the USACE implementing regulation, 33 CFR Part 230, "Procedures for Implementing NEPA." The purpose of this EA is to provide an environmental analysis of the Proposed Action in sufficient detail to allow the USACE to prepare a Finding of No Significant Impact (FONSI) for the Proposed Action.

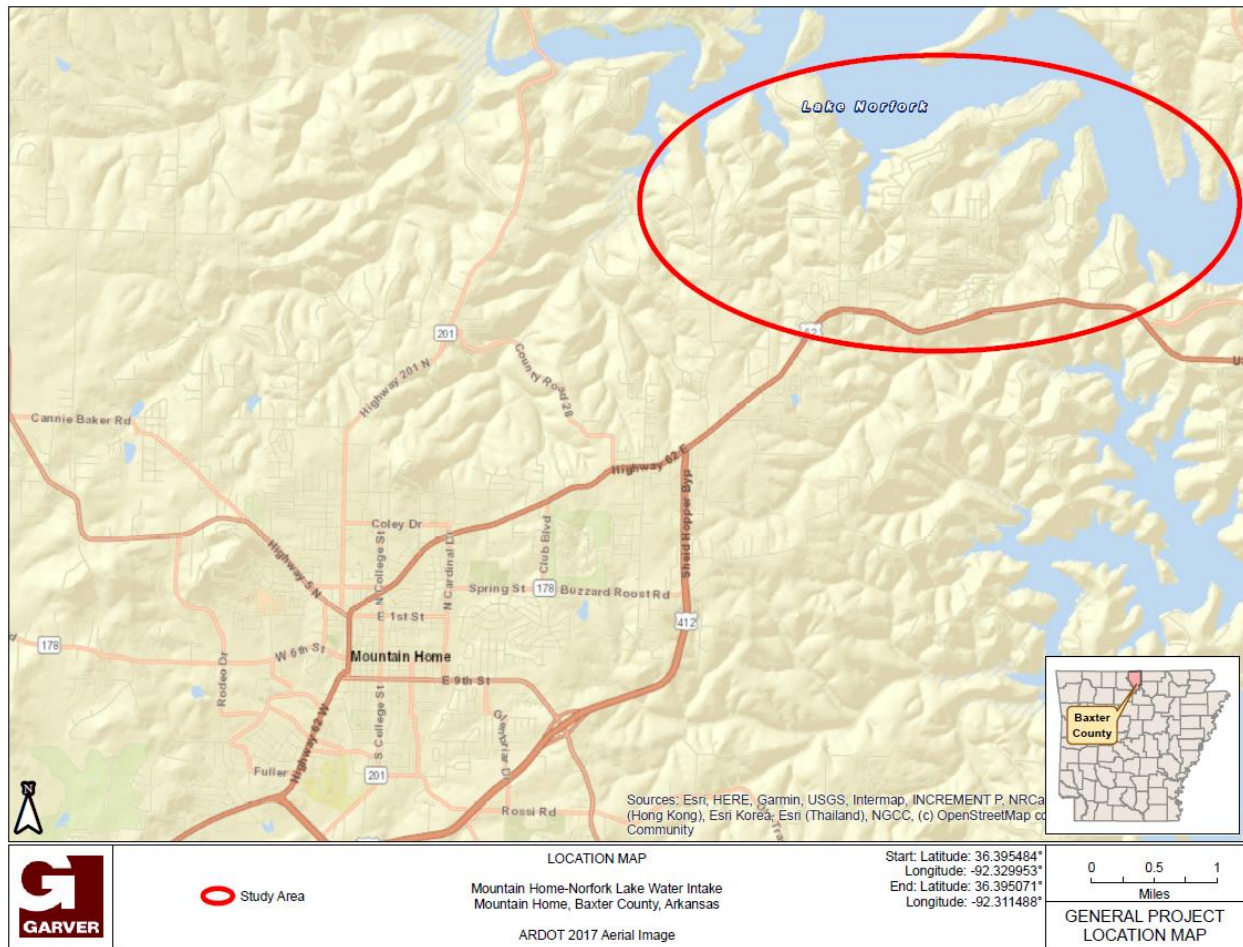


Figure 1. General Project Location Map

1.3 Purpose and Need

The following information provides details on the purpose and need of the project.

1.3.1 Water Supply and Demand

Currently, the City of Mountain Home has an allocation from Norfolk Lake, contracted in April 1967, for 2,400 acre-feet (AF) or approximately 782 million gallons. The conservation pool of Norfolk Lake is 21,662 acres with 372 miles of shoreline. Water source allocations are based on average day needs over the course of a year. Daily summer usage tends to exceed the allocated average while winter usage tends to be below the allocated average, so the actual usage is averaged over the entire year. The City of Mountain Home was notified, in a letter dated August 30, 2000, that it was exceeding its current agreement of 3 million gallons per day (MGD) water supply from Norfolk Lake. The City, in a letter dated September 19, 2000, then requested a reallocation of storage from Norfolk Lake to 5 MGD.

The Corps of Engineers has the discretionary authority to reallocate up to 50,000 AF of the total storage capacity in Norfolk Lake, provided the reallocation has no severe effect on other authorized purposes and will not involve major structural or operational changes. Norfolk Lake has a total storage capacity of 1,983,000 AF; of which 731,000 is for flood control, 707,000 is conservation storage, and 544,200 is dead storage.

A Water Supply Storage Reallocation Report was completed in August 2007. The volume available from Norfolk Lake is more than adequate to accommodate the projected increase in water demand. The Corps of Engineers is waiting on federal government funding to complete an Environmental Assessment and finalize the study. However, in 2020, the USACE terminated all requests for allocation increases in Lake Norfolk. The City is in the process of re-examining the current and future water needs to the year 2050, to be based on the 2020 Census, and will be resubmitting an allocation request. It should be noted that the Norfolk Lake water supply storage is also more than adequate to accommodate the projected increase of the 2030 water demand and beyond.

In 2021, the World Population Review recorded a total population of 41,627 for Baxter County and 12,825 for the City of Mountain Home. For 2020, the City of Mountain Home Water Treatment Plant recorded an average day water demand of 3.2 MGD and a maximum day water demand of 4.43 MGD. The 2012 Water and Sewer Master Plan Update projects the 2030 projected average day water demand to increase to approximately 5.86 MGD and the 2030 projected maximum day water demand to increase to approximately 9.61 MGD. The Mountain Home water system not only supplies water to the City itself but also provides water to much of Baxter County through water connections to the Midway-Lakeview and Northeast Water Associations and the City of Gassville. The water system is designed for maximum day water demand to be provided by the Water Treatment Plant with peak hour / fire flow supplemented by the water storage tanks. The water storage tanks are also required by the Arkansas Department of Health (ADH) to provide 24 hours of average day demand. The current Water Treatment Plant design capacity, as approved by the ADH and which also includes the existing lake intake structure on Norfolk Lake, is 8.0

MGD. The projected water demand will require an additional source for obtaining water in the near future.

The new intake is needed because the current intake has water intake access issues, inadequate space, and limited redundancy. The current intake is also considered a vulnerable risk because of its aging structural components and integrity. The intake pump housing is not consistent with current code requirements and updating it to meet those requirements would require it to be taken out of service; this is not possible because it is the only pumping source of water from the lake to the water treatment plant. The existing intake has reached its maximum capacity, is nearing its useful life, and is physically limited to take water from lower lake levels. Due to rock encountered when initially constructed, the lower water intake pipe was not built. In times of low water lake levels, the amount of water the intake can obtain is limited. Also, with the intake located near the inflow of Pigeon Creek, there is a risk of incoming muddy, turbid water impacting water quality and requiring higher treatment requirements at the water treatment plant. Additionally, the intake pumping rate is at maximum capacity; updating it to meet the ultimate capacity of the water treatment plant would require a complete shutdown of the intake and a complete rebuild in order to meet code requirements, which is not possible as noted above.

The purpose of the proposed project is to provide a water supply system to meet current and future needs and address water quality issues within the City of Mountain Home and Baxter County.

2.0 Alternatives

The City of Mountain Home is considering two alternatives for the proposed action. The action alternative identified as the Preferred Alternative (replacing the current intake at Lake Norfolk) and a No Action Alternative. Section 2.1 below provides a brief summary of the alternatives that were evaluated then dropped from further consideration. The Preferred Alternative is described in detail in Section 2.2.

2.1 Development of Alternatives

2.1.1 Intake Site Options Dropped from Further Consideration

There were seven sites selected as possible intake lake locations with the following six listed below withdrawn from consideration. Options 1 through 3 were initially located and examined for being a reasonable distance from the Water Treatment Plant to reduce pumping/piping costs. Options 4 through 6 were other sites examined after reviews of the first 3 were determined to not be viable options. A brief discussion of the options and the reason for dropping it are provided below. See **Figure 2** for an illustration of each alternative.

Option 1

This option was the initial preferred site due to not only reduced pumping / piping costs but also because the deeper location allows water to be taken in at different lake levels, providing access to better quality water. This site was rejected by the USACE due to its access road and transmission main being located on land denoted as "Park Lands" that cannot be used for other purposes.

Option 2

This option was located in Cranfield Park which is one of the most developed and popular parks on Lake Norfolk. Since it was located adjacent to the existing campground, beach, amphitheater, and other park facilities, in which a required restricted buffer zone would negate, it was removed from consideration.

Option 3

This was located in the vicinity and close to the existing intake. An intake in this location would have the same water depth problem as with the existing intake which creates the same water withdrawal and water quality problems as the existing intake at low lake levels. This site was not acceptable to the City.

