

RECLAMATION

Managing Water in the West

DK-5000-17-01

**Finding of No Significant Impact
and**

Final Environmental Assessment for

**Funding of the Construction of the Cass Rural Water District
Leonard Area Expansion, Cass, Ransom and Richland
Counties, North Dakota**

Dakotas Area Office
Bismarck, North Dakota



November 2017

U.S. Department of the Interior
Bureau of Reclamation

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION
DAKOTAS AREA OFFICE
BISMARCK, NORTH DAKOTA

FINDING OF NO SIGNIFICANT IMPACT

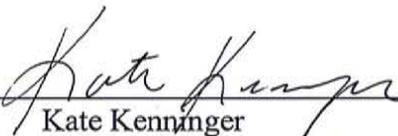
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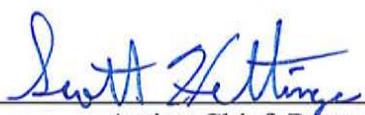
FINAL ENVIRONMENTAL ASSESSMENT

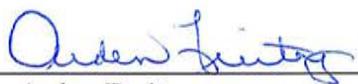
FOR

Funding of the Construction of the Cass Rural Water District Leonard Area
Expansion, Cass, Ransom and Richland Counties, North Dakota

NO. DK-5000-17-01

Recommended:  Date: 11-14-2017
Kate Kenninger
Environmental Specialist
Dakotas Area Office

Concur:  Date: 11-17-2017
Acting Chief, Resources Management
Dakotas Area Office

Approved:  Date: 11/20/17
Arden Freitag
Area Manager
Dakotas Area Office

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Introduction

Issuance of this Finding of No Significant Impact (FONSI) follows the completion of the Environmental Assessment for Funding of the Construction of the Cass Rural Water District Leonard Area Expansion, Cass, Ransom and Richland Counties, North Dakota.

The FONSI describes the reasons for the finding for the proposed action's anticipated impacts insignificant. This document contains the FONSI and Final Environmental Assessment.

**Finding of No Significant Impact
For
Environmental Assessment
Funding of the Construction of the Cass Rural Water District Area
Expansion, Cass, Ransom and Richland Counties, North Dakota**

The Bureau of Reclamation (Reclamation), in cooperation with Garrison Diversion Conservancy District (Garrison Diversion) propose to fund the construction of the Cass Rural Water District Leonard Area Expansion (CRWDLAE) (Figure 1-1). The Proposed Action would provide potable water to residents of the City of Leonard and surrounding areas as the currently utilized groundwater source contain high levels of arsenic due to its naturally known occurrence in the soil.

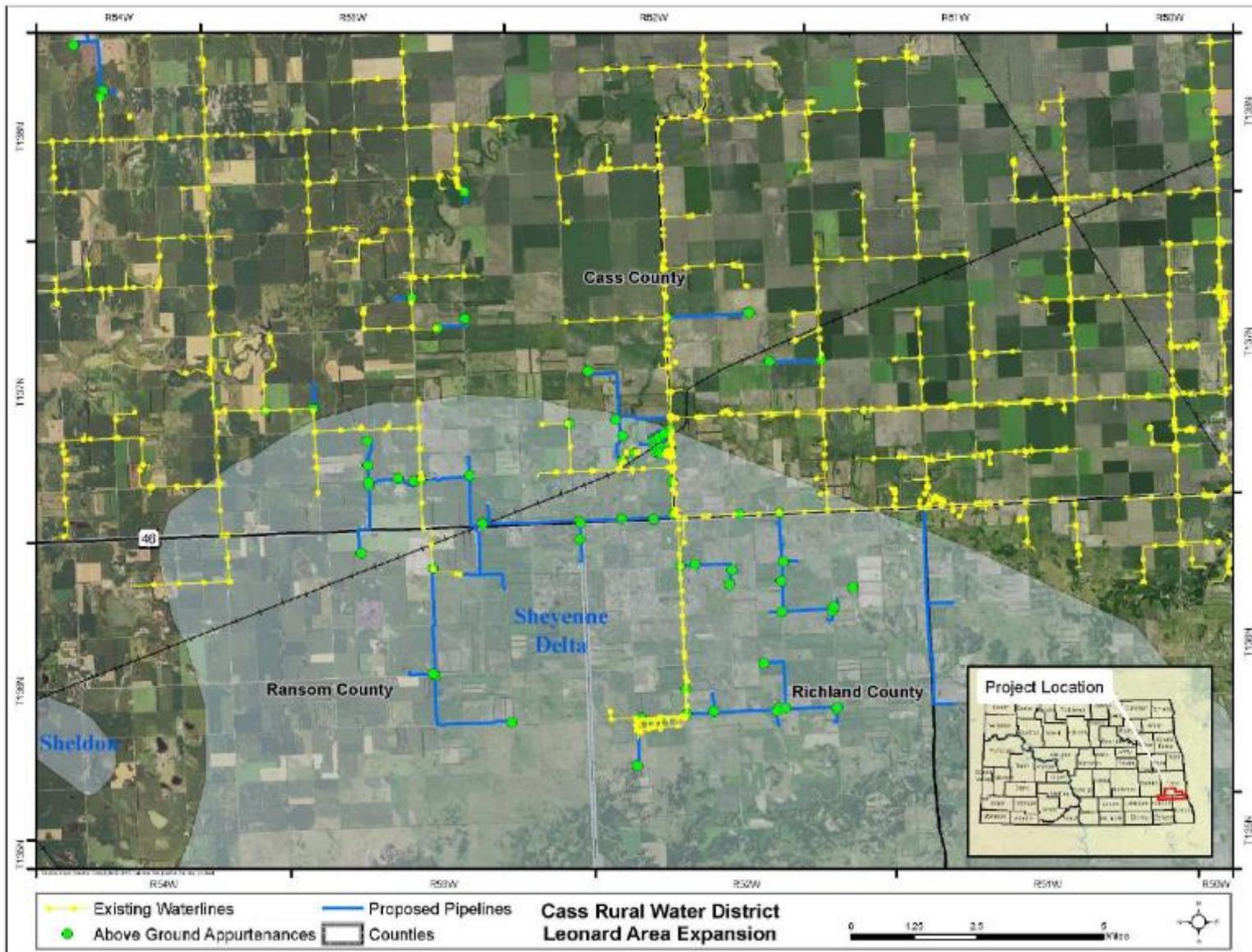
The CRWDLAE would include (Figure 1-1):

1. The construction and installation of approximately 25 miles of 2-inch to 4-inch pipeline in and around Leonard, North Dakota;
2. A 40-foot easement or right-of-way (ROW) along the pipeline;
3. Permanent above-ground structures within the easement or ROW, including valve risers and meter pits;
4. The project would be constructed according to the Environmental Mitigation Commitments as described in Chapter 4, Environmental Commitments, within the Final Environmental Assessment.

Ten agency responses were received regarding the preparation of the EA in response to KLJ's scoping notice: North Dakota Game and Fish Department, North Dakota Geological Survey, State Historical Society of North Dakota, U.S. Army Corps of Engineers, U.S. Department of Agriculture, North Dakota Department of Trust Lands, North Dakota Department of Health, Bureau of Indian Affairs, North Dakota Department of Transportation, and North Dakota State Water Commission. Three email responses were received: Ransom County, Cass County Joint Water Resource District, U.S. Fish and Wildlife Service (Chapter 5, Agency Consultation and Coordination, of the final Environmental Assessment).

Three agency responses were received regarding the public release of the draft EA: North Dakota Department of Health, North Dakota State Water Commission, and U.S. Fish and Wildlife Service (pages 9 – 23). No private party responses were received. Information received from the U.S. Fish and Wildlife Service resulted in a revised effect determination for the western prairie fringed orchid to may effect, not likely to adversely affect; concurrence was received for the revised determination on November 13, 2017 (pages 24 - 25). Additional environmental commitments recommended by the U.S. Fish and Wildlife Service are included in the final EA. Edits were made to Section 5.2. Permit and Authorizations Required, of the final Environmental Assessment to include permit information from the North Dakota State Water Commission.

Figure 1-1. Overview of the Project Area.



Agency Decision

No Action. The No Action Alternative consists of the future without the proposed federal action—no funding through the Garrison Diversion Unit MR&I Grant Program. The Cass Rural Water District (CRWD) would need to pursue alternative funding options or not construct the project. With the No Action Alternative, rural residents would continue to rely on the current water source containing high levels of arsenic.

Proposed Action. Reclamation has determined that the Proposed Action, Reclamation's preferred alternative, as described in the Environmental Assessment DK-5000-17-01 will not result in significant impacts to the human and natural environment; therefore, an environmental impact statement will not be prepared. A complete description and analysis of the project's anticipated environmental impacts is contained in the final EA.

Reclamation defines significance relative to context and intensity in accordance with CEQ Regulations, 40 CFR 1508.27.

The reasons for the FONSI determination are summarized as follows:

1. All requirements of the National Environmental Policy Act have been met, including public involvement and coordination with Federal, State, and local agencies.
2. This action will not have significant effect on the quality of the human environment.
3. With regard to public health and safety, the action will have a beneficial impact as the City of Leonard and surrounding areas would no longer use their existing ground water sources which are known to have levels of arsenic.
4. This action will not have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas.
5. This action will not have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.
6. This action will not establish a precedent for future action or represent a decision in principal about future actions with potentially significant environmental effects.
7. The action will not have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.
8. All stipulations of the National Historic Preservation Act and other applicable Federal laws, regulations, and guidelines concerning cultural resources will be satisfied prior to construction. Avoidance measures have been incorporated into the project's design to reduce or eliminate impacts to historic properties. Of the two newly recorded cultural resources, one is not eligible for the National Register of

Historic Places (NRHP) with no further work or avoidance measures being recommended. The second newly recorded site is currently unevaluated for the NRHP. It is recommended the site be avoided by at least 100 feet during construction of the waterline, and that a Secretary of the Interior qualified archeologist monitor construction within 500 feet of the known site boundary. With the above stipulations, Reclamation has determined that Proposed Action would have no adverse effect on historic properties. Reclamation's Area Archaeologist submitted a copy of the Class I and Class III cultural resources report (Olson 2017) and a consultation letter to the North Dakota State Preservation Office (NDSHPO) on June 6, 2017. The NDSHPO replied with concurrence to Reclamation's finding of, No Historic Properties Affected, for the proposed project (NDSHPO REF.: 17-0994; June 12, 2017).

9. Reclamation has determined the Proposed Action may affect, but is not likely to adversely affect the western prairie fringed orchid and will have no effect on the remaining federally listed species and designated critical habitat in Cass, Ransom, and Richland Counties.
10. All applicable Federal and State environmental laws, regulations, and executive orders will be adhered to.
11. All stipulations of the Clean Water Act and other applicable Federal laws, regulations, and guidelines concerning wetlands and water resources will be satisfied prior to construction. Environmental commitments include the coordination with U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service prior to construction, as necessary.
12. Reclamation has determined the Proposed Action will have no impacts to Indian Trust Assets.
13. Reclamation is including a list of environmental commitments as part of the proposed action to be implemented in order to (a) prevent, minimize, or offset the occurrence of potential adverse environmental effects and (b) ensure compliance with applicable Federal and State regulations designed to protect fish and wildlife resources, important habitats and sensitive areas, cultural and paleontological resources, human health and safety, and the public interest.

Environmental Mitigation Commitments of the Community Alternative

This section presents environmental commitments which have been developed by Reclamation and the project sponsor in consultation with Federal and State agencies, the Tribes, and the public through responses to scoping. These commitments are included as an inseparable component of this Proposed Action and are designed to offset potential for significant environmental effects resulting from the Proposed Action.

As sponsor of the CRWDLAE Project, CRWD will be responsible for complying with these commitments. Should this project be constructed, CRWD will ensure that these commitments

are implemented and followed prior to and/or during construction of the Project, as these commitments are required for Reclamation funding. Appropriate environmental commitments will be incorporated into the designs and construction contracts and specifications of the project.

An Interagency Environmental Review Team, with appropriate agency representation, may be assembled to review environmental compliance in the field, as needed.

These environmental commitments will be implemented to (1) prevent, minimize, or offset the occurrence of potential for adverse environmental effects and (2) ensure compliance with applicable Federal and State regulations designed to protect fish and wildlife resources, important habitats and sensitive areas, cultural and paleontological resources, human health and safety, and the public interest.

GENERAL BEST MANAGEMENT PRACTICES
Comply with all appropriate Federal, State, and Local laws.
Follow recommended practices for construction, restoration, and maintenance.
Standard construction, industry measures will be taken to minimize fugitive dust emissions during construction activities. Any complaints that may arise will be dealt with in a timely and effective manner.
Roads would be maintained during construction.
Erosion BMPs will be followed to prevent runoff of soil, silt, and other debris.
2014 NDDOT Standard Specifications recommended seed mix will be used following construction
SURFACE WATER AND WETLANDS
The project proponent is responsible to comply with all provisions of the Clean Water Act, including but not limited to Sections 401, 402, and 404 by obtaining all permits and certifications deemed necessary by the appropriate regulating agencies. Wetland impacts will be appropriately mitigated according to the standards and direction of the USACE and NRCS. Impacts to wetland basins protected under USFWS easements will be avoided. Wetland impacts will comply with the Clean Water Act and Agricultural Act of 2014.
A Floodplain Development Permit application will be completed and submitted prior to construction.
When pipeline construction through a wetland basin is unavoidable, existing basin contours will be restored and trenches will be sufficiently compacted to prevent any drainage along the trench or through bottom seepage.
Woody species including those bordering wetlands, shelterbelts, riparian woodlands, woody draws, or woodland vegetation will be avoided.
Erosion control measures will be employed as appropriate: Stabilization, erosion controls, restoration, and re-vegetation of all areas will be performed as soon as project is completed.
FISH AND WILDLIFE SPECIES AND HABITAT
To the extent possible , construction would avoid: <ul style="list-style-type: none"> - Open water wetlands and streams - Federal, State, and Local wildlife areas and refuges - Designated critical habitats - Migratory bird habitats during the nesting brood rearing season (February 1 – July 15)
If any tree (with a diameter of greater than 3 inches) removal activities cannot be avoided between April 1 and October 31, then consultation would take place with the USFWS.
Construction within 660 feet of visible nesting bald eagles will be avoided from February through August.
Project proponents will coordinate with the USFWS's appropriate Refuges and Wetland Management Districts and provide the latest-map version of the Proposed Project to avoid impacts to USFWS lands, including wetland and grassland easements, national wildlife refuges (NWR), waterfowl production areas or other USFWS lands interface.

If threatened or endangered species are identified and encountered during construction, all ground-disturbing activities in the immediate area will be stopped until Reclamation can consult with the USFWS to determine appropriate steps to avoid impacting the species.

CULTURAL RESOURCES

All cultural resource investigations were performed according to the procedures specified in the programmatic agreement among Reclamation, the NDSHPO, and the Advisory Council on Historic Preservation for Reclamation activities in North Dakota. Cultural resource inventories were performed under the direction of an archaeologist that meets the Secretary of the Interior's Professional Qualification Standards (48 FR 22716, Sept. 1983). All appropriate cultural resource activities will be completed prior to the commencement of ground-disturbing activities, including Class I and Class III surveys and consultation with the NDSHPO. All cultural resources, except those exempted in the programmatic agreement, will be avoided if their significance cannot be established prior to disturbance. If avoidance is not practicable, Reclamation, in consultation with the SHPO would determine if the site is eligible for nomination to the National Register of Historic Places [36CFR800.4(c) and 36CFR60.4]. If the site is eligible as a historic property, initially Reclamation, SHPO, and other interested parties, depending on the type of property, will consult to determine a plan of mitigation. If an adverse effect cannot be avoided, the Advisory Council on Historic Preservation will be contacted. All ensuing activities will comply with the NHPA, as amended, and the Archaeological Resource Protection Act (ARPA).

If previously undiscovered cultural resources are exposed during any activities, work within the area shall cease. The site will be secured and protected. Project work at the site will not resume until all activities needed to comply with the Protection of Historic Properties (36 CFR Part 800.13) have been completed. Reclamation will consult with NDSHPO and the Advisory Council on Historic Preservation on its determination as to whether the discovery qualifies as a historic property. Project work can continue under the advisement of the Project Archaeologist meeting the Secretary of the Interior's Professional Qualification Standards (48 FR 22716, Sept. 1983).

In the event of an inadvertent discovery of human remains or funerary objects, all work at the find spot and in the immediate vicinity shall cease. The site will be secured and protected until Reclamation officials and the NDSHPO have been notified and arrive on site. Protection of the discovery site may include flagging the discovery location with a buffer zone around it, tarping the find spot, and having an individual stay at the location to prevent further disturbance. Contact information for the individual who discovered the site must be provided to Reclamation and the NDSHPO. No digging, collecting, or moving human remains or other items will occur after the initial discovery. Reclamation will comply with the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 et. seq. [Nov. 16, 1990]) if graves are discovered on Federal or trust lands or within reservation boundaries. Reclamation will comply with North Dakota Century Code 23-06-27: "Protection of Human Burial Sites, Human Remains, and Burial Goods" for graves on private or State-owned lands.

Under the National Register Bulletin 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties (TCP), a TCP is an historic property that derives its significance from the role it plays in a community's historically rooted beliefs, customs, and practices. If a potential TCP is discovered during the course of implementing the project, all work in its vicinity must halt. Reclamation and the appropriate Tribal Historic Preservation Officer(s) (THPO) will be notified and would be responsible for determining the appropriate course of action.

Under the Archaeological Resources Protection Act (16 U.S.C. 470aa-470mm; Public Law 96-95 [1979]), historic properties, which may include rock art sites, historic buildings or structures, or historic or prehistoric artifacts, are protected. Unauthorized collecting or digging, vandalism, or other methods of destruction to historic properties are not permitted. Therefore, Reclamation and the NDSHPO will be notified if construction personnel discover evidence these types of activities.

PALEONTOLOGICAL RESOURCES

Reclamation consulted with the North Dakota Geological Survey to identify areas for paleontological survey where significant fossils are likely. No response was received. If paleontological resource(s) are uncovered during construction, CRWD will stop construction and contact the state paleontologist for further direction.

Future Modifications and Changes

Major changes or modifications to the proposed action would be addressed through additional NEPA and NHPA compliance.



DEFINITIVE COPY RECEIVED

September 26, 2017

Ms. Kate Kenninger
Bureau of Reclamation
Dakotas Area Office
P.O. Box 1017
Bismarck, ND 58502-1017

Re: Draft Environmental Assessment for the Funding of the Construction of the
Cass Rural Water District Leonard Area Expansion
Cass, Ransom and Richland Counties

SEP 29 2017		
REPLY DATE		
INFO. COPY TO:		
DATE	INITIAL	TO
		Kate
CLASSIFICATION		
PROJECT		
CONTROL NO.		
FOLDER I.D.		

Dear Ms. Kenninger:

This department has reviewed the information concerning the above-referenced project submitted under date of September 20, 2017, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.
2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
3. Projects disturbing one or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Further information on the storm water permit may be obtained from the Department's website or by calling the Division of Water Quality (701-328-5210). Also, cities may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.

Environmental Health
Section Chief's Office
701.328.5150

Division of
Air Quality
701.328.5188

Division of
Municipal Facilities
701.328.5211

Division of
Waste Management
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Water Quality
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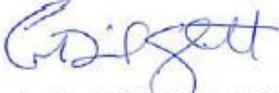
4. The proposed construction project overlies the Sheyenne Delta glacial drift aquifer, which is a sensitive groundwater area. In addition, two source water protection areas and numerous water supply wells are located within the proposed project boundary. Care should be taken to avoid spills of any materials that may have an adverse effect on groundwater quality. All spills must be immediately reported to this Department and appropriate remedial actions performed.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

These comments are based on the information provided about the project in the above-referenced submittal. The U.S. Army Corps of Engineers may require a water quality certification from this department for the project if the project is subject to their Section 404 permitting process. Any additional information which may be required by the U.S. Army Corps of Engineers under the process will be considered by this department in our determination regarding the issuance of such a certification.

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,



L. David Glatt, P.E., Chief
Environmental Health Section

LDG:cc
Attach.



Construction and Environmental Disturbance Requirements

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

Soils

Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

Surface Waters

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

Fill Material

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.

Environmental Health
Section Chief's Office
701.328.5150

Division of
Air Quality
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North Dakota State Water Commission

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October 6, 2017

Kate Kenninger
Dakotas Area Office
PO Box 1017
Bismarck, ND 58502

Dear Ms. Kenninger:

This is in response to your request for a review of the environmental impacts associated with the Bureau of Reclamation's Release of the Draft Environmental Assessment for the Funding of the Construction of the Cass Rural Water District Leonard Area Expansion, Cass, Ransom, and Richland Counties.

The proposed project has been reviewed by State Water Commission staff, and the following comments are provided:

- Our agency's comments contained in the letter dated April 17, 2017 still apply. An additional comment is provided below. However, please note that while Appendix B of the Draft Environmental Assessment (EA) contains our comment letter, Chapter Five, Section 5.2 of the Draft EA does not acknowledge our comments regarding observation wells nor the potential requirement of a sovereign land permit.
- The OSE Engineering and Permitting Section reviewed the project location and determined that the project traverses over or through surface water resources. The OSE requests to be notified regarding the proposed project's impacts, if any, to water resources (i.e. streams or rivers), drains, and wetlands (i.e. ponds, sloughs, lakes, or any series thereof) as any alterations, modifications, improvements, or impacts to those water resources may require a drainage permit(s) or a construction permit(s) from the OSE. For further information on the OSE's permitting requirements, please visit the Regulation & Appropriation tab on the OSE's website (swc.nd.gov). Please contact the OSE Engineering and Permitting Section at 701-328-2752 if you have any questions.

Thank you for the opportunity to provide review comments. If you have any questions, please call me at 701-328-4967.

Sincerely,

Jared Huibregtse
Water Resource Planner IV

JH/1570

DOUG BURGUM, GOVERNOR
CHAIRMAN

GARLAND ERBELE, P.E.
CHIEF ENGINEER-SECRETARY



United States Department of the Interior



FISH AND WILDLIFE SERVICE
North Dakota Ecological Services Field Office
3425 Miriam Avenue
Bismarck, North Dakota 58501
(701) 250-4481, ndfieldoffice@fws.gov

In Reply Refer To:
06E15000-CPA-0177

Ms. Kate Kenninger
Natural Resource Specialist
U.S. Bureau of Reclamation, Dakotas Area Office
PO Box 1017
Bismarck, North Dakota 58502

Dear Ms. Kenninger:

The U.S. Fish and Wildlife Service (Service) has reviewed the preliminary proposal for the Cass Rural Water District Leonard Area Expansion Project (project), described in a September 2017 draft Environmental Assessment. We offer the following comments under the authority of and in accordance with the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 *et seq.*), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds," the Endangered Species Act (ESA) (16 U.S.C. 1531 *et seq.*), the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57), Executive Order 11990 "Protection of Wetlands," Fish and Wildlife Coordination Act (FWCA) (16 U.S.C. 661-667e, as amended), the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250), and the National Environmental Policy Act (NEPA) (Pub. L. 91-190, 42 U.S.C. 4321-4347, January 1, 1970, as amended) and Executive Order (E.O.) 13604 on Improving Performance of Federal Permitting and Review of Infrastructure Projects.

Among other things, E.O. 13604 specifies that federal permitting and review processes must recognize the critical role project sponsors play in assuring the timely and cost-effective review of projects by providing complete information and analysis. It also requires that projects be designed appropriately to avoid, to the extent practicable, adverse impacts on the environment, and to minimize or mitigate impacts that may occur.

Threatened, Endangered and Candidate Species

To obtain information on Service trust resources including federally threatened, endangered and candidate species and designated critical habitat that may occur in the identified areas, or may be affected by the proposed activities, we recommend you access the North Dakota Ecological Services Field Office website at <http://www.fws.gov/northdakotafieldoffice/>. You may also

access the U.S. Fish and Wildlife Service's Information, Planning, and Conservation System (IPaC) website at <http://ecos.fws.gov/ipac/>.

