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Draft Environmental Assessment

CITY OF CANDO
SEWER AND WATER IMPROVEMENTS
TOWNER COUNTY, NORTH DAKOTA
May 1, 2024

Environmental Assessment

City of Cando Sewer and Water Improvement Project

Contents

Environmental Assessment

City of Cando Sewer and Water Improvement Project

1 Introduction

1.1 Project Location

The City of Cando (City) is located in Towner County, North Dakota, within the northeastern part of the state, approximately 35 miles north of Devils Lake. The City is located at the intersection of ND Highway 17 and U.S. Highway 281 and is bisected by a BNSF railway (Figure 1).

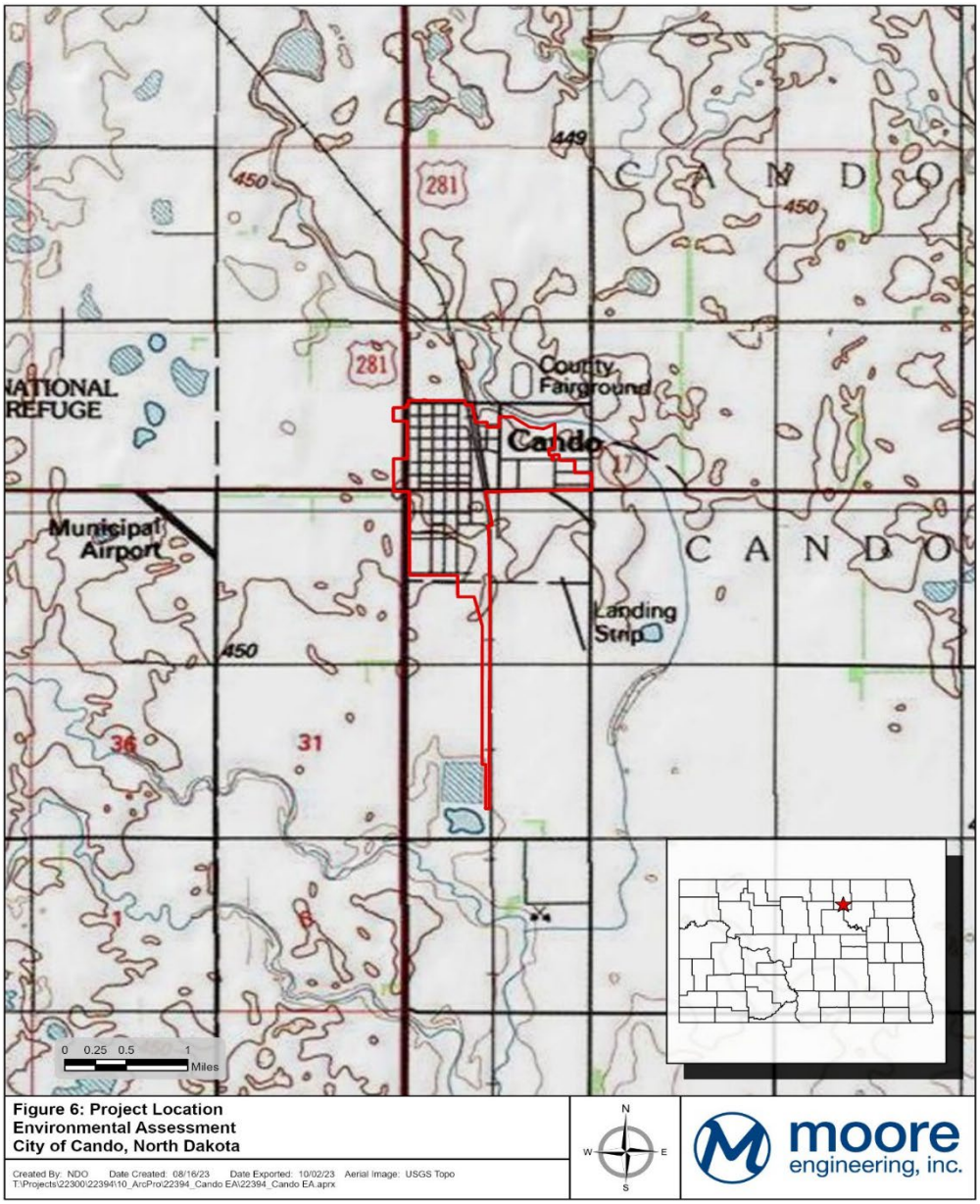


Figure 1. Project Location

1.2 Existing Infrastructure

1.2.1 Sanitary Sewer and Wastewater Treatment

Cando's sanitary sewer system consists of two components: the wastewater collection system and treatment system. The sanitary sewer system can be seen in Figure 2 and the detailed exhibits can be seen in Appendix C. The wastewater collection system was originally installed in the early 1950s and consists of approximately 120 blocks of 8, 10, 12, 15 and 18-inch diameter gravity sewer mains. There are approximately 70 blocks of older vitrified clay pipe (VCP) sewer mains and 45 blocks of newer polyvinyl chloride (PVC) pipe sewer mains. There are also a few segments of cast iron pipe (CIP) sewer main. The City's sewer gravity drains to the southeast corner of the City and then flows south through an 18-inch diameter VCP trunk sewer main to the main lift station located at the wastewater treatment ponds. Sewer services throughout the City consist of a variety of pipe material types and are typically 4-inch or 6-inch diameter.

The existing VCP and CIP sewer mains are nearing the end of their useful life and are starting to lose structural integrity with cracking, fractures, holes, sags in the profile and offset joints (Figure 3). Groundwater infiltration, mineral deposits, intruding service laterals and roots are other deficiencies throughout the system. If not addressed, the condition of these pipes will continue to deteriorate and lead to the possibility of a pipe collapse and sewer backup into homes and businesses. The infiltration of ground water and surrounding sediment/silt into the sewer mains can leave cavities under the streets, which can increase in size over time leading to large sink holes under the street.

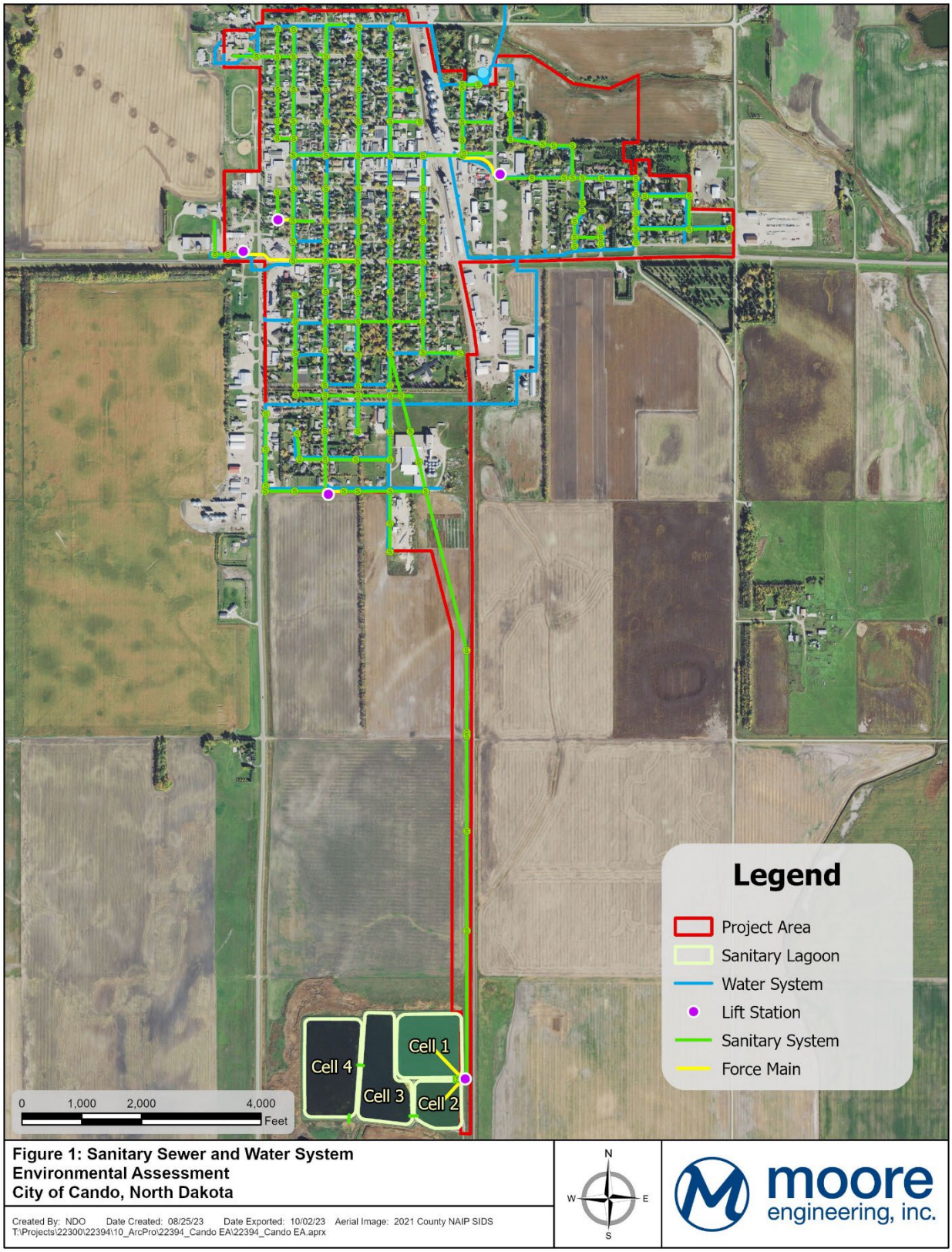
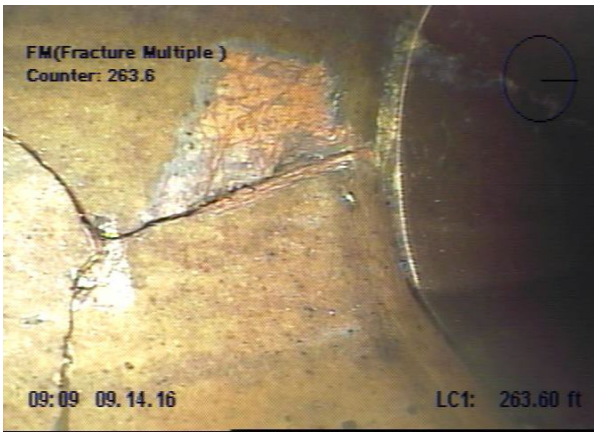
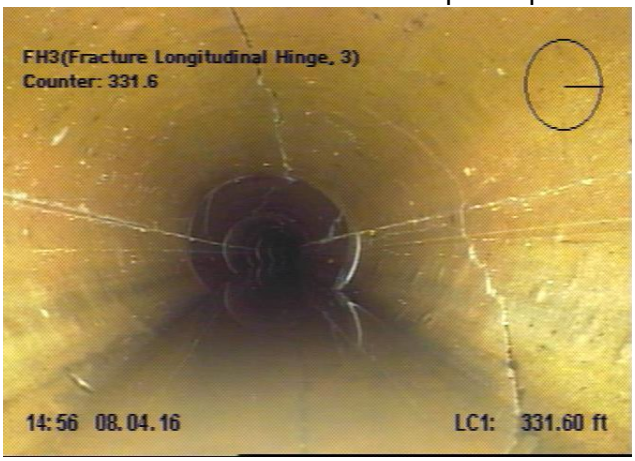