Option 4

This is further east of the Water Treatment Plant requiring close to 19,000 feet of 30" water line and a large amount of difficult construction cross country and along developed roadways and lots. The long transmission main would create operational difficulties due to problematic raw water detention times and the need for larger pumping capacities. The year 2017 Opinion of Probable Construction Cost (OPCC) for this option was \$26,000,000. This option was not acceptable to the City or USACE.

Option 5

This is even further east of the Water Treatment Plant requiring close to 26,000 feet of 30" water line and a large amount of difficult construction cross country along developed roadways and lots. The long transmission main would create operational difficulties due to problematic raw water detention times and the need for larger pumping capacities. The intake location would potentially block the cove entrance which would cause problems for boat access. The year 2017 Opinion of Probable Construction Cost (OPCC) for this option was \$32,000,000. This option was not acceptable to the City or USACE.

Option 6

Because the previous sites were not acceptable to the USACE, the City requested the USACE locate a site that might be acceptable to them. Option 6 was selected by the USACE but is furthest from the Water Treatment Plant requiring close to 30,000 feet of 30" water line and a large amount of difficult construction cross country and along developed roadways and lots. This very long transmission main would create operational difficulties due to the required very large pumping capacities and problematic raw water detention times. The year 2017 Opinion of Probable

Construction Cost (OPCC) for this option was \$35,000,000. This option was not acceptable to the City.

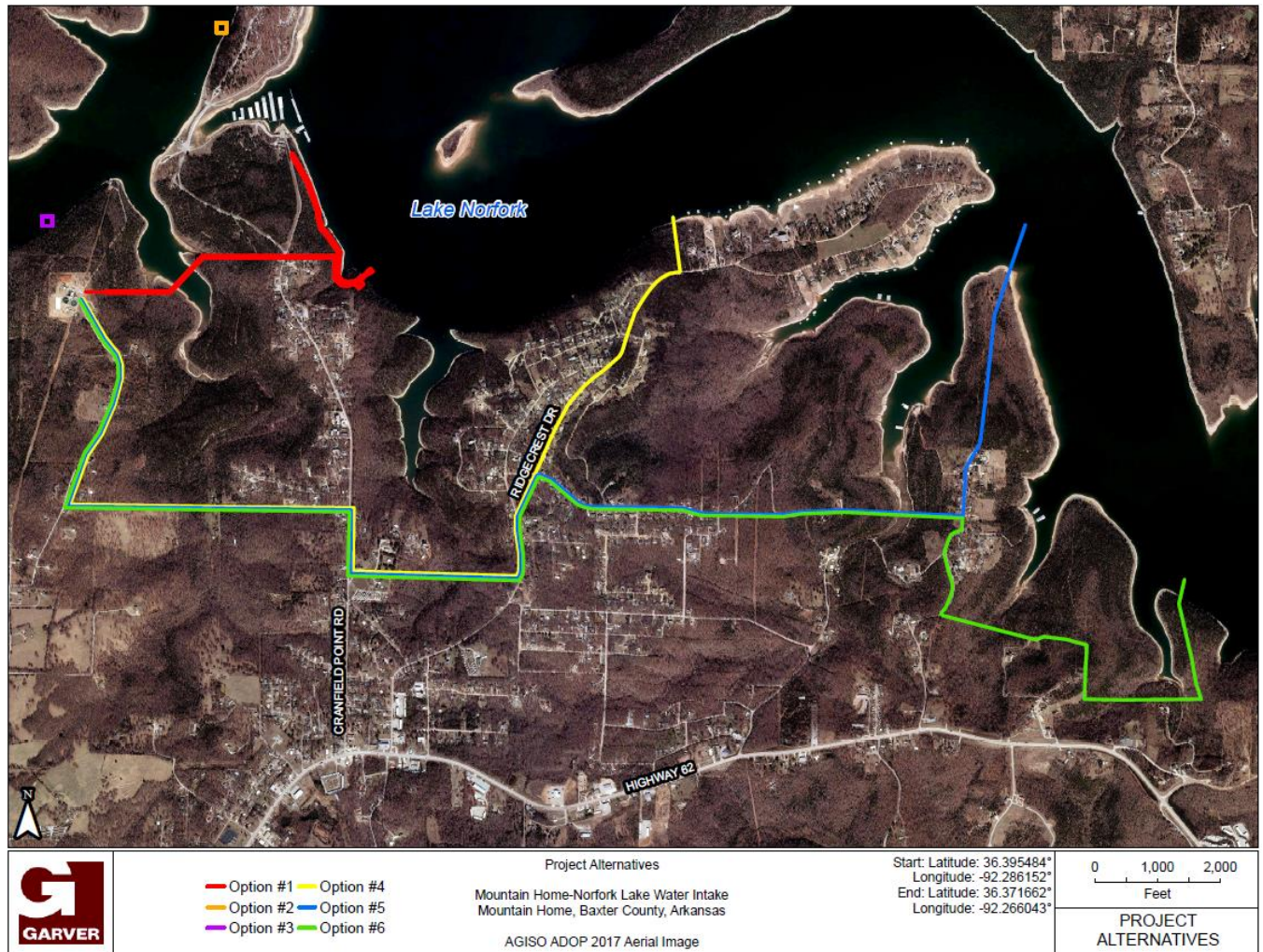


Figure 2. Options Dropped from Further Consideration

2.2 Proposed Action

The Preferred Alternative would remove the old intake and pipeline and replace them with new water intake and pipeline at a different location as shown in **Figure 3**. This alternative was selected as the Preferred Alternative because it minimized the environmental, social, and USACE property impacts, reduced overall costs for construction and maintenance and provided the best water source to meet the current and future demands. Additionally, the location meets the ADH requirements for setbacks and raw water protection and the Arkansas Department of Agriculture - Natural Resources Division regulations for Water Plan Compliance. Lake depth, buffer zone,

access, electrical considerations, structural considerations, and cove access were also considered.

An access road would be constructed on the eastern part of the project to access the water intake. The access road will be constructed on USACE property. The access road must be capable of getting equipment and personnel to the site for maintenance and in times of emergency. Because of the very steep and undulating terrain, the proposed route is located such that the access road slope would not exceed 10% allowing work trucks to get to and from the site. The water transmission line location was chosen to reduce the total length of pipe necessary to traverse from the intake to the water treatment plant, thus reducing the cost of the project. The transmission pipe crosses undeveloped private land for reduced construction impacts due to topography.

The North Arkansas Electric Cooperative (NAEC) maintain overhead powerlines along Cranfield Road. The proposed project will connect to these powerlines via a new underground transmission line that will start at the intake.

In addition to the new construction, the existing facilities will need to be removed. This includes the existing intake, pipeline, and current access road that are located north of the water plant and the electrical powerlines (NACC) that are overhead from plant to the intake. The generator will be removed, and the ground will be restored to previous conditions. Specific details about the removal of the existing facilities will be coordinated with the USACE as the project progresses. The construction of the new intake, access road, and water line as well as the removal of the existing facilities will be referred to as the Proposed Action from this point forward. **Figure 3** shows a specific project location map. See **Appendix A** for the preliminary design layout plans.

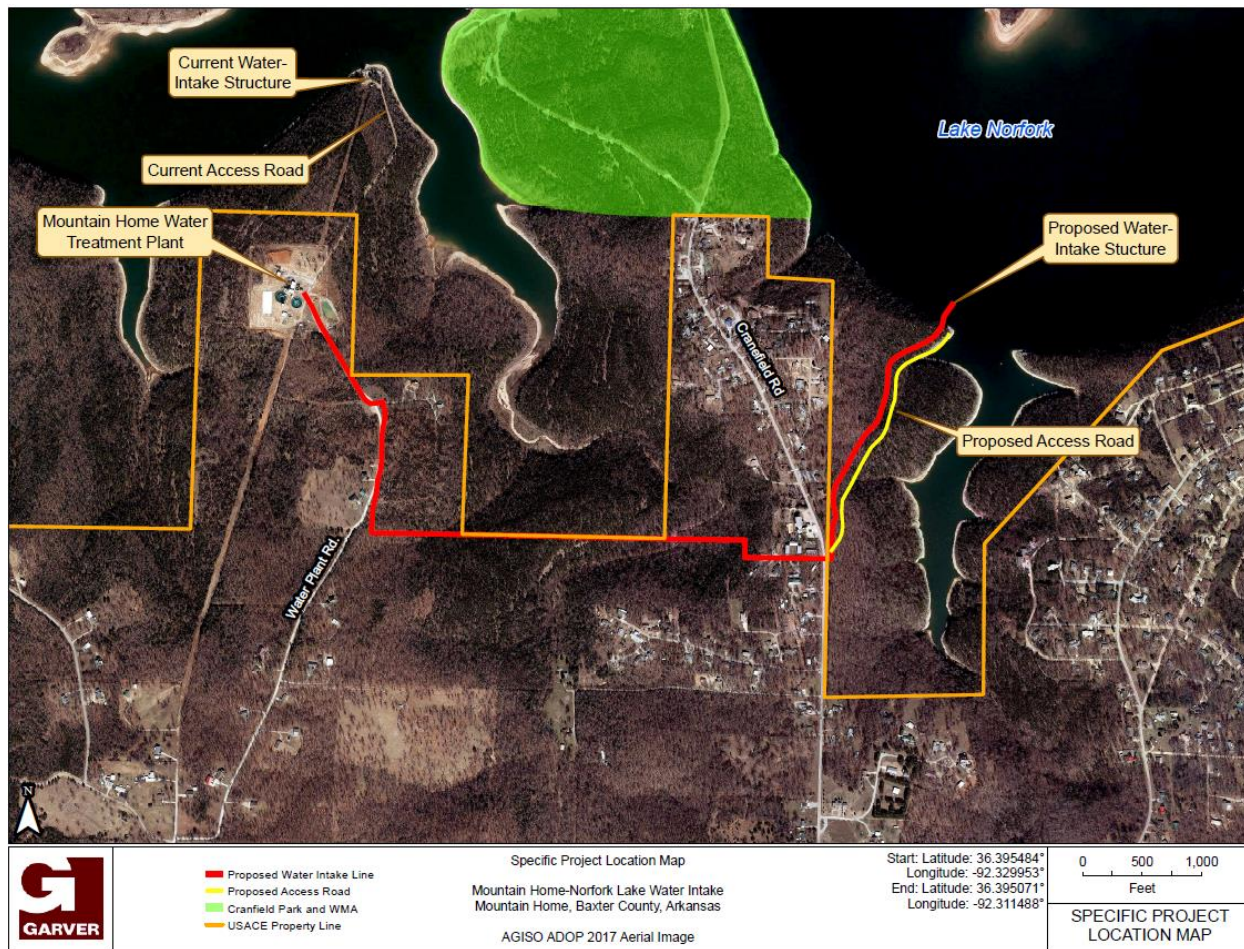


Figure 3. Specific Project Location Map

2.2.1 No Action Alternative

The No Action Alternative will not provide a new or alternative water supply and would not meet the City's water supply requirements; therefore, it was not considered in depth. While this option is not practicable because it does not address the needs of the project, it is retained for comparison against the positive and negative impacts of the Proposed Action.