If a federal agency authorizes, funds, or carries out a proposed action, the responsible federal agency, or its designated agent, is required to evaluate whether the action may affect listed species. If the federal agency determines the action may affect, is likely to adversely affect listed species, then the federal agency shall request formal section 7 consultation with this office, or work with this office to remove the likely adverse effects before proceeding. If the evaluation shows a no effect determination on listed species, further consultation is not necessary.

If a non-federal entity receives federal funding for an activity, or if any federal permit or license is required, the federal agency may designate, in writing, the fund recipient or permit applicant as its agent for purposes of informal section 7 consultation. The funding, permitting, or licensing federal agency is responsible to ensure that its actions comply with the ESA, including obtaining concurrence from the Service for any action that may affect a threatened or endangered species, or result in the destruction or adverse modification of designated critical habitat.

The responsibility for compliance with the ESA remains with the federal action agency. Therefore, section 7 consultation cannot be completed until the federal action agency has provided the Service with written designation with regards to a non-federal agent. Until such time as the federal action agency designates a non-federal agent for informal consultation, the following comments should be considered as preliminary, and are to be used to assist with project planning.

Private individuals and companies however, are required to ensure that their actions do not result in "take" of federally listed animals. Take is broadly defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Section 10(a)(1)(B) of the ESA allows non-Federal parties planning activities that have no Federal nexus, but which could result in the incidental taking of listed animals, to apply for an incidental take permit. (A Federal nexus exists whenever an activity is conducted, funded, or licensed or permitted by a Federal agency). The application must include a habitat conservation plan laying out the proposed actions, determining the effects of those actions on Federally-listed plant and wildlife species and their habitats (and may include proposed or candidate species), and defining measures to minimize and mitigate adverse effects.

Whooping Crane

The Aransas Wood Buffalo Population (AWBP) of the endangered whooping crane (*Grus americana*) is the only self-sustaining migratory population of whooping cranes remaining in the wild. Whooping cranes breed in the wetlands of Wood Buffalo National Park in Alberta and the Northwest Territories of northern Canada, and overwinter on the Texas coast. Whooping cranes in the AWBP annually migrate through North Dakota during their spring and fall migrations.

The Service recommends that if a whooping crane is sighted within one mile of the project while it is under construction, that all work cease within one mile of that part of the project and the Service be contacted immediately. In coordination with the Service, work may resume after the bird(s) leave the area. Whooping cranes are unlikely to spend more than a few days in any one spot during migration.

Western Prairie Fringed Orchid

Western prairie fringed orchid (*Platanthera praeclara*), is a federally threatened prairie wildflower associated with remnant native prairies to disturbed sites such as roadside ditches. Western prairie fringed orchid are known to occupy suitable habitats within your proposed project area. Because of the challenge associated with surveying for western prairie fringed orchids during the specific survey window, we recommend that the project avoid any impacts to potential western prairie fringed orchid habitat. Alternatively, surveys could be conducted in potential habitat prior to commencement of construction activities.

The Service noticed your determination of “no effect” for western prairie fringed orchid. If you maintain your determination, no further consultation is necessary. However, the Service does not believe a “no effect” determination for these species is correct. When determining if an action may affect a listed species, the federal agency must include direct and indirect effects, as well as those actions that are interrelated or interdependent. The draft EA notes that suitable habitat is present in the project area, and the species has a propensity to occupy ditches where this project is planned to be constructed. The Service suggests that a determination of “may affect, not likely to adversely affect” for this federally listed species is the correct determination, and one that we would likely concur with.

Dakota Skipper

The Dakota skipper (*Hesperia dacotae*), a federally threatened species, is a small to medium-sized hesperiine butterfly associated with high quality prairie ranging from wet-mesic tallgrass prairie to dry-mesic mixed grass prairie. The first type of habitat is relatively flat and moist native bluestem prairie. Three species of wildflowers are usually present: wood lily (*Lilium philadelphicum*), harebell (*Campanula rotundifolia*), and smooth camas (*Zygadenus elegans*). The second habitat type is upland (dry) prairie that is often on ridges and hillsides. Bluestem grasses and needlegrasses dominate these habitats. On this habitat type, three wildflowers are typically present in high quality sites that are suitable for Dakota skipper: pale purple (*Echinacea pallida*) and upright (*E. angustifolia*) coneflowers and blanketflower (*Gaillardia sp.*). Dakota skipper are historically known to occupy suitable habitats within your proposed project area. Because of the difficulty of surveying for Dakota skippers and a short survey window, we recommend that the project avoid any impacts to potential Dakota skipper habitat.

Poweshiek Skipperling

The endangered Poweshiek skipperling (*Oarisma Poweshiek*) is a butterfly known to occur in Richland, Cass, and Ransom Counties. The Poweshiek skipperling is a small and slender-bodied

skipper butterfly with a wingspan ranging from 2.3 to 3.0 centimeters (cm) (0.9 to 1.2 inches (in))

The Poweshiek skipperling prefers prairie fens, grassy lake and stream margins, moist meadows, and wet mesic to dry tallgrass prairie. Poweshiek skipperling habitat in North Dakota is best described as undisturbed native tallgrass prairies favoring moist soils, but the species is also found in the higher dry sites often associated with gravelly glacial till soils.

Pipeline projects are among the many threats that can lead to habitat loss. Habitat loss can be caused by the use of glacial till soils as material sources, routine maintenance (e.g. broadcast herbicide applications and cleaning out ditches), roadway widening/improvements (e.g. widening roads or converting two-lane highways to four-lane highways), or new construction. Roadside prairie remnants can support populations of Poweshiek skipperlings and serve as dispersal corridors between larger remnants, so even minor amounts of prairie loss could be significant to the species.

Northern Long Eared Bat

The northern long-eared bat (*Myotis septentrionalis*) (NLEB), a federally threatened species in areas affected by white nose syndrome, is known to inhabit the Missouri River corridor. At this time, no critical habitat has been proposed for the NLEB. The state of North Dakota is within the known range of the NLEB and the white nose syndrome area now includes the eastern third of the state. During the summer, NLEBs typically roost singly or in colonies in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags (typically ≥ 3 inches dbh). Male and non reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on presence of cavities or crevices or presence of peeling bark. It has also been occasionally found roosting in structures like barns and sheds (particularly when suitable tree roosts are unavailable). They forage for insects in upland and lowland woodlots and tree lined corridors. During the winter, NLEBs predominately hibernate in caves and abandoned mine portals. Additional habitat types may be identified as new information is obtained. If suitable NLEB habitat is present within the proposed project area, we recommend further coordination with our office. Additional information regarding NLEB and consultation procedures can be found (<http://www.fws.gov/midwest/endangered/mammals/nlba/index.html>).

Migratory Birds

The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. While the MBTA has no provision for allowing incidental take, the Service realizes that some birds may be killed during project construction and operation even if all known reasonable and effective measures to protect birds are used. The Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and agencies that have taken effective steps to avoid take of migratory birds, and by

encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals, companies, and agencies that take migratory birds without identifying and implementing all reasonable, prudent, and effective measures to avoid that take. Individuals, companies, or agencies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans and/or avian protection plans, and to implement those measures prior to/during construction or similar activities.

To the extent practicable, schedule construction for late summer or fall/early winter so as not to disrupt migratory birds during the breeding season, February 1 to July. If work is proposed to take place during the breeding season, there may be take of migratory birds, their eggs, or active nests. If project construction cannot avoid the nesting season, the Service suggests that the vegetation within the proposed project area be mowed/cleared outside of the nesting season, in advance of the project initiation to remove potential breeding habitat for nesting migratory birds in the project area. Once cleared, the project area should be maintained in a state that is unsuitable for nesting until the end of the breeding season or until construction is complete. Alternatively, a qualified biologist could be hired to conduct bird/nest surveys within five days prior to the initiation of construction. If active nests are identified, the project proponent should cease construction, maintain a sufficient buffer around active nests to avoid disturbing breeding activities and contact the Service immediately.

The Service recommends that Bureau of Reclamation implement all practicable measures to avoid all take, such as suspending construction where necessary, and/or maintaining adequate buffers to protect the birds until the young have fledged. The Service further recommends that if you choose to conduct field surveys for nesting birds with the intent of avoiding take, that you maintain any documentation of the presence of migratory birds, eggs, and active nests, along with information regarding the qualifications of the biologist(s) performing the survey(s), and any avoidance measures implemented at the project site. Should surveys or other available information indicate a potential for take of migratory birds, their eggs, or active nests, the Service requests that you contact this office for further coordination on the extent of the impact and the long-term implications of the intended use of the project on migratory bird populations.

Our GIS analysis of the proposed project site indicates the presence of wetlands. These habitat types provide important ecological services, including nesting and foraging habitat for migratory birds. Wetlands take at least two to three years for the vegetation to return, and at least this long for full functionality to be recovered. Native prairie can take a decade or more to recover, and even then, the replanted area is not as diverse as the original habitat. Additionally, non-natives which become established when the project area is disturbed may spread into the adjacent prairie.

To help ameliorate these potential impacts, the Service suggests that the Bureau of Reclamation develop a conservation plan for migratory birds to compensate for the impacts associated with the construction, operation, and maintenance of the proposed project. We recommend that the

conservation plan include the following: an analysis of the type and acreage of each habitat impacted; a discussion of how impacts on native habitat (wetlands, native prairie, woody draws) will be avoided or minimized to the extent practicable; a plan to reclaim the native habitat that cannot be avoided; a monitoring plan to ensure that reclamation is successful and that non-natives do not take over; and a compensation plan for the impacts on native habitat that cannot be avoided. As part of the conservation plan, we recommend that the Bureau of Reclamation may consider purchasing perpetual grassland easements or perform additional habitat mitigation to ensure that the overall amount and quality of native habitat does not decline as a result of this project. In addition to benefitting migratory birds, the actions in the conservation plan may also benefit any candidate species that may be affected. Prairie conversion was a major factor in the decision to add the Sprague's pipit, Dakota skipper and Poweshiek Skipperling to the list of candidate species, so efforts to compensate for native prairie habitat loss could also be included as part of the conference on candidate species, if applicable.

Bald and Golden Eagles

Bald and Golden Eagles are federally-protected under both the BGEPA and the MBTA. The BGEPA prohibits anyone without a permit issued by the Secretary of the Interior from taking bald eagles (*Haliaeetus leucocephalus*) or golden eagles (*Aquila chrysaetos*), including their parts, nests, or eggs. The BGEPA provides criminal and civil penalties for persons who take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald or golden eagle, alive or dead, or any part, nest, or egg thereof. The BGEPA defines take as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagles return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

The Service's overall management objective for golden eagle and bald eagle populations is to ensure no declines in breeding populations of either species. Numerous relatively minor disruptions to eagle behaviors from multiple activities, even if spatially or temporally distributed, may lead to disturbance that would not have resulted from fewer or more carefully sited activities. The accumulation of multiple land development projects or siting of multiple infrastructures that may be hazardous to eagles can cumulatively reduce the availability of alternative sites suitable for breeding, feeding, or sheltering, resulting in a greater than additive risk of take to eagles.

If your proposed activity is anticipated to result in take of bald or golden eagles, you must first apply for, and receive a permit to take prior to the taking. The determination of the likelihood of take will entail identifying the impacts of your proposed activity.

According to the Service's data, there is a documented bald eagle nest in proximity to your proposed activity. There may be additional eagle nests in proximity to the proposed activity.

Recommendations Specific to Bald Eagles

The size and shape of effective buffers vary depending on the topography and other ecological characteristics surrounding the nest site. In open areas where there are little or no forested or topographical buffers, such as in North Dakota, distance alone must often serve as the buffer. To avoid/minimize impacts to nesting bald eagles from construction activities, the Service recommends: (1) keeping a minimum ½-mile buffer between the activity and any bald eagle nest if no landscape buffer exists; (2) keeping a minimum 660-foot buffer and maintaining a landscape buffer or natural areas between the activity and around nest trees; and (3) avoiding activities during the bald eagle breeding season (February 1 – July 15). The buffer areas serve to minimize visual and auditory impacts associated with human activities near nest sites. Ideally, buffers would be large enough to protect existing nest sites and provide for alternative or replacement nest sites. The Service's May 2007, National Bald Eagle Management Guidelines contains detailed information on protecting bald eagles from disturbance due to human activity. The guidelines can be accessed on the Service's website at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>.

Water Bodies, including Wetlands

Our review of the National Wetland Inventory (NWI) maps and photographs indicate the proposed planning area includes numerous wetland basins and stream channels. You may access the NWI data directly through their website (www.wetlands.fws.gov). Projects which involve the burying of a pipeline should not significantly affect wetland basins or stream channels provided precautions are taken to restore natural basin contours. Precautions should also be taken during installation of underground facilities by sufficiently compacting trenches through the wetlands to prevent drainage along the trench or through bottom seepage. The Service recommends that construction through or adjacent to these areas be avoided where possible or measures be taken (e.g. directional boring) to minimize disturbance to these areas.

A Corps of Engineers permit pursuant to Section 404 of the Clean Water Act may be required if dredge or fill material will be placed in waters of the United States, including certain wetlands. We recommend contacting the North Dakota Regulatory Program Manager, U.S. Army Corps of Engineers, 1513 South 12th Street, Bismarck, ND 58504; Phone: (701) 255-0015, to request their permit requirements. If a 404 permit is required, the Service will also provide recommendations on this project to the Corps.

Fish and Wildlife Service Property Interests

The Service administers National Wildlife Refuges and Waterfowl Production Areas owned in fee title as well as wetland and grassland easements throughout North Dakota, including an ongoing easement acquisition program. A review of Service realty records indicates Service property interests are located in the planning area.

The Service recommends that all property interests within the National Wildlife Refuge System be avoided whenever possible. A special use permit or right-of-way will be necessary for construction affecting property interests administered by the Service. The issuance of a special use permit or right-of-way is subject to the final determination of a refuge compatibility review process. This determination may add some time to the review process so early coordination with the affected Refuge or Wetland Management District is important. Please contact Kurt Tompkins, District Manager, Valley City Wetland Management District, 11515 River Road, Valley City, ND 58072-9619; Phone: (701) 845-3466; Email: kurt_tompkins@fws.gov as well as Kent Sundseth, Project Leader, Tewaukon Wetland Management District, 9754 143 1/2 Avenue SE, Cayuga, ND 58013; Phone: (701) 724-3598; Email: kent_sundseth@fws.gov, for additional information on Service property interests and specific information relative to Service easements and up to date realty records.

Terrestrial Habitat Avoidance

Construction activities should be conducted in a manner that will avoid/minimize impacts to the existing habitat in the project area. The following recommendations are intended to reduce construction related impacts:

- Make no stream channel alterations or changes in drainage patterns.
- Avoid placement of fill in wetlands.
- Replace unavoidable loss of wetland habitat with functionally equivalent wetlands
- Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels.

Restoration

The Service recommends that the Bureau of Reclamation develop and implement a comprehensive restoration plan, in particular for the grassland and any impacted wetlands along the proposed project route. The Service recommends that the Bureau of Reclamation survey the native habitats along the proposed project route to determine existing species composition and replant with a mix designed to replace the diversity and composition of plant communities along the pipeline route area. While commercial cultivars of native seeds can be effectively used to boost production, we recommend that the Bureau of Reclamation collect local seeds during the summer/fall to replant the disturbed areas. If seeds and/or plants are obtained commercially, we recommend obtaining seed stock from nurseries within 250 miles of the project area to ensure the particular cultivars are well adapted to the local climate. The Natural Resources Conservation Service (NRCS) compiles a list of vendors in North Dakota that supply

conservation seed and plants at <http://www.plant-materials.nrcs.usda.gov/pubs/ndpncmt8152.pdf>.

The prairie is most likely to recover if replanted with a diverse mix using local cultivars. Including more species, including numerous forb species, is not only ecologically beneficial but is also more weed resistant, allowing for less intensive management and chemical use. In essence, the more species included in a mixture, the higher the probability of providing competition to resist invasion by non-native plants.

Specifically, the Service recommends that the following recommendations be incorporated when replanting grassland areas:

- Plant a high diversity seed mix (minimum of 19 species).
- The mix should include **at least** 9 grass species and 10 forb species. Avoid excessively low (<10) and excessively high (>30) numbers of forb species.
- Use planting equipment that will adequately disperse variable seed sizes.
- Control litter build up throughout establishment and management phase.

The Service recommends using broadcast seeding, which tends to produce higher germination per species of grasses and forbs than drill seeding. If germination is low, we recommend reseeding early in the restoration time period to meet the final performance metrics.

Based on previous planting experience, we anticipate that there may not be much Canada thistle present in the first year, but it will increase in ensuing years until natives become established and can out-compete it. Since herbicide application will kill all forbs, invasives like Canada thistle must be spot-sprayed. Mowing can be used to impede thistle growth, but since tall natives will shade thistle out, mowing should be used judiciously since it cuts down all species indiscriminately. The following forbs are in the same functional group as Canada thistle. Once they become established, they can out-compete Canada thistle:

- Black-eyed susan
- common gaillardia
- upright prairie coneflower
- tall cinquefoil
- stiff goldenrod
- hoary verbena
- Lewis flax
- common evening primrose
- Maximilian sunflower
- purple prairie clover
- Canada milkvetch

We recommend that the restoration plan include the following commitments. The replanted grassland areas will be monitored for a minimum of five years, with the first year being the first full growing season after planting. Checking on progress before the first full growing season is advisable to identify and treat any areas in which noxious weeds are becoming established. We recommend that the replanted areas will be burned or grazed every three-to-five years starting in year three or four.

The Service recommends that the restoration plan include a rigorous, sample-based approach to evaluate planting success. We recommend using a randomly placed one-foot quadrat, with a minimum of ten replicates per ten acres. There should be a density of at least three-to-five native seedlings (of the planted mix or volunteer native species) per square foot of area. If at least three of the seedlings are rhizomatous species, the lower limit of three seedlings per square foot is adequate. The upper limit of five seedlings per square foot is necessary when all are bunch-type species or a mixture of rhizomatous and bunch-type species. Invasive and weedy species should be less than 25 percent cover across each area by year two of the planting.

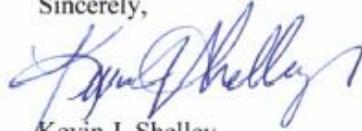
For each replanted area to be considered reclaimed, no more than 30 percent of the cover area (as measured in the one-foot quadrats) should be non-native species, with no more than 15 percent invasive species. These criteria should be met for at least the final two consecutive years post reclamation, so in a best-case scenario, an area could be considered reclaimed if it meets the above criteria in years four and five after planting. As the Service has noted previously, in our experience native prairie usually takes at least ten years to become established. Ongoing management will likely be required to control invasive species even after this time. We recommend that the Bureau of Reclamation develop a management plan for continued invasive species control.

The Herbaceous Vegetation Establishment Guide (USDA-NRCS 2011) located at http://efotg.sc.egov.usda.gov/references/public/ND/Herbaceous_Veg_Est_Guide.pdf as well as the Prairie Restoration Guidebook (NDSU 2017) located at <https://www.ag.ndsu.edu/publications/landing-pages/environment-natural-resources/prairie-reconstruction-guidebook-for-north-dakota-r1840> can be used for additional guidance regarding reclaiming grassland areas. However keep in mind that this document includes replanting with non-native species. Some of the recommendations cannot be transferred directly.

Similarly, for wetlands and native woodlands and scrubland areas, the Bureau of Reclamation should develop a restoration plan including monitoring commitments and clear criteria that define success. Restoration should not be considered complete until those criteria are met.

Thank you for the opportunity to comment on this project proposal. If you require further information, please have your staff contact Amanda Hendrix of my staff at (701) 355-8545 or you can contact me at (701) 355-8512.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kevin J. Shelley".

Kevin J. Shelley
North Dakota State Supervisor
Ecological Services

Cc: Terry Steinwand, Director, NDGF
Patricia McQueary, Regulatory Program Manager, ACOE
Kurt Tompkins, District Manager, Valley City Wetland Management District, USFWS
Kent Sundseth, Project Leader, Tewaukon Wetland Management District, USFWS



IN REPLY REFER TO:

DK-5000
ENV 6.00

United States Department of the Interior

BUREAU OF RECLAMATION
Great Plains Region
Dakotas Area Office
P.O. Box 1017
Bismarck, ND 58502-1017

NOV 9 2017

Mr. Kevin Shelley, North Dakota State Supervisor
U.S. Fish and Wildlife Service
Ecological Services
3425 Miriam Avenue
Bismarck, ND 58501

Subject: Environmental Assessment for Funding of the Construction of the Cass Rural Water District Leonard Area Expansion, Cass, Ransom and Richland Counties, North Dakota

Dear Mr. Shelley:

The Bureau of Reclamation (Reclamation), Dakotas Area Office, recently received a letter from the U.S. Fish and Wildlife Service (the Service), dated October 12, 2017, which provided comments on the draft Environmental Assessment (EA) for Funding of the Construction of the Cass Rural Water District Leonard Area Expansion, Cass, Ransom and Richland Counties, North Dakota. After considering the Service's comments, and having further discussions with your staff, we made updates to both the EA and Biological Assessment (BA), which are attached to this letter and outlined below. As you know, KLJ was contracted by Garrison Diversion Conservation District (GDCCD) to complete the EA and BA on behalf of Reclamation, under the direction of Reclamation. Reclamation understands that the ultimate responsibility for Section 7 obligations remain with Reclamation, the Action Agency for this proposed project.

Many of the Service's recommendations with regard to migratory birds, bald and golden eagles, waterbodies, including wetlands, the Service property interests, and terrestrial habitat avoidance are included in the draft EA.

Per the recommendations of your staff, the following edits have been made to the draft EA:

Reclamation has included your recommendation "that if a whooping crane is sighted within one mile of the project while it is under construction, that all work cease within one mile of that part of the project and the Service be contacted immediately. In coordination with the Service, work may resume after the bird(s) leave the area." Subject: Environmental Assessment for Funding of the Construction of the Cass Rural Water District Leonard Area Expansion, Cass, Ransom and Richland Counties, North Dakota

Reclamation has changed its effect determination for the western prairie fringed orchid to "may affect, not likely to adversely affect". Reclamation has also clarified in the EA that construction would take place outside of the road right-of-way (ROW), which is dominated by agricultural

areas. However, when segments of native prairie and wet prairie are encountered, Reclamation has included a commitment to avoid these areas. If unavoidable the ROW will be narrowed to 20 feet. As stated in the environmental commitments (Chapter 4), when pipeline construction through a wetland basin is unavoidable, existing basin contours will be restored and trenches will be sufficiently compacted to prevent any drainage along the trench or through bottom seepage. Additionally, erosion control measures will be employed as appropriate. Reclamation would like to restate that if any threatened or endangered species are encountered during construction activities, the contractor will contact Reclamation immediately. Reclamation will consult with the Service to determine the appropriate steps to avoid any effects to the species, including cessation of construction.

With regard to the Conservation Plan for migratory birds, Reclamation has evaluated the habitat types in the project area. Cass Rural Water District (CRWD) will work with landowners to ensure reseeded of native areas takes place, as per Reclamations environmental commitments in the draft EA (Chapter 4). Reclamation has also included a reference suggested by your staff (Prairie Reconstruction Guidebook for North Dakota). Additionally, Reclamation currently holds over 10,000 acres in wetland, grassland, and woodland excess mitigation credits through Garrison Diversion projects. There are no plans to purchase further easement credits at this time.

Reclamation has a number of environmental commitments with regard to restoration of the disturbance associated with the proposed project (Chapter 4). Many of the recommendations of the restoration plan are included in the environmental commitments. Reseeding will occur in accordance of the North Dakota Department of Transportation Standards, listed as Appendix C in the draft EA. As stated previously, CRWD will work with landowners to ensure reseeded of native areas take place and will refer the contractor to the Prairie Reconstruction Guidebook for North Dakota, as necessary.