Figure 2. Sanitary Sewer System and Water System

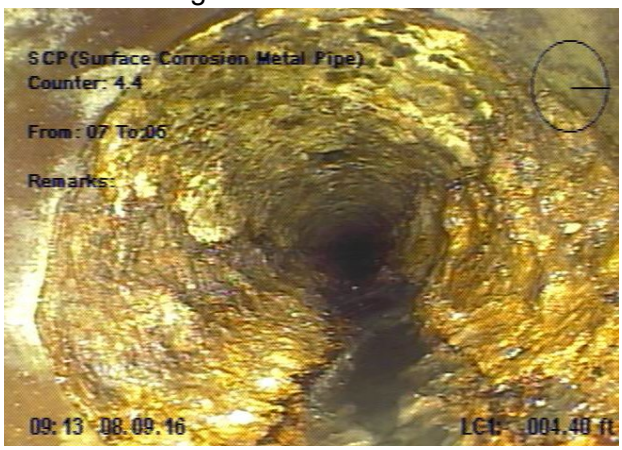


Fractures in Pipe Wall at Joint

Top of Pipe is Broken and Missing



Longitudinal Fractures (3, 6 & 9 o'clock)



Corrosion/Buildup of Ex. Cast Iron Pipe

Figure 3. Existing Condition of VCP Sanitary Sewer Mains

In addition, the alignment of the 18-inch trunk VCP sewer, which conveys the entire City's sewer, currently runs under several residential houses east of 5th Avenue between 11th and 12th Street and under the Pasta Plant as it heads southeast towards the wastewater ponds (Figure 4). This alignment is not ideal and could pose a threat to the health and safety of the public should there be a break or issue with these existing pipes.

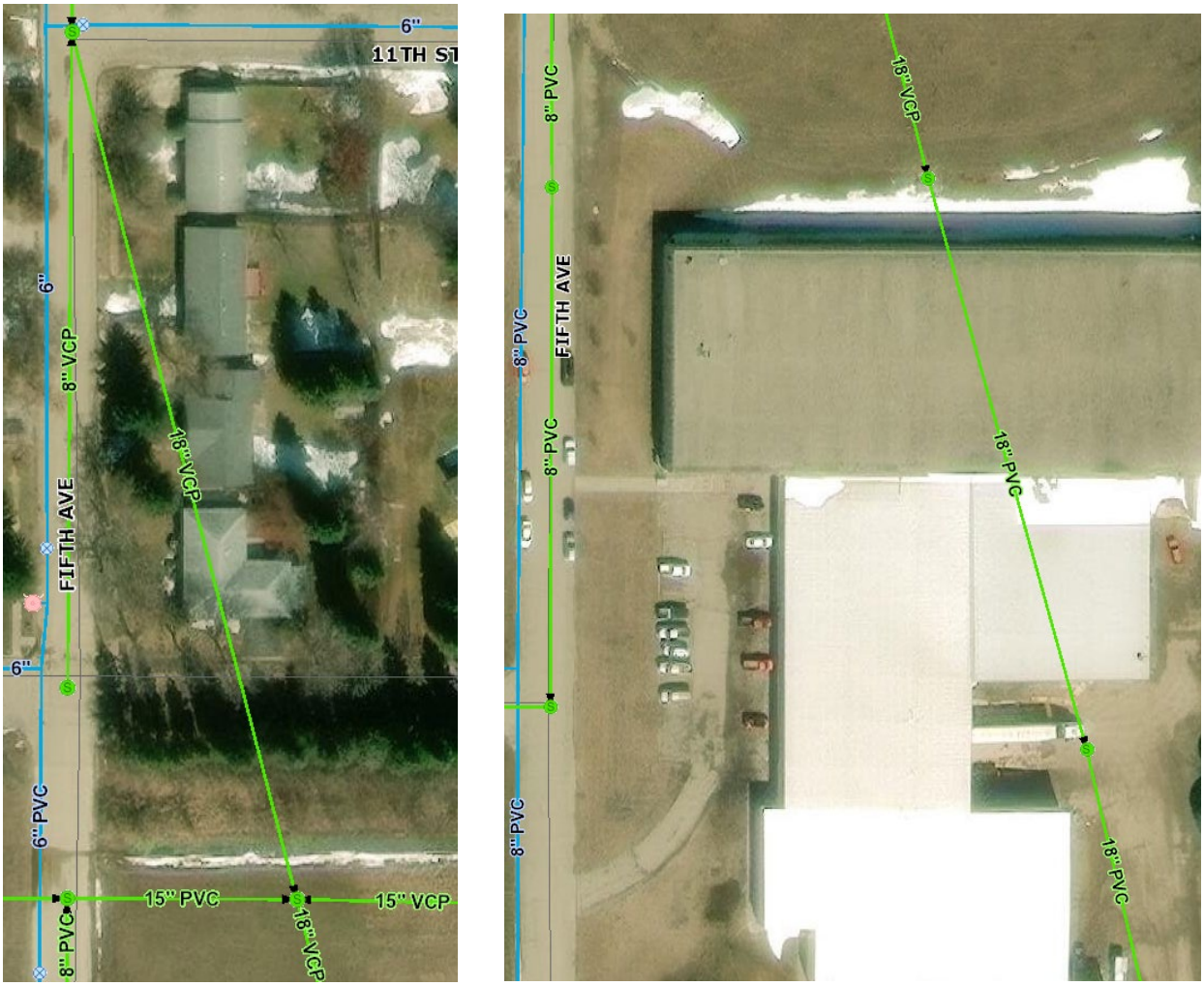


Figure 4. Current Alignment of Trunk Gravity Sanitary Sewer

The City's main lift station is also deteriorating and needs replacement. Emergency pumping of the sewer was required at the main lift station in the spring of 2022 due to a mechanical issue with one of the pumps' guide rails.

Approximately 25% of the sanitary manholes have been inspected in recent years. Most of the manholes are 48-inch diameter and are constructed of brick/block or precast concrete and are in poor to fair or good condition. Some brick/block manhole walls are in fair condition, showing only minor loss of mortar while others are in poor condition with severe mortar loss and missing bricks (Figure 5). Most of the manhole bottoms or inverts are in poor condition with rehabilitation recommended. Several of the castings are older with holes in the lid.

Figure 5. Sanitary Sewer Manholes: Fair Condition (Left) and Poor Condition (Right)

There are four sanitary sewer lift stations within the City that pump into gravity sewer mains that eventually flow to the southeast corner of the City and then south to the main lift station located at the wastewater treatment ponds. The wastewater is collected at the main lift station and then pumped through 6-inch force main into the primary lagoon ponds (Figure 6).

The wastewater treatment ponds are located approximately 1.25 miles south of the City between US Hwy 281 and the Burlington Northern Santa Fe railroad tracks (Figure 6). The ponds were originally constructed between 1962 and 1967 and consisted of three cells. An expansion project was completed in 1995 which added a new Cell #4 west of existing Cell #3. The existing check valve manhole was abandoned, and a new check valve manhole installed north of the existing wet well. The ponds have 3.0 feet operating range of storage depth between the low and high-water level, and between 2.0 and 3.0 feet of freeboard. The treated water is discharged from either Cell #3 or Cell #4 into a drainage ditch that flows south, then west along a township road. The water crosses south under the township road and outlets into an unnamed stream which eventually drains to Lake Alice.