3.0 Affected Environment and Impacts of the Proposed Action

3.1 Land Use and Right-of-Way

3.1.1 Affected Environment

Land use within the project area is dominated by deciduous forest. The southern and eastern half of the project area is forested with small pockets of single-family residential areas. The western portion of the project area consists of wooded area as well as Water Plant Road and the water treatment plant. As shown on **Figure 4**, deciduous, evergreen, and herbaceous forest make up most of the project area. The USACE owns Lake Norfolk and the land where the

access road will be located. The USACE will provide the City with a lease for use of the access road as well as a 300-foot setback along the shoreline that is required by the ADH. The transmission line will be located on private property.

3.1.2 Proposed Action

The construction of the pipeline and access road would result in a conversion of land from its present use to utility use. The pipeline corridor would be cleared of trees prior to construction. Once the pipe is placed, land will be restored over the pipe. The access road will be maintained for the life of the project. The total land area needed for the intake, access road, and pipeline that will be located on USACE is approximately 3.57 acres. The total land area needed for the permanent and temporary construction activities on private property is approximately 6.19 acres. Additionally, the removal of the current intake, transmission line, and access road will be restored to its original state. This will be coordinated with the USACE.

3.1.3 No Action Alternative

Under the No Action Alternative, no impacts to land use would occur and no property would be acquired for new ROW.

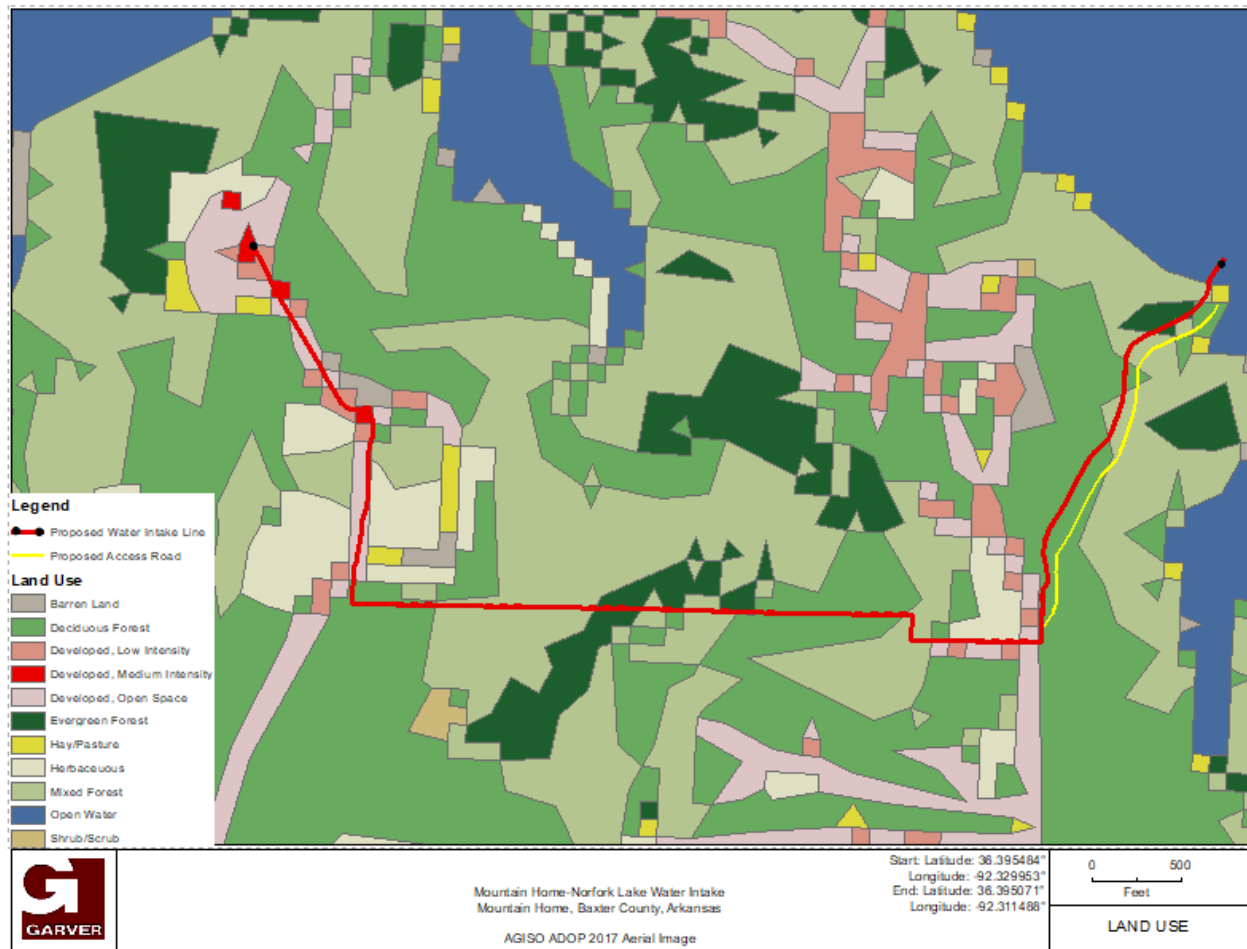


Figure 4. Land Use

3.2 Visual Effects

Visual character refers to the overall visual makeup of the existing environment where the project would be located. For example, areas in close proximity to densely populated areas generally have a visual character that could be defined as urban, whereas less developed areas could have a visual character defined by the surrounding landscape features, such as open grass fields, forests, mountains, or open waters, etc.

3.2.1 Affected Environment

The visual character at the location of the proposed intake pump and pipeline is rural lake front with substantial topography and predominantly forested habitat. The overwater intake is near a steep bank edge lined with trees. The pipeline between the pump and the treatment plant is located in predominantly forested habitat with some minor openings. The Cranefield Marina is located approximately one-half mile north of the intake. There are scattered homes located along the higher ridges surrounding the lake in the general location of the intake.

3.2.2 Proposed Action

The proposed water line and access road would not be visible from any of the homes in the project area. Tree clearing for the buried water line may be noticeable from the water in certain locations. The intake structure would be visible from portions of the Cranefield Marina and the open waters of the surrounding lake but would not impede the viewshed for boaters. Due to the steep topography and tree density in the vicinity of the intake, it will not be visible to most homes have only a minor impact on the visual character of the area.

The overall visual effect is anticipated to be minor for the boaters and homes in the area.

3.2.3 No Action Alternative

Under the No Action Alternative, no impacts to visual resources or aesthetics would occur.

3.3 Air Quality

The Clean Air Act of 1977 as amended requires Federal facilities to comply with all Federal, state, interstate, and local requirements regarding the control and abatement of air pollution in the same manner as any non-governmental entity, including any requirement for permits. No Federal requirements are involved that are not already incorporated into Arkansas State law. The "Conformity Rule" of the Clean Air Act of 1977, as amended (CAA) states that all Federal actions must conform to appropriate State Implementation Plans (SIPs). This rule took effect on January 31, 1994, and at present applies only to Federal actions in non-attainment areas (those not meeting the National Ambient Air Quality Standards for the criteria pollutants in the CAA). The state of Arkansas including Lake Norfolk is considered an "attainment area" and is therefore exempt from the "Conformity Rule" of the CAA.

3.3.1 Affected Environment

The Build Alternative is located in an area in attainment or unclassifiable for all national ambient air quality standards (NAAQS). This project is within an attainment or unclassifiable area for ozone and carbon monoxide.

3.3.2 Proposed Action

The Proposed Action would utilize an energy efficient pump which would emit less emissions than the current pump and would therefore have a minor positive impact on air quality. Construction activities would require the use of heavy machinery that could have a minor and temporary impact on local air quality. No other sources of air emissions are anticipated.

3.3.3 No Action Alternative

Under the No Action Alternative, no impacts to air quality would occur.

3.4 Cultural Resources

Section 106 of the National Historic Preservation Act requires agencies to consider the effects of federal actions to historic properties. In compliance with Section 106 requirements, the USACE is conducting ongoing consultation with the appropriate Native American tribes.

Prior to alternative alignment development, records were checked to determine if previously documented cultural resources were known in the project area. This included a record review of the Automated Management of Archeological Site Data in Arkansas (AMASDA) database maintained by the Arkansas Archeological Survey for previously recorded archeological sites immediately proximal to the action alternatives. A historic properties records check was also conducted of the Arkansas Historic Preservation Program (AHPP)'s structure database.