Reclamation is consulting under Section 7 of the Endangered Species Act for Reclamation's Level of Affect determinations for the construction of the Cass Rural Water District Leonard Area Expansion, Cass, Ransom and Richland Counties, North Dakota. Reclamation requests the Service's concurrence for the may affect, but not likely to adversely affect determination of the western prairie fringed orchid.

Should you have need for additional information, please contact Kate Kenninger 701-221-1282 or kkenninger@usbr.gov.

U.S. FISH AND WILDLIFE SERVICE
ND Ecological Services Field Office

The Fish and Wildlife Service concurs with your conclusion that the described project is not likely to adversely affect listed species. Contact this office if changes to the project are made or new information becomes available.

11/13/2017 
Date North Dakota State Supervisor

Sincerely,



Arden Freitag
Dakotas Area Office Manager

DK-5000-17-01

ENVIRONMENTAL ASSESSMENT

*for Funding of the Construction of the Cass Rural Water
District Leonard Area Expansion, Cass, Ransom and
Richland Counties, North Dakota*

November 2017

This document has been prepared on behalf of Garrison Diversion Conservancy District in
conjunction with the Bureau of Reclamation's Dakotas Area Office

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LIST OF ACRONYMS AND DEFINITIONS

- Action Area** – Based on Reclamation’s assessment of the potential direct and indirect effects of the Proposed Project to federally listed species (50 CFR 402.02)
- APE** – area of potential effect
- BMPs** – Best Management Practices
- CRWD** – Cass Rural Water District
- CRWDLAE** – Cass Rural Water District Leonard Area Expansion
- CEQ** – Council of Environmental Quality
- Critical Habitat** – It is a specific geographic area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection.
- DKAO** – Dakotas Area Office
- EA** – Environmental Assessment
- ESA** – Endangered Species Act of 1973
- FONSI** – Finding of No Significant Impact, the decision document that concludes an EA
- Garrison Diversion** – Garrison Diversion Conservancy District
- HUC** – Hydrologic Unit Code
- IPaC** – Information, Planning, and Conservation System
- ITAs** – Indian Trust Assets
- MR&I** – Municipal Rural and Industrial (water supply)
- NDAWN** – North Dakota Agriculture Weather Network
- NDGF** – North Dakota Game and Fish
- NDPR** – North Dakota Parks and Recreation Department
- NDSHPO** – North Dakota State Historic Preservation Officer
- NDSWC** – North Dakota State Water Commission
- NEPA** – National Environmental Policy Act of 1969 as amended
- NHPA** – National Historic Preservation Act of 1966 as amended
- NOAA** – National Oceanic and Atmospheric Administration
- NRCS** – Natural Resources Conservation Service
- NRHP** – National Register of Historic Places
- NWR** – National Wildlife Refuge



Project Area – The CRWDLAE locations

Proposed Project – The subject of this EA, funding and construction of the CRWDLAE Project

Program - Pick-Sloan Missouri Basin Program

Reclamation – U.S. Department of the Interior, Bureau of Reclamation

SDWA - Safe Drinking Water Act

UNDAR – University of North Dakota Archaeological Research

USACE – United States Army Corps of Engineers

USFWS – U.S. Fish and Wildlife Service



CHAPTER 1 INTRODUCTION AND REGULATORY BACKGROUND

1.1 Introduction

The Bureau of Reclamation (Reclamation), in cooperation with Garrison Diversion Conservancy District (Garrison Diversion), is proposing to fund the construction of the Cass Rural Water District Leonard Area Expansion (CRWDLAE) located within Cass, Ransom and Richland Counties, North Dakota (Proposed Project). KLJ Engineering is preparing the EA on behalf of Garrison Diversion. Please refer to

The Cass Rural Water District (CRWD) was formed as a grassroots effort by a group of rural Cass County farmers in 1973. Construction started in 1976 and to date includes nearly 2,000 miles of pipeline, 13 water storage facilities/pump stations, and serves 13 communities and approximately 3,300 users (CRWD 2017a).

The Proposed Project would be constructed with local funding, State Revolving funds and federal funds by Garrison Diversion under an agreement with Reclamation.

Reclamation is the lead federal agency for the Proposed Project. Therefore, Reclamation is ultimately responsible for compliance with the National Environmental Policy Act (NEPA) of 1969 (as Amended). To comply with the NEPA and related environmental laws and regulations, federal agencies must consider the potential environmental effects of their decisions regarding approval of projects proposed on federally-owned and administered land or projects under federal control. In addition, Reclamation must evaluate connected actions as required in the Council of Environmental Quality (CEQ) 40 Code of Federal Regulations (CFR) 1508.25 in evaluating the effects of the entire action. This evaluation may include assessing impacts on non-federally managed lands. This Environmental Assessment (EA) documents the proposed federal action, alternative actions considered, expected impacts of those actions, and compliance with environmental laws and regulations.

This EA may lead to a Finding of No Significant Impact (FONSI) if the responsible official decides the impacts of the action are not significant. If significant environmental impacts are identified, Reclamation would stop the EA process and may proceed with the preparation of an Environmental Impact Statement (EIS). Reclamation defines significance in accordance with 40 CFR 1508.27 in reference to context and intensity.

1.2 Authority

The Garrison Diversion Unit Reformulation Act of 1986 (Pub. L. 99-294; 100 Stat. 418) authorized funding for Municipal, Rural and Industrial (MR&I) projects, including new and/or expanded rural and regional water systems. This fund is jointly administered by the North Dakota State Water Commission (NDSWC) and the Garrison Diversion. An additional \$200 million dollars was authorized under the Dakota Water Resources Act of 2000 (Pub. L. 106-554, 114 Stat. 2763) for the State MR&I grant. Annual funding for the MR&I program is dependent upon the US Congressional appropriation (NDSWC 2015).



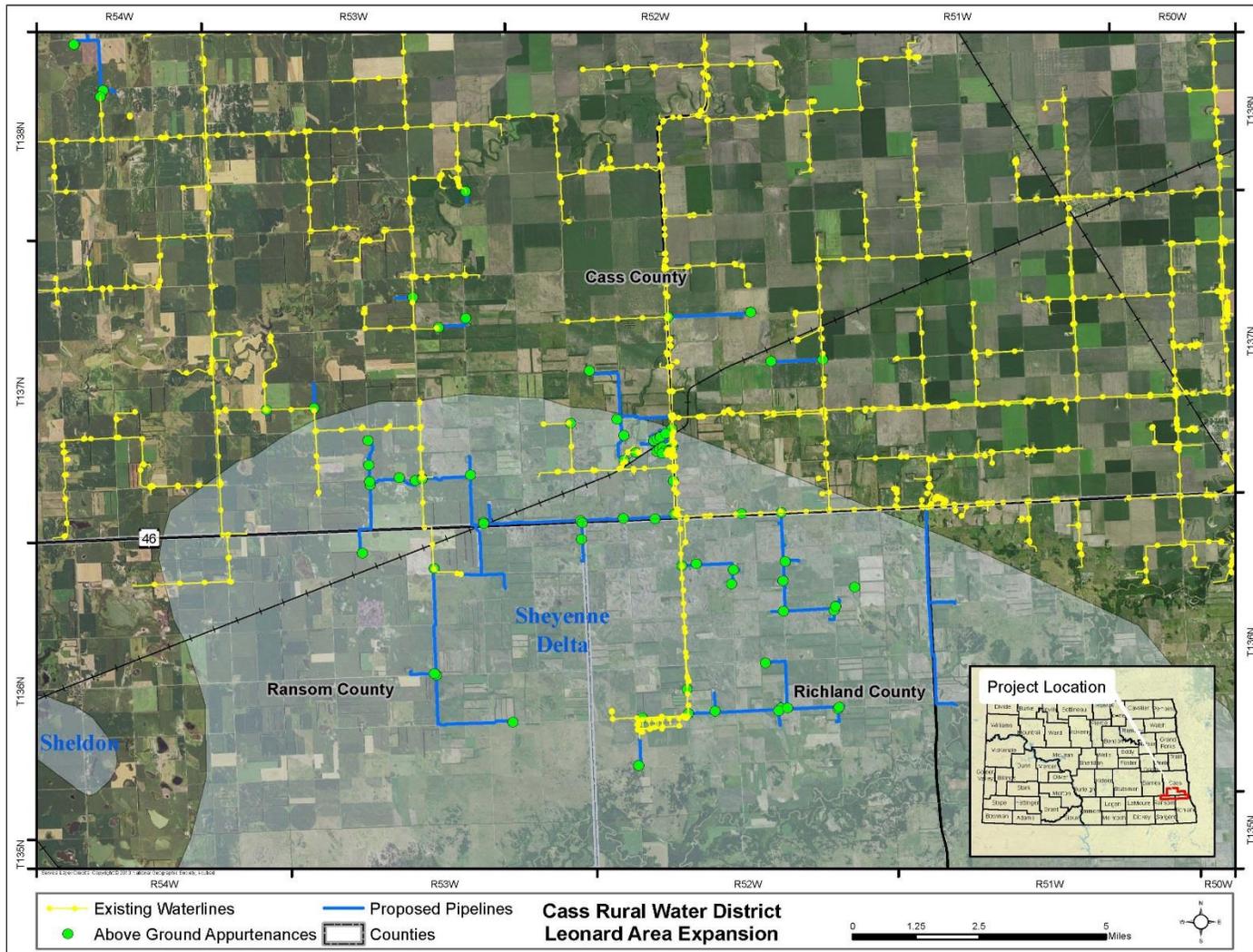


Figure 1, Project Location Map.



The CRWDLAE project is sponsored by the CRWD, which is responsible for project design, construction, and compliance with the environmental commitments and will serve as the owner, operator and manager of the completed system. If constructed, the CRWDLAE would be funded through the Garrison Diversion Unit MR&I Grant Program, which receives Federal monies transferred through Reclamation.

1.3 Purpose and Need for the Proposed Project

The purpose of the Proposed Project is to provide a reliable, acceptable quality of sustainable quantity drinking water for rural residents in accordance with the Safe Drinking Water Act of 1974 (SDWA). The North Dakota Century Code Chapter, 61-28.1, declares the State's intent to provide safe supplies of drinking water to the public, that are essential to the maintenance of public health and welfare, consistent with the SDWA. Groundwater in the area has been tested and the results show arsenic levels up to ten times the limit allowed by the EPA drinking water standards. Due to the findings, local farmsteads and other real estate in and around the City of Leonard are being devalued. Some residents are experiencing negative side effects due to the high arsenic levels and are forced to purchase bottled water (Bartlett and West 2016). The estimated amount of needed annual appropriation of groundwater is approximately 2,900 acre-feet (Parkin 2010).

The need of the Proposed Project is to provide potable water to residents of the City of Leonard and surrounding areas. Ground water wells currently serve most of the rural residents in Cass, Ransom and Richland Counties. These wells contain high levels of arsenic due to its naturally known occurrence in the soil (Parkin 2010). The people of these counties are in need of a reliable drinking water source with acceptable quality and quantity.

1.4 Project Area

As previously stated, the Cass Rural Water District was established in 1973 as a grassroots effort by a group of rural Cass County farmers who were interested in developing a rural water system. The first phase of construction on the eastern side of the county occurred in 1976 and the second phase, the Leonard system, was completed in 1977 and the third phase in the northern part of the county was completed in 1978 (CRWD 2017a). The proposed project will connect with the Leonard system that currently runs along state and county roads (Bartlett and West 2016).

The Proposed Project is located within Cass, Ransom and Richland Counties, North Dakota, originating in south-central Cass County and extends approximately 21 miles southeast, terminating in northwest Richland County. Please refer to **Table 1 and Figure 1** for proposed project location specifics. Water would be acquired from the Sheyenne Delta Aquifer and processed through an existing water treatment plant located 5.5 miles south of the City of Leonard before distribution to customers. Rural home owners in the area currently rely on individual ground water wells that produce water with high levels of arsenic (Parkin 2010).



Table 1, Proposed Project Location-Township, Range, Section.

COUNTY	TOWNSHIP NAME	TOWNSHIP	RANGE	SECTION
Cass	Eldred	138N	54W	10, 15, 22, 23
	Walburg	138N	53W	36
	Watson	137N	53W	10, 11, 12, 14, 19, 20, 28, 27, 26, 33, 34, 35, 36
	Leonard	137N	52W	10, 11, 13, 14, 17, 20, 21, 23, 29, 28, 31, 32, 33, 35, 36
	Davenport	137N	51W	18
Ransom	Coburn	136N	53W	1, 3, 5, 10, 11, 15, 16, 21, 22, 23
Richland	Helendale	136N	52W	2, 3, 4, 9, 10, 11, 12, 14, 15, 20, 21, 22, 23, 24, 26, 27, 29, 30
	Barrie	136N	51W	6, 7, 8, 18, 17, 19, 20, 29

The Project Area is located in the Great Plains (level I ecoregion), Temperate Prairies (level II ecoregion), Lake Agassiz Plain (level III ecoregion), and Sand Deltas and Beach Ridges (level IV ecoregion). The Lake Agassiz Plain was once filled by Glacial Lake Agassiz and is comprised of thick lacustrine sediments underlain by glacial till. The ecoregion contains fewer lakes and pothole wetlands and is extremely flat. The historic tallgrass grass prairie that once covered this area have been replaced by intensive farming, with soybeans, corn and sugar beets as the predominant crops (Bryce et al 1996). Precipitation averages 22 inches annually and the average annual low temperature is in January, 11 °F, while July has the highest average temperature, 71 °F (NDAWN 2017).



CHAPTER 2 PROPOSED PROJECT AND ALTERNATIVES CONSIDERED

2.1 No Action Alternative

The No Action Alternative consists of the future without the proposed federal action—no funding through the Garrison Diversion Unit MR&I Grant Program. The CRWD would need to pursue alternative funding options or not construct the project. With the No Action Alternative, rural residents would continue to rely on the current water source containing high levels of arsenic.

2.2 Proposed Action Alternative

The Proposed Project, Reclamation’s preferred alternative, would be to construct and install approximately 25 miles of 2-inch to 4-inch pipeline in and around Leonard, North Dakota. There would be a 40-foot easement or right-of-way (ROW) along the proposed pipeline, totaling a footprint of approximately 240 acres. Permanent above ground structures along the proposed corridor would include valve risers and meter pits. Please refer to **Figure 1, Project Location Map** for location of these proposed above ground structures. More detail, including the project background and how the Proposed Action Alternative fits into the existing system can be found in **Chapter 1**. The following sections describe the process of the Proposed Action Alternative.

2.2.1 Construction Timing

Construction would start in the fall of 2017 and be completed by November 30, 2018. Earth moving activities would occur when the ground is not frozen, typically April through December.

2.2.2 Construction Procedures

Prior to construction, CRWD would be responsible for ROW acquisition from landowners, surveying and staking in the Project Area. If needed, cultural resource avoidance areas would be marked or fenced for protection. The “North Dakota One Call” would be contacted by CRWD to ensure no underground utilities are damaged during construction. Equipment staging area would occur within the ROW.

The topsoil would be stripped and placed in a windrow along the 40-foot ROW prior to excavation so that it could be placed on top of the finished pipeline. The pipeline route would then be trenched and the excavated soil would be placed parallel to the pipeline. The pipeline would be installed 7.5 feet deep and the trench would be backfilled. The topsoil would be replaced in preparation for reclamation. Directional drilling or boring would occur when crossing roads, USFWS wetlands, streams and within the City of Leonard.

Construction would be contracted out by CRWD. Earth moving equipment would consist of trackhoes, rubber tire backhoes, bore machines and plows.

2.2.2.1 Reclamation

Restoration of vegetation is a critical component of the project. The long-term settlement of soils would be acceptable and there would be no extra means to compact the soil. The seed mix used would comply with NDDOT Standard Specifications and approved by Reclamation and private landowners. In areas of



native vegetation, Reclamation recommends contacting the Natural Resources Conservation Service (NRCS) for a preferred seed mix and source. Additional information and guidance can be utilized from the Prairie Reconstruction Guidebook for North Dakota (<https://www.ag.ndsu.edu/publications/environment-natural-resources/prairie-reconstruction-guidebook-for-north-dakota/r1840.pdf>). Please refer to Appendix C for Section 251 (Seeding) of the 2014 NDDOT Standard Specifications. No trees would be removed during the construction of the Proposed Project.



CHAPTER 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

This section describes the existing conditions and potential impacts for resources which may be affected by the Proposed Project. The affected environment includes the existing communities, land, water, and air-sheds that might be affected by the Proposed Project. Environmental consequences to these resources may be direct (as a result of construction) or indirect (generally subsequent to a direct effect but not directly resulting from Proposed Project), positive (beneficial) or negative (adverse), and long-term (permanent, long-lasting) or short-term (temporary). Measures that would be implemented to reduce, minimize, or avoid impacts (mitigation measures) are presented in Chapter 4 as an inseparable part of the Proposed Project, Environmental Commitments, and discussed under each resource. The anticipated impacts of the Proposed Project, accounting for the use of mitigation measures, are summarized at the end of each resource section. **Table 6** shows a summary of the temporary and permanent impacts that could occur as a result of the Proposed Project.

The area of potential impacts (affected area) would be resource-specific and is defined in each individual resource discussion. The boundary of the affected area for each resource extends to where effects can be reasonably and meaningfully measured. Direct impacts would generally occur within the Project Area; however, some impacts may occur on a broader scale, encompassing an area beyond the Project Area. Impacts that may extend beyond the Project Area are disclosed in the section of each resource.

3.2 Resources Considered and Eliminated from Further Analysis

In light of Reclamation’s Environmental Commitments (Chapter 4) and in response to comments received from the scoping notice, the Proposed Project would have no potential to affect certain resource areas or its affect to certain resource areas is so minor (negligible) that it was discounted. These resources include: recreation, paleontological resources, Indian Trust Assets and environmental justice (**Table 2**).



Table 2, Resources Eliminated from Further Analysis.

RESOURCE	RATIONALE FOR ELIMINATION FROM FURTHER ANALYSIS
Recreation	The nearest recreational opportunity is the Sheyenne National Grasslands (Grasslands), managed by the US Forest Service, which borders the southern portion of the proposed project. Due to the lack of recreational opportunities within the Project Area, no impact to recreation is anticipated from the Proposed Action Alternative.
Paleontological Resources	No response was received from the North Dakota State Paleontologist during scoping review. No impact to paleontological resources is anticipated from the Proposed Action Alternative.
Indian Trust Assets	The nearest Indian Trust Assets (ITAs) is 38 miles away, as part of the Sisseton Tribal Lands. Due to lack of ITAs (legal interests in property or resources held in trust by the United States for Indian Tribes or individuals because of their status of Native Americans) within the Project Area, the Proposed Action Alternative would not result in impacts to ITAs.
Environmental Justice	No Environmental Justice population has been identified within the Project Area that would disproportionately bear impacts of the Proposed Action Alternative.

3.3 Affected Environment and Environmental Consequences

3.3.1 Public Health and Safety

Sixty residents of the City of Leonard and 35 rural water users in the surrounding rural areas rely on individual ground water wells that vary widely in depth, water quality and quantity. These rural, shallow ground water wells commonly do not meet secondary SDWA standards that commonly effect taste and odor. Private water wells are not regulated (NDDH 2015) and the SDWA primary standard that is most commonly exceeded in the area is for arsenic due to its natural presence in the soil (Bartlett and West 2016). Parts of the Midwest have some groundwater systems containing arsenic levels greater than 10ppb and there may be geographic “hot spots” within these systems. Studies have linked many health risks associated with long-term exposure of arsenic in drinking water including cancer (prostate, liver, bladder, lung, kidney, skin, nasal passages,) and non-cancer effects such as immunological, endocrine, cardiovascular, pulmonary and neurological (EPA 2001). These high levels of arsenic in the groundwater have been causing negative effects to citizens in the area (Bartlett and West 2016).

3.3.1.1 Proposed Action Alternative

With the completion of the CRWDLAE the potential 35 rural water users and 60 individuals in the City of Leonard would no longer have to rely on their existing groundwater sources. The Proposed Action Alternative would provide users with a reliable and acceptable potable water source according to SDWA standards.

3.3.1.2 No Action Alternative

Under the No Action Alternative, 35 rural water users and 60 individuals in the City of Leonard would continue to use well water from groundwater sources.



3.3.2 Climate Change

The uncertainties of climate change make reliability of site-specific prediction speculative. In 2014, the Intergovernmental Panel on Climate Change (IPCC) produced the Climate Change Synthesis Report and Summary for Policymakers. The Report states that anthropogenic (i.e., human- caused) greenhouse gas (GHG) emissions have increased since the preindustrial era, driven largely by economic and population growth, and are now higher than they have ever previously recorded. This has led to atmospheric concentrations of carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) that are unprecedented in at least the last 800,000 years. These anthropogenic GHG emissions are “extremely likely” to have been the dominant cause of the observed warming since the mid-20th century. According to the IPCC Report, many regions are experiencing climate change impacts that threaten ecosystems, human health, and infrastructure. Increasing temperatures and changing precipitation (including melting snow and ice) are altering hydrological systems and affecting water resources (quantity and quality). Terrestrial, freshwater, and marine species have shifted their geographic ranges, seasonal activities, migration patterns, abundance, and species interactions. (IPCC 2014)

3.3.2.1 Proposed Action Alternative

A temporary increase in CO₂ emissions would be expected during construction activities during the operation of heavy equipment; however, the amount of emissions would be unappreciable given the scope and scale of the proposed action. However, should average temperatures rise in the Project Area, demand for additional water to meet the already identified need may increase. According to National Oceanic and Atmospheric Administration (NOAA), the temperature and precipitation trend is rising (NOAA 2017).

3.3.2.2 No Action Alternative

Under the No Action Alternative, the current climate change conditions and trends would continue.

3.3.3 Water Resources and Hydrology

3.3.3.1 Affected Environment

Surface Water

According to the Watershed Boundary Dataset (USGS 2005), the Project Area occurs within four separate Hydrologic Unit Code 10 (HUC 10): the northwest portion lies within Buffalo Creek (HUC 0902020505); the central portion lies within the Lower Maple River (0902020504); the southwest portion lies within Pigeon Point-Sheyenne River (0902020405); and the southeast portion lies within City of West Fargo-Sheyenne River (0902020406). Please refer to **Figure 2, Aquifers and HUC 10 within and surrounding the Project Area.**

There are several wetlands totaling approximately three acres, along the proposed route. In addition, four small unnamed streams or drainages would be crossed by the Proposed Project. The wetlands are all palustrine emergent and are temporary, seasonal or semi-permanent (USFWS 2015). There are two wetland areas under USFWS wetland easement located in Section 31, Township 137 North, Range 52 West and Section 10, Township 136 North, Range 53 West. Please refer to **Appendix B for the USFWS correspondence.**



There are two locations in the Project Area that lie within a 100-year floodplain. A Floodplain Development Permit will be obtained prior to construction. The detailed locations are listed below:

- ◆ Cass County – Section 36, Township 138, Range 53
- ◆ Richland County – Section 29, Township 136, Range 51

Stormwater Pollution Prevention Plans (SWPPPs) would be utilized during all phases of construction as part of the project. All pipelines located in rural areas would be either in ROW or private easement.

Groundwater

Nearly all groundwater in Cass, Richland and Ransom Counties is derived from precipitation and snowmelt (Armstrong 1982, Baker and Paulson 1967, Klausung 1968). Surface water sources, such as lakes and wetlands, are in hydraulic connection with the aquifers. The aquifers may receive recharge from or discharge into these lakes and wetlands, depending on hydraulic head (Klausung 1968). There are no surficial aquifers that occur within the Project Area.

The source of water for CRWDLAE users is the Sheyenne Delta Aquifer (CRWD 2017a). The Aquifer occupies an area approximately 750 square miles (Klausung 1968), with approximately 160 square miles of the north portion underlying the Project Area (Parkin 2010). The north portion of the Aquifer ranges in elevation from 980-1030 feet (Parkin 2010). According to Klausung (1968) the Aquifer has more potential for ground-water development than most other aquifers in the area and should be available in large quantities.

Within the existing CRWD system, the groundwater is treated to remove iron and manganese, disinfected and fluoride is added at the water treatment plant south of the City of Leonard. (CRWD 2017b). Please refer to **Figure 2, Aquifers and HUC 10 within and surrounding the Project Area**.