Figure 6. Wastewater Treatment Ponds

1.2.2 Water Supply and Distribution

Prior to 2017, the City's water source was supplied by ground water wells located north of the city that drew water from the Spiritwood aquifer system. In 2017, the City entered into an agreement and connected to the Northeast Regional Water District. Water is now supplied by the City of Devils Lake and the point of delivery is the water treatment plant located in the northeast corner of the City. An 8-inch pipe was installed from the transmission main near Starkweather, ND to the east edge of Cando where it connected to an existing 6-inch rural water main. Cando can also receive water from the North Valley Water District, located near Cavalier, ND.

The city currently utilizes a 70,000-gallon clear well at the water treatment plant, a 100,000 gallon underground clear well just north of the treatment plant and a 75,000-gallon elevated water storage tank for water storage. The existing water tower was constructed in the 1930s and is a traditional "tin can" style with four legs. Routine repairs to the water tower, cleaning and maintenance have been completed in recent years.

The original water distribution system was installed in the 1940s and consists of 4-inch, 6-inch and 8-inch diameter pipe. The water distribution system can be seen in Figure 1 and the detailed exhibits can be seen in Appendix C. The City has completed several water main replacement projects through the years. There are approximately 32 blocks of older cast iron pipe (CIP) water mains remaining with approximately 84 blocks of newer PVC water mains. There are several older hydrants and gate valves throughout the system also in need of replacement.

Residential water services are typically ¾-inch or 1-inch and consist of either copper or plastic pipe. Commercial water services are typically 2-inch in diameter. The City is also aware of some existing lead water services. The City will be completing a lead water service inventory in the next year, as required by the State and Federal Government. The existing CIP water mains are deteriorating and are nearing the end of their design life.

The original CIP mains were installed in the 1940s and have been in service now for over 75 years. Due to the chemical composition of the cast iron pipes, water, soil and oxygen exposure has led to the development of rust. The typical service life of cast iron pipe is estimated to be 50-65 years before major failures. When the cast iron pipe reaches a certain age and starts to become more brittle, even the slightest earth settlement can cause a pipe to break.

1.3 Purpose and Need

The purpose of the proposed project is to address critical infrastructure deficiencies throughout the water distribution and sanitary sewer systems in the City of Cando to ensure continued service to its residents. Many components of these systems are reaching the end of their design life and starting to deteriorate and require repair or replacement. The risk of system failures would lead to unexpected costs of emergency repairs and potential public health risks. These situations cause both health hazards and financial losses for the City's residents. This project will address the most critical deficiencies of the sanitary sewer system.

1.4 Authority

Section 594 of the Water Resources Development Act (WRDA) of 1999, as amended, authorizes the Secretary of the Army to provide design and construction assistance for water related environmental infrastructure and resource protection and development projects in North Dakota. Such projects include wastewater treatment and related facilities, water supply storage,

treatment and related facilities, environmental restoration, and surface water resource protection and development. Under this authority, subject to the terms of the relevant cost-sharing agreement, the City of Cando is eligible for Corps reimbursement of 75 percent of the costs of the City's eligible design and construction of the environmental infrastructure.

The cost sharing agreement between the Department of the Army and the City requires that the City afford USACE the opportunity to review and comment on all design work and contract solicitations and prohibits the issuance of construction contract solicitations and construction work prior to receipt of notification from USACE that all environmental compliance is complete. The Corps will require the best management practices and other avoidance, minimization, and mitigation measures identified in this Environmental Assessment (EA) and attachments are incorporated into design work and contract solicitations, for compliance with the National Environmental Protection Act (NEPA) and other laws.

2 Alternatives

2.1 No Action Alternative

Under the No-Action Alternative, the Corps would not provide reimbursement under Section 594 for water and sewer system improvements. Under this alternative, the City system would not be upgraded in the near term and the City would continue to rely on a water and sewer system that is not reliable or safe. The No Action Alternative would not address any of the deficiencies identified in the water supply and wastewater infrastructure. The vitrified clay sewer mains would remain in-place with the risk of further deterioration and pipe collapse. The existing main lift station and cast-iron water mains would also remain in-place along with the risk of breaks and unexpected costs of emergency repairs and water loss.

2.2 Proposed Alternative

The project area is located within the city streets of Cando, ND and south of the City along the railroad, tying into the existing wastewater lagoons (Figure 7). In the Proposed Alternative, the Corps provides reimbursement under Section 594 to assist the city with needed infrastructure repairs and replacement. The methods for implementing those actions consist of a combination open trench and trenchless methods (relining). The proposed alternative includes rehabilitation of 5 blocks of vitrified clay (VCP) sewer mains by relining with cured-in-place-pipe (CIPP) and replacement of VCP with PVC pipe where needed, using open trench methods.

Access to the project area would utilize existing streets, roads, and highways. Three staging areas would be used during project implementation. These staging areas are located both inside and outside the defined project area (Figure 8).

The proposed alternative would also replace of 3 blocks of VCP sewer mains, install new gravity sewer mains connecting to a new lift station and a new sanitary sewer force main connecting the new lift station to the wastewater lagoons through open trench construction methods. The new gravity sewer mains would replace 1 block of existing cast iron pipe (CIP) water main. The new sanitary sewer force main, constructed from the new lift station south to the wastewater lagoons, will replace the existing VCP trunk gravity sewer pipe. The new sanitary sewer lift station, constructed in the southeast corner of the City, will replace the aging lift station at the lagoon. Portions of the existing trunk VCP gravity sewer main will be rerouted and the old pipes abandoned in-place as they are currently located beneath residential houses and the pasta plant. The project will also replace gate valves, hydrants, water services and non-working curb

stops, rehabilitate and replace manholes, restore pavement, miscellaneous concrete repairs, and site restoration.

This alternative addresses the infrastructure deficiencies identified in Section 1.2. as it reduces the risk of emergency repairs should a failure occur. Construction of the Proposed Alternative would provide continued reliable services to the residents of Cando.

Figure 7. Proposed Alternative for the Cando Sanitary Sewer Service Replacement Project

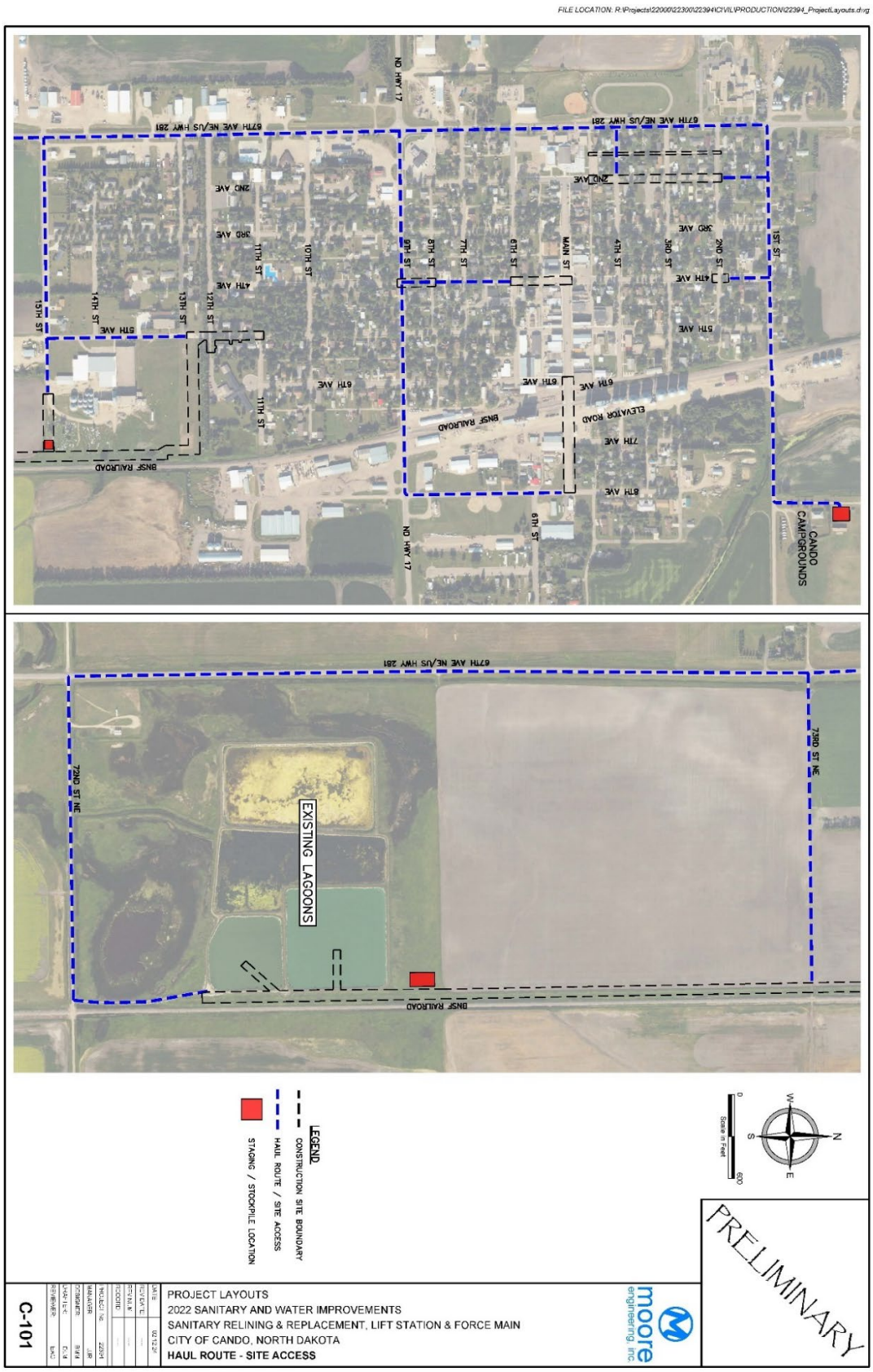


Figure 8. Access and Staging Areas for the Proposed Cando Sanitary Sewer Service Replacement Project

3 Affected Environment and Environmental Consequences

Current land use in the project area, which lies within the City of Cando, consists of residential and commercial properties, and residential streets. Most of the habitat in the project area has been disturbed by past and present activities. The Proposed Alternative would occur over the 2024 and 2025 construction seasons, May through November (approximately months) with likely shutdown during the winter months. Construction equipment that would be used to complete the project includes backhoe/excavator, front-end loader, dozer, sheep's foot roller, dump trucks, asphalt paver, smooth drum roller, sewer vac truck and sewer relining truck.