3.4.1 Affected Environment

A review of the AHPP GIS National Register and Survey Database and the AMASDA database managed by the Arkansas Archeological Survey indicated two recorded archeological sites (3BA0177 and 3BA0178) proximal to the proposed project area. No evidence was found to indicate the previously recorded sites extend into the project area.

3.4.2 Proposed Action

A Phase I cultural resources survey was completed in May 2021 that included shovel tests was conducted for the proposed area impacted by construction activities. The report documenting the results of the survey, quantifying impacts to historic properties, and stating recommendations was prepared and submitted to the State Historic Preservation Officer (SHPO) for review (Appendix B).

The SHPO concurred that the proposed undertaking meets the criteria for a finding of No Historic Properties Affected as per 36 CFR 800.4 (d)(1). No additional cultural resources investigation is recommended for the proposed project area.

3.4.3 No Action Alternative

Under the No Action Alternative, no impacts to cultural resources would occur.

3.5 Geology and Soils

Geology and soils refers to the potential for loss of soils and changes in geological conditions due to rock excavation, soil erosion, soil compaction, grading, and cutting and filling operations.

3.5.1 Affected Environment

The soils within the project area fall within the Arkana-Moko unit and the Doniphan-Gassville unit. Both soils in the project area are well-drained. The Arkana soils are moderately deep, and the Moko soils are shallow. Doniphan soils are deep, and Gassville soils are moderately deep.

The Arkana-Moko unit contains soils that formed in the residuum of dolomite and limestone. These soils are predominantly located on sideslopes and ridgetops throughout the project area. The Doniphan-Gassville soils are scattered throughout the project area and are considered non-hydric.

3.5.2 Proposed Action

Conversion of soils will occur where the access road and pipeline are constructed. The soil will be temporarily impacted due to the construction and placement of the pipeline.

3.5.3 No Action Alternative

Under the No Action Alternative, no impacts to soils or geologic features would occur.

3.6 Farmland

The Farmland Protection Policy Act, 7 U.S.C. 4201 (FPPA) is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use

3.6.1 Affected Environment

There is no prime farmland or farmland of statewide importance located within the project area.

3.6.2 Proposed Action

No impacts will occur to prime or unique farmland due to the proposed project. Coordination with the Natural Resources Conservation Service (NRCS) was initiated to determine if the project would impact prime farmland. The NRCS provided the Farmland Conversion Impact Rating (Form AD-1006) and concluded that the project will not affect prime farmland or farmland of statewide importance. Coordination with the NRCS can be found in **Appendix B**.

3.6.3 No Action Alternative

Under the No Action Alternative, no impacts to farmland soils would occur.

3.7 Hydrology and Water Quality

Water resources include those portions of the natural environment related to surface and groundwater.

3.7.1 Affected Environment

Lake Norfolk has a conservation pool of 21,662 acres and 372 miles of shoreline. Within the project area, there are numerous steep valleys that convey stormwater runoff into the lake. There is one tributary to Lake Norfolk that flows across the project area. The surface water impact from the intake and the tributary will be further discussed in Section 3.10. No wetlands, ponds, or other waters exist within the project area. The USACE Mountain Home Project Office cooperates with Arkansas and Missouri state agencies to control pollution from waste discharges into Lake Norfolk.

3.7.2 Proposed Action

The Preferred Alternative would not alter hydrology within the project area. The minor stream impact will be temporary, and the stream will be restored to its original state when construction is complete. The removal of the existing facilities and construction of the intake structure is not anticipated to impact water quality permanently. The ADH will require a 300-foot setback along the shoreline where the intake is located. The setback will limit any ground-disturbing activity including development and construction of wells. The setback minimizes the risk of groundwater and surface pollution that could impact Lake Norfolk. Temporary impacts to water quality may occur due to the removal of the current intake. Measures will be taken to mitigate sediment runoff during construction and a Stormwater Pollution Prevention Plan will be developed to avoid and reduce impacts to water quality both on shore and in Lake Norfolk.

3.7.3 No Action Alternative

Under the No Action Alternative, no impacts to hydrology and water quality would occur.

3.8 Wildlife and Habitat

In accordance with the Endangered Species Act (ESA) of 1973, federally protected threatened and endangered (T&E) species were identified for the PAA using the USFWS online Information, Planning, and Conservation decision support system (USFWS, June 2021). In compliance with Section 7 of the ESA, a review of the federally listed T&E species and their suitable habitats was performed to determine potential impacts to these species. Impact determinations considered temporary, short and long-term effects, and the types of impacts to suitable habitat for each of the federally listed species.

3.8.1 Affected Environment

The project area is in the Ozark Highland ecoregion. Wooded areas with mature trees and semi-dense underbrush dominate the western and eastern ends of the project area. The present forest consists mainly of oak (*Quercus spp.*), hickory (*Carya illinoensis.*), elm (*Ulmus spp.*), ash (*Fraxinus spp.*), red cedar (*Juniperus virginiana*), maple (*Acer spp.*), birch (*Betula spp.*), and cottonwood (*Populus spp.*). Common wildlife located within the study area include whitetail deer (*Odocoileus virginianus*), wild turkey (*Meleagris gallapavo*), gray squirrel (*Sciurus carolinensis*), rabbit (*Oryctolagus cuniculus*), fox (*Vulpes vulpes*), opossum (*Didelphis virginiana*), bobcat (*Lynx rufus*), skunk (*Mephitis mephitis*), and coyote (*Canis latrans*). Migratory waterfowl can be found on the lake during spring and fall migration and winter on the lake.

Lake Norfolk provides habitat to numerous fish species. Bass, crappie, walleye, bream, and catfish. The lake is fed by the North Fork River which brings a variety of fish to the lake, and it is also stocked annually by the United States Fish and Wildlife (USFWS), Arkansas Game and Fish Commission (AGFC), and Missouri Department of Conservation (MDC)

No critical habitat was listed for threatened and endangered species.

3.8.2 Proposed Action

Typical woodland wildlife has the potential to occur in the area surrounding the project, including small mammals, reptiles, and amphibians. Gray squirrel and whitetail deer were identified on site visits. Various bird species were sighted during field surveys, but none were on the state, federal, or SGCN lists.

No designated or proposed critical habitat occurs within the environmental footprint. The following eight threatened, endangered or candidate species were on the list for an effect analysis:

- Gray Bat (*Myotis grisescens*)
- Indiana Bat (*Myotis sodalist*)
- Northern Long-eared Bat (*Myotis septentrionalis*)
- Ozark Big-eared Bat (*Corynorhinus townsendii ingens*)
- Eastern Black Rail (*Laterallus jamaicensis spp. Jamaicensis*)
- Piping Plover (*Charadrius melodus*)
- Red Knot (*Calidris canutus rufa*)
- Missouri Bladderpod (*Physaria filiformis*)

Determination keys were completed for the project through IPaC. The effect determinations made from the determination keys are shown in **Table 1**.

Table 1. Threatened and Endangered Species

Species	Listing Status	Determination
Eastern Black Rail <i>Laterallus jamaicensis spp. Jamaicensis</i>	Threatened	Not Likely to Adversely Affect
Gray Bat (<i>Myotis grisescens</i>)	Endangered	Not Likely to Adversely Affect
Indiana Bat (<i>Myotis sodalist</i>)	Endangered	May Affect
Missouri Bladderpod (<i>Physaria filiformis</i>)	Threatened	Not Likely to Adversely Affect
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Threatened	May Affect
Ozark Big-eared Bat (<i>Corynorhinus townsendii ingens</i>)	Endangered	May Affect
Piping Plover (<i>Charadrius melodus</i>)	Threatened	No Effect
Red Knot (<i>Calidris canutus rufa</i>)	Threatened	No Effect

The project complies with the final 4(d) rule with incidental take covered by the USFWS Intra-Service Programmatic Biological Opinion on the final 4(d) rule for the Northern Long-eared Bat. USFWS concurred that no further consultation was required.

Consultation with USFWS was conducted in reference to the Indiana bat and Ozark Big-eared Bat. Due to tree removal commitment measures, USFWS concurred that the project is not likely to adversely effect the Indiana Bat or the Ozark Big-eared Bat.

Migratory Birds

The proposed project will comply with applicable provisions of the Migratory Bird Treaty Act (MBTA). The proposed project will avoid removal and destruction of active bird nests except through federal or state approved options. In addition, the proposed project, where appropriate and practicable, will:

- use measures to prevent or discourage birds from building nests on man-made structures within portions of the project area planned for construction, and
- schedule vegetation clearing and ground disturbance activities outside the typical nesting season.

The Bald Eagle (*Haliaeetus leucocephalus*) and Golden Eagle (*Aquila chrysaetos*) Protection Act provides for the protection of the Bald Eagle and the Golden Eagle by prohibiting, except under certain specified conditions, the taking, possession, and sale of such birds. There is no suitable eagle nesting or roosting habitat within the proposed project area. The Build Alternative is also not within 660 feet of an active or inactive Bald or Golden Eagle nest.

Glades

Glades are considered an important and declining habitat in Arkansas. Glades occur when there is bedrock near the surface and can be identified by bare rock, with grasses and forbs and cedar trees. They provide important habitat for wildlife. According to Arkansas Natural Heritage Commission (ANHC) databases, there is possible glade habitat that crosses the pipeline corridor in the southern central portion of the study area, see **Figure 5**. These locations were identified from aerial photography. The glades were located during the site visit. Consultation with ANHC revealed that the avoiding glades is the best mitigation for protecting the resource. In the event this cannot be done, making the trench for the pipe construction as narrow as possible is recommended. In the event a glade is discovered during construction, avoiding the glade to maximum extent possible will occur.