3.3.3.2 Proposed Action Alternative

Anticipated impacts to wetlands, based on worst-case scenario, would be to temporarily impact all three acres of wetlands within the ROW. Knowing that construction would not be feasible in the larger, open water wetlands, these areas, including wetlands under USFWS easement, would be directionally drilled or bored to avoid disturbance. Impacts to drainages and streams within the Project Area would be avoided or minimized through the use of drilling or boring techniques. Any wetlands that would be open cut would be properly permitted as necessary by the applicable agency, including but not limited to the USACE, NRCS and USFWS. SWPPPs will be utilized during all phases of construction. Above ground structures, include valve risers and meter pits, would not be placed in surface waters and therefore no permanent impacts to surface waters are anticipated. **The USFWS requests CRWD coordinate where boring would occur to avoid federally protected basins at least two weeks prior to construction.**

The estimated amount of needed annual appropriation of groundwater is approximately 2,900 acre-ft. Parkin (2010) determined that large-scale withdrawal from the Aquifer will require multiple production wells. A new Water Permit has been issued by the SWC for the proposed action.

Providing the placement of multiple production wells, the Proposed Action Alternative would have negligible impacts on the Sheyenne Delta Aquifer.



3.3.3.3 *No Action Alternative*

Under the No Action Alternative, there would be no effect to surface water. Groundwater impacts would remain consistent with current impacts as the existing users would continue to use well water from groundwater sources.



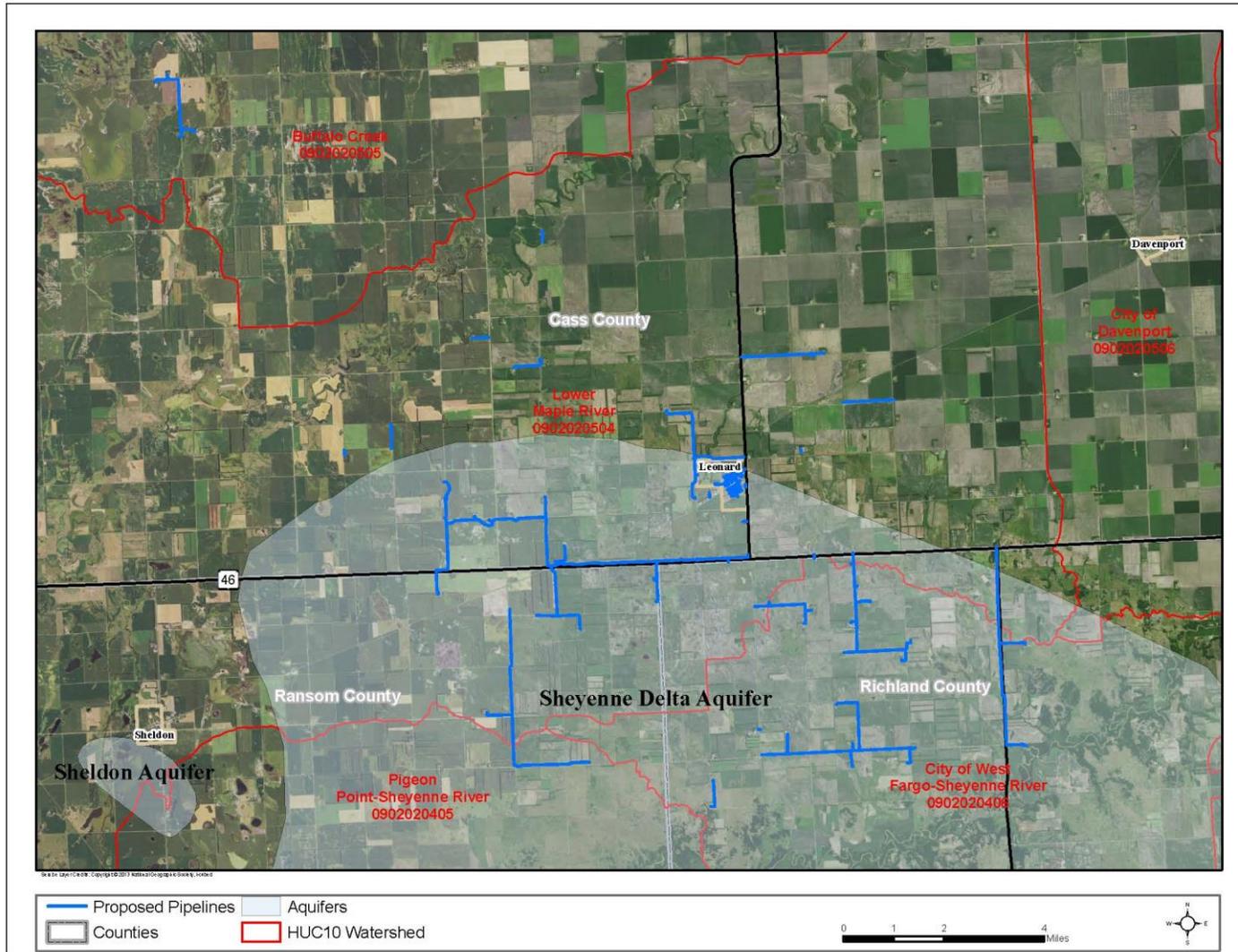


Figure 2, Aquifers and HUC 10 within and surrounding the Project Area.



3.3.4 Prime and Unique Farmland

Prime and unique farmland is land that has the best combination for physical and chemical characteristics for producing crops and is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods. These soils have the capability to be prime farmland even if they have not yet been developed for agricultural uses. The Farmland Protection Policy Act states that federal programs that contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses would be minimized and shall be administered in a manner that, as practicable, are compatible with state and local government and private programs and policies to protect farmland.

3.3.4.1 Affected Environment

There is prime and unique farmland within the proposed easement boundaries of the Project Area. Cass County has approximately 41 acres, Ransom County approximately 3 acres, and Richland County approximately 5 acres (USDA No date). Any disturbance to prime and unique farmland would be temporary, therefore a Farmland Conversion Form (AD-1006) would not be necessary.

3.3.4.2 Proposed Action Alternative

With the completion of the CRWDLAE, there may be temporary disturbance of prime and unique farmland of up to 49 acres. However, with proper topsoil handling techniques, as discussed in Construction Procedures, impacts to prime and unique farmland are expected to be temporary. No seasonal avoidance measures would take place. As construction may take place when crops are present, impacts to crop or hay lands would be compensated in coordination with landowners and CRWD.

3.3.4.3 No Action Alternative

Under the No Action Alternative, the existing prime and unique farmland would not be disturbed.

3.3.5 Threatened and Endangered Species

The USFWS, North Dakota Ecological Service's Office website (<https://www.fws.gov/northdakotafieldoffice/SEtable.pdf>) and the Information, Planning, and Conservation System (IPaC) (<https://ecos.fws.gov/ipac/>) was consulted to obtain a list of threatened and endangered species and critical habitats associated with the Project Area (**Table 3**). On behalf of the GDCD, under the direction of Reclamation, KLJ prepared this section, which constitutes the Biological Assessment for the Proposed Project as required under Section 7(c) of the Endangered Species Act of 1973 (ESA), as amended, in compliance with regulations found at *50 CFR Part 402 Interagency Cooperation – Endangered Species Act of 1973, as Amended*.

3.3.5.1 Affected Environment

The Action Area identified is based on the potential direct and indirect effects of the Proposed Project to federally listed species (50 CFR 402.02). The evaluation of federally listed species focuses on the aquatic and terrestrial environments that may be influenced by the activities of the Proposed Project. Therefore, the Action Area consists of all areas where direct project impacts are proposed to occur (**Figure 1, Project Location Map**).



Table 3, Federally-Listed Species in the Action Area.

GROUP	SPECIES	FEDERAL STATUS
Bird	Whooping Crane	Endangered
Vegetation	Western Prairie Fringed Orchid	Threatened
Invertebrate	Dakota Skipper	Threatened (4d Rule)
	Poweshiek Skipperling	Endangered
Mammal	Gray Wolf	Endangered
	Northern Long-eared Bat	Threatened (4d Rule)

3.3.6 Whooping Crane
(Grus americana)

Whooping cranes reach approximately 5 feet tall and have a wingspan that can reach 7½ feet. Whooping cranes are almost entirely white with black wingtips, and have a red patch on the head that extends from the cheek along the bill. The eyes are yellow and they have black legs.



Source: <https://www.fws.gov/midwest/whoopingcrane/>

3.3.6.1 Population Rangewide

The whooping crane was listed as endangered in 1967 (*Federal Register* 32:4001). Whooping crane recovery efforts have made great strides over the years, with new populations being established in Florida and Wisconsin. The birds that migrate through North Dakota are part of the Aransas-Wood Buffalo population. Approximately, 329 whooping cranes were estimated during the winter 2015-2016 survey, centered on the Aransas National Wildlife Refuge (Whooping Crane Conservation Association 2016). The whooping crane recovery plan includes scientific information about the species and provides objectives and actions needed to down-list the species (Canadian Wildlife Service and U.S. Fish and Wildlife Service 2007). Recovery actions designed to achieve these objectives include protection and enhancement of the breeding, migration, and wintering habitat for the Aransas-Wood Buffalo population. The goals are to allow the wild flock to grow and reach ecological and genetic stability; reintroduction and establishment of geographically separate self-sustaining wild flocks to ensure resilience to catastrophic events; and maintenance of a captive breeding flock that is genetically managed to retain a minimum of 90 percent of the whooping cranes’ genetic material for 100 years.

3.3.6.2 Action Area

The whooping crane passes through North Dakota each spring and fall while migrating between its breeding territory in northern Canada and wintering grounds on the Gulf of Mexico, frequently migrating with Sandhill cranes. Whooping cranes are usually found in small groups of seven or fewer individuals and are easily disturbed when roosting or feeding. They prefer freshwater marshes, wet prairies, shallow portions of rivers and reservoirs, grain and stubble fields, shallow lakes, and



wastewater lagoons for feeding, loafing, and roosting. Fall migration occurs in North Dakota from late September to mid-October, while spring migration occurs from late April to mid-June. Birds can appear in all parts of North Dakota, although most sightings are in the western two-thirds of the state. One whooping crane observation has been made within the Action Area during migration in 1976, but are considered rare as the Action Area is outside of the migration corridor. Please refer to **Figure 3, Central Flyway Whooping Crane Corridor and Confirmed Sightings**.



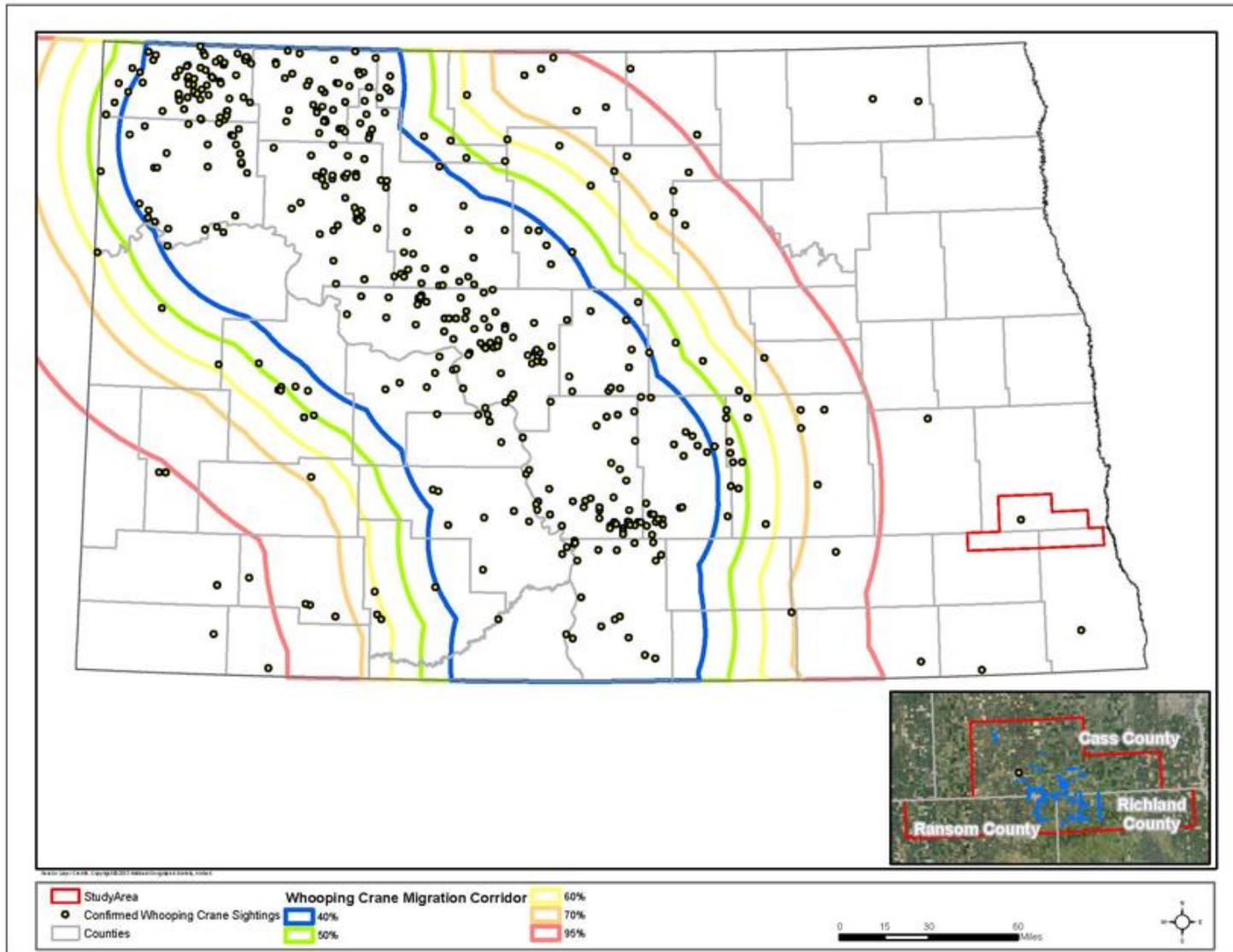


Figure 3, Central Flyway Whooping Crane Corridor and Confirmed Sightings.



3.3.7 Western Prairie Fringed Orchid (*Platanthera praeclara*)

Western prairie fringed orchids produce flower stalks up to 47 inches tall. Up to 40 white flowers about an inch long can be found on each stalk (USFWS 2003).

3.3.7.1 Population Rangewide

The western prairie fringed orchid was listed as threatened in 2015 (*Federal Register* 80:78751).

The western prairie fringed orchid is known to occur in about 75 sites in Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, and in Manitoba, restricted west of the Mississippi River. It is found predominantly in mesic to wet unplowed tallgrass prairies and meadows, but have also been observed in roadside ditches and old fields (USFWS 2003). This species is in decline due to the widespread conversion of grasslands to agricultural uses (USFWS 2003).



Source: <http://www.plants2010.org/?p=23>

3.3.7.2 Action Area

According to the North Dakota Ecological Service's Office website and IPaC, Richland and Ransom Counties are listed as counties of occurrence of the Western Prairie Fringed Orchid, but no critical habitat has been designated for this species. There are no known sightings of the orchid that occur within a proposed pipeline route (NDNHP NHI 2016). Please refer to **Figure 4, CRWLAE North Dakota Natural Heritage Inventory**. According to the USGS Gap Analysis Program (GAP), the majority of the landcover within the Action Area is cultivated cropland and pasture/hay land. There are interspersed areas of developed sections which mainly constitute roadways. Also interspersed are northern tall grass prairie, wet meadow areas and prairie potholes (National Gap Analysis 2017) which could represent potential habitat for western prairie fringed orchid.



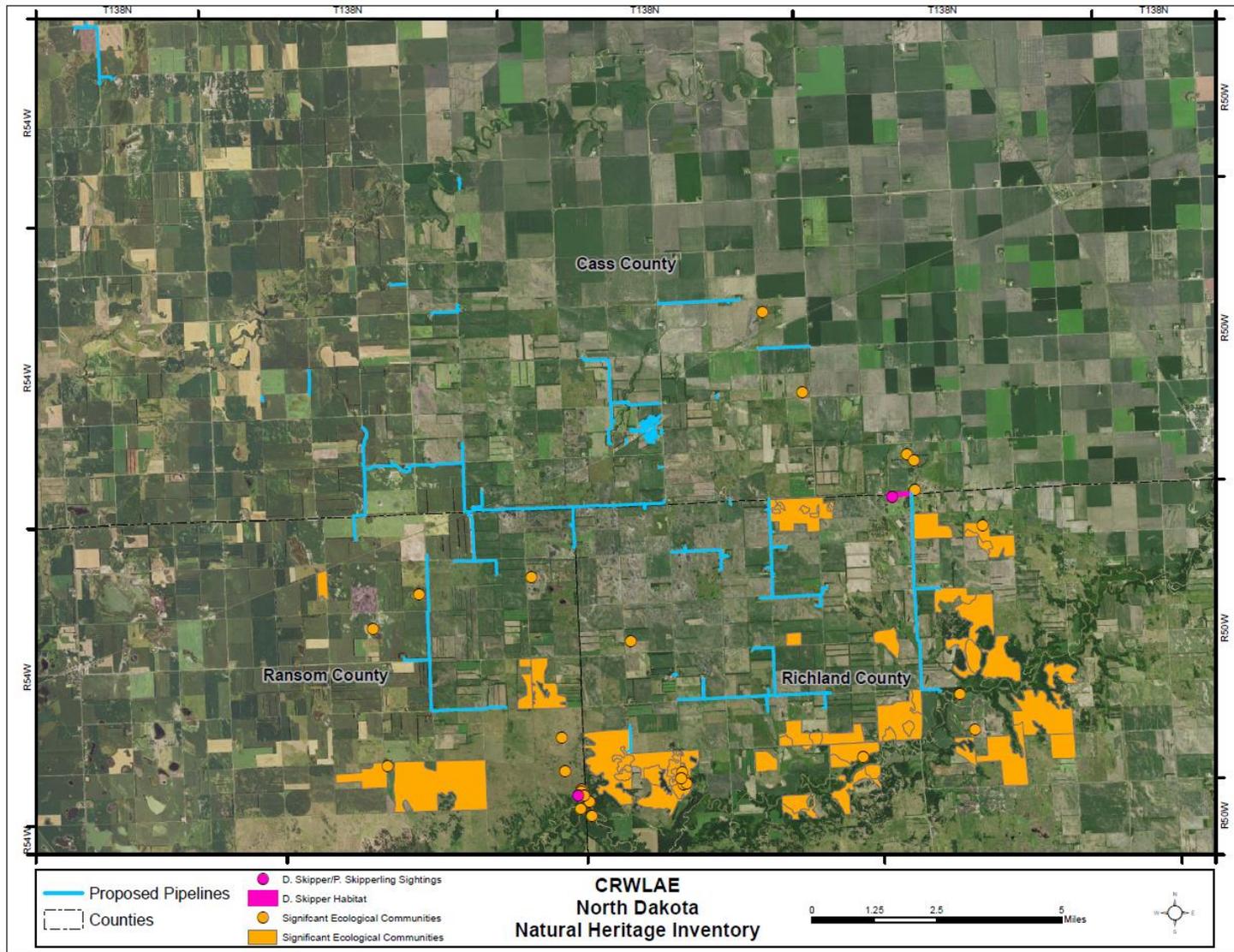


Figure 4, CRWLAE North Dakota Natural Heritage Inventory.



3.3.8 Dakota Skipper (*Hesperia dacotae*)

Dakota skippers are small butterflies with a thick body and 1-inch wingspan. The male's wings are tawny-orange to brown on the upper side with a prominent mark on the forewing, while the female's wings are darker brown with tawny-orange spots and a few white spots on the forewing (USFWS 2016a).

3.3.8.1 Population Rangewide

The Dakota skipper was listed as threatened with a 4(d) rule in 2014 (*Federal Register* 79:63672-63748). Critical habitat was designated in 2015 (*Federal Register* 80: 59248-59384), with 38 units identified in three states including North and South Dakota, and Minnesota. Historically, the Dakota skipper had been recorded from northeast Illinois to southern Saskatchewan, although they likely occurred throughout the prairie in north-central U.S. and south-central Canada. The Dakota skipper requires high quality native prairie for each of the four stages of its life cycle. Two distinct habitat types have been identified, moist bluestem prairie and upland prairie on hillsides and ridges. This species is in decline due to the widespread conversion of native prairie to agricultural uses (USFWS 2016a).



Source: <http://mnzoo.org/blog/animals/dakota-skipper/>

3.3.8.2 Action Area

According to the North Dakota Ecological Service's Office website and IPaC, Richland and Ransom Counties are listed as counties of occurrence of the Dakota skipper, with critical habitat designated in Ransom and Richland Counties. The nearest designated critical habitat is in Ransom County approximately 17 miles from the Action Area and no critical habitat has been designated in Cass County or within the Action Area (USFWS 2016b). According to data collected by the North Dakota Natural Heritage Program, the nearest recorded sighting of the Dakota skipper occurred 1.3 miles from the proposed project in June of 1990 (NDNHP NHI 2016). Please refer to **Figure 4, CRWLAE North Dakota Natural Heritage Inventory**. According to GAP, the majority of the landcover within the Action Area is cultivated cropland and pasture/hay land. There are interspersed areas of developed sections which mainly constitute roadways. Also interspersed are northern tall grass prairie and prairie potholes (National Gap Analysis 2017) which could represent potential for Dakota skipper habitat.

3.3.9 Poweshiek Skipperling (*Oarisma poweshiek*)

The Poweshiek skipperlings are small butterflies with a thick body and 1-inch wingspan. The head is a lighter orange and the wings are dark brown with light orange along the wing margins. The underside can be seen when at rest and the wings are dark to light brown with very prominent white veins that often make the wing look striped. (USFWS 2014).



3.3.9.1 Population Rangewide

The Poweshiek skipperling was listed as endangered in 2014 (*Federal Register* 79:63672-63748). Critical habitat was designated in 2015 (*Federal Register* 80: 59248-59384), with 56 units identified in six states including North and South Dakota, and Minnesota. Historically, the Poweshiek skipperling had been recorded in tallgrass prairie and prairie fens from Manitoba to Iowa, with populations also found in Michigan and Wisconsin. There has been limited research done on the habitat required for the Poweshiek skipperling. However, it is known that adult butterflies feed on nectar from native prairie flowers, such as blackeyed susan (*Rudbeckia hirta*) and purple coneflower (*Echinacea angustifolia*) and larvae have been found on native fine-stemmed grasses such as little bluestem (*Schizachyrium scoparium*) and prairie dropseed (*Sporobolus heterolepis*). This species is in decline due to the widespread conversion of native prairie to agricultural uses (USFWS 2016b).



Source: <http://wisconsinbutterflies.org/butterfly/species/131-poweshiek-skipperling>

3.3.9.2 Action Area

According to the North Dakota Ecological Service's Office website and IPaC, Richland County is listed as a county of occurrence and designated critical habitat of the Poweshiek skipperling. The nearest designated critical habitat is in Richland County approximately 25 miles from the Action Area and no critical habitat has been designated in Cass or Ransom Counties or within the Action Area. According to data collected by the North Dakota Natural Heritage Program, the nearest recorded sighting of the Poweshiek skipperling is approximately 0.4 mile from the proposed pipeline recorded in July of 1973 (NDNHP NHI 2016). Please refer to **Figure 4, CRWLAE North Dakota Natural Heritage Inventory**. According to the GAP, the majority of the landcover within the Action Area is cultivated cropland and pasture/hay land. There are interspersed areas of developed sections which mainly constitute roadways. Also interspersed are northern tall grass prairie and prairie potholes which could represent potential for Poweshiek skipperling habitat (National Gap Analysis 2017).

3.3.10 Gray Wolf (*Canis lupus*)

The gray wolf is the largest living member of its family (Canidae), with males averaging 88 pounds and females generally weighing 5–10 pounds less. Fur color in individuals can range from black to gray to white, sometimes red and brown. The gray wolf is a keystone predator and is considered a habitat generalist, occurring in temperate and boreal forests, mountains, tundra, and grasslands.