3.1 Natural Resources

3.1.1 Air Quality

The U.S. Environmental Protection Agency (USEPA) is required by the Clean Air Act to establish air quality standards that primarily protect human health. These National Ambient Air Quality Standards (NAAQS) regulate six criteria pollutants across the United States. When an area meets the standard for each of the six pollutants, it is called an "attainment area" for that contaminant. Areas that do not meet the standards are called "nonattainment areas". Nelson County, North Dakota is classified as an attainment area for each of the six criteria pollutants and is therefore not considered an area of impaired ambient air quality (USEPA 2023a).

No Action Alternative – The No Action Alternative would have no direct effect on air quality. Spot repairs in the event of breakage and maintenance would have short term impacts to air quality during repair and maintenance activities.

Proposed Alternative – The operation of heavy equipment during construction would temporarily increase vehicle emissions and slightly degrade air quality in the immediate vicinity of the project area. However, impacts would be short-term and negligible due to the short construction timeframe (approximately 16 months). To minimize air emissions, contractors would be required to meet or exceed all federal, state, and local air resource requirements. Fugitive construction dust is a common problem on construction sites and will be limited by reduced excavation (through directional drilling) and the Contractor will be required to use dust suppression using potable water where needed. After construction and maintenance activities would be routine, noninvasive and have minimal impacts.

3.1.2 Greenhouse Gases

There are currently no Federal Greenhouse Gasses (GHG) emission thresholds. Therefore, a GHG significance threshold to assess impacts is not proposed. Rather, in compliance with NEPA implementing regulations, the anticipated emissions as well as their associated social costs are disclosed for each alternative without expressing a judgment as to their significance.

On January 9, 2023, the Council on Environmental Quality (CEQ) released National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change. This guidance provides details for how federal agencies can incorporate GHG and climate change considerations into the NEPA process, including assessing and reducing impacts from GHG emissions or incorporating climate resiliency considerations into alternatives. While the Climate Change Guidance is considered "interim," it is effective immediately, while CEQ seeks public comment on the guidance.

As discussed in this guidance, when conducting climate change analyses in NEPA reviews, agencies are recommended to consider the potential effects of a proposed action on climate

change, including by assessing both direct and indirect GHG emissions and reductions from the proposed action, quantifying the baseline (no-action) emissions, and the effects of climate change on a proposed action and its environmental impacts. The guidance further recommends that greenhouse gas emissions should be quantified for the gross and net emissions for each chemical species (i.e., methane, nitrous oxide, etc.) and summarized as carbon dioxide equivalent (CO_2e) and social cost of greenhouse gases. The guidance also emphasizes the "rule of reason" which states that the depth of the GHG analysis should be commensurate to the amount of greenhouse gases emitted.

No Action Alternative – The No Action Alternative would not contribute to GHG emissions unless emergency repairs were necessary. Emergency repairs would likely be short-term (1 week to 1 month) in nature and generate minimal GHG emissions based on likely equipment and duration.

Proposed Alternative – The operation of heavy equipment (listed above) during construction would generate GHG emissions; however, the construction timeframe is approximately 16 months over two construction seasons. Therefore, the project would have a minor impact on GHG emissions.

3.1.3 Water Quality

The project area was reviewed for waterways which may be impaired and listed on the US EPA 303(d) list. The US EPA identified 2 waterways within the Cando City watershed, and both are listed in good condition.

No Action Alternative – Under the No Action Alternative, the vitrified clay sewer mains would remain in-place with the risk of further deterioration and pipe collapse. Deterioration of the sewer mains could cause sewage to back up into the mains, possibly homes and businesses as well as flowing into nearby waters. Therefore, the No Action Alternative could have a negative temporary but potentially recurring effect on water quality.

Proposed Alternative – The Proposed Alternative would have a beneficial effect on water quality by ensuring a safe and reliable water and sewer system thereby reducing the potential of sewage from entering nearby waters. During construction of the Proposed Alternative, proper construction methods would be used to minimize adverse effects to bodies of water. Erosion and sediment control measures would be implemented to prevent silt from leaving the project areas and entering any downstream waters. Projects, such as the Proposed Alternative, disturbing one or more acres are required to have a permit to discharge stormwater runoff until the site is stabilized by the re-establishment of vegetation or other permanent cover. The construction contractor will be required to follow the general construction North Dakota Pollutant Discharge Elimination System permit accompanying Stormwater Pollution Prevention Plan. The contractor will utilize construction best management practices (BMPs) to protect against erosion and sedimentation of downstream resources. Any spills that occur during construction will need to be immediately reported to the North Dakota Department of Environmental Quality (NDDEQ).

3.1.4 Geology and Soils

Soil survey data indicates that the area surrounding the City of Cando contains a mix of soils considered prime farmland, prime farmland if drained, farmland of statewide importance, and not prime farmland. The majority of the Project Area is mapped as prime farmland, including the residential areas of the City (Figure 9).

No Action Alternative – The No Action Alternative would have no effect to the geology and soils within the project area unless emergency repairs are needed. Emergency repairs would result in a temporary, minor disturbance to soils.

Proposed Alternative – The Proposed Alternative would result in minor temporary disturbance to soils during construction. There would be no loss or conversion of prime farmland to non-agricultural uses. The project lies within the city limits and therefore the Farmland Policy Protection Act does not apply. A letter dated 13 March 2023 from the Natural Resources Conservation Service confirming this determination can be found in Appendix A.

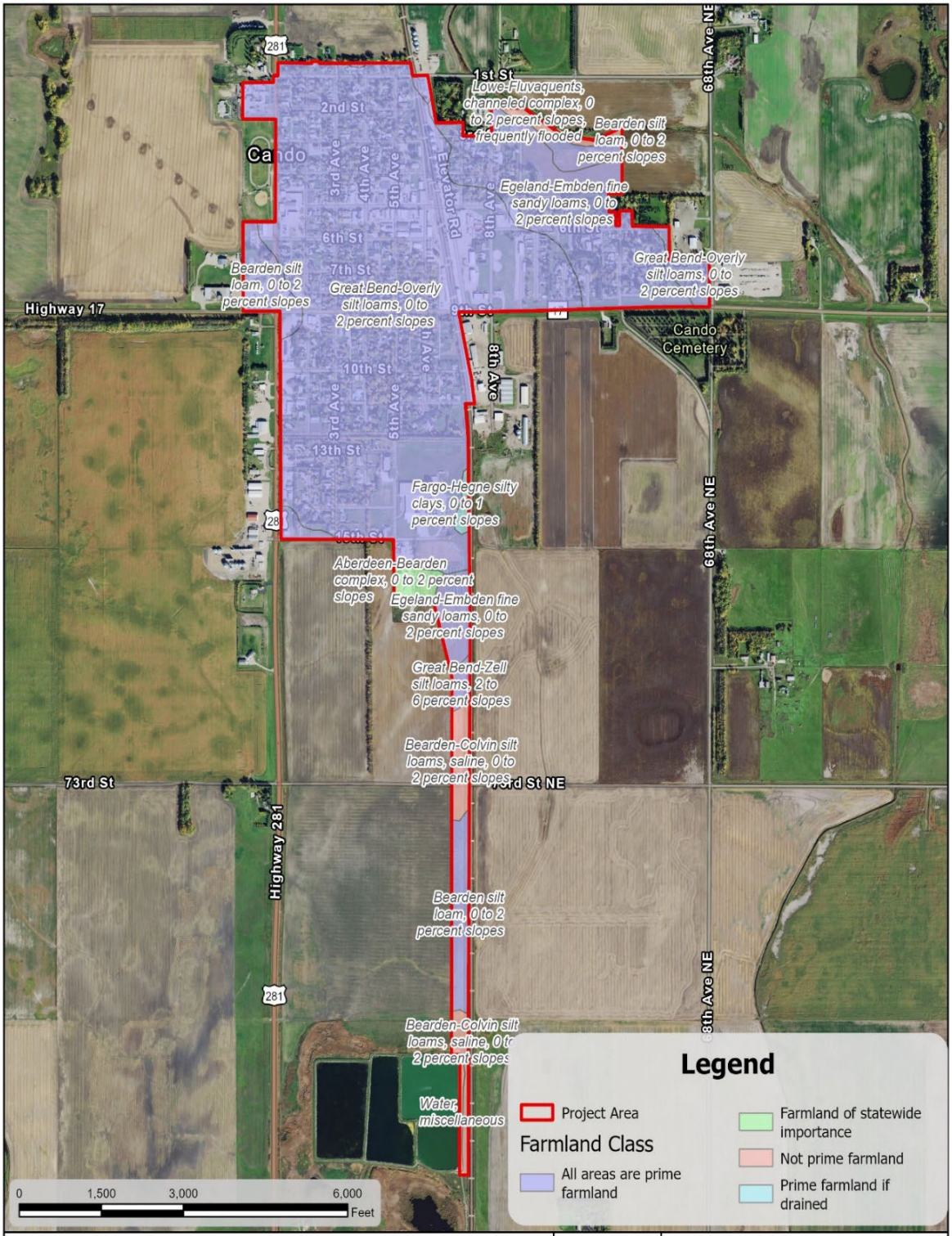


Figure 9. Soils and Prime Farmland

3.1.5 Floodplain

The Federal Emergency Management Agency (FEMA) National Flood Hazard Layer indicates that the City of Cando is not in a flood zone or regulatory floodway (Figure 10). Therefore, the No Action and Proposed Alternatives would have no effect on floodplains.