Trees

A timber value assessment for the City of Mountain Home was performed to determine the amount of impacted trees and tree replacement cost. The wooded area of USACE property is 3.57 acres. Tree species, size, and quality were surveyed in 0.1-acre plots to determine number of trees and volume of forest products involved. It is anticipated that 1,067 trees will need to be removed from

the project site. Planting trees offsite will need to occur to mitigate for the number of trees removed for the proposed project.

3.8.3 No Action Alternative

Under the No Action Alternative, no impacts to wildlife species or their habitats would occur.

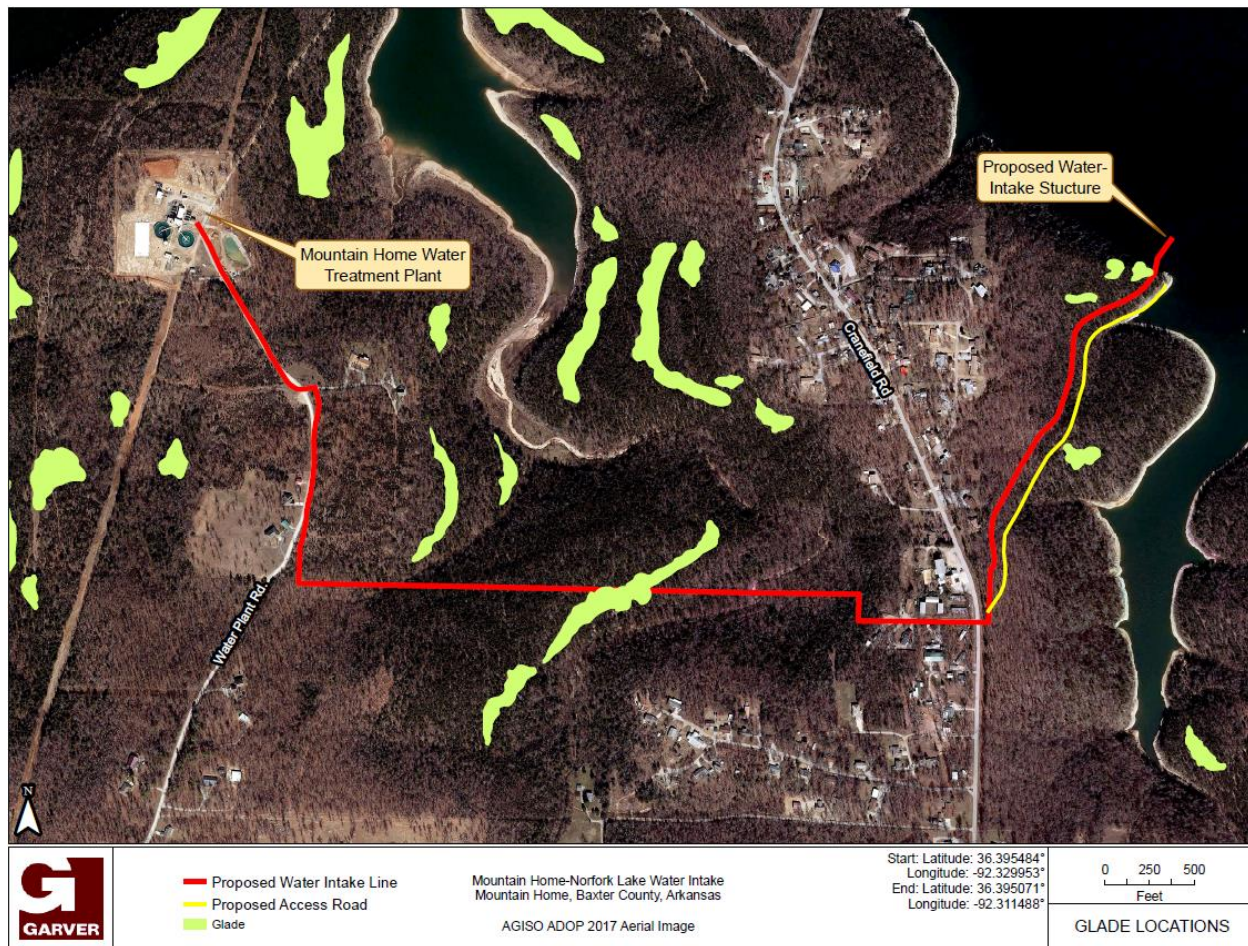


Figure 5. Glades Within the Project area

3.9 Noise

Noise is generally considered to be unwanted sound. Its annoyance has been studied and quantified by the U.S. Environmental Protection Agency (EPA) following community studies. Basic conclusions have been adopted by the Federal Interagency Committee on Noise (FICON), the Department of Housing and Urban Development (HUD), the American National Standards Institute (ANSI), and the Federal Highway Administration (FHWA).

The introduction of noise into a community may have two undesirable effects. First, it may noticeably increase existing sound levels in a community to which residents have mostly become accustomed. These are called "relative" noise impacts because they are relative to the existing sound level environment. Second, new sources may interfere with community activities,

independent of existing noise levels. These are called "absolute" noise impacts because they are expressed at a fixed level independent of existing noise levels.

3.9.1 Affected Environment

Existing noise levels were estimated using the approaches described in the FTA's Noise and Vibration Impact Assessment Manual¹. In lieu of conducting sound level measurements, the simplified procedure described in Chapter 4 of the manual were used to estimate the existing noise levels at the noise sensitive receptors near the new pump station. This procedure took into account distance from major transportation noise sources (i.e., major roadways, railroads) and population density to estimate existing noise. There are no major roadways or railways close enough to the project to be used to estimate sound levels; therefore, the estimate relies upon population density. According to the United States Census Bureau², the population density of the area is 55 people per square mile. The FTA Manual identifies that existing sound levels for areas with population densities of less than 100 people per square mile is 35 dBA Ldn, 35 dBA Leq in the daytime, and 25 dBA Leq at night. See **Appendix C** for the full Noise Study.

3.9.2 Proposed Action

According to the HMMH Technical Memorandum HMMH, the ISO-9613 standard for sound propagation with the SoundPLAN® computer noise model was used to compute operational noise levels from the proposed Project at noise-sensitive receptors located to the west in a residential development along Cranfield Road and to the east in a residential development along Shorecrest Drive. These locations represent the closest sensitive receptors and therefore greatest potential for noise impacts. Existing sound levels are predicted to increase by up to 0.7 dB with the project. Daytime Leq would increase by up to 0.5 dB, and nighttime Leq would increase by up to 1.5 dB. Since all these predicted increases are less than 3 dB, it is not anticipated that the sound of the new pump station to be noticeable at the noise sensitive receptors closest to the project.

Predicted noise levels from the new pump station are expected to be in compliance with the City's code. This is based on conservative modeling analysis that indicates that the biggest increase in noise levels would be at night of 1.5 dB and at one noise sensitive receptor. All other noise sensitive receptors would experience lower increase in project noise. No additional mitigation measures are required.

Temporary noise from construction will occur during construction of the intake. However, noise effects will be short-term and will only occur during daytime hours. No permanent noise impacts will occur, and no mitigation will be required.

¹ Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

² Available at: <https://www.census.gov/library/visualizations/2021/geo/demographicmapviewer.html>

3.9.3 No Action Alternative

Under the No Action Alternative, no noise impacts would occur.

3.10 Floodplains

The protection of floodplains and floodways is required by Executive Order 11988, *Floodplain Management*; U.S. DOT Order 5640.2, *Floodplain management and Protection*; and 23 Code of Federal Regulations 650. The intent of these regulations is to avoid or minimize, where practicable, encroachments within the 100-year (base) floodplain and to avoid supporting land use development that is incompatible with floodplain values.

3.10.1 Affected Environment

The project is situated within approximately 0.14 acres of FEMA-designated 100-year flood hazard area. The proposed crossing of the intermittent stream is within a FEMA Zone A floodplain. The effective FEMA data for the stream is shown on Flood Insurance Rate Map (FIRM) Panel 05005C0075E, dated December 3, 2010. Floodplain within the project is illustrated in **Figure 6**.

3.10.2 Proposed Action

The proposed project will cross the floodplain with open trenching. Once the pipe is placed, the land will be restored to its previous condition. Therefore, the impacts to the floodplain are considered temporary. The current intake is also located in the floodplain. However, removal of the structure will not impact the floodplain. No change in base flood elevation will result from the project. Approximately 0.14 acres of floodplain will be temporarily impacted.

3.10.3 No Action Alternative

Under the No Action Alternative, no impacts to floodplain would occur.