3.3.10.1 Population Rangewide

By the time wolves were protected by the ESA of 1973, only a few hundred remained in extreme northeastern Minnesota and a small number on Isle Royale, Michigan. The status of the gray wolf has changed multiple times since the original 1973 listing. In December 2011, the USFWS revised and removed the Western Great Lakes Distinct Population Segment of gray wolf from the list of endangered and threatened wildlife (*Federal Register* 76:81665-81726). In February 2015, following court orders, the USFWS reinstated the March 9, 1978 (*Federal Register* 43:9607) regulatory protection for the gray wolf, including the endangered status for gray wolves in the eastern half of North Dakota (*Federal Register* 80:9218-9229).



3.3.10.2 Action Area

The gray wolf is an infrequent visitor to North Dakota, occasionally entering the state from Minnesota or from Manitoba, Canada. The increasing wolf population in Minnesota and the accompanying expansion of wolf range westward and southwestward in the state have led to an increase in dispersing wolves in North Dakota. As the Minnesota and Canada populations continue to increase, North Dakota could expect to see additional transients. No surveys have been conducted to document the number of wolves in North Dakota; however, occasional lone dispersers have appeared primarily in the eastern portion of the state. There were reports of pups in the Turtle Mountains of North Dakota, one wolf sighting was confirmed in early 2004, and two wolf depredation incidents were verified north of Garrison in late 2005 (*Federal Register* 71 (58):15286). There have been no verified recent sightings in the Action Area.

Due to the relative absence of secluded habitat in most of North Dakota, there is considerable uncertainty regarding whether a wolf pack will establish or become more common in the state. According to Licht and Huffman (1996), wolves could recolonize portions of their former range on the prairie in the Dakotas. However, the agricultural dominated landscape (cropland, hayland and pasture) and relatively high densities of roads would facilitate negative encounters between wolves and humans, which could preclude their re-establishment.

3.3.11 Northern Long-eared Bat (*Myotis septentrionalis*)

Northern long-eared bats are a medium-sized bat, with very long ears. Their length is 3.0–3.7 inches with a wingspan of 9–10 inches. The fur color is medium to dark brown on the back with a tawny to pale-brown on their underside.

3.3.11.1 Population Rangewide

The northern long-eared bat was listed as threatened in 2015 (*Federal Register* 80:17974-18033) with a 4(d) rule in 2016 (*Federal Register* 81:1900-1922). The range of the northern long-eared bat includes much of the eastern and north-central United States and most of the Canadian provinces. The northern long-eared bat spends winters hibernating in caves and mines. In summer, the northern long-eared bat roosts underneath bark of live and dead trees, rock crevices, caves, mines, barns, and sheds. The dramatic decline of the northern long-eared bat is due to white-nose syndrome. There are many unknowns regarding white-nose syndrome, however it is expected that the disease will spread throughout the United States. Currently, eastern North Dakota is within the white-nose syndrome zone (**Figure 5**). Other sources of decline include impacts to hibernacula, degradation of summer habitat, and wind farm operation.



Source: <https://www.fws.gov/wyominges/Species/NLEBat.php>



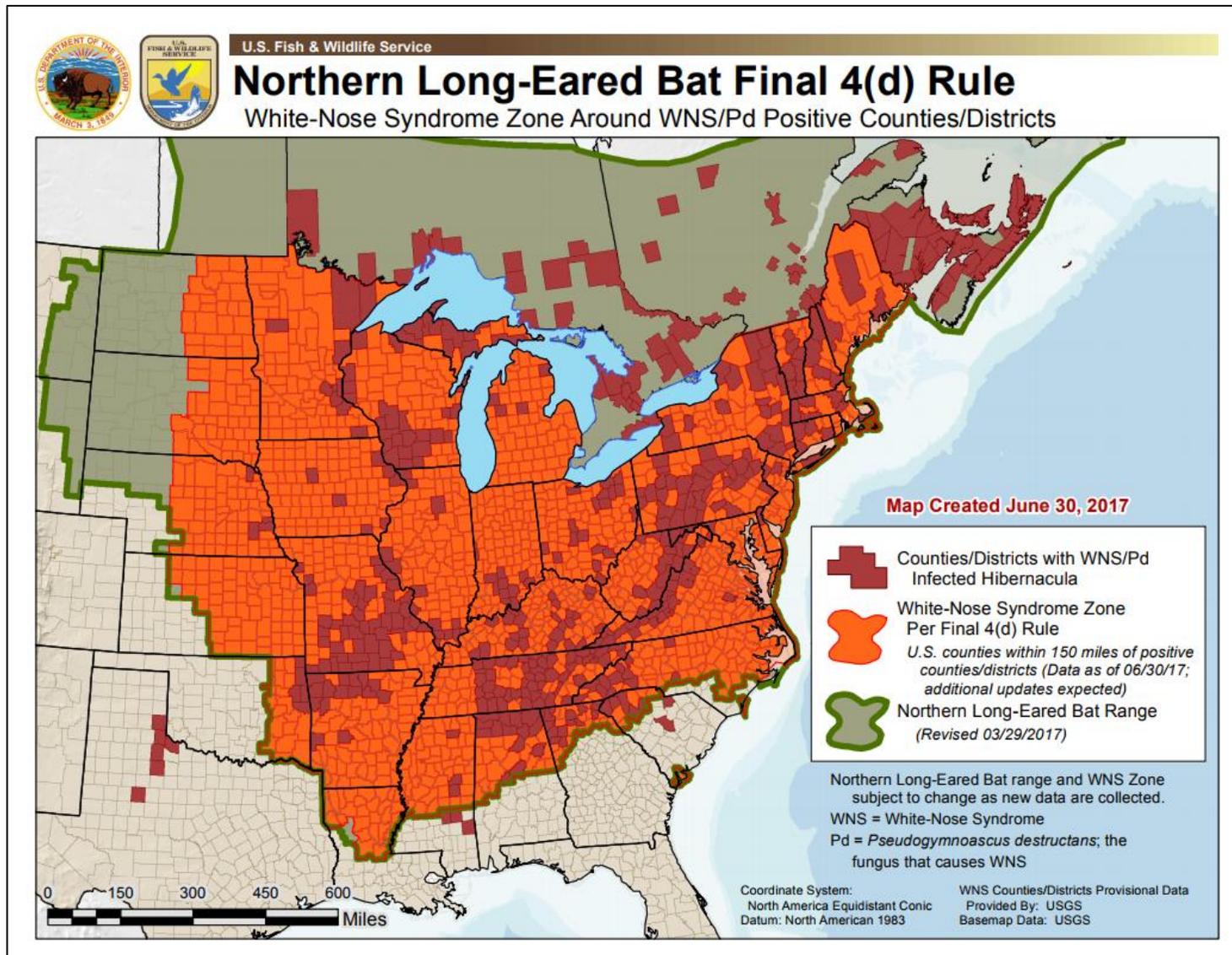


Figure 5, White-nose syndrome zone (USFWS 2017a).



3.3.11.1 Action Area

Little work has been conducted in North Dakota to document the distribution of the northern long-eared bat in North Dakota. Summer surveys in North Dakota (2009–2011) documented this species in the Turtle Mountains, the Missouri River Valley, and the Badlands (Gillam and Barnhart 2012). Gillam and Barnhart (2012) found most of this bat species using tree roosts particularly cottonwoods. To date, no hibernacula or bat activity during the winter months has been documented in the state. Based on this species ecology and range, it is unlikely that this species would occur in the Action Area.

3.3.12 Proposed Action Alternative

Although wetlands and agricultural fields provide potential habitat for whooping crane to occur in the Action Area, sightings of the species is rare in eastern North Dakota. There has been only one recorded observation within the Action Area in 1976 (Johnson 2017). Also, the Action Area is outside of the migration corridor. However, if a whooping crane is sighted within one mile of the project while it is under construction, all construction work will cease within one mile of that part of the project and Reclamation will contact the Service. In coordination with the Service, work will resume after the bird(s) leave the area. Therefore, ***Proposed Action Alternative will have no effect on the whooping crane.***

Western prairie fringed orchid is found almost exclusively in remnant native prairie, wet prairies and meadows. Preferred habitat of the western prairie fringed orchid is found within the Action Area. The western prairie fringed orchid also has the potential to occur in roadside ditches. Native prairie and wet prairies will be avoided. If unavoidable the ROW will be narrowed to 20 feet in these areas. Additionally, if a western prairie fringed orchid is observed, the contractor will contact Reclamation. Reclamation will consult with the USFWS to determine the appropriate steps to avoid any effects to the species, including cessation of construction.

Additionally, appropriate noxious weed control practices would be utilized and would follow the recommendations prepared by North Dakota Parks and Recreation (no date):

- Utilize non-chemical methods when possible;
- Spot spraying when possible;
- Spray in the fall after orchids have dispersed seeds (approximately September 15);
- Utilize drift reducing agents and drift reducing nozzles during application;
- Avoid any direct herbicide contact with an orchid;
- Use all herbicides according to the label;
- Avoid herbicides that degrade slowly and are mobile in the environment.

A deconstruction matrix of activities, direct and indirect stressor to the western prairie fringed orchid and best management practices is included in Table 4.



Table 4, Activities, Direct and Indirect Stressor to Species, and Best Management Practices.

ACTIVITIES	SUB-ACTIVITY	STRESSOR	RESPONSE TO STRESSOR	BEST MANAGEMENT PRACTICES
Engineering Surveys	Vehicle traffic Construction staking	Soil and vegetation disturbance	Potential to be encountered during activities	Avoidance of native grassland/wetland areas; if unavoidable narrowing right-of-way to 20 feet
Installation of Pipeline	Vehicle traffic Clear/grub vegetation Light/heavy equipment operation Trenching/boring pipeline Dust control Invasive and noxious weed control Erosion controls	Soil and vegetation disturbance Dust/erosion/sedimentation Introduction/spread of invasive/noxious species Exposure to contaminants including herbicides and pesticides	Potential to be encountered during activities Outcompeted by invasive/noxious species Reduced growth	Avoidance of native grassland/wetland areas; if unavoidable narrowing right-of-way to 20 feet Standard construction, industry measures will be taken to minimize fugitive dust emissions during construction activities Use of pesticides and herbicides in accordance with referenced guidelines (page 23)
Reclamation	Vehicle traffic Install/remove equipment Light/heavy equipment operation Fertilizer/herbicide application Discing/seeding Erosion controls	Soil and vegetation disturbance Introduction/spread of invasive/noxious species Dust/erosion/sedimentation Exposure to contaminants (herbicides/pesticides)	Potential to be encountered during activities Outcompeted by invasive/noxious species Reduced growth	Avoidance of native grassland/wetland areas; if unavoidable narrowing right-of-way to 20 feet Standard construction, industry measures will be taken to minimize fugitive dust emissions during construction activities Use of pesticides and herbicides in accordance with referenced guidelines (page 23)



The ***Proposed Action Alternative may affect, but is not likely to adversely affect the western prairie fringed orchid.***

The Proposed Action Alternative is approximately 17 miles from Dakota skipper designated critical habitat and 25 miles from Poweshiek skipperling designated critical habitat. There are small segments of the project that may impact native prairie, therefore there is the potential for the species to exist within the Action Area. However, the majority of the project would occur in previously disturbed areas, just outside of road ROWs and in cultivated cropland, pasture/hay land, which does not represent Dakota skipper or Poweshiek skipperling habitat. Due to the distance from designated critical habitat, the ***Proposed Action Alternative will have no effect on Dakota skipper or Poweshiek skipperling Critical Habitat.***

The contractor would utilize appropriate noxious weed control recommendations, as listed above. Additionally, due to the majority of the project occurring in previously disturbed areas, just outside of road ROWs and in cultivated cropland, pasture/hay land, and the overall distance to designated critical habitat (approximately 17 miles from Dakota skipper and 25 miles from Poweshiek skipperling) the ***Proposed Action Alternative will have no effect on Dakota skipper or Poweshiek skipperling.***

North Dakota is not identified as a recovery area and gray wolves occur as rare, sporadic transients with no established populations in the state; therefore, the ***Proposed Action Alternative will have no effect on the gray wolf.***

Northern long-eared bat may use “suitable” roosting trees adjacent to proposed pipelines within the Action Area. However, Reclamation is not aware of any survey results, nor have maternity roost trees or hibernacula been identified within the Action Area. No trees will be removed during construction activities. The ***Proposed Action Alternative will have no effect on the northern long-eared bat.***

No endangered species are known to occupy the Action Area; however, in the event that any threatened or endangered species are encountered during activities, the contractor will contact Reclamation. Reclamation will consult with the USFWS to determine the appropriate steps to avoid any effects to these species, including cessation of construction.

3.3.12.1 *No Action Alternative*

The No Action Alternative would not involve ground disturbing activities associated with installation of the pipelines; therefore, the ***No Action Alternative would have no effect on the whooping crane, western prairie fringed orchid, Dakota skipper and its designated critical habitat, Poweshiek skipperling and its designated critical habitat, gray wolf, or northern long-eared bat.***

3.3.13 **General Wildlife**

There are many species of wildlife that can be commonly found within the Project Area, such as white-tailed deer, raccoons, fox, Canada geese, and sharp-tailed grouse (NDGF 2017). Based on the Gap, habitat availability for these species is abundant with the Project Area (National Gap Analysis 2017).



3.3.13.1 Proposed Action Alternative

Impacts to wildlife from the Proposed Project would include potential displacement due to noise and traffic from construction activities. Impacts would be temporary and would cease upon completion of construction.

3.3.13.2 No Action Alternative

Under the No Action Alternative, there would be no effect to general wildlife.

3.3.14 Bald and Golden Eagle Protection Act

Bald eagles (*Haliaeetus leucocephalus*) range in size from 30–43 inches in length, with a wingspan of 80 inches (6.5 feet). Weight ranges from 6–14 pounds, with females typically larger than males. Adult bald eagles have a dark brown body with a white head and tail. The range of the bald eagle is throughout most of North America. Both year-round and migratory individuals occur in North Dakota. Preferred habitat includes the Missouri River system, including Lake Sakakawea, the Heart River, Cannonball River, Sheyenne River, Red River, Souris River, and the Devils Lake basin (**Figure 6**).



Source: <http://www.southdakotamagazine.com/eagle-season>

Golden eagles (*Aquila chrysaetos*) range in size from 30–40 inches in length, with a wingspan of 79 inches (6.5 feet). Weight ranges from 6.5–13.0 pounds, with females typically larger than males. Adult golden eagles are mostly dark brown, with golden brown feathers on head and nape. The range of the golden eagle is throughout most of North America, with breeding in the western United States, southwestern Canada, and northern Mexico. Both year-round and migratory individuals occur in North Dakota. The badlands and Lake Sakakawea breaks are preferred habitat of golden eagles (**Figure 6**).



Source: http://www.sdakotabirds.com/species/golden_eagle_info.htm

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) as amended was enacted in 1940 and prohibits anyone, without a permit, from taking bald eagles or golden eagles, including their parts, nests, or eggs.



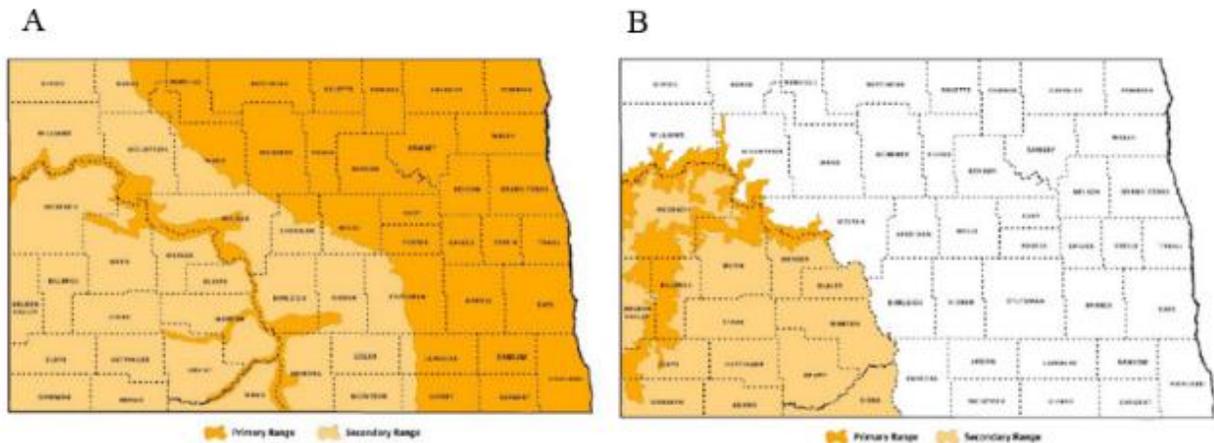


Figure 6, Primary and Secondary Range of Bald Eagles (A) and Golden Eagles (B) in North Dakota (NDGF 2016a; NDGF 2016b).

3.3.14.1 Proposed Action Alternative

Golden eagle habitat does not occur in the Project Area. There are no known bald eagle nests that occur in the Project Area. The nearest known eagle nests are more than 3 miles from the Project Area (Johnson 2017). However, in the event that a bald eagle nest is observed:

- ◆ Construction within 660 feet of visible nesting bald eagles will be avoided from February 1 to August 15.

Based on the environmental commitments, including those in **Chapter 4**, for the bald eagle and lack of suitable golden eagle habitat in the Project Area, Reclamation has determined the Proposed Action Alternative would have no impact on bald or golden eagles.

3.3.14.2 No Action Alternative

Under the No Action Alternative there would be no installation of pipelines. Current conditions would remain the same and there would be no impact to bald or golden eagles.

3.3.15 Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755) as amended, makes it illegal for anyone, without a permit, to take, possess, import, export, transport, sell, purchase barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird. There are several migratory birds that inhabit the area such as American bittern, common tern, grasshopper sparrow, peregrine falcon, short-eared owl, and western grebe (USFWS 2017b).



3.3.15.1 *Proposed Action Alternative*

The following environmental commitments would be utilized to reduce potential impact to migratory birds:

- ◆ Construction would avoid migratory bird habitats during the nesting and brood-rearing season (February 1–July 15). If construction-type activities cannot avoid this time period, the construction area would be mowed and maintained prior to February 1 until construction clearing has occurred. If that is not feasible, CRWD would follow the USFWS guidance that a qualified biologist conduct a field survey of the affected habitat to determine the presence or absence of nesting birds no greater than 5 days before construction or mowing. If nesting birds are found, Reclamation will contact USFWS for further guidance;
- ◆ Any new signage will be placed in a manner as to not endanger raptors which may perch on the top of the post.

Based on the environmental commitments, including those in Chapter 4, Reclamation has determined the Proposed Action Alternative would have no impacts to migratory birds.

3.3.15.2 *No Action Alternative*

Under the No Action Alternative current conditions would remain the same. Reclamation has determined the No Action Alternative would have no effect to migratory birds.

3.3.16 **Cultural Resources**

3.3.16.1 *Affected Environment*

Under Section 106 of the National Historic Preservation Act (NHPA), Reclamation has completed cultural resource surveys in the Project Area and has conducted evaluations to determine what cultural resource sites are eligible for listing on the National Register of Historic Places (NRHP). Sites that are determined to be eligible for listing on the NRHP are given high cultural resource management consideration and status as historic properties. Section 106 of the NHPA requires Reclamation to consider effects to historic properties when planning and implementing actions such as those identified in this EA.

The Project Area is located within the Sheyenne River Study Unit, which is one of 13 Study Units (drainage basins) used for prehistoric and protohistoric archeological site studies and management in North Dakota (Gregg et al. 2008). The cultural resource sites within the Project Area were found within the City of Leonard, and various outlying areas. The cultural resources range from buildings to railroads, to potential prehistoric cultural material scatters.

Within the Project Area, the previously recorded cultural sites were recorded by Benson in 1980 or Stine in 2003.

3.3.16.2 *Proposed Action Alternative*

For the Proposed Action Alternative, activities would occur within the Project ROW located within the city limits of the City of Leonard and on private lands in Cass, Ransom, and Richland Counties. A Class II and Class III cultural resource inventory was completed November 15 and 16, 2016 by Juniper, LLC on behalf of CRWD. The Class III inventory occurred within a 150-foot wide corridor centered on the



proposed pipeline. Under the NHPA, criteria are used to determine a cultural resource site's NRHP eligibility (36 CFR 60.4). In addition, criteria in 36 CFR Part 800 are applied to determine effects to historic properties. Any new cultural resources and historic properties identified during the survey was evaluated for listing on the NRHP, as necessary. Newly recorded resources were evaluated for the NRHP to establish significance. Previously identified cultural resources and historic properties within the corridor was assessed based on their previous NRHP evaluations (Olson 2017).

Within 150 feet of the Project Corridor, 93 previously recorded cultural resources and two newly recorded cultural resources were identified. Eight of the 93 sites were unevaluated and 85 were recommended as not eligible for listing on the NRHP.

Of the two newly recorded cultural resources, one is not eligible for the NRHP with no further work or avoidance measures being recommended. The second newly recorded site is currently unevaluated for the NRHP. It is recommended the site be avoided by at least 100 feet during construction of the waterline, and that a Secretary of the Interior qualified archeologist monitor construction within 500 feet of the known site boundary. Provided the management recommendations for the newly and previously recorded cultural resources are implemented, Juniper recommends a finding of *No Historic Properties Affected* for the proposed undertaking as described in the report (Olson 2017).

With the above stipulations, Reclamation has determined that Proposed Action Alternative would have no adverse effect on historic properties. Reclamation's Area Archaeologist submitted a copy of the Class I and Class III cultural resources report (Olson 2017) and a consultation letter to the North Dakota State Preservation Office (NDSHPO) on June 6, 2017. The NDSHPO replied with concurrence to Reclamation's finding of, *No Historic Properties Affected*, for the proposed project (NDSHPO REF.: 17-0994; June 12, 2017).

3.3.16.3 *No Action Alternative*

There would be no effect to historic properties under the No Action Alternative.

3.3.17 **Transportation and Roads**

3.3.17.1 *Affected Environment*

Main access to the Project Area would include state, county and township roads. Traffic is generally light in these areas, consisting of local residents, farm and ranch traffic, and school buses. The NDDOT maintains the state highways, the county roads are maintained by the respective county highway departments and the township roads are maintained by the respective townships.

3.3.17.2 *Proposed Action Alternative*

Under the Proposed Action Alternative, temporary direct impacts would include increased traffic in the Project Area due to construction activities. Heavy truck traffic may cause damage to roads and ditches. CRWD would restore roads and ditches to their original conditions following each phase of construction. Additionally, roads would be maintained during construction to allow for an uninterrupted flow of traffic.



3.3.17.3 *No Action Alternative*

Under the No Action Alternative there would be no change to roads or transportation. Current conditions would remain the same.

3.3.18 **Visual and Noise**

3.3.18.1 *Affected Environment*

The Proposed Area occurs in a rural setting and includes the communities of Leonard, Davenport, Kindred and Embden. The area is dominated by an agricultural landscape.

3.3.18.2 *Proposed Action Alternative*

Under the Proposed Action Alternative, temporary direct impacts would include fugitive dust and increased noise in the Project Area due to construction activities and equipment and would cease upon completion of construction activities. Application of standard construction, industry measures would be taken to minimize fugitive dust emissions during construction activities. Exposed soil would be reseeded after project completion. Noise impacts would be short-term and would occur mainly during daylight hours.

3.3.18.3 *No Action Alternative*

Under the No Action Alternative there would be no impacts to visual resources or related to noise. Current conditions would remain the same.

3.3.19 **Soils and Vegetation**

3.3.19.1 *Affected Environment*

A large portion of the Project Area is cultivated row crop and hay land. Shrubland and grassland comprised of mixed-grass and tallgrass prairie is the next largest vegetation group found within the Project Area. Scattered throughout the Project Area are woodlands including aspen, oak, basswood, maple, and pine trees (National Gap Analysis 2017).