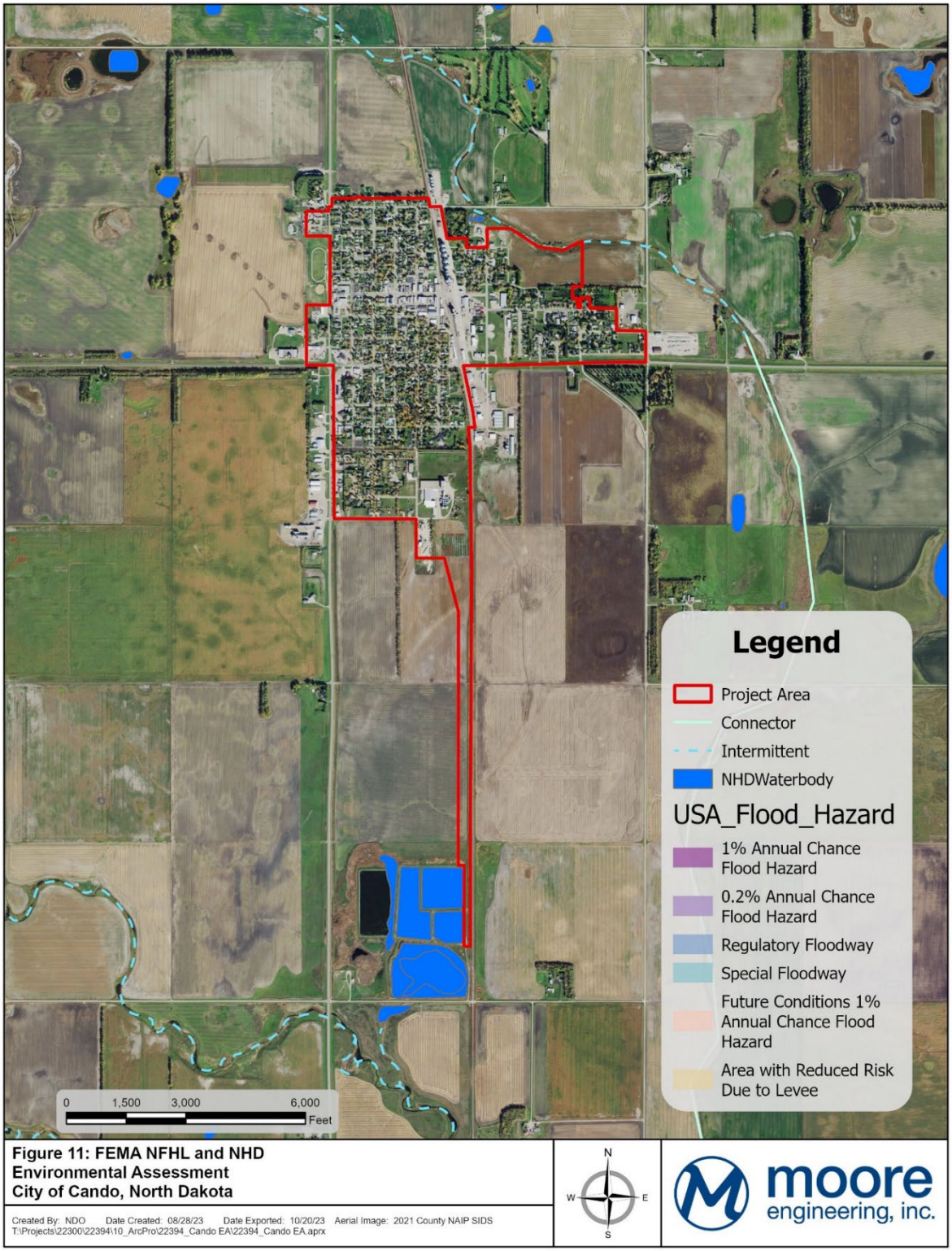


Figure 10. FEMA National Flood Hazard Layer (None Present) and National Hydrography Dataset

3.1.6 Wetlands and Aquatic Habitat

The Project Area lies within the Glacial Lake Basins Level IV Ecoregion, an area of the Northern Great Plains Level III Ecoregion. This area was once occupied by Lake Souris, Devils Lake, and Lake Dakota. The region is flatter than the surrounding drift plains, resulting from a slow buildup of water-laid sediments. This region is characterized by deep soils prime for cultivation (Bryce et al. 1996). The seasonal and temporary wetlands that dominate this ecoregion are a source of significant, unique habitat that is critical for many bird species, particularly waterfowl (NDGF 2019). The City of Cando is surrounded by a number of these wetlands (Figure 10), some of which are cultivated. Much of the surrounding area consists of U.S. Fish and Wildlife Service (USFWS) Towner County Waterfowl Production Area easement lands, part of the larger Devils Lake Wetland Management District.

Review of the USFWS National Wetlands Inventory (NWI) indicates no wetlands within the City limits. However, wetlands are located at the southern extent of the Project Area, specifically associated with the wastewater lagoons and adjacent natural wetlands. Wetland types in this area include palustrine emergent (PEM) wetlands, palustrine aquatic bed (PAB) wetlands, and palustrine, unconsolidated bottom (PUB) wetlands (USFWS 2016) (Figure 11). Wetlands and aquatic resources were field delineated in the new development portions of the Project Area on July 14, 2023. Four wetlands and one constructed stormwater ditch were identified within the project area during the field investigation.

A query of the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer indicates that the City of Cando is not in a flood zone or regulatory floodway (Figure 11). The Department of Water Resources provided concurrence on March 28, 2023, that there are no FEMA National Flood Insurance Program (NFIP) floodplains identified or mapped where this project is to take place (Appendix A). The U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) indicates the presence of an ephemeral feature along the northeastern City limits, though no NHD features are present within the City. Four wastewater lagoons are present in the southern end of the Project Area (Figure 10). These are known constructed features identified as waterbodies on both the NHD and the NWI.

No Action Alternative – The No Action Alternative would have no effect on wetland or aquatic habitat.

Proposed Alternative – The Proposed Alternative would have minor temporary impacts to approximately .75 acres of wetlands to construct the improvements. Wetlands were delineated in the new development portions of the Project Area on July 14, 2023. Potential impacts to wetlands were analyzed through the review of field delineated wetland boundaries and project plans. Temporary impacts to wetlands will result from installation of the new sanitary force main that will run south of the City to the existing wastewater lagoons. This will be installed parallel to the railroad corridor. Care shall be taken during construction to minimize adverse effects to bodies of water downstream of the project area. Impacts to wetlands will be temporary in nature and wetlands will be restored to pre-construction conditions once the project is complete. Projects disturbing one or more acres are required to have a permit to discharge stormwater runoff until the site is stabilized by the re-establishment of vegetation or other permanent cover. All solid waste materials must be managed and transported in accordance with the state's solid and hazardous waste rules.

Since the Proposed Alternative may involve impacts to Section 404 regulated wetlands, the City of Cando will be required to comply with the Clean Water Act to include the requirements of Nationwide Permit (NWP) 58 for Section 404 discharges, if applicable to the work. NWP 58 covers activities for the construction, maintenance, repair, and removal of utility lines for water and certain other substances. The USACE Omaha District is responsible for making Section 404 permitting decisions for work in North Dakota and has been apprised of this project.