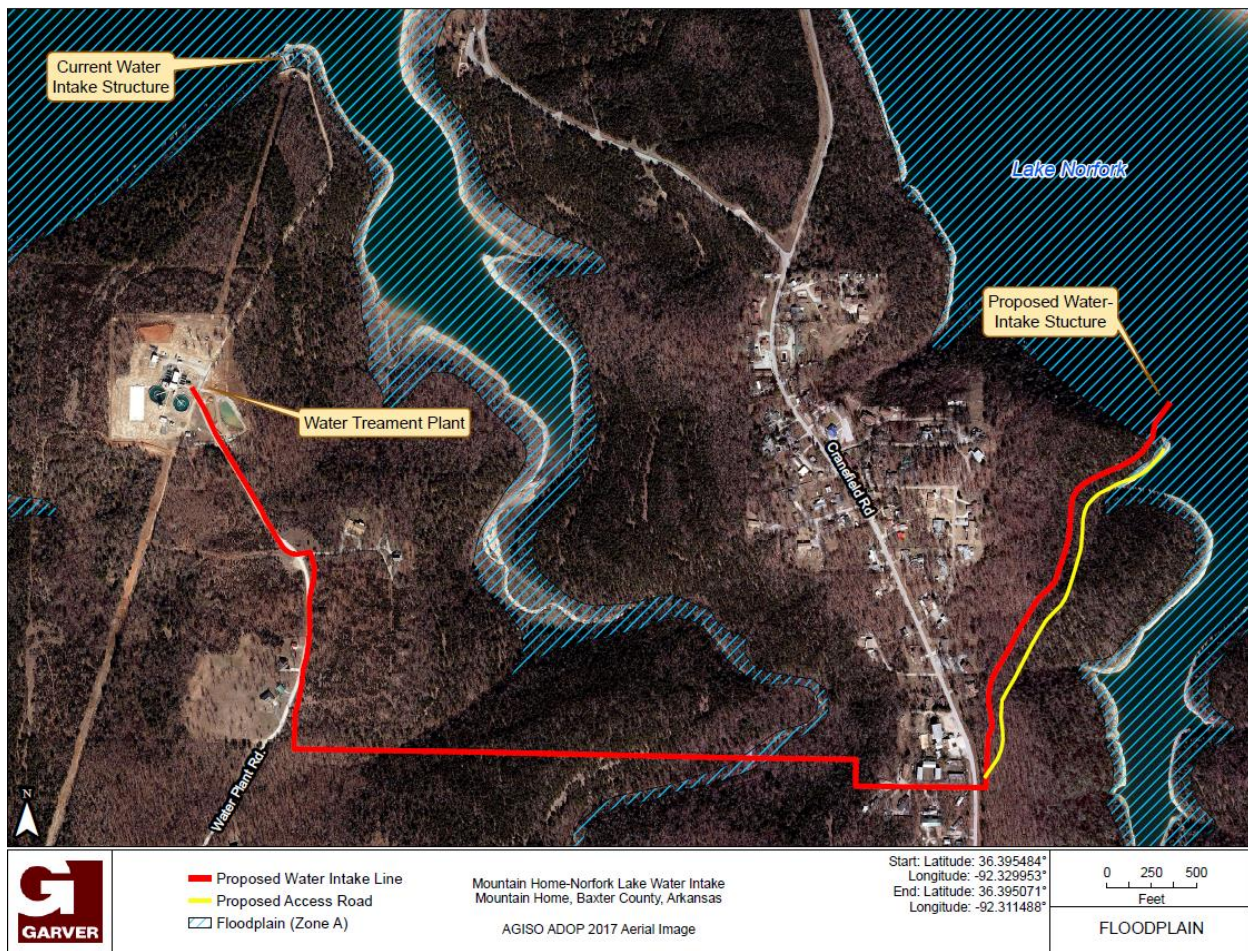


Figure 6. Floodplain Map

3.11 Waters and Wetlands

The access road corridor, pipeline corridor, and current water intake location were surveyed for waters and wetlands. A site visit was conducted June 3, 2021. Prior to conducting field studies, the following data sources were consulted to gain familiarity and background information of the natural surroundings of the environmental footprint:

- U.S. Geological Survey (USGS) topographic quadrangle maps
- National Wetland Inventory (NWI) data
- USACE Wetland Regional Supplements (Eastern Mountains and Piedmont Region [Version 2.0; Regional Supplement])
- U.S. Department of Agriculture (USDA) Plant Database
- Natural Resource Conservation Service (NRCS) Web Soil Survey

- Weather Underground
- Federal Emergency Management Agency (FEMA) Flood Map Service Center

Wetlands were identified based on three criteria: 1) the presence of hydrology showing regular inundation, 2) a predominance of hydrophytic (water loving) vegetation, and 3) soils characteristic of frequent saturation (i.e., hydric soils) (Environmental Laboratory 1987; USACE 2010). Determination of wetland habitat (type) was based on the classification system developed by Cowardin et al. (1979). Data at each site verifying the wetlands were recorded on a USACE sample site form (data form). The USACE Eastern Mountains and Piedmont Regional Supplement (Version 2.0) was used in this investigation (USACE 2010).

Streams (including creeks and rivers) were identified by the presence of an ordinary high-water mark (OHWM) with such indicators as the level of water present, scouring of the channel, or a vegetation line within the channel. Streams were classified as either perennial (water flowing year-round,) intermittent (water flowing certain times of the year,) or ephemeral (water flowing only during/after a rain event).

3.11.1 Affected Environment

Lake Norfolk will be impacted by the proposed project. The intake structure will be placed within the water of the lake and the piers will be placed along the lakebed. The piers are four to five feet in diameter and will be placed approximately 100 feet deep. Impact is also anticipated with the removal of the current intake. The concrete cylinders will need to be removed from the water column possibly all the way to the natural lakebed surface. Specific requirements for pier removal will be determined at a later date in coordination with the USACE. In addition to Lake Norfolk, one intermittent stream was identified within the pipeline corridor. The unnamed stream flows north into Lake Norfolk. It flows across the project area for approximately 40 feet. The stream width averaged six feet at the OHWM which varied in depth from approximately six inches to one foot across the area of impact. The stream has a rock substrate bank, and parts of the stream bank are moderately eroded. Vegetation associated with the stream included *Ulmus americana* (American elm), *Triosteum aurantiacum* (orange-fruited horse gentian), *Frangula caroliniana* (Carolina buckthorn), *Cotinus coggygria* (smokebush), *Ardisia crenata* (coralberry), and *Parthenocissus quinquefolia* (Virginia creeper). See **Figure 7** for the stream location and **Table 2** for more information.

No wetlands or ponds were located within the project area. There are several steep valleys that convey stormwater to the lake; however, these conveyances did not exhibit an OHWM and are not considered jurisdictional. The impacts to the intermittent stream are considered temporary due to the open trenching that will occur to place the pipe. The stream will be restored back to pre-construction condition after construction, with no permanent impacts occurring to the stream. A Wetland and Stream Findings report will be provided to the USACE for concurrence and consideration of a Nationwide Permit and mitigation.

Table 2. Waters of the U.S. within the Project area

Stream Name	Stream Classification	Length (Linear Feet)	Temporary Impacts (Linear Feet)	Proposed Construction Method
OW-1	Intermittent	40	40	Open trench

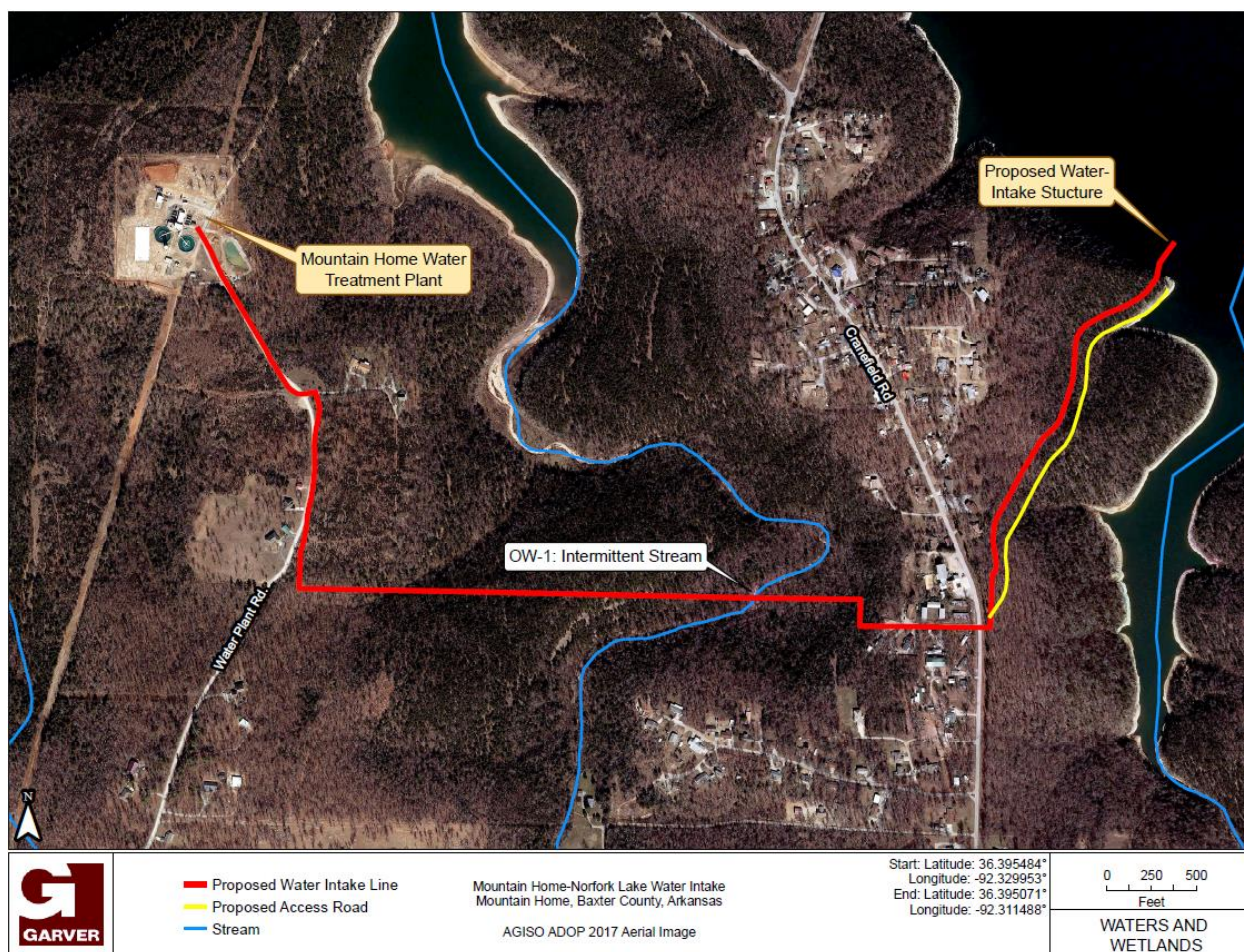


Figure 7. Waters and Wetlands Map.