The USDA/NRCS Web Soil Survey identified multiple soil types within the Project Area (NRCS and USDA 2016). Soils within the project are comprised of a mixture of loam with clay, sand and silt. The three dominant soil series in the Project Area are Embden, Hecla and Garborg. According to NRCS Web Soil Survey Land Capability Classification, all of these soil series have a slight risk of erosion unless close-growing plant cover is maintained (NRCS and USDA 2016). The rating class for Building Site Development – Shallow Excavation, Embden and Hecla are somewhat limited and Garborg is very limited (NRCS 2016).

According to the 2016 North Dakota Department of Agriculture, 11 state noxious weeds are identified including: absinth wormwood, Canada thistle, Dalmatian toadflax, diffuse knapweed, leafy spurge, musk thistle, purple loosestrife, Russian knapweed, saltcedar, spotted knapweed, and yellow toadflax. There is a total of approximately 10,943 acres of state noxious weeds in Cass County, 67,677 acres in Ransom County and 45,606 acres in Richland County. Please refer to **Table 5, State Noxious Weeds by County** (NDDA 2016).



Table 5, State Noxious Weeds by County.

COUNTY	STATE NOXIOUS WEED SPECIES	ACRES (PUBLIC)	ACRES (PRIVATE)
Cass	Absinth Wormwood	62	76
	Canada Thistle	5,281	208
	Leafy Spurge	5,239	61
	Yellow Toadflax	15	0
Ransom	Absinth Wormwood	310	5,000
	Canada Thistle	875	10,000
	Leafy Spurge	2,900	48,000
	Musk Thistle	90	500
	Yellow Toadflax	1	1
Richland	Absinth Wormwood	100	500
	Canada Thistle	3,200	13,000
	Leafy Spurge	3,800	25,000
	Purple Loosestrife	5	0
	Yellow Toadflax	1	0

The noxious weed laws are enforced by all cities and counties in North Dakota. Counties and cities have the option to add additional weeds to a list for enforcement only in their jurisdiction. As of February 2017, Ransom and Richland Counties added Houndstongue to their individual county and city noxious weed list, however there is no acreage data available (NDDA 2017).

3.3.19.2 Proposed Action Alternative

Under the Proposed Action Alternative, temporary direct impacts would include increased dust emissions and disturbed vegetation in the Project Area due to construction activities. Application of standard construction, industry measures would be taken to minimize fugitive dust emissions during construction activities. Any complaints that may arise will be dealt with in a timely and effective manner.

In general, soil disturbance can impact soils by changing their structure, organic content, fertility, infiltration, and permeability.

Disturbance of vegetation containing noxious weeds could result in the redistribution of invasive species to other areas. Therefore, existing areas not dominated by noxious weeds would have the potential to become infested from construction activities. The spread of invasive species could have an adverse effect on several aspects of vegetation including the suitability of sensitive plant habitat and maintenance of native biodiversity to forage production for livestock grazing. The CRWD would reestablish vegetated areas disturbed during construction to stabilize soils and control the presence and spread of noxious weeds. All seed used for restoration would be certified “noxious weed free”



before use. In areas of native vegetation, Reclamation recommends contacting the NRCS for a preferred seed mix and source. Additional information and guidance can be utilized from the Prairie Reconstruction Guidebook for North Dakota (<https://www.ag.ndsu.edu/publications/environment-natural-resources/prairie-reconstruction-guidebook-for-north-dakota/r1840.pdf>).

3.3.19.3 No Action Alternative

Under the No Action Alternative there would be no change to soils or vegetation. Current conditions would remain the same.

3.3.20 Socioeconomics

3.3.20.1 Affected Environment

The Project Area, in addition to individual rural farms, is home to multiple rural farm communities, such as Leonard, Davenport, Kindred and Embden. The populations of the rural farm communities range from approximately 720 (Kindred) to 59 (Embden).

3.3.20.2 Proposed Action Alternative

During the construction period, temporary increases in employment and local business volume would be expected to result in increases in payroll taxes, sales receipts, and the indirect purchase of goods and services within the Project Area.

3.3.20.3 No Action Alternative

Under the No Action Alternative there would be no socioeconomic impact. Current conditions would remain the same.

3.3.21 Summary of Environmental Effects

Reclamation has examined the potential for significant environmental effects to public health and safety, climate change, water resources and hydrology; prime and unique farmland; threatened and endangered species; general wildlife, Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, cultural resources; transportation and roads; visual and noise; soils and vegetation, and socioeconomics.

Table 6, Summary of Environmental Effects.

RESOURCE	NO ACTION ALTERNATIVE	PROPOSED ACTION ALTERNATIVE
Public Health and Safety	Rural water uses would continue to use private wells with high levels of arsenic.	35 rural water users and 60 individuals in the City of Leonard would no longer use their existing ground water sources which are known to have high levels of arsenic.
Climate Change	No Effect	Anticipated temporary increase in CO2 emissions during construction, however amounts would be unappreciable.



Water Resources and Hydrology	No Effect	Anticipated impacts to wetlands and other surface water would be negligible providing all Environmental Commitments in Table 5 and avoidance measures are taken. Anticipated impacts to groundwater would be negligible.
Prime and Unique Farmland	No Effect	Potential for temporary disturbance during construction activities of approximately 49 acres.
Threatened and Endangered Species	No Effect on whooping crane, western prairie fringed orchid, Dakota skipper/Poweshiek skipperling designated critical habitat, gray wolf, or northern long-eared bat.	No Effect on whooping crane, Dakota skipper/Poweshiek skipperling designated critical habitat, northern long-eared bat or gray wolf. May affect, not likely to adversely affect the western prairie fringed orchid.
General Wildlife	No Effect	Potential temporary displacement during construction and would cease upon completion of construction.
Bald and Golden Eagle Protection Act	No Effect	Based on the environmental commitments, including those in Chapter 4, for the bald eagle and lack of suitable golden eagle habitat in the Project Area, the Proposed Action Alternative would have no impact on bald or golden eagles.
Migratory Bird Treaty Act	No Effect	Based on the environmental commitments, including those in Chapter 4, the Proposed Action Alternative would have no impacts to migratory birds.
Cultural Resources	No Effect	Provided the management recommendations for the newly and previously recorded cultural resources are implemented and with NDSHPO concurrence, <i>No Historic Properties Affected.</i>
Transportation and Roads	No Effect	Temporary direct impacts include increased traffic and potential damage to roads and ditches.
Visual and Noise	No Effect	Temporary direct impacts include fugitive dust and increased noise due to construction activities.
Soils and Vegetation	No Effect	Temporary impacts include increased dust emissions and vegetation disturbance. Soil disturbance may include soil structure change, organic content and permeability. Could result in the redistribution of noxious weeds.



Socioeconomic	Loss of potential employment opportunities for residents as well as potential business volume within and surrounding the Project Area.	Temporary direct impacts include potential employment opportunities for residents and business volume within and surrounding the Project Area.
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3.3.22 Cumulative Effects

The definition of cumulative effects provided by the CEQ’s regulations is as follows: the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions (40 CFR § 1508.7). Cumulative impacts for the Proposed Project may include future water service contracts for additional users within the CRWD.

3.3.22.1 Water Resources and Hydrology

Safe drinking water standards continue to become more restrictive. The water quality of the CRWD may become more appealing to those rural residents that are not connected to a treated rural water system. Once the CRWDLAE project has begun, it is anticipated that there will be an increase in rural users 10%-30% (Bryan Ziegler, Bartlett & West, May 2017) resulting in an increase in the amount of water extracted from the Sheyenne Delta Aquifer, which is the source of water for CRWD users (**Figure 2**).

3.3.22.2 Transportation and Roads

According to NDDOT Statewide Transportation Improvement Program (STIP) 2016–2019, there are no upcoming transportation projects within the Project Area (NDDOT 2015).



CHAPTER 4 ENVIRONMENTAL COMMITMENTS

This Chapter presents environmental commitments which have been developed in consultation with Federal and State agencies, the Tribes, and the public in response to construction activities and scoping over the last decade of Reclamation water projects in North Dakota. These environmental commitments would be implemented to 1. Prevent, minimize, or offset the occurrence of or potential for adverse environmental effects and 2. Ensure compliance with applicable Federal and State regulations designed to protect fish and wildlife resources, important habitats and sensitive areas, cultural and paleontological resources, human health and safety, and the public interest.

Should this project be constructed, CRWD would ensure the environmental commitments are implemented prior to and/or during construction of the Proposed Project, as the commitments are required for Reclamation funding. Appropriate environmental commitments would be incorporated into the designs, construction contracts, and specifications of the project. An Interagency Environmental Review Team, with appropriate agency representation, may be assembled to review environmental compliance in the field, as deemed appropriate.

Table 7, Environmental Commitments regarding the CRWDLAE Project.

GENERAL BEST MANAGEMENT PRACTICES
Comply with all appropriate Federal, State, and Local laws.
Follow recommended practices for construction, restoration, and maintenance.
Standard construction, industry measures will be taken to minimize fugitive dust emissions during construction activities. Any complaints that may arise will be dealt with in a timely and effective manner.
Roads would be maintained during construction.
Erosion BMPs will be followed to prevent runoff of soil, silt, and other debris.
2014 NDDOT Standard Specifications recommended seed mix will be used following construction
SURFACE WATER AND WETLANDS
The project proponent is responsible to comply with all provisions of the Clean Water Act, including but not limited to Sections 401, 402, and 404 by obtaining all permits and certifications deemed necessary by the appropriate regulating agencies. Wetland impacts will be appropriately mitigated according to the standards and direction of the USACE and NRCS. Impacts to wetland basins protected under USFWS easements will be avoided. Wetland impacts will comply with the Clean Water Act and Agricultural Act of 2014.
A Floodplain Development Permit application will be completed and submitted prior to construction.
When pipeline construction through a wetland basin is unavoidable, existing basin contours will be restored and trenches will be sufficiently compacted to prevent any drainage along the trench or through bottom seepage.
Woody species including those bordering wetlands, shelterbelts, riparian woodlands, woody draws, or woodland vegetation will be avoided.
Erosion control measures will be employed as appropriate: Stabilization, erosion controls, restoration, and re-vegetation of all areas will be performed as soon as project is completed.
FISH AND WILDLIFE SPECIES AND HABITAT



To the extent possible, construction would avoid:

- Open water wetlands and streams
- Federal, State, and Local wildlife areas and refuges
- Designated critical habitats
- Migratory bird habitats during the nesting brood rearing season (February 1 – July 15)

If any tree (with a diameter of greater than 3 inches) removal activities cannot be avoided between April 1 and October 31, then consultation would take place with the USFWS.

Construction within 660 feet of visible nesting bald eagles will be avoided from February through August.

Project proponents will coordinate with the USFWS's appropriate Refuges and Wetland Management Districts and provide the latest-map version of the Proposed Project to avoid impacts to USFWS lands, including wetland and grassland easements, national wildlife refuges (NWR), waterfowl production areas or other USFWS lands interface.

If threatened or endangered species are identified and encountered during construction, all ground-disturbing activities in the immediate area will be stopped until Reclamation can consult with the USFWS to determine appropriate steps to avoid impacting the species.

CULTURAL RESOURCES

All cultural resource investigations were performed according to the procedures specified in the programmatic agreement among Reclamation, the NDSHPO, and the Advisory Council on Historic Preservation for Reclamation activities in North Dakota. Cultural resource inventories were performed under the direction of an archaeologist that meets the Secretary of the Interior's Professional Qualification Standards (48 FR 22716, Sept. 1983). All appropriate cultural resource activities will be completed prior to the commencement of ground-disturbing activities, including Class I and Class III surveys and consultation with the NDSHPO. All cultural resources, except those exempted in the programmatic agreement, will be avoided if their significance cannot be established prior to disturbance. If avoidance is not practicable, Reclamation, in consultation with the SHPO would determine if the site is eligible for nomination to the National Register of Historic Places [36CFR800.4(c) and 36CFR60.4]. If the site is eligible as a historic property, initially Reclamation, SHPO, and other interested parties, depending on the type of property, will consult to determine a plan of mitigation. If an adverse effect cannot be avoided, the Advisory Council on Historic Preservation will be contacted. All ensuing activities will comply with the NHPA, as amended, and the Archaeological Resource Protection Act (ARPA).

If previously undiscovered cultural resources are exposed during any activities, work within the area shall cease. The site will be secured and protected. Project work at the site will not resume until all activities needed to comply with the Protection of Historic Properties (36 CFR Part 800.13) have been completed. Reclamation will consult with NDSHPO and the Advisory Council on Historic Preservation on its determination as to whether the discovery qualifies as a historic property. Project work can continue under the advisement of the Project Archaeologist meeting the Secretary of the Interior's Professional Qualification Standards (48 FR 22716, Sept. 1983).

In the event of an inadvertent discovery of human remains or funerary objects, all work at the find spot and in the immediate vicinity shall cease. The site will be secured and protected until Reclamation officials and the NDSHPO have been notified and arrive on site. Protection of the discovery site may include flagging the discovery location with a buffer zone around it, tarping the find spot, and having an individual stay at the location to prevent further disturbance. Contact information for the individual who discovered the site must be provided to Reclamation and the NDSHPO. No digging, collecting, or moving human remains or other items will occur after the initial discovery. Reclamation will comply with the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 et. seq. [Nov. 16, 1990]) if graves are discovered on Federal or trust lands or within reservation boundaries. Reclamation will comply with North Dakota Century Code 23-06-27: "Protection of Human Burial Sites, Human Remains, and Burial Goods" for graves on private or State-owned lands.



Under the National Register Bulletin 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties (TCP), a TCP is an historic property that derives its significance from the role it plays in a community's historically rooted beliefs, customs, and practices. If a potential TCP is discovered during the course of implementing the project, all work in its vicinity must halt. Reclamation and the appropriate Tribal Historic Preservation Officer(s) (THPO) will be notified and would be responsible for determining the appropriate course of action.

Under the Archaeological Resources Protection Act (16 U.S.C. 470aa-470mm; Public Law 96-95 [1979]), historic properties, which may include rock art sites, historic buildings or structures, or historic or prehistoric artifacts, are protected. Unauthorized collecting or digging, vandalism, or other methods of destruction to historic properties are not permitted. Therefore, Reclamation and the NDSHPO will be notified if construction personnel discover evidence these types of activities.

PALEONTOLOGICAL RESOURCES

Reclamation consulted with the North Dakota Geological Survey to identify areas for paleontological survey where significant fossils are likely. No response was received. If paleontological resource(s) are uncovered during construction, CRWD will stop construction and contact the state paleontologist for further direction.



CHAPTER 5 AGENCY CONSULTATION AND COORDINATION

On behalf of the Garrison Diversion Conservancy District, under direction of Reclamation, KLJ sent a scoping notice announcement to approximately 55 individuals including Native American Tribes, North Dakota's congressional delegation, appropriate state and Federal agency contacts, associated county government auditor offices, private individuals, non-government organizations and 3 published newspapers, the Fargo Forum, Wahpeton Daily News and Ransom County Gazette (Appendix A). Responses to KLJ's Scoping Notice are included in Appendix B. No private party responses were received. Ten agency letters of response were received: North Dakota Game & Fish Department, North Dakota Geological Survey, State Historical Society of North Dakota, USACE, USDA, North Dakota Department of Trust Lands, North Dakota Department of Health, Bureau of Indian Affairs, North Dakota Department of Transportation, and NDSWC.

Three email responses were received. Ransom County advised on the location of utilities in the Project Area and requested a permit be obtained for all road crossings. The Cass County Joint Water Resource District indicated the potential crossing of three separate legal drains and requested a utility permit be obtained from the Maple River Water Resource District for each drain crossing location. The USFWS requested additional information on potential wetland easement impacts by email. ***The USFWS requests CRWD coordinate where boring would occur to avoid federally protected basins at least two weeks prior to construction.***

5.1 Compliance with Environmental Statutes

If the Proposed Action Alternative would be implemented, it would be accomplished in accordance and compliance with the following environmental laws, regulations, directives and compliance with the following:

- ◆ American Indian Religious Freedom Act of 1978 (P.L. 95-341)
- ◆ National Historic Preservation Act of 1966 (P.L. 89-665), as amended 1992 (P.L. 102-575)
- ◆ Native American Grave Protection and Repatriation Act (P.L. 101-601)
- ◆ Archaeological and Historic Preservation Act (P.L. 93-291)
- ◆ Archaeological Resources Protection Act of 1979 (P.L. 96-95)
- ◆ National Environmental Policy Act of 1969 (42 USC 4321)
- ◆ Clean Air Act (33 USC 7401) and Amendments
- ◆ Clean Water Act (33 USC 1251 et seq.), Sections 401, 402, and 404
- ◆ Endangered Species Act of 1973 (P.L. 93-205) (16 USC 1531-1544)
- ◆ Farmland Protection Policy Act (P.L. 97-98)
- ◆ Fish and Wildlife Coordination Act of 1958 (P.L. 85-624)
- ◆ Indian Trust Responsibilities (512 DM Chapter 2)
- ◆ Executive Order 13175 – Consultation and Coordination with Indian Tribal Governments
- ◆ Federal Energy Policy Act of 2005
- ◆ Executive Order 11988 – Floodplain Management (1977)
- ◆ Executive Order 11990 – Protection of Wetlands (1977)
- ◆ Executive Order 12898 – Environmental Justice (1994)
- ◆ Executive Order 13007 – Indian Sacred Sites (1996)



- ◆ Executive Order – 11593 – Protection and Enhancement of the Cultural Environment (1971)
- ◆ Executive Order 13186 – Protection of Migratory Birds (2001) Responsibilities of Federal Agencies to Protect Migratory Birds in furtherance of the purposes of the migratory bird conventions
- ◆ Executive Order 13112 – Invasive Species
- ◆ Migratory Bird Treaty Act (16 USC 703-711)
- ◆ Bald and Golden Eagle Protection Act (16 USC 668-668d)
- ◆ Fish and Wildlife Coordination Act (16 USC 661-666c)
- ◆ Endangered Species Act of 1973 (16 USC 1531-1544)

5.2 Permits and Authorizations Required

Implementation of the Proposed Project may require authorizations or permits from state and federal agencies. **Table 8** lists the potential permits, licenses, and/or authorizations associated with each Agency/Department. CRWD and their design team will obtain all necessary permits for construction activities.

Table 8, Potential Permits and/or Authorizations Required by Agencies and Departments.

AGENCY/DEPARTMENT	PERMIT/AUTHORIZATION
North Dakota Department of Health	National Pollution Discharge Elimination System, Section 402: General Construction Permit and Approved Storm Water Pollution Prevention Plan; Section 401 Water Quality Certification
North Dakota State Historical Preservation Office	Consultation pursuant to Section 106 of the National Historic Preservation Act, 16 USC 470
North Dakota State Water Commission	If any portion of the project encroaches on a FEMA identified 100-year floodplain, a floodplain development permit will be required; A Sovereign Lands Permit is required if any work is proposed under or on the banks of the Sheyenne River; If observations wells are encountered during project activities and must be removed, the SWC must be contacted; The Office of the State Engineer (OSE) will be notified regarding any impacts to water resources (i.e. streams or rivers), drains, and wetlands (i.e. ponds, sloughs, lakes, or any series thereof) as any alternations, modifications, improvements, or impacts to those water resources may require a drainage permit(s) or a construction permit(s) from the OSE.
U.S. Army Corps of Engineers	If jurisdictional wetlands are impacted, Section 404 permit may be required; Acceptable mitigation plan if jurisdictional wetlands are impacted and require mitigation.



U.S. Fish and Wildlife Service	Prior to construction, coordination with USFWS staff for boring locations will occur to avoid federally protected basins.
Maple River Water Resource District	Utility permit required for each crossing of a legal drain.
Ransom County Highway Department	Utility permit required for all road crossings, \$100/crossing.



5.3 List of Preparers

A list of individuals with primary responsibility for conducting this study, preparing the documentation, and providing technical reviews is below:

AFFILIATION	NAME	TITLE	PROJECT ROLE
KLJ	Grady Wolf	Project Manager	Project Manager
	Ashley Ross	Environmental Planner	Document review
	Jessica Creuzer	Environmental Planner	EA author
BOR	Kate Kenninger	Natural Resource Specialist	Document review
	Andrea Gue	Natural Resource Specialist	Document review
	Matt Cox	Area Archaeologist	Document review
	Alicia Waters	Program Analyst	Document review
	Dani Fettig	Civil Engineer	Document review
Garrison Diversion	Kip Kovar	District Engineer	Document review
Cass Rural Water District	Jerry Blomeke	General Manager	Document review



CHAPTER 6 REFERENCES

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Appendix A

Scoping Notice Contact List

AUDUBON DAKOTA CHAPTER - EXECUTIVE DIRECTOR

BUREAU OF INDIAN AFFAIRS - GREAT PLAINS REGIONAL OFFICE - REGIONAL

ENVIRONMENTAL SCIENTIST - MS. MARILYN BERCIER -

BUREAU OF LAND MANAGEMENT - NORTH DAKOTA FIELD OFFICE

CASS COUNTY AUDITOR

CASS COUNTY JOINT WATER RESOURCE DISTRICT

CASS RURAL WATER DISTRICT

CITY OF LEONARD

DAKOTA RESOURCE COUNCIL

DUCKS UNLIMITED

FEDERAL HIGHWAY ADMINISTRATION - DIVISION ADMINISTRATOR - MR WENDALL MEYER

GARRISON DIVERSION CONSERVANCY DISTRICT - GENERAL MANAGER - MR DUANE DEKREY

INDIAN AFFAIRS COMMISSION - EXECUTIVE DIRECTOR - MR SCOTT DAVIS

MHA NATION – CHAIRMAN - HONORABLE MARK FOX

MHA NATION - TRIBAL HISTORIC PRESERVATION OFFICE - MR ELGIN CROWS BREAST

NATURAL RESOURCE CONSERVATION SERVICE - STATE CONSERVATIONIST - MS MARY PODOLL

NATURAL RESOURCES CONSERVATION SERVICE - DISTRICT CONSERVATIONIST - MR JOSHUA MONSON

NATURAL RESOURCES CONSERVATION SERVICE - DISTRICT CONSERVATIONIST - MR JASON HANSON

NATURAL RESOURCES CONSERVATION SERVICE - DISTRICT CONSERVATIONIST - MR MARK WELTER

NORTH DAKOTA CHAPTER OF THE WILDLIFE SOCIETY - PRESIDENT

NORTH DAKOTA DEPARTMENT OF COMMERCE - MR AL ANDERSON

NORTH DAKOTA DEPARTMENT OF HEALTH - ENVIRONMENTAL HEALTH SECTION - MR DAVID GLATT

NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF MUNICIPAL FACILITIES - MR WAYNE KERN

NORTH DAKOTA DEPT OF TRANSPORTATION - MR GRANT LEVI

NORTH DAKOTA GAME AND FISH DEPARTMENT - NATURAL RESOURCES CHIEF

NORTH DAKOTA GEOLOGICAL SURVEY - STATE GEOLOGIST

NORTH DAKOTA GEOLOGICAL SURVEY - STATE PALEONTOLOGIST

NORTH DAKOTA INDUSTRIAL COMMISSION

NORTH DAKOTA PARKS AND RECREATION DEPARTMENT – DIRECTOR - MR MARK ZIMMERMAN

NORTH DAKOTA PARKS AND RECREATION DEPARTMENT - MS KATHY DUTTENHEFNER

NORTH DAKOTA STATE LAND DEPARTMENT - MR MIKE HUMANN

NORTH DAKOTA STATE WATER COMMISSION - MR JEFFREY MATTERN

NORTH DAKOTA STATE WATER COMMISSION - STATE ENGINEER - MR GARLAND ERBELE

NORTH DAKOTA TOURISM DIVISION - MS SARAH OTTE COLEMAN

NORTH DAKOTA WILDLIFE FEDERATION - MR MIKE MCENROE

RANSOM COUNTY AUDITOR

RANSOM COUNTY WATER RESOURCE DISTRICT

RICHLAND COUNTY AUDITOR

RICHLAND COUNTY WATER RESOURCE DISTRICT

SIERRA CLUB - DACOTAH CHAPTER PRESIDENT

SPIRIT LAKE TRIBE – CHAIRWOMAN - HONORABLE MYRA PEARSON

SPIRIT LAKE TRIBE - TRIBAL HISTORIC PRESERVATION OFFICER - DR ERICH LONGIE

STANDING ROCK SIOUX TRIBE – CHAIRMAN - HONORABLE DAVE ARCHAMBAULT II

STATE HISTORICAL SOCIETY OF NORTH DAKOTA - MS CLAUDIA BERG

STATE OF NORTH DAKOTA - OFFICE OF GOVENOR - GOVENOR DOUG BURGUM

TEWAUKON NATIONAL WILDLIFE REFUGE AND WETLAND MANAGEMENT DISTRICT - MANAGER

TRIBAL HISTORIC PRESERVATION OFFICE - TURTLE MOUNTAIN BAND OF CHIPPEWA

TRIBAL HISTORIC PRESERVATION OFFICER - MR JON EAGLE

TURTLE MOUNTAIN BAND OF CHIPPEWA - HONORABLE CHAIRMAN RICHARD MCCLOUD

U.S. ARMY CORPS OF ENGINEERS - BISMARCK REGULATORY OFFICE - MS PATRICIA MCQUEARY

U.S. FISH AND WILDLIFE SERVICE - NORTH DAKOTA SUPERVISOR - MR KEVIN SHELLEY

U.S. FISH AND WILDLIFE SERVICE - ZONE ARCHAEOLOGIST

U.S. GEOLOGICAL SURVEY

UNITED STATES HOUSE OF REPRESENTATIVES - HONORABLE KEVIN CRAMER

UNITED STATES SENATOR - HONORABLE HEIDI HIETKAMP

UNITED STATES SENATOR - HONORABLE JOHN HOEVEN

USDA RURAL UTILITIES SERVICE

VALLEY CITY WETLAND MANAGEMENT DISTRICT - MANAGER



Appendix B

Scoping Letter and Scoping Letter Responses



March 27, 2017

◇ <Title> <First> <Last>
<Title>
<Department>
<Address>
<City_State_Zip>

Re: **Cass Rural Water District Leonard Area Expansion**
Cass, Ransom and Richland Counties, North Dakota

<GreetingLine>

On behalf of the Garrison Diversion Conservancy District, under direction of the United States Bureau of Reclamation (Reclamation), KLJ is preparing an Environmental Assessment (EA) for the construction of the Cass Rural Water District Leonard Area Expansion (CRWDLAE) project. Reclamation is the lead Federal agency responsible for ensuring compliance with the National Environmental Policy Act.