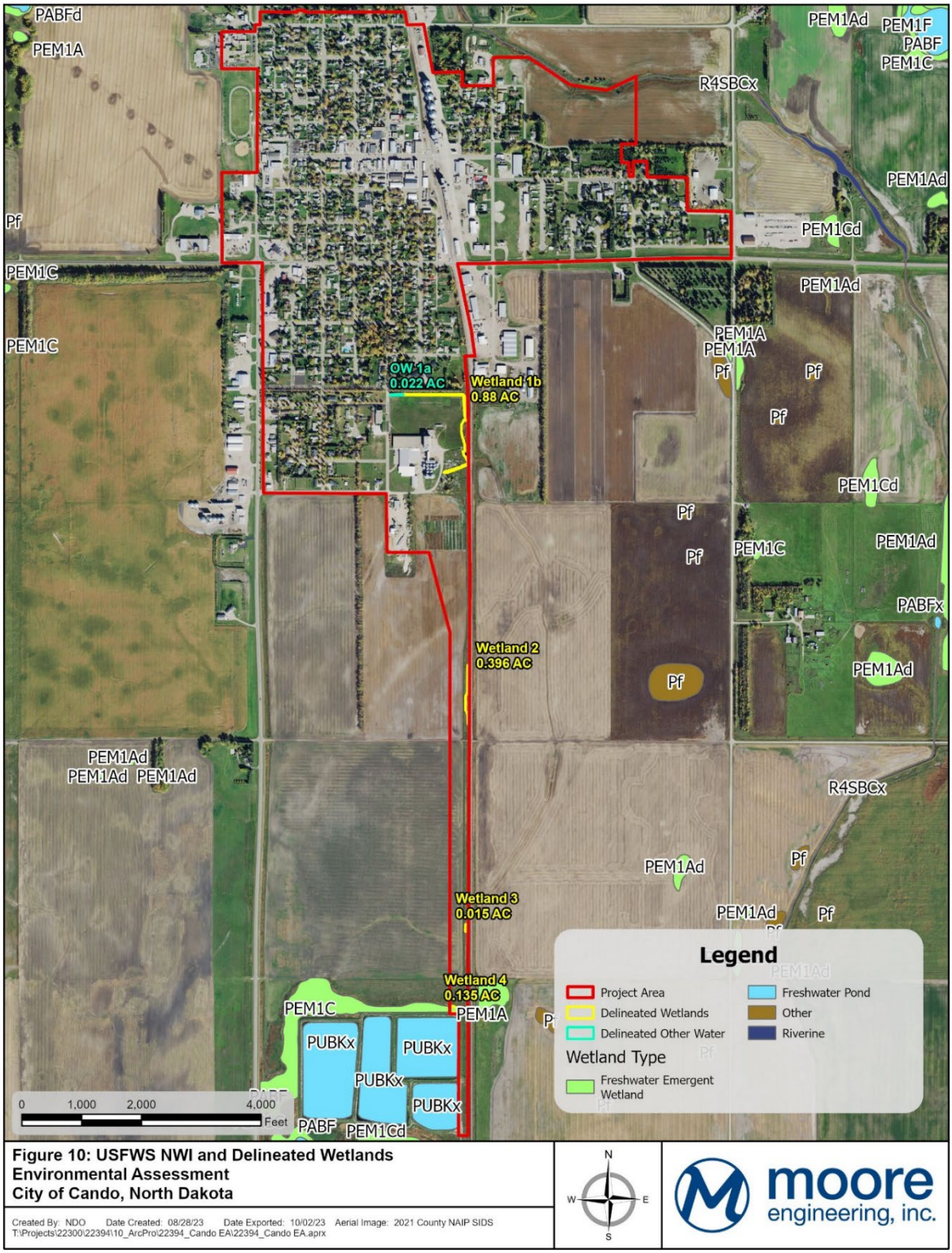


Figure 11. USFWS National Wetland Inventory and Delineated Wetlands

3.1.7 Terrestrial Habitat

The project area consists of the city limits of Cando, which primarily contains residential yards, commercial properties, and residential streets, and extends south along the railroad corridor through agricultural fields. Project activities will primarily occur within City streets and other developed or previously disturbed areas, both impervious and vegetated. The predominant vegetation within this area is manicured grasses (residential lawns) with moderate cover of deciduous and coniferous trees. Land use beyond the residential portions of the City is agricultural, with annual row crops and hay land bordering the City. Most of the landscape within the project area is developed or previously disturbed.

No Action Alternative – The No Action Alternative could have a temporary impact to terrestrial habitat during emergency repairs. Minor vegetation disturbance could occur but would be restored post construction, consistent with regular practices and stormwater/erosion requirements.

Proposed Alternative – The Proposed Alternative would be completed within previously disturbed land and streets within the Cando city limits and extend south along the railroad corridor through agricultural fields. There is the potential for some minor vegetation disturbance along residential lawns and road rights of way, as well as temporary crop field disturbance. To the extent feasible, these effects would be minimized, and impacts will be restored post construction. Areas where relining is proposed will have a lesser impact than areas where replacement with open trench methods are proposed. With the removal of grass cover, some erosion from wind or water may occur during construction. Implementing temporary erosion control measures and reseeding the disturbed areas will minimize these effects. The contractor will be required to implement a temporary erosion control plan throughout the duration of the project.

3.1.8 Wildlife

Due to the rural residential land use and human presence within the area, the wildlife species present are likely those typically found in rural cities and agricultural land, including deer, squirrels, songbirds, and waterfowl. Table 1 identifies potential migratory birds which could occur within the project area.

Table 1. Potential Migratory Bird Species within the Project Area (IPaC).

Common Name	Species Name	Breeding Season
Bobolink	*Dolichonyx oryzivorus*	May 20 - Jul 31
Franklin's Gull	*Leucophaeus pipixcan*	May 1 - Jul 31
Lesser Yellowlegs	*Tringa flavipes*	Breeds Elsewhere
Marbled Godwit	*Limosa fedoa*	May 1 – Jul 31

The Lesser Yellowlegs, Franklin’s gull, and marbled godwit rely on habitat consisting of wet meadows, freshwater marshes, riparian zones, and lakeshores, with a mixture of open water and emergent vegetation. Habitat for these three migratory bird species is present within the City of Cando. The bobolink is a grassland bird species, which relies on herbaceous wetlands, croplands, hayfields, and prairies. Most of the land immediately surrounding the City is cropland, with scattered open water and emergent wetlands in the vicinity. The Project Area consists primarily of City streets and existing infrastructure, except for the cropland south of the City where new force main will be installed. The migratory bird species listed above rely on wetland, riparian, and grassland habitats for breeding. There is little to no suitable habitat for these species within the Project Area.

No Action Alternative – The No Action Alternative could result in emergency repairs which would cause wildlife to temporarily avoid the impacted area due to construction noise and the presence of equipment; however, wildlife would return to the area once construction ceases.

Proposed Alternative – Wildlife would avoid areas where construction is occurring due to construction noise and equipment but return once construction is complete. Impacts to wildlife would be minor and temporary as the construction timeframe is short (approximately 16 months in 2024 and 2025) and work would occur along roadways in residential areas.

Bird species protected under the Migratory Bird Treaty Act would not be affected by the Proposed Alternative because there are no impacts proposed to natural communities. Work will take place within existing City infrastructure, resulting in a no effect determination for migratory bird species.

3.1.9 Threatened and Endangered Species

3.1.9.1 Federally Listed Species

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) website was consulted on April 2, 2024, to identify potential presence of federally listed threatened and endangered species within the action area. One candidate species and one Endangered listed species were identified. The listed Endangered species is the Northern long-eared bat (*Myotis septentrionalis*) this project does not involve wind turbine operations or tree removal, so there will be no effect to this species. The Candidate species identified is the monarch butterfly (*Danaus plexippus*) which has the potential to occur within the Project Area. No critical habitat was identified in the action area.

In December 2020, the USFWS assigned the monarch butterfly as a candidate for listing under the ESA due to its decline from habitat loss and fragmentation; however, candidate species are not protected under the ESA. The monarch butterfly inhabits areas where native flowering plants and milkweed, which is required for larval rearing, are common. While breeding habitat of variable quality is present throughout North America, it is sporadic and often may not contain suitable nectar sources for adult monarchs. While larvae are reared on host milkweed plants, adults may inhabit many types of habitat, including wetlands, grasslands, forests, woodlands, and urban areas (USFWS 2023b).

No Action Alternative – The No Action Alternative would have no effect on federally listed threatened and endangered species.

Proposed Alternative – There is no monarch butterfly habitat within the footprint of the Proposed Alternative. Individuals of this species could migrate through the Project Area; however, it is unlikely this would happen during construction due to the lack of suitable nesting or foraging habitat. While monarchs may utilize habitat within the general vicinity of the City, wherever milkweed and nectar sources are available, the Project would primarily impact existing City streets and infrastructure and does not propose to impact natural communities within the project area. Therefore, the Proposed Alternative would have no effect on the monarch.

3.1.10 Invasive Species

The project area is mostly manicured vegetation. Invasive species were occasionally observed in field edges or disturbed areas. Species included common burdock (*Arctium minus*), smooth brome (*Bromus inermis*), Canada thistle (*Cirsium arvense*), reed canary grass (*Phalaris arundinacea*), sow thistles (*Sonchus spp.*), and dandelions (*Taraxacum officinale*).

No Action Alternative – The No Action Alternative would have no effect to invasive species beyond existing conditions.

Proposed Alternative – The Proposed Alternative is not anticipated to result in the spread of invasive species not currently present within the project area.

3.2 Socio-economic Resources

3.2.1 Recreation

Recreational opportunities in the City include biking and walking on city streets and sidewalks, tennis at the Cando Tennis Courts, baseball at the Cando Recreation Improvements facility, and Ice Skating at the Cando Ice Rink. Basketball, sand volleyball, horseshoes and swimming are also available at the Cando City Park and Pool. All the Cando City Park facilities: Cando Recreation Improvements (38-00325), Cando Tennis Court (38-00640), Cando Pool and Park Area (38-00147) and Cando Ice Rink (38-00880) are protected under Section 6(f) of the Land and Water Conservation Fund (LWCF).

No Action Alternative – The No Action Alternative should have no effect on recreation unless an emergency repair is needed which would cause a temporary disturbance to recreational activities in the impacted area until repairs are complete.