3.12 Hazardous Materials

This study began with a database search and review of Arkansas Energy and Environment's environmental records along with Environmental Protection Agency's (EPA) regulated facilities. The review was followed by field reconnaissance (concluded in August 2019) with an environmental risk assessment to categorize the individual identified sites. Reconnaissance conducted during the site visit was performed in accordance with the American Society for Testing and Materials (ASTM) E1527-13.

3.12.1 Affected Environment

The Mountain Home Wastewater Treatment Plant had several petroleum-based leaks and minor staining noted during the site visit, but these were not considered to be long term or substantial. No other hazardous sites were identified. The site inspection and Arkansas Department of Energy and Environment records check revealed no recognized environmental conditions (RECs) for the project area. There is a possibility that the current pipe or pump house could contain asbestos or lead paint. Surveys will be completed, if required, prior to demolition and disposal to address any hazardous materials.

3.12.2 Proposed Action

The construction of the intake and access road, and removal of the current intake is not expected to result in generation of hazardous waste. During construction and removal of the original water intake any wastes generated would be managed and disposed of in accordance with local, state, and federal laws and regulations. If hazardous materials are discovered during the construction of the project, construction will stop while measures are taken to determine the best action to mitigate the issue.

3.12.3 No Action Alternative

Under the No Action Alternative, there would be no potential to encounter hazardous materials related to construction, and no effect to the existing groundwater recovery system would occur.

3.13 Utilities

Electrical services within the project area are provided by North Arkansas Electric Cooperative to the project area, residential areas, as well as the recreation areas located at Cranfield Park.

Water lines are available and used for the residential areas as well as Cranfield Park. A water treatment plant owned by the City is located on the western side of the project area.

There is currently an underground water line and overhead electrical utility lines provided from the existing water intake to the water treatment plant.

3.13.1 Proposed Action

Underground power to the proposed water intake will need to occur as a result of the proposed project. The system may need to be upgraded to ensure adequate power will reach the intake. However, the new power demand is offset because the old source of power at the original intake will be removed.

3.13.2 No Action Alternative

Under the No Action Alternative, there would be no potential to encounter utilities or require new utilities to be established.

3.14 Environmental Justice

Executive Order (EO) 12898 on Environmental Justice requires each Federal agency to make environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. Under this EO, groups defined as “minority” include Hispanic or Latino, Black or African American, American Indian and Alaska Native, Asian, and Native Hawaiian and other Pacific Islander. “Low-income” populations include those people whose household income falls below the annual statistical poverty thresholds used by the Census Bureau, which are based on the 2021 poverty guidelines developed by the Department of Health and Human Services.

3.14.1 Affected Environment

Table 3 provides income statistics for the census block groups located within the study area and **Table 4** provides minority population statistics. The minority populations within four of the census block areas are slightly higher than the county level, but the overall study area is not predominantly minority and lower than the state of Arkansas as a whole. Statistics were collected from the United States Census Bureau.

Median incomes are higher than the 2021 Department of Health and Human Services (DHHS) poverty guidelines, and there are no Limited English Proficiency (LEP) populations within the study area.

Table 3. Income Data

Geographic Area Name	Total Households	Median household income	2021 DHHS Poverty Guideline
Baxter County, Arkansas	18,435	\$42,260	\$26,500
Block Group 1, Census Tract 9507	554	\$34,419	
Block Group 2, Census Tract 9507	436	\$45,000	
Total Block Groups	990	\$39,710	

Source: USCB 2019 ACS 5-year estimates, Tables B17017, B19013, DP05 (Baxter County data).

Table 4. Minority Statistics

Geographic Area Name	Total Population	White alone	Black or African American alone	American Indian and Alaska Native alone	Asian alone	Native Hawaiian and Other Pacific Islander alone	Some other race alone	Two or more races	Hispanic or Latino	Percent Minority
Baxter County, Arkansas	41,627	91%	0%	1%	1%	0%	0%	5%	3%	9%
CT 9507, BG 1, Block 1001	0	-	-	-	-	-	-	-	-	-
CT 9507, BG 1, Block 1002	0	-	-	-	-	-	-	-	-	-
CT 9507, BG 1, Block 1003	0	-	-	-	-	-	-	-	-	-
CT 9507, BG 1, Block 1010	70	94%	0%	1%	0%	1%	0%	1%	1%	6%
CT 9507, BG 1, Block 1011	23	91%	0%	0%	0%	0%	0%	9%	0%	9%
CT 9507, BG 1, Block 1019	25	80%	0%	8%	0%	0%	0%	4%	8%	20%
CT 9507, BG 1, Block 1020	75	87%	0%	0%	0%	0%	1%	8%	4%	13%
CT 9507, BG 1, Block 1021	4	100%	0%	0%	0%	0%	0%	0%	0%	0%
CT 9507, BG 1, Block 1023	204	92%	0%	0%	0%	0%	0%	4%	3%	8%
CT 9507, BG 2, Block 2000	0	-	-	-	-	-	-	-	-	-
CT 9507, BG 2, Block 2001	0	-	-	-	-	-	-	-	-	-
CT 9507, BG 2, Block 2002	0	-	-	-	-	-	-	-	-	-
CT 9507, BG 2, Block 2004	1	0%	0%	0%	0%	0%	0%	0%	100%	100%
CT 9507, BG 2, Block 2005	13	85%	0%	0%	0%	0%	0%	0%	15%	15%
CT 9507, BG 2, Block 2006	0	-	-	-	-	-	-	-	-	-

Geographic Area Name	Total Population	White alone	Black or African American alone	American Indian and Alaska Native alone	Asian alone	Native Hawaiian and Other Pacific Islander alone	Some other race alone	Two or more races	Hispanic or Latino	Percent Minority
CT 9507, BG 2, Block 2007	5	100%	0%	0%	0%	0%	0%	0%	0%	0%
CT 9507, BG 2, Block 2008	12	92%	0%	0%	0%	0%	0%	8%	0%	8%
CT 9507, BG 2, Block 2009	1	100%	0%	0%	0%	0%	0%	0%	0%	0%
CT 9507, BG 2, Block 2010	202	99%	0%	0%	0%	0%	0%	0%	0%	1%
CT 9507, BG 2, Block 2011	3	100%	0%	0%	0%	0%	0%	0%	0%	0%
	638	93%	0%	1%	0%	0%	0%	3%	3%	7%

Source: USCB 2020 Census, Table P2.

3.14.2 Proposed Action

Since the project does not require any property owners to relocate, suffer significant property damage, incur large permanent land or property acquisition, displace any community facilities, or permanently impede or alter current transportation infrastructure (roads and bridges), the data suggests that no population group will be disproportionately affected by the construction of the pipeline or the supporting facilities.

3.14.3 No Action Alternative

The No Action Alternative would not impact environmental justice because no improvements would be constructed.

3.15 Greenhouse Gases and Climate Change

Based primarily on the scientific assessments of the United States Global Change Research Program (USGCRP), the National Research Council, and the Intergovernmental Panel on Climate Change, in 2009 the EPA issued a finding that the changes in our climate caused by elevated concentrations of greenhouse gases in the atmosphere are reasonably anticipated to endanger the public health and public welfare of current and future generations. In 2015, EPA acknowledged more recent scientific assessments that “highlight the urgency of addressing the rising concentration of CO₂ in the atmosphere,” finding that certain groups are especially vulnerable to climate-related effects. Broadly stated, the effects of climate change observed to date and projected to occur in the future include more frequent and intense heat waves, longer fire seasons and more severe wildfires, degraded air quality, more heavy downpours and flooding, increased drought, greater sea-level rise, more intense storms, harm to water resources, harm to agriculture, ocean acidification, and harm to wildlife and ecosystems.

3.15.1 Affected Environment

Consideration of greenhouse gases (GHGs) and climate change in NEPA analysis presents a unique challenge. After recognizing that Federal agencies needed assistance in determining the appropriate level of analysis for greenhouse gases and climate change in the NEPA context, the Council on Environmental Quality (CEQ) issued final guidance on greenhouse gas considerations in NEPA decisions titled, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews (2016 Final Guidance) in August of 2016. The stated goal of the guidance was to make the federal agencies' consideration of climate change impacts in NEPA documents as consistent as possible. A 2019 update to the guidance was made; however, it has since been rescinded. In accordance with Executive Order (E.O.) 13990, the 2016 Final Guidance is under review and update.

Carbon dioxide (CO₂) accounts for 80% of all U.S. anthropogenic greenhouse gas emissions (EPA, 2021). CO₂ is naturally present in the atmosphere, but is also emitted by human activities, including fossil fuel combustion, industrial processes, and land-use changes.

3.15.2 Proposed Action

The new intake site will meet all EPA standards for greenhouse gases and will have a new diesel-powered standby generator that will only be used when the normal power supply is interrupted. It replaces the existing diesel-powered standby generator at the old intake. The new generator is anticipated to reduce the emissions compared to the current generator which was installed in 1999 prior to current EPA standards.

3.15.3 No Action Alternative

The No Action Alternative would not impact climate change because no improvements would be constructed, and no emissions would occur.