The CRWDLAE would expand the current Cass Rural Water District's user system and construct approximately 25 miles of new water pipeline in Cass, Ransom and Richland Counties. The project would provide potable water service to rural users and the town of Leonard who currently use well water that is known to be high in arsenic. The pipe would be buried approximately 7.5 feet in depth in a new easement and would follow section lines and roadways where possible. The proposed construction is anticipated to begin during the late 2017 construction season and be finished in 2018. *Please refer to the attached Project Location Map.*

To ensure that all social, economic, and environmental effects are considered in the evaluation of this project, we are soliciting your views and comments on the proposed project pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, as amended. We are particularly interested in any property which your department may own or have an interest in and which would be adjacent to the proposed project, as well as any information that might help us in our studies.

Reclamation defines significance in accordance with 40 CFR 1508.27. If no significant issues are identified, Reclamation would issue a Finding of No Significant Impact. Conversely, if any significant issues are identified, Reclamation would consider whether to proceed with the preparation of an environmental impact statement.

Please respond with your comments or information regarding the project by April 27, 2017. Questions or comments regarding the preparation of the EA may be directed to Grady Wolf at 701-355-8726 or grady.wolf@kljeng.com.

Sincerely,

Grady Wolf
Enclosure: Maps

NATIONAL PERSPECTIVE
REGIONAL EXPERTISE
TRUSTED A DIVISION



"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6362

RECEIVED

APR 03 2017

March 30, 2017

Grady Wolf
KLJ
4585 Coleman Street
PO Box 1157
Bismarck, ND 58502

Dear Mr. Wolf:

Re: Cass Rural Water District Leonard Area Expansion

The North Dakota Game and Fish Department has received notification of the Garrison Diversion Conservancy District's proposal to expand Cass Rural Water District's user system. The proposed project consists of constructing 25 miles of new water pipeline in Cass, Ransom and Richland Counties. The pipe will be buried 7.5 feet in depth in a new easement and would follow section lines and roadways where possible.

The Department recommends planning around wetlands when possible; however, when these areas cannot be avoided, we suggest contacting the Corps of Engineers' North Dakota Regulatory Office due to probable impacts to wetland acres. A wetland mitigation plan should be developed to offset project impacts. We request stream and drainage crossings be directionally bored to avoid impacts to the fishery resources. If stream or drainage crossings cannot be directionally bored, we request any displacement or disruption of creek beds and banks be restored to pre-project conditions and that the work does not take place within the creeks or streams from April 15 to June 1. We also request that the potential for sedimentation entering the waterway during the construction be minimized with the use of erosion control measures. Any disturbed area shall be reseeded to an approved native grass mixture.

Aquatic Nuisance Species (ANS) rules were enacted by the North Dakota Game and Fish Department in 2008. These regulations are to prevent the introduction of undesirable species of plants and animals. Preventive measures are now required to bring equipment into the state. State law allows for fines up to \$1,000 and the confiscation of equipment.

Required measures include removing any and all aquatic vegetation from vessels, motors, trailers, or construction equipment; all water shall be drained from bilge(s) or confined spaces on vessels, boat motors or construction equipment; all species of ANS (this list can be found on the North Dakota Game and Fish Department website) must be removed from vessels, motors, trailers or construction equipment; and water must be drained from confined spaces on vessels, boat motors or construction

equipment. These ANS preventative measures extend to any and all vehicles, vessels, trailers, pumps and such equipment that will be used in the project or any/all construction efforts connected with this project in or on the waters of the State. This requirement should be included if occurring during the open water season or if the operation proceeds on the ice pack.

The contractor or his agents or subcontractors must provide the Department a reasonable opportunity to inspect any and all vehicles, vessels, pumps and equipment that will be used in the project in or on the waters of the state prior to those items being launched or placed in the waters of the state. A minimum of a 72-hour notice must be provided to the Department for scheduling an inspection. The Department's ANS Biologist, Ms. Jessica Howell, is to be contacted at the Jamestown Office (701-368-8368) for equipment inspections or any additional information regarding ANS prevention protocols.

Sincerely,



Greg Link
Chief

Conservation & Communication Division

blk



RECEIVED
APR 03 2017

North Dakota Geological Survey

Edward C. Murphy - State Geologist
Department of Mineral Resources
Lynn D. Helms - Director
North Dakota Industrial Commission
www.state.nd.us/ndgs

March 29, 2017

Mr. Grady Wolf
Kadmas, Lee, and Jackson
P.O. Box 1157
4585 Coleman Street
Bismarck, ND 58502-1157

Re: Request for Comments – Cass Rural Water District Leonard Area Expansion.

The North Dakota Geological Survey appreciates the notification and opportunity to review and provide comment on your proposed project work. Your comment solicitation letter sent to us, dated May 27, 2017, was reviewed by our office on March 29, 2017. Regarding the proposed project at the locations described in the letter, our agency would not have any properties in the described project areas under ownership nor of current property interest.

Regarding the local geologic conditions, the project area is located in the northern area of the Sheyenne Delta, a broad area of sands, silts, and clays, up to 150-ft thick, deposited when the Sheyenne River was emptying into the former Glacial Lake Agassiz around 13,500 years ago. Sand dunes are common throughout this area and collectively these sediments form the Sheyenne Aquifer. The surficial sediments in this area are highly permeable and subsequently well-drained.

Detailed (1:24,000 scale) LiDAR elevation mapping has been completed for this project area which may be of interest for your project work. Downloadable maps and digital elevation data products can be found on our website at: <https://www.dmr.nd.gov/ndgs> or by contacting our offices at (701) 328-8000.

Please feel free to contact me at (701) 328-8000 or via email at fjanderson@nd.gov at any time if there are any additional questions or comments.

Sincerely,

North Dakota Geological Survey:


Fred J. Anderson
Geologist

FJA/

600 E Boulevard Ave – Dept 405, Bismarck, North Dakota 58505-0840 Phone (701)328-8000 Fax (701)328-8010



**STATE
HISTORICAL
SOCIETY
OF NORTH DAKOTA**

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APR 03 2017

Doug Burgum
Governor of North Dakota

March 31, 2017

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State Historical Board

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Department

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Director
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Claudia J. Berg
Director

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Grady Wolf
Project Manager
KLJ
4585 Coleman Street
PO Box 1157
Bismarck, ND 58502-1157

ND SHPO REF.: 17-0542 Bureau of Reclamation EA for the Funding and Construction of Cass Rural Water District Leonard Area Expansion Cass, Ransom, and Richland Counties, North Dakota

Dear Mr. Wolf,

We received your initial correspondence regarding ND SHPO REF.: 17-0542 Bureau of Reclamation EA for the Funding and Construction of Cass Rural Water District Leonard Area Expansion Cass, Ransom, and Richland Counties, North Dakota.

We recommend a Class II/III (reconnaissance/pedestrian) cultural resource survey of the project area.

Thank you for the opportunity to review to date. We look forward to review of the Class II/Class III survey for this project.

Please include the ND SHPO Reference number listed above in future correspondence for this specific project. If you have any questions please contact Susan Quinnell, Review and Compliance Coordinator at (701) 328-3576 or squinnell@nd.gov

Sincerely,

Claudia J. Berg
State Historic Preservation Officer (North Dakota)



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NORTH DAKOTA REGULATORY OFFICE
1513 SOUTH 12TH STREET
BISMARCK ND 58504-6640

March 31, 2017

Regulatory Branch (NWO-2017-00558-BIS)

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APR 03 2017

Kadmas, Lee and Jackson
Attn: Mr. Grady Wolf
4585 Coleman Street
Bismarck, North Dakota 58502-1157

Dear Mr. Wolf:

This is in response to your letter dated March 27, 2017 requesting comments on the proposed Cass Rural Water District; Leonard Area Expansion Project, located near Leonard, ND in various areas of Township 138 North, Range 53 West and Range 54 West; Township 137 North, Range 52 West and Range 53 West; Township 136 North, Range 51 West thru Range 53 West; Cass, Ransom and Richland Counties, North Dakota.

U. S. Army Corps of Engineers Regulatory Offices administer Section 10 of the Rivers and Harbors Act (Section 10) and Section 404 of the Clean Water Act (Section 404). A Section 10 permit would be required for work impacting navigable waters, this includes work over, through, or under Section 10 waters. Section 10 waters in North Dakota are the Missouri River (including Lake Sakakawea and Lake Oahe), Yellowstone River, James River (south of the railroad tracks in Jamestown, North Dakota), Bois de Sioux River, Red River of the North, and Upper Des Lacs Lake. A Section 404 permit would be required for the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

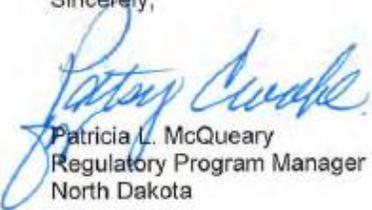
Based on the information contained in your letter, the Corps has determined that your proposed project may need a Clean Water Act Section 404 permit. The permit application and instructions for completing the application may be found at: <http://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Obtain-a-Permit>. Be sure to accurately describe all proposed work and construction methodology. Once the application is complete, mail it to the letterhead address or to the email address below.

The North Dakota Regulatory office can accept (and prefers) electronic submissions to the following email: CENWO-OD-RND@usace.army.mil.

Regulatory Branch (NWO-2017-00558-BIS)

If we can be of further assistance or should you have any questions regarding our program, please do not hesitate to contact this office by letter or phone at (701) 255-0015.

Sincerely,



Patricia L. McQueary
Regulatory Program Manager
North Dakota



United States Department of Agriculture

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APR 03 2017

Natural Resources
Conservation Service

Bismarck State Office
PO Box 1458
Bismarck, ND
58502-1458

Voice 701.530.2000
Fax 855-813-7556

March 30, 2017

KLJ Engineering
ATTN: Mr. Grady Wolf
PO Box 1157
Bismarck, ND 58502-1157

RE: Cass Rural Water District Leonard Area Expansion; Cass Ransom and Richland Counties, North Dakota

Dear Mr. Wolf:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated March 27, 2017, concerning the above mentioned project. The NRCS has a major responsibility with the Farmland Protection Policy Act (FPPA) in documenting conversion of farmland (i.e., prime, statewide importance and local importance) to non-agriculture use when federal funds are utilized. Buried pipelines do not remove farmland from production; therefore, FPPA does not apply to this project and no further action is needed.

If you have additional questions pertaining to FPPA, please contact Steve Sieler, Liaison Soil Scientist, NRCS, Bismarck, ND, at 701-530-2019.

Sincerely,

WADE D. BOTT
State Soil Scientist

Helping People Help the Land

An Equal Opportunity Provider, Employer, and Lender

Grady Wolf

From: Jacob Loegering
Sent: Tuesday, April 04, 2017 3:20 PM
To: Grady Wolf
Cc: Teresa G. Sorby Rotenberger; Jerry A. Lamb
Subject: RE: Cass Rural Water District Leonard Area Expansion - Ransom County Response

You can use the email as the correspondence for the EA.

Thanks,

Jacob Loegering PE
KLJ - Valley City
701-845-9451

From: Grady Wolf
Sent: Tuesday, April 04, 2017 3:19 PM
To: Jacob Loegering <Jacob.Loegering@kljeng.com>
Cc: Teresa G. Sorby Rotenberger <tsorbyrotenberger@co.ransom.nd.us>; Jerry A. Lamb <jerry.lamb@co.ransom.nd.us>
Subject: RE: Cass Rural Water District Leonard Area Expansion - Ransom County Response

Thanks Jacob,

Will there be a formal response or should I use this email for correspondence for the EA?

I will pass the utility permit information on to the design team and client.

Grady Wolf
701-355-8726

From: Jacob Loegering
Sent: Tuesday, April 04, 2017 2:43 PM
To: Grady Wolf <Grady.Wolf@kljeng.com>
Cc: Teresa G. Sorby Rotenberger <tsorbyrotenberger@co.ransom.nd.us>; Jerry A. Lamb <jerry.lamb@co.ransom.nd.us>
Subject: Cass Rural Water District Leonard Area Expansion - Ransom County Response

Grady,

I was at a Ransom County Commission Meeting this morning and the letter you sent to the County for the above referenced project was discussed. The County's comment was that the attached utility permit must be completed for all road crossings. Each crossing costs \$100. Please see the attachment.

Thanks,
Jake

Jacob Loegering PE

701-845-9451 Direct
701-490-2831 Cell
1010 4th Ave SW

**RANSOM COUNTY HIGHWAY DEPARTMENT
UTILITY PERMIT**

The Applicant, is hereby granted permission to install and maintain the following described facilities on highway right of way, as shown on the plans attached hereto and made a part hereof:

INSTALLATION AND MAINTENANCE: Installation and maintenance of said facilities on highway right of way shall conform to the following provisions:

- (1) Within thirty (30) days after construction, maintenance, relocation, or removal of said facilities, any right of way scars shall be removed and disturbed areas restored to original condition and reseeded.
- (2) No open trenching on any of the road surfaces. All roads must be bored under all surfaces – no exceptions. This includes the whole right of way. \$100 permit fee per crossing.

TERMS AND CONDITIONS: Installation and maintenance of said facilities on highway right of way shall be subject to the following terms and conditions:

- (A) Installations, maintenance, relocation, and removal of said facilities on highway right of way shall be done in a manner satisfactory to the Board of County Commissioners.
- (B) The County shall not be liable for damage to said facilities resulting from reconstruction or maintenance of the highway. Applicant shall hold the County harmless for injury to persons or damage to property resulting from the location of said facilities on highway right of way.
- (C) Applicant shall repair or replace highway structures and appurtenances, and any existing facilities located on, over, or under highway right of way, which may be damaged as a result of the installation and maintenance of said facilities on highway right of way.
- (D) Applicant shall promptly remove said facilities from highway right of way, or shall relocate or adjust said facilities, at its sole cost and expense when requested to so do by the Board of County Commissioners.

Applicant hereby agrees to the above terms and conditions and when this application is signed by both the applicant and the County, it shall become a permit to do the work herein described.

County Highway Number:	Applicant Signature:
Township/Sections:	Title:
Applicant Signature:	Applicant Signature:
Title:	Title:
Commission Chairman:	Date Approved:

Ransom County Highway Department
PO BOX 1024 Lisbon ND 58054
Phone: (701)-683-4452 Fax: (701)-683-9823
Email: tricia.kriegl@co.ransom.nd.us

1707 North 9th Street
PO Box 5523
Bismarck, ND 58506-5523
Phone: (701) 328 - 2800
Fax: (701) 328 - 3850

www.land.nd.gov



Lance D. Gaebe, Commissioner

April 3, 2017

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APR 05 2017

MR. GRADY WOLF
KLJ
4585 COLEMAN STREET
PO BOX 1157
BISMARCK ND 58502-1157

Re: Cass Rural Water District Leonard Area Expansion
Cass, Ransom, Richland Counties, North Dakota

Dear Mr. Wolf,

A review of State School Trust Land tracts in the above counties was completed to determine if there were any tracts within the Cass Rural Water District Leonard Area Expansion project. The review revealed that there were no State School Trust Lands within the proposed project area. Therefore we have no views and comments regarding the Leonard Area Expansion project.

The N2 Section 36, Township 135 North, Range 52 West Richland County is near the project area, and should this tract become part of the project area, a right-of-way application would need to be completed. Environmental reviews are conducted by Trust Lands Department staff for right of way applications received. Please use the on-line right of way application should this tract become part of this project. The on-line right of way application is located on the North Dakota Department of Trust Lands web site at <http://land.nd.gov>.

Should you have any questions regarding this matter feel free to contact me at 701-328-2800.

Sincerely,

A handwritten signature in blue ink that reads "Michael Humann".

Michael Humann
Surface Division Manager

g:\support\letters\m - m\Wolf\letter.doc



March 30, 2017

RECEIVED

APR 05 2017

Mr. Grady Wolf
KLJ
P.O. Box 1157
Bismarck, ND 58502-1157

Re: Cass Rural Water District Leonard Area Expansion
Cass, Ransom and Richland Counties

Dear Mr. Wolf:

This department has reviewed the information concerning the above-referenced project submitted under date of March 27, 2017, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
2. Projects disturbing one or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Further information on the storm water permit may be obtained from the Department's website or by calling the Division of Water Quality (701-328-5210). Also, cities may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.
3. The proposed construction project overlies the Sheyenne Delta glacial drift aquifer, which is a sensitive groundwater area. In addition, two source water protection areas and numerous water supply wells are located within the proposed project boundary. Care should be taken to avoid spills of any materials that may have an adverse effect on groundwater quality. All spills must be immediately reported to this Department and appropriate remedial actions performed.

Environmental Health
Section Chief's Office
701.328.5150

Division of
Air Quality
701.328.5188

Division of
Municipal Facilities
701.328.5211

Division of
Waste Management
701.328.5166

Division of
Water Quality
701.328.5210

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Mr. Grady Wolf

2.

March 30, 2017

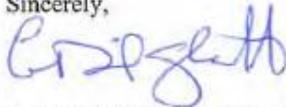
4. Projects that involve construction of pipelines should select locations that minimize the potential for impacts to human health and the environment during and after construction by avoiding, when possible, source water protection areas and sensitive surface and groundwater environments. Additionally, when possible, pipeline routes should select areas with natural barriers to both surface and ground waters.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

These comments are based on the information provided about the project in the above-referenced submittal. The U.S. Army Corps of Engineers may require a water quality certification from this department for the project if the project is subject to their Section 404 permitting process. Any additional information which may be required by the U.S. Army Corps of Engineers under the process will be considered by this department in our determination regarding the issuance of such a certification.

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,



L. David Glatt, P.E., Chief
Environmental Health Section

LDG:cc
Attach.



Construction and Environmental Disturbance Requirements

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

Soils

Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

Surface Waters

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

Fill Material

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.

Environmental Health Section Chief's Office 701.328.5150	Division of Air Quality 701.328.5188	Division of Municipal Facilities 701.328.5211	Division of Waste Management 701.328.5186	Division of Water Quality 701.328.5210
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United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E., Suite 400
Aberdeen, South Dakota 57401

RECEIVED

APR 06 2017

IN REPLY REFER TO:
DECRM
MC-208

MAR 30 2017

Grady Wolf
KLJ Project Manager
4585 Coleman Street
Bismarck, North Dakota 58502-1157

Dear Mr. Wolf:

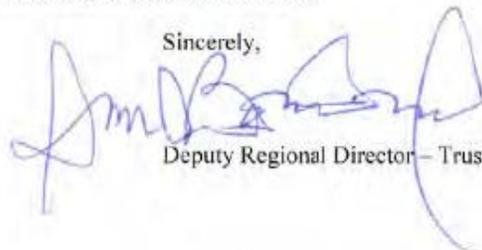
We received your letter regarding the proposed project listed below. We have considered the potential for both environmental damage and impacts to archaeological and Native American religious sites on lands held in trust by the Bureau of Indian Affairs, Great Plains Region. You should be aware; however, that Tribes or Tribal members may have lands in fee status near the sites of interest. These lands would not necessarily be in our databases, and the Tribes should be contacted directly to ensure all concerns are recognized. The action considered has the following notification date and project location:

- March 27, 2017
Cass Rural Water District Leonard Area
Expansion Cass
Ransom and Richland Counties, North Dakota

We have no environmental objections to this action as long as the project complies with all pertinent laws and regulations. Questions regarding environmental opinions and conditions can be addressed to Marilyn Bercier, Regional Environmental Scientist, at (605) 226-7656.

We also find that the listed action will not affect cultural resources on Tribal or individual landholdings for which we are responsible. Methodologies for the treatment of cultural resources now known or yet to be discovered – particularly human remains – must nevertheless utilize the best available science in accordance with provisions of the Native American Graves Protection and Repatriation Act, the Archaeological Resources Protection Act of 1979 (as amended), and all other pertinent legislation and implementing regulations. Archaeological concerns can be addressed to Dr. Carson N. Murdy, Regional Archaeologist, at (605) 226-7656.

Sincerely,



Deputy Regional Director – Trust Services



North Dakota Department of Transportation

Grant Levi, P.E.
Director

Doug Burgum
Governor



April 7, 2017

Grady Wolf
Kadramas Lee & Jackson
P.O. Box 190
West Fargo, ND 58078-0190

EA FOR CONSTRUCTION OF THE CASS RURAL WATER DISTRICT LEONARD AREA
EXPANSION, CASS COUNTY, WEST FARGO, NORTH DAKOTA

We have reviewed your March 27, 2017, letter.

This project should have no adverse effect on the North Dakota Department of Transportation (NDDOT) highways; however, it will be necessary to get a utility permit and approval before any proposed water lines would be installed within the right of way and beginning any work.

Additionally, if because of this project any work needs to be done on highway right of way, appropriate permits and risk management documents will need to be obtained from the Department of Transportation District Engineer, Robert Walton at 701-239-8903.

ROBERT A. FODE, P.E., DIRECTOR – OFFICE OF PROJECT DEVELOPMENT

57/raf/js

c: Robert Walton, Fargo District Engineer

608 East Boulevard Avenue • Bismarck, North Dakota 58505-0700
Information: 1-855-NDROADS (1-855-637-6237) • FAX: (701) 328-0310 • TTY: 711 • dot.nd.gov



North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
(701) 328-2750 • TTY 1-800-366-6888 or 711 • FAX (701) 328-3696 • <http://swc.nd.gov>

April 17, 2017

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APR 19 2017

Mr. Grady Wolf
KLJ
4585 Coleman Street
PO Box 1157
Bismarck, ND 58502

Dear Mr. Wolf:

This is in response to your request for a review of the environmental impacts associated with the Cass Rural Water District Leonard Area Expansion in Cass, Ransom, and Richland Counties.