Proposed Alternative – The Proposed Alternative could have a negative indirect impact on recreation in areas adjacent to where construction is occurring. Construction would occur over the summer months which is the time when most recreation would occur. Construction would not occur within the recreation areas themselves and they would remain open for use. Noise and traffic obstructions would temporarily disrupt recreational activities during both 2024 and 2025. It is not anticipated that construction would occur throughout the whole city at one time. The City coordinated with the North Dakota Parks and Recreation Department Grants Coordinator regarding the Section 6(f) properties in Cando to ensure avoidance. A letter was received 4 April 2023 indicated that the project does not appear to affect properties NDPRD owns, leases, or manages (Appendix A). However, four projects protected under Section 6(f) of the Land and Water Conservation Fund (LWCF) are present in the project vicinity, the Cando Ice Rink 38-00880, Cando Pool and Park Area 38-00147, Cando Recreation Improvements 38-00325, and Cando Tennis Court 38-00640. The City coordinated with the NDPRD Grants Coordinator regarding the Section 6(f) properties in Cando to ensure avoidance. A letter was received September 25, 2023, stating “there will be no impact proposed to the boundaries listed above. The City of Cando can allow for the installation of underground utilities within an LWCF boundary area as long as the ground above the alignment can be and is restored to its pre-existing condition to ensure the continuation of public outdoor recreational use of the area within 12 months after the ground is disturbed (NPS LWCF Manual - Chapter 8 – Page 111 - G. Underground Utility Easements and Rights-of-Way). The letter is included in Appendix A.

3.2.2 Noise

Noise levels in and around the vicinity of the project area are commensurate with that of other small towns in eastern North Dakota.

No Action Alternative – The No Action Alternative could lead to emergency repairs which could disrupt residents and neighbors due to increased noise from the use of heavy equipment. Emergency repairs could occur outside of daylight hours but would likely be repaired quickly to restore services. Noise levels would return to normal following emergency repairs.

Proposed Alternative – The use of heavy equipment for construction would generate a temporary increase in noise levels which could disturb wildlife and citizens. The use of heavy equipment on the site would only be for a short period of time, resulting in a temporary and minor adverse effect. Construction is expected to occur over approximately 16 months during 2024 and 2025. Work is expected to occur during daylight hours only. Construction noise would have a minor short-term effect on residents and businesses in the area as the construction

timeframe is approximately 16 months over two years. Noise levels would return to normal following construction. Noise associated with construction of the project would lead to temporary displacement of some wildlife species. Nesting of birds may also be discouraged within the project area. However, birds and other wildlife species are expected to return to the area following construction. No long-term impacts would be expected to occur once construction is complete.

3.2.3 Transportation

The City of Cando is located at the intersection of ND Highway 17 and U.S. Highway 281; however most other roads in Cando are through residential areas. A BNSF railway also bisects the town from North to South.

No Action Alternative – Under the No Action Alternative, emergency repairs may become necessary which would disrupt traffic in the affected area. These repairs would likely be needed immediately without advanced notice to motorist regarding road closures and detours. Emergency repairs are expected to be completed quickly and traffic would return to normal.

Proposed Alternative – There would be disruption to local traffic and detours as streets are temporarily closed to complete the work for approximately 16 months during 2024 and 2025. Transportation may be temporarily affected into and out of the project area during construction, including some work within North Dakota Highway 17 and ND Highway 281 rights-of-way for sanitary sewer and water line replacement. These temporary adverse effects would cease once construction of the Proposed Alternative is complete. Construction activities would be expected to use appropriate BMPs to minimize safety risks. The City's contractor would be required to maintain traffic throughout construction.

3.2.4 Health and Safety

The city of Cando experienced a failure of the main lift station in 2022 which required emergency pumping of the sewer. Additionally, the majority of the City's sanitary sewer mains are in fair to poor condition as described in Section 1.2.

No Action Alternative – Under the No Action Alternative, the existing cast iron sewer mains would remain in-place along with the risk of breaks and unexpected costs of emergency repairs and water loss. The vitrified clay sewer mains would also remain in-place with the risk of further deterioration and pipe collapse. The cracked and broken pipes allow groundwater infiltration into the mains causing excess pumping at the lift station, which increases wear and tear on the pumps and cost of electricity as well as reduces capacity at the wastewater ponds. These situations could cause both health hazards and financial losses for the City's residents.

Proposed Alternative – This Proposed Alternative would provide the citizens of Cando with a reliable water and sewer system for many years to come.

3.2.5 Environmental Justice

Environmental Justice is institutionally significant because of Executive Order 12898 of 1994 (E.O. 12898) and Department of Defense's Strategy on Environmental Justice of 1995, which directs federal agencies to identify and address any disproportionately high adverse human health or environmental effects of federal actions to minority and/or low-income populations, as well as E.O. 14008, 13985 and 13990.

Executive Order (EO) 14096 Revitalizing Our Nation's Commitment to Environmental Justice for All was published in the Federal Register on April 26, 2023 (88 FR 25251). The EO outlines the government-wide approach to environmental justice and the requirements to identify, analyze, and address disproportionate and adverse human health and environmental effects of federal actions.

The Corps used two tools, USEPA EJScreen and CEQ's CEJST, to evaluate potential environmental justice concerns. Because the analysis considers disproportionate impacts, the Corps defined two areas to facilitate comparison between the area affected and a larger regional area that serves as a basis for comparison and includes the area affected. The larger regional area is defined as the smallest political unit that includes the affected area and is called the community of comparison. For purposes of this analysis, the affected area is the City of Cando and Towner County, North Dakota is the community of comparison.

A minority population, for the purposes of this environmental justice analysis, is identified when the minority population of the potentially affected area is greater than 50% or the minority population is meaningfully greater than the general population or other appropriate unit of geographic analysis. Additionally, the CEQ identifies "low-income" using Census data for "individuals living below the poverty level." The USEPA EJScreen mapping and screening tool was used to obtain minority population and low-income population data. Within the affected area, people of color account for 18 percent and low-income populations account for 40 percent of the population compared to 13 and 35 percent respectively for Towner County, North Dakota (U.S. Environmental Protection Agency 2024b).

The percentage of people of color present in the affected area does not exceed 50 percent and is not meaningfully greater than the community of comparison. Therefore, a minority population is not present. The aggregate low-income population percentage in the affected area does not exceed 50 percent and it is not meaningfully greater than the low-income population in Towner County. Therefore, a low-income population is not present.

The USACE also reviewed the proposed project area using version 1.0 of the Climate and Economic Justice Screening Tool (CEJST), which is identified in ASA(CW) guidance as the default tool for EJ analysis, for detail on the census tract including the City of Cando. The tract is not considered disadvantaged according to the CEJST.

No Action Alternative – Under the No Action Alternative, no major construction would occur in the project area. Additionally, there are no disadvantaged populations present in the project area, therefore there would be no impacts local populations. There would be no changes to the social and economic character of the project area.

Proposed Alternative – There are no disadvantaged populations within the project area and therefore there would be no impacts to minority or low-income populations. The Proposed Alternative would not result in disproportionately high and adverse human health or environmental effects on minority and/or low-income populations and would be in compliance with E.O. 12898.

3.3 Cultural Resources

USACE identified the Area of Potential Effects (APE) for Section 106 of the National Historic Preservation Act to be the city limits of Cando, as indicated in Figure 2. Review of the North Dakota State Historic Preservation Office (SHPO) and National Register of Historic Places (NRHP) resource databases identified no historic properties within the project area. The project area has been highly disturbed with the construction, operation, and maintenance of the existing wastewater infrastructure. In August 2023, a Class III archaeological survey was conducted in the areas of new development. visual inspections, pedestrian surveys, and systematic shovel testing encountered no cultural materials. It is the Corps' determination that the proposed project will have no effect to NRHP eligible resources since none are present in the project area.

No Action Alternative – The No Action Alternative would have no immediate effect to historic properties since none are present in the project area. Over the long term, it is assumed that the

project would be built with alternative funding. Effects to cultural resources would likely be similar to the effects that are described in the proposed alternative.

Proposed Alternative – The proposed alternative would have No Effect to Historic Properties since none are in the project area. USACE coordinated the determination that the proposed project would have No Effect on Historic Properties on 23 February 2024, and the SHPO concurred on 22 March 2024.

3.4 Cumulative Effects

The CEQ regulations (40 CFR §§ 1500–1508) implementing the procedural provisions of NEPA, as amended (42 USC § 4321 et seq.) define cumulative effects as:

"….. which are effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time." (40 CFR 1508.1(g)(3))

Cumulative effects analysis recognizes that the most serious environmental impacts may result from the combination of individually minor effects of multiple actions over time, rather than the direct or indirect effects of a particular action (Council on Environmental Quality, 1997).

Analyzing cumulative effects requires identifying the environmentally relevant area and the past, present, and future actions in that area that would contribute incrementally to the overall effect. The environmentally relevant area is determined by both location and time. Future actions are those that are reasonably likely to occur. A future project is only considered in this analysis if there is sufficient information on the project to understand what its incremental contribution to cumulative effects might be.

The scope of this cumulative effects analysis is the City of Cando. Previous projects within the City include emergency pumping and repair of the main lift station in spring of 2022, and construction of a new additional settling pond (Cell #4) along with installation of a new check valve manhole in 1995. Under the No Action Alternative, future water and sewer system repairs would occur. No other current or future projects within the city are proposed at this time.

The Proposed Alternative is designed to update the existing water and sewer system to provide needed public facilities and allow for potential community growth and development. This project would provide the citizens of Cando with a reliable water and sewer system for many years to come. There would be no cumulative adverse effects to natural resources because the proposed work would be completed within previously disturbed areas that provide low quality habitat. Additionally, it is unlikely that the work would result in a substantial increase in residential development that would lead to significant cumulative adverse effects to natural resources in undeveloped areas. Finally, without federal assistance improvements may still be completed at some point in the future.