3.16 Reasonably Foreseeable Impacts

The Council of Environmental Quality (CEQ) regulations require that potential impacts, or effects, be considered during the NEPA process, including effects from reasonably foreseeable actions. Reasonably foreseeable is an action that is sufficiently likely to occur (excludes effects that are possible but not probable [e.g. "tabled" plans]) such that a person of ordinary prudence would take it into account in reaching a decision. Impacts that are merely possible, or that are considered "speculative," are not reasonably foreseeable. Actions such as induced growth and future development would be reasonably foreseeable if they are likely to occur and have a reasonably close causal relationship to the proposed project. Conversely, impacts that the agency has no ability to prevent or actions that would occur regardless of the proposed project are not considered and excluded from evaluation. An evaluation for reasonably foreseeable actions was performed to determine any effects from such actions associated with the proposed project.

The Lake Norfolk intake project is proposed primarily to meet existing and current demands of the service area. The improvements are proposed to accommodate for the existing demand and

to improve facilities in place that do not meet their current water needs especially during low water level events. The project is also anticipated to accommodate for growth and development in the Mountain Home area. Providing a reliable, sustainable source of drinking water over the next 50 years would allow for population growth and commercial activity to expand.

Although the proposed project would accommodate future growth, this growth depends on many factors. In review of recent population trends, the service area covers the City of Mountain Home and Baxter County. Both areas experienced a 1 percent growth from 2010 to 2019 using the latest available data (2010 Census and American Community Survey 5-year estimates) from the U.S. Census Bureau. If this trend continues, the next ten years would result in population increases from 41,627 in 2019 to 42,351 in 2029 for Baxter County and from 12,825 in 2019 to 14,115 in 2029 for the City of Mountain Home. The proposed improvements would help to meet the needs of future growth in the service area; however, the project alone would not be sufficient to induce growth and development in consideration of current population trends. Furthermore, the proposed project would not influence other factors for development such as access or mobility that would be needed for areas where growth is possible. No other resources are anticipated to be impacted by the proposed project; therefore, no reasonably foreseeable actions would contribute to any combined effects related to the proposed project.

4.0 Public Involvement

A project website will be established with information about the project. The draft EA will be posted for review and comments. Stakeholders and Agencies and the public will be notified of availability of the EA for review and comment. Outreach for the public hearing will include multiple media outlets such as direct mailing, email, flyers, newspaper legal ads, and possible other social media venues. A comment period of 45 days will be established for review of the EA. Letters to stakeholders are included in **Appendix B**.

5.0 Agency Coordination

During the preparation of this EA, the USACE coordinated with agencies with jurisdiction over the resources described in this document. Coordination included consultation with federally recognized tribes whose areas of interest encompass the proposed project. USACE received one comment regarding the proposed project from tribes that indicated no concern (see **Appendix B**).

Seven additional comments were received from state agencies. The Arkansas Department of Agriculture and the Arkansas Forestry Division indicated no concern or comments about the proposed project. The Arkansas Department of Energy and Environment (ADEE) Division of Environmental Quality indicated that the ADEE Office of Water Quality must be informed of the project to determine if a State Construction Permit is required. They also noted that the bedrock geology of the project is prone to karst terrain which could produce caves, sinkholes, and springs with variable depths to bedrock over short horizontal distances. The Arkansas Natural Heritage Commission provided information about glades and sensitive plant species that may be located in the project area. The USFWS provided instructions to complete the IPaC for potential impacts

to threatened and endangered species. The Arkansas State Parks noted that no public recreation sites that have received grant fundings from their program are within the study area; however, Cranfield Park is within the study area and is not grant funded.

The Archeological Survey Report was submitted to the SHPO for review and, on June 30, 2021, the SHPO concurred with the report's findings. Regarding non-archeological historic resources, historians determined that project activities pose no adverse effect to historic properties.

Coordination and concurrence with USFWS were completed July 29, 2021. The USFWS concurred that the project may affect the Northern Long-eared Bat, but there are no effects beyond those disclosed in the final 4(d) rule. The Indiana Bat and Ozark Big-eared bat are not likely to be adversely affected by the proposed project due to the tree clearance practices that the project will use.

Written coordination exchanges are included in **Appendix B**.

6.0 Mitigation and Permits

6.1 Cultural Resources

In the event of an inadvertent discovery of human remains and/or burial furniture during subsequent development or modification of the project area, the proponent should follow the protocols outlined in Act 753 of 1991, as amended (Arkansas Grave Protection Act) and other applicable state and federal laws and regulations. If previously unrecorded buried cultural resources are encountered during project construction, all ground disturbing activities in this area should be halted and the site should be protected until cleared by the appropriate authorities.

6.2 Hydrology and Water Quality

Construction activities would comply with requirements of the Clean Water Act (CWA) as required by the USACE Section 404 permit program. Additionally, as required by Section 402 of the CWA, all action alternatives would obtain coverage under the National Pollutant Discharge Elimination System (NPDES) general permit for Construction Activities. The provisions of this permit include preparation of a Stormwater Pollution Prevention Plan (SWPPP), which contains a selection of BMPs to be implemented to effectively reduce or prevent the discharge of pollutants into receiving waters during construction activities. Stormwater runoff would be controlled and monitored according to applicable federal regulations. Water quality regulations required by the ADEE State Water Quality Certification (Section 401 of the CWA) also would be implemented.

6.3 Threatened and Endangered Species

Impacts to vegetation would be avoided or minimized by limiting disturbance to only that which is necessary to construct the proposed project. The following BMPs would be implemented for the proposed project:

- Minimize the amount of vegetation cleared. Removal of native vegetation, particularly mature native trees and shrubs should be avoided to the greatest extent practicable.

Wherever practicable, impacted vegetation should be replaced with in-kind on-site replacement/restoration of native vegetation.

- The use of any non-native vegetation in landscaping and revegetation is discouraged. Locally adapted native species should be used.
- The use of seed mix that contains seeds from only locally adapted native species is recommended.

This project will comply with applicable provisions of the MBTA. While no impact to migratory birds is expected, removal and destruction of active bird nests will be avoided except through federal or state approved options. In addition, where appropriate and practicable, measures will be implemented to prevent or discourage birds from building nests on man-made structures within portions of the project area planned for construction, and vegetation clearing, and ground disturbance activities will be scheduled outside the typical nesting season.

Specifically, in the event that migratory birds are encountered on site during project construction, adverse impacts on protected birds, active nests, eggs, and/or young will be avoided. The contractor will remove all old migratory bird nests from September 1 to March 31 from any structure where work will be done. In addition, the contractor will be prepared to prevent migratory birds from building nests between April 1 and August 31.

The following BMPs will be implemented to avoid or minimize impacts to federally listed threatened and endangered species:

- Tree removal must not occur between March 30 and October 15 to protect possible Ozark Big-eared bat and Indiana bat habitat.

6.4 Hazardous Materials

If hazardous materials are identified, observed, or accidentally uncovered during construction, work would be halted, and the appropriate entities would be notified. Prior to resuming construction, the type of contaminant and extent of contamination would be identified. If necessary, a remediation and disposal plan would be developed. All remediation work would be conducted in conformance with ADEE, EPA, and Occupational Safety and Health Administration (OSHA) regulations.

6.5 Tree Mitigation

Due to the number of trees anticipated to be removed from the proposed project, the USACE conducted a tree mitigation plan from mapped data. The total reassessed value of trees and forest products to be removed from USACE property is estimated to be \$15,748.11, plus the mitigation tree planning plan cost of \$37,859.85. The final cost is yet to be determined. Trees will be planted off-site.

6.6 USACE Property

All borrow material brought in to USACE property, whether used for the construction of access roads or the intake facility, must be purchased/obtained from a commercial borrow area. If the construction contractor cannot obtain borrow from a commercial site, the borrow must be screened and cleared in accordance with USACE regulation ER-200-2-3, Sec. 9-3 - Borrow Material, prior to being used on USACE property. This applies to USACE property only.

6.7 USACE Permitting

A USACE Section 408 Permit approval will be necessary for impacts to a federally authorized project in addition to a Section 404/10 Permit for impacts to the intermittent stream and the Lake Norfolk. A water quality certification from the ADEE will be required as part of the Section 404/10 permit. Additionally, ADEE will require permits for compliance with NPDES authorized activities. The removal of the existing intake, access road, and pipeline may also require specific permits depending on the impacts encountered.

7.0 7.0 Conclusion

Implementation of the proposed project would not result in a significant impact on the human or natural environment. Therefore, a finding of no significant impact is recommended.

8.0 References

Flatearth Archeology. A Cultural Resources Survey of the Proposed Lake Norfolk Water Intake Project in Baxter County, AR. May 2021.

Arkansas Energy and Environment. AquaView. [AquaView \(arcgis.com\)](#). Accessed May-June, 2021.

Arkansas Energy and Environment. EnviroView. [EnviroView \(arcgis.com\)](#). Accessed May-June, 2021.

Arkansas Natural Heritage Commission. Glade Locations. <https://gcpolcc.databasin.org/datasets>. Accessed June 2021.

City of Mountain Home. Mountain Home Water/Sewer Department Year End Report. 2020.

City of Mountain Home. Water Source Intake Study. December 2015.

HMMH. Noise Technical Memorandum. Relocated Water Pump Station Noise Study at Norfolk Lake. September 2021.

United States Army Corps of Engineers. Master Plan for Norfolk Lake. June 1988.

United States Census Bureau. American Community Survey 5-Year Estimates. 2019.

United States Fish and Wildlife Service. IPaC Report. June 2021.

9.0 List of Preparers

Bill McAbee
Arkansas Environmental and Planning Team Leader
Garver
27 years of experience

Tracy Michel, CFM
Environmental Scientist
Garver
15 years of experience

Michele Lopez
Senior Environmental Planner
Garver
21 years of experience