Table 2. Environmental Assessment Matrix

	No Action Alternative							Proposed Alternative						
	BENEFICIAL				ADVERSE			BENEFICIAL				ADVERSE		
PARAMETER	SIGNIFICANT	SUBSTANTIAL	MINOR	NO EFFECT	MINOR	SUBSTANTIAL	SIGNIFICANT	SIGNIFICANT	SUBSTANTIAL	MINOR	NO EFFECT	MINOR	SUBSTANTIAL	SIGNIFICANT
A. Social Effects														
1. Noise Levels				X								ST		
2. Aesthetic Values				X								ST		
3. Recreational Opportunities				X								ST		
4. Transportation				X								ST		
5. Public Health and Safety					X					X				
6. Community Cohesion (Sense of Unity)				X							X			
7. Community Growth and Development					X					X				
8. Business and Home Relocations				X							X			
9. Existing/Potential Land Use				X							X	ST		
10. Controversy				X							X			
B. Economic Effects														
1. Property Values				X							X			
2. Tax Revenue				X							X			
3. Public Facilities and Services					X				X					
4. Regional Growth				X							X			
5. Employment				X							X			
6. Business Activity				X							X			
7. Farmland/Food Supply				X							X			
8. Commercial Navigation				X							X			
9. Flooding Effects				X							X			
10. Energy Needs and Resources				X							X			
C. Natural Resource Effects														
1. Air Quality				X								ST		
2. Terrestrial Habitat				X								ST		
3. Wetlands				X								ST		
4. Aquatic Habitat				X							X			
5. Habitat Diversity and Interspersion				X							X			
6. Biological Productivity				X							X			
7. Surface Water Quality				X							X			
8. Water Supply					X					X				
9. Groundwater					X					X				
10. Soils					X							ST		
11. Threatened or Endangered Species				X							X			
D. Cultural Resource Effects														
1. Historic Architectural Values				X							X			
2. Precontact & Historic Archeological Values				X							X			

X = Long-term effects; ST = Short-term recurring effects.

4 Environmental Compliance

The Proposed Alternative would comply with federal environmental laws, Executive Orders and policies, and applicable state and local laws including but not limited to the Clean Air Act, as amended; the Endangered Species Act of 1973, as amended; the Fish and Wildlife Coordination Act of 1958, as amended; the Land and Water Conservation Fund Act of 1965, as amended; Farmland Protection Policy Act of 1981, as amended; the National Historic Preservation Act of 1966, as amended; the National Environmental Policy Act of 1969, as amended; Executive Order 11990 – Protection of Wetlands; Executive Order 12898 – Environmental Justice; and Executive Order 11988 – Floodplain Management.

4.1 National Environmental Policy Act

The National Environmental Policy Act (NEPA; 42 USC § 4321 et seq.) establishes the broad national framework for protecting our environment. NEPA's basic policy is to assure proper consideration to the environment prior to undertaking any major federal action. Two alternatives have been presented and the significance of the project's impacts have been evaluated. The document will be distributed to agencies, the public and other interested parties to gather any comments or concerns. If no significant impacts to the environment are found, a Finding of No Significant Impact (FONSI) will be signed by the St. Paul District Commander.

4.2 Land and Water Conservation Fund Act

The Land and Water Conservation Fund (LWCF) was established by Congress in 1964 to fulfill a bipartisan commitment to safeguard natural areas, water resources and cultural heritage, and to provide recreation opportunities to all Americans. Within the City of Cando four properties are protected under Section 6(f) of the LWCF: Cando Ice Rink 38-00880, Cando Pool and Park Area 38-00147, Cando Recreation Improvements 38-00325, and Cando Tennis Court 38-00640. As part of the LWCF requirements, a LWCF boundary may not be converted to any use other than outdoor recreation without prior approval from the North Dakota Parks and Recreation Department (NDPRD) and National Park Service. The City of Cando coordinated the project with NDPRD. NDPRD concluded that there will be no impact proposed to the boundaries listed above. The City of Cando can allow for the installation of underground utilities within an LWCF boundary area as long as the ground above the alignment can be and is restored to its pre-existing condition to ensure the continuation of public outdoor recreational use of the area within 12 months after the ground is disturbed. A copy of the letter from NDPRD can be found in Appendix A. No disturbance from the project within the 6(f) area is proposed under the current plan.

4.3 Clean Water Act

The Clean Water Act (CWA; 33 USC §1251 et seq.) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the United States and is administered by USACE. Section 401 water quality certification is required for actions that may result in a discharge of a pollutant into waters of the United States to ensure that the discharge complies with applicable water quality standards. The North Dakota Environmental Quality is the agency responsible for issuing Clean Water Act Section 401 water quality certification.

The Proposed Alternative would have minor temporary impacts to wetlands to construct the improvements. Impacts to wetlands will be temporary in nature and will result from installation of the new sanitary force main that will run south of the City to the existing wastewater lagoons. Impacts will be restored to pre-construction conditions once the project is complete. As

previously noted, the City of Cando will be responsible for seeking Section 404 permission from the USACE Omaha District and will need to determine whether the Proposed Alternative is covered by NWP 58, which may be applicable to the proposed work.

This project is also subject to CWA section 402 regulations. The construction contractor will be required to follow the general construction North Dakota Pollutant Discharge Elimination System permit accompanying Stormwater Pollution Prevention Plan. The contractor will utilize construction Best Management Practices (BMPs) to protect against erosion and sedimentation of downstream resources. Any spills that occur during construction will need to be immediately reported to the North Dakota Department of Environmental Quality (NDDEQ).

4.4 Endangered Species Act

The Endangered Species Act (16 USC § 1531 et seq.) provides for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) website was consulted on January 25, 2024, to identify potential presence of federally listed threatened and endangered species within the action area. One candidate species, the monarch butterfly (*Danaus plexippus*) has the potential to occur within the Project Area. No critical habitat was identified in the action area. The Corps has determined that the proposed project would have no effect on the monarch butterfly.

4.5 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA; 16 USC 661–667e) requires federal agencies to coordinate with the U.S. Fish and Wildlife Service and applicable state agencies when a stream or body of water is proposed to be modified. The proposed project was coordinated with U.S. Fish and Wildlife Service, North Dakota Game and Fish, and North Dakota Department of Health. on 8 March 2023. A copy of the FWCA coordination can be found in Appendix A.

4.6 National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966, as amended by Public Law 96-515 (94 Stat. 2987), established national policy for historic preservation, authorized the Secretary of the Interior to expand and maintain a National Register of Historic Places, and created the Advisory Council on Historic Preservation. Section 106 specifies that federal agencies, must consider the effect of the action on any property included in or eligible for the National Register of Historic Places. The proposed alternative would have No Effect to Historic Properties since none are in the project area. USACE coordinated the determination that the proposed project would have No Effect on Historic Properties on 23 February 2024, and the SHPO concurred on 22 March 2024.

Table 3. Compliance with Environmental Protection Statutes and Other Environmental Requirements

Environmental Requirement	**Compliance[1]**
Federal Statutes	
Archaeological and Historic Preservation Act	FULL
Bald and Golden Eagle Protection Act of 1940, as amended	FULL
Clean Air Act, as amended	FULL
Clean Water Act, as amended	FULL
Coastal Zone Management Act, as amended	NA
Endangered Species Act of 1973, as amended	FULL
Farmland Protection Policy Act of 1981	FULL
Federal Water Project Recreation Act, as amended	NA

Fish and Wildlife Coordination Act, as amended	FULL
Land and Water Conservation Fund Act of 1965, as amended	FULL
Migratory Bird Treaty Act of 1918, as amended	FULL
National Environmental Policy Act of 1969, as amended	FULL
National Historic Preservation Act of 1966, as amended	FULL
National Wildlife Refuge Administration Act of 1966	NA
Noise Pollution and Abatement Act of 1972	FULL
Watershed Protection and Flood Prevention Act	FULL
Wild and Scenic Rivers Act of 1968, as amended	NA
Executive Orders, Memoranda	
Floodplain Management (E.O. 11988)	FULL
Safeguarding the Nation from the Impacts of Invasive Species (E.O. 13112)	FULL
Protection and Enhancement of Environmental Quality (E.O. 11514)	FULL
Protection and Enhancement of Cultural Environment (E.O. 11593)	FULL
Protection of Wetlands (E.O. 11990)	FULL
Analysis of Impacts on Prime and Unique Farmland (CEQ Memorandum, 30 August 1976)	FULL
Environmental Justice (E.O. 12898)	FULL

[1] The compliance categories used in this table were assigned according to the following definitions:

a. Full – All requirements of the statute, EO, or other policy and related regulations have been met for the current stage of planning.
b. Partial – Some requirements of the statute, EO, or other policy and related regulations remain to be met for the current stage of planning.
c. Noncompliance (NC) – Violation of a requirement of the statute, EO, or other policy and related regulations.
d. Not Applicable (N/A) – Statute, EO, or other policy and related regulations not applicable for the current stage of planning.

5 Distribution and Review of the Draft Environmental Assessment

This section will be completed once the Public Review period has ended and comments have been addressed.

6 References

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APPENDIX A

CORRESPONDENCE

APPENDIX B

DRAFT FONSI

APPENDIX C

Exhibits