The proposed project has been reviewed by State Water Commission staff, and the following comments are provided:

- Initial review indicates the project does not require a conditional or temporary permit for water appropriation. However, if surface water or groundwater will be diverted for construction of the project, a water permit may be required per North Dakota Century Code § 61-04-02. Please consult with the Water Appropriations Division of the Office of the State Engineer (OSE) if you have any questions at (701) 328-2754 or waterpermits@nd.gov.

The State Water Commission has several observation wells along the proposed pipeline routes as shown in the figure provided to our office, particularly in the southern part of the project area in Ransom and Richland Counties. The wells are used for monthly water level measurements of the Sheyenne Delta aquifer during the field season. State Water Commission observation wells have a yellow protective casing extending between 1 and 3 feet above ground surface, and their locations are marked with a stake. The wells are typically located in the right-of-way ditch adjacent to the road. If an observation well is encountered during project activities and must be removed, please contact the Water Appropriations Division. The State Water Commission hopes to keep all observation wells, as they provide us with valuable hydrologic data, but otherwise will ensure the well is properly abandoned.

- If any work is proposed under or on the banks of the Sheyenne River a Sovereign Land Permit will be required. Please contact Ashley Persinger at (701) 328-4988 or by email at apersinger@nd.gov with questions regarding Sovereign Land.

DOUG BURGUM, GOVERNOR
CHAIRMAN

GARLAND ERBELE, P.E.
CHIEF ENGINEER-SECRETARY

Mr. Grady Wolf
Page 2
April 17, 2017

- There are floodplains located near the areas where this proposed project is to take place. Should any portion of this project encroach on a FEMA identified 100-year floodplain, a floodplain development permit will need to be obtained by the local permitting authority. The State of North Dakota has no formal permitting authority in FEMA identified floodplain areas. Please work closely with the local floodplain administrators:
 - o Cass County
 - Hali Durand (County Planner)
 - (701) 298-2375
 - durandh@casscountynod.gov
 - o Richland County
 - Brett Lambrecht (County Emergency Manager)
 - (701) 642-7788
 - blambrecht@co.richland.nd.us
 - o Ransom County
 - Kirsten Gilbert (County Emergency Manager)
 - (701) 683-6125
 - kirsten.gilbert@co.ransom.nd.us

Thank you for the opportunity to provide review comments. If you have any questions, please call me at 701-328-4967.

Sincerely,



Jared Huibregtse
Water Resource Planner IV

JH:ph/1570

Jessica Creuzer

From: Grady Wolf
Sent: Monday, May 01, 2017 10:16 AM
To: Jessica Creuzer
Subject: FW: Cass Rural Water District Leonard Area Expansion

See below

Grady Wolf
701-355-8726

From: Grueneich, Kathy [mailto:GrueneichK@casscountynd.gov]
Sent: Monday, May 01, 2017 10:08 AM
To: Grady Wolf <Grady.Wolf@kijeng.com>
Cc: Lewis, Carol <LewisC@casscountynd.gov>; mopat <mopat@mooreengineeringinc.com>
Subject: RE: Cass Rural Water District Leonard Area Expansion

Grady,
Just for clarification, we will need a separate permit for each crossing.

Thanks.
Kathy

From: Grady Wolf [mailto:Grady.Wolf@kijeng.com]
Sent: Monday, May 1, 2017 9:13 AM
To: Grueneich, Kathy <GrueneichK@casscountynd.gov>
Cc: Lewis, Carol <LewisC@casscountynd.gov>; mopat <mopat@mooreengineeringinc.com>
Subject: RE: Cass Rural Water District Leonard Area Expansion

Thanks Kathy. We will incorporate your comment into the EA and notify the client of the requirement for crossing the drains.

Grady Wolf
701-355-8726

From: Grueneich, Kathy [mailto:GrueneichK@casscountynd.gov]
Sent: Friday, April 28, 2017 3:56 PM
To: Grady Wolf <Grady.Wolf@kijeng.com>
Cc: Lewis, Carol <LewisC@casscountynd.gov>; mopat <mopat@mooreengineeringinc.com>
Subject: Cass Rural Water District Leonard Area Expansion

Grady,
Our Engineer has indicated the Cass Rural Water proposed project would cross, or potentially cross, Drain #58, Drain #15, and Drain #39. I have attached a *Utility Permit* from the Maple River Water Resource District to be used when applying for crossing these legal drains.

If you have questions, please feel free to contact me. Thank you.

Best regards,

Kathy Grueneich
Administrative Assistant
Cass County Water Resource Districts
(701) 298-2381
grueneichk@casscountynd.gov

4585 Coleman Street
PO Box 1157
Bismarck, ND 58502-1157
701 355 8400
kljeng.com



March 27, 2017

Cass County Joint Water Resource District
649 Westview Lane East
West Fargo ND 58078

Re: **Cass Rural Water District Leonard Area Expansion**
Cass, Ransom and Richland Counties, North Dakota

Dear Sir or Madam,

On behalf of the Garrison Diversion Conservancy District, under direction of the United States Bureau of Reclamation (Reclamation), KLJ is preparing an Environmental Assessment (EA) for the construction of the Cass Rural Water District Leonard Area Expansion (CRWDLAE) project. Reclamation is the lead Federal agency responsible for ensuring compliance with the National Environmental Policy Act.

The CRWDLAE would expand the current Cass Rural Water District's user system and construct approximately 25 miles of new water pipeline in Cass, Ransom and Richland Counties. The project would provide potable water service to rural users and the town of Leonard who currently use well water that is known to be high in arsenic. The pipe would be buried approximately 7.5 feet in depth in a new easement and would follow section lines and roadways where possible. The proposed construction is anticipated to begin during the late 2017 construction season and be finished in 2018. *Please refer to the attached Project Location Map.*

To ensure that all social, economic, and environmental effects are considered in the evaluation of this project, we are soliciting your views and comments on the proposed project pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, as amended. We are particularly interested in any property which your department may own or have an interest in and which would be adjacent to the proposed project, as well as any information that might help us in our studies.

Reclamation defines significance in accordance with 40 CFR 1508.27. If no significant issues are identified, Reclamation would issue a Finding of No Significant Impact. Conversely, if any significant issues are identified, Reclamation would consider whether to proceed with the preparation of an environmental impact statement.



Please respond with your comments or information regarding the project by April 27, 2017. Questions or comments regarding the preparation of the EA may be directed to Grady Wolf at 701-355-8726 or grady.wolf@kljeng.com.

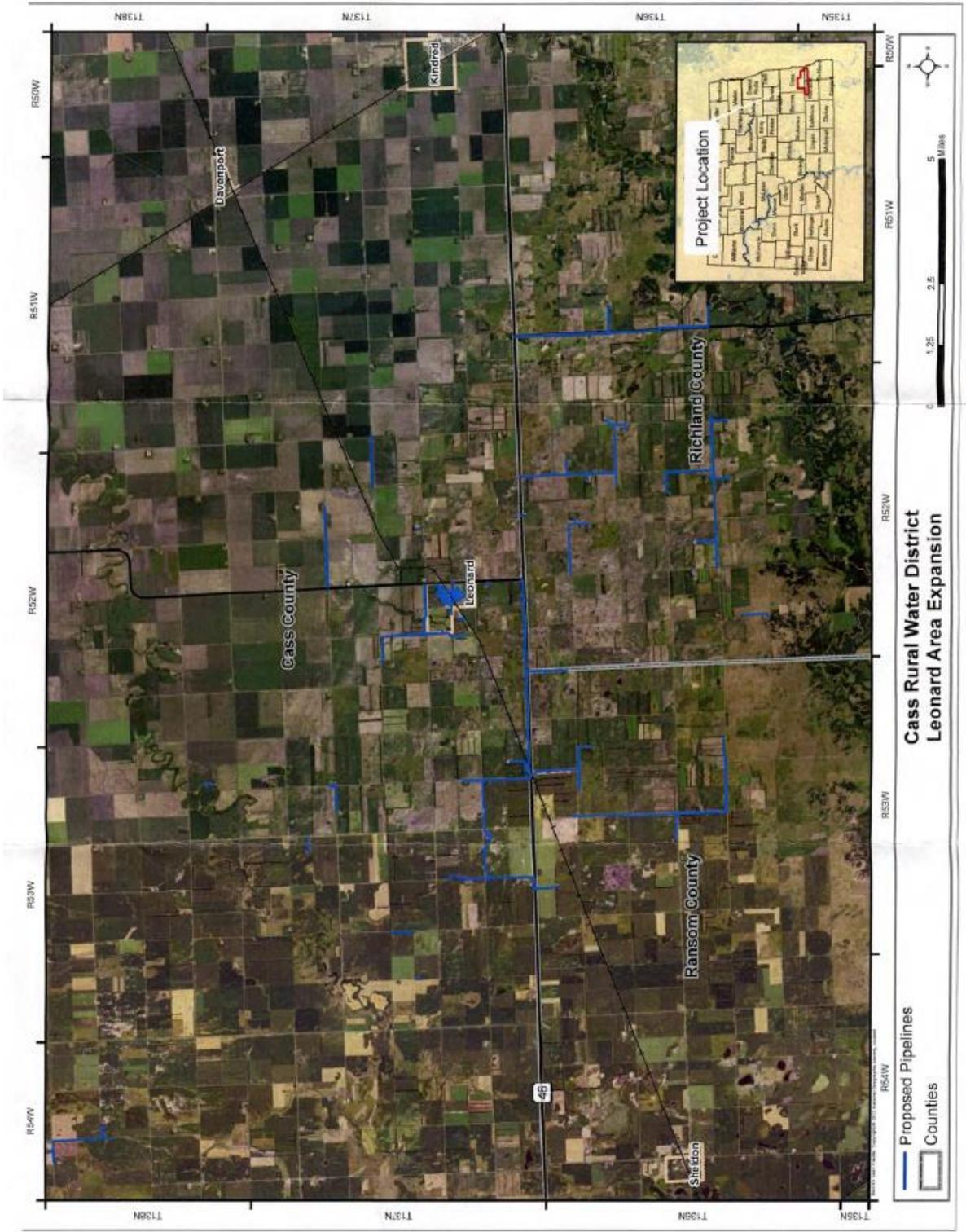
Sincerely,

KLJ

A handwritten signature in black ink that reads "Grady Wolf". The signature is written in a cursive style with a large, prominent "G" and "W".

Grady Wolf
Project Manager

Enclosure(s): Project Location Map
cc: Kip Kovar, Kate Ann Kenninger



MAPLE RIVER WATER RESOURCE DISTRICT
UTILITY PERMIT

_____, a _____ [type of entity and state of incorporation] with a post office address of _____, _____ (“Applicant”), applies for this Permit to install _____ [describe type of utility, e.g., fiber optic cables, telephone lines, etc.] and related appurtenances _____ [on, through, under, over] Cass County Drain No. ____ (the “Drain”) on right of way or facilities owned by the Maple River Water Resource District (the “District”), as shown on the plans attached as **Exhibit A** (“Applicant’s Utilities”).

Applicant may install Applicant’s Utilities _____ [on, through, under, over] the Drain as specifically shown on **Exhibit A**. Installation, operation, and maintenance of Applicant’s Utilities on the District’s right of way will conform to the following provisions:

1. Applicant will complete construction and maintenance at Applicant’s sole expense.
2. Applicant will place Applicant’s Utilities at the designated depth below the original design grade as set forth in the plans attached as **Exhibit A**.
3. Within 30 days after construction, maintenance, relocation, or removal of Applicant’s Utilities, Applicant will remove any right of way scars; Applicant will restore any disturbed areas to original condition; and Applicant will re-seed the vicinity disturbed by Applicant’s activities. Applicant will maintain any disturbed areas for a period of one year from the date of completion.
4. Applicant will install marker posts at all the Drain crossings on the right of way line, or at any other point as designated by the District.
5. Applicant will complete installation, maintenance, relocation, and/or removal of Applicant’s Utilities on the District’s right of way in a manner satisfactory to the District.

6. The District will not be liable for any damages to Applicant's Utilities resulting from reconstruction or maintenance of the Drain or any of the District's facilities or right of way. Applicant will release, defend, indemnify, and hold harmless the District, and all of the District's employees, officers, agents, and representatives, from and against any and all claims, demands, causes of action, or demands for relief, including costs, expenses, and attorneys' fees, that may arise out of or result from any acts or omissions regarding this Permit or Applicant's installation or maintenance of Applicant's Utilities, or any accident, injury, or damage to person, property, or equipment as a result of Applicant's entry upon or use of the District's right of way or property.
7. Applicant, at Applicant's own cost, will repair or replace the District's structures, facilities, right of way, or any other property owned by the District which may be damaged as a result of Applicant's installation and maintenance of Applicant's Utilities on the District's right of way, or otherwise as a result of Applicant's entry upon or use of the District's right of way.
8. Applicant will promptly remove Applicant's Utilities from the District's right of way, or will relocate or adjust Applicant's Utilities, all at Applicant's sole cost and expense upon notice from the District, as necessary for purposes of constructing, cleaning, inspecting, reconstructing, modifying, operating, maintaining, repairing, or improving the Drain.
9. Applicant will be solely responsible for promptly complying with all present and future laws, ordinances, rules, and regulations of any other federal, state, county, or local governments or governmental entities which may be applicable regarding Applicant's Utilities or Applicant's activities. Further, Applicant will be solely responsible for obtaining all applicable licenses, permits, or other approvals necessary, if any, regarding Applicant's Utilities or Applicant's activities under this Permit.
10. Applicant will be solely responsible for all costs and expenses associated with complying with Applicant's obligations under this Permit.
11. Applicant will not transfer or assign this Permit, nor any of Applicant's rights or obligations under this Permit, without the express written consent of the District.
12. Upon Applicant's completion of installation of Applicant's Utilities, Applicant will notify the District and the District, in its discretion, may require an inspection of Applicant's Utilities to ensure compliance with this Permit. Applicant will be responsible for the District's costs associated with the inspection; following an inspection, the District will provide Applicant with notice of costs incurred and Applicant will reimburse the District within 60 days.

13. If Applicant fails to perform any of Applicant's obligations under this Permit within a reasonable time following request or demand from the District, the District may perform Applicant's obligations and may recover its costs incurred by assessing the costs against any property owned by Applicant in Cass County, North Dakota, including any attorneys' fees incurred in attempting to collect the amounts due, or by other legal means of collection.
14. The failure or delay of the District to insist on the timely performance of any of the terms of this Permit, or the waiver of any particular breach of any of the terms of this Permit, at any time, will not be construed as a continuing waiver of those terms or any subsequent breach, and all terms will continue and remain in full force and effect as if no forbearance or waiver had occurred. Upon the occurrence of any default by Applicant, the District may, immediately and without the need for any prior notice, enforce the provisions of this Permit and may take any and all other actions necessary, in law or in equity, to collect all amounts due under this Permit or to enforce any of Applicant's other obligations under this Permit. The remedies provided for in this Permit are cumulative and not exclusive, and are in addition to any and all other remedies available to the District under North Dakota law. Applicant will be responsible for all of the District's costs and expenses, including reasonable attorneys' fees, incurred in enforcing, collecting, or attempting to collect under this Permit, or incurred in litigating the terms or validity of this Permit.
15. Special Conditions:

See attached sheet

Applicant agrees to the above terms and conditions. This application will become effective as a Permit upon execution by both Applicant and the District.

APPLICANT:

By: _____

Its: _____

MAPLE RIVER WATER
RESOURCE DISTRICT

Carol Harbeke Lewis
Secretary-Treasurer

Date Approved: _____

EXHIBIT A
Applicant's Plans

Jessica Creuzer

From: Grady Wolf
Sent: Thursday, June 01, 2017 11:37 AM
To: Jessica Creuzer
Subject: RE: Leonard Area Expansion Project

Thanks, I will pass along.

Grady Wolf
701-355-8726

From: Jessica Creuzer
Sent: Tuesday, May 30, 2017 11:29 AM
To: Grady Wolf <Grady.Wolf@kljeng.com>
Subject: FW: Leonard Area Expansion Project

See below for USFWS request to be contacted two weeks prior to construction by our client.

Jessica Creuzer
KLJ - West Fargo
701-271-5040
Ext. 6082

From: Sundseth, Kent [mailto:kent_sundseth@fws.gov]
Sent: Tuesday, May 30, 2017 11:26 AM
To: Jessica Creuzer <Jessica.Creuzer@kljeng.com>
Subject: Re: Leonard Area Expansion Project

Jessica,

Thanks for the update on this project. Please have your client get in touch with me at least two weeks prior to construction so that we can coordinate where boring should occur to avoid federally protected basins. Is this worked planned in the next month? Thanks for any additional details you can provide.

Kent

On Tue, May 30, 2017 at 9:38 AM, Jessica Creuzer <Jessica.Creuzer@kljeng.com> wrote:

Hello Kent,

We got a final determination from the client on their decision of the wetlands within the USFWS easement areas. They will be boring all wetlands along the project corridor and all guidelines would be followed. It is anticipated that a Cass Rural Water District representative will meet with someone from the USFWS prior to construction.

If you have any further questions, please don't hesitate to ask.

Thanks for your assistance with this matter!

Jessica Creuzer
KLJ - West Fargo
701-271-5040

Ext. 6082

From: Sundseth, Kent [mailto:kent_sundseth@fws.gov]
Sent: Wednesday, May 10, 2017 2:57 PM
To: Jessica Creuzer <Jessica.Creuzer@kljeng.com>
Subject: Fwd: Leonard Area Expansion Project

Hi Jessica,

Just wanted to follow up and see what you determined regarding the protected we discussed late last month. Please let me know what direction the contractor would like to move on this. Thanks!

Kent

----- Forwarded message -----

From: Sundseth, Kent <kent_sundseth@fws.gov>
Date: Fri, Apr 28, 2017 at 1:45 PM
Subject: Re: Leonard Area Expansion Project
To: Jessica Creuzer <Jessica.Creuzer@kljeng.com>

Hi Jessica,

Yes. The attached document shows the approximate boundaries of the protected wetlands near the proposed route in yellow. Please let me know if you have any questions. Thanks.

Kent

On Fri, Apr 28, 2017 at 11:43 AM, Jessica Creuzer <Jessica.Creuzer@kljeng.com> wrote:

Kent,

Would it be possible to identify the wetlands in the SE ¼ section of easements, so the client can make a more informed decision?

Jessica Creuzer
KLJ - West Fargo
701-271-5040

Ext. 6082

From: Sundseth, Kent [mailto:kent_sundseth@fws.gov]
Sent: Friday, April 28, 2017 10:49 AM
To: Jessica Creuzer <Jessica.Creuzer@kljeng.com>
Cc: Kurt Tompkins <kurt_tompkins@fws.gov>
Subject: Re: Leonard Area Expansion Project

Hi Jessica,

It was good speaking with you today regarding the Leonard Area Expansion project. As we discussed, there are two areas of the proposed waterline project that intersect with U.S. Fish and Wildlife Service wetland easements. The wetlands in these areas are protected from activities that would drain or fill them. When these type of projects occur in protected areas, we encourage utility planners to make changes in routing to avoid them when possible. When this isn't possible, we ask about possibilities of boring under the protected basins to a sufficient depth where the integrity of the basin is not compromised.

For the section of pipeline located on in Cass County Section 31 T.137N, R.52W on the north side of State Highway 46, routing the pipeline to the south side of the highway for a quarter section would avoid any areas protected by a wetland easement and eliminate the need for additional coordination. If this is not possible, we should discuss other options in detail.

For the section of pipeline located in Ransom County Section 10 T.136N, R.53W; wetlands in the north half of the northwest quarter are protected by a wetland easement. Moving to the other side of the road in this area encounters a higher density of wetlands that are also protected, so this would not be a good option. However, there is only a single protected wetland in the proposed path of the pipeline in Section 10. I have indicated the general location of this wetland with a dark yellow color in the attached document. If there is a possibility to bore under this wetland, this may be the best option. Our staff could identify the boundaries of the wetland on site at the appropriate time.

Please consider the options identified above and let me know how you would like to proceed. If you have additional questions, feel free to call me at 701 680-7592. Thanks!

Kent

On Fri, Apr 28, 2017 at 9:10 AM, Jessica Creuzer <Jessica.Creuzer@kljeng.com> wrote:

Hi Kent!

Just wanted to follow up on the close-up maps sent last week. Are the proposed waterlines in any current easements? If so, please call or respond by email so we can discuss options.

Thank you!

Jessica Creuzer
KLJ - West Fargo
701-271-5040

Ext. 6082

From: Jessica Creuzer
Sent: Tuesday, April 18, 2017 1:24 PM
To: 'Sundseth, Kent' <kent_sundseth@fws.gov>
Subject: RE: Leonard Area Expansion Project

Hi Kent,

Attached are close-up maps of the requested areas. Call me anytime – I'll be here until around 245 today but in at 7 tomorrow morning.

Jessica Creuzer
KLJ - West Fargo
701-271-5040

Ext. 6082

From: Sundseth, Kent [mailto:kent_sundseth@fws.gov]
Sent: Tuesday, April 18, 2017 11:21 AM

To: Jessica Creuzer <Jessica.Creuzer@klieng.com>
Subject: Leonard Area Expansion Project

Hi Jessica,

I was good catching up with you regarding the Leonard Area Expansion Project. Following is a list of the areas where additional detail regarding the proposed route of pipe for the project will help me determine whether a permit from the U.S. Fish and Wildlife Service is required:

Ransom County NE1/4 Section 9; Township 136N Range 53W

Ransom County NW1/4 Section 10; Township 136N Range 53W

Cass County SE1/4 Section 31; Township 137N Range 52W

If you can provide the proposed route on these parcels, I could then give you a call for additional coordination. Thanks and please give me a call at the number below or my cell at 701 680-7592 with any questions.

Kent

--

Kent Sundseth

Refuge Manager/Project Leader

Tewaukon National Wildlife Refuge/Wetland Management District

ph. 701 724-3598 ext. 111

fax 701 724-3683

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Kent Sundseth
Refuge Manager/Project Leader
Tewaukon National Wildlife Refuge/Wetland Management District
ph. 701 724-3598 ext. 2
fax 701 724-3683



Doug Burgum, Governor
Melissa Baker, Director
1600 East Century Avenue, Suite 3
Bismarck, ND 58503-0649
Phone 701-328-5357
Fax 701-328-5363
E-mail parkrec@nd.gov
www.parkrec.nd.gov

June 6, 2017

Jessica Criezer
KLJ
728 East Beaton Drive Suite 101
West Fargo, ND 58078-2650

Re: Western Prairie Fringed Orchid Locations – Cass Rural Water District

Dear Mr. Anderson,

The North Dakota Parks and Recreation Department has reviewed the above-proposed Cass Rural Water District Leonard Area Expansion project.

Our agency scope of authority and expertise covers recreation and biological resources (in particular rare plants and ecological communities). The project as defined does not affect state park lands that we manage but may affect Land and Water Conservation Fund recreation projects that we coordinate. Please refer to attached map and spreadsheet. For additional information regarding Land and Water Conservation Funds project contact Kevin Stankiewicz, at kstankiewicz@nd.gov, or (701) 328- 5364.

The North Dakota Natural Heritage biological conservation database is reviewed to determine if any current or historical plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, occurrences of *Platanthera praeclara* (Western prairie fringed orchid) have been identified within the project area and adjacent to the project area. Please see the attached spreadsheet and map for specific information on species of concern including ecological communities. We defer further comments regarding animal species to the North Dakota Game and Fish Department and the United States Fish and Wildlife Service.

The Department recommends that the project be accomplished with minimal impacts and that all efforts be made to ensure that critical habitats not be disturbed in the project area to help secure rare species conservation in North Dakota. Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

We appreciate your commitment to rare plant, animal and ecological community conservation, management and inter-agency cooperation to date. For additional information please contact me at (701-328-5370) or kduttenhefner@nd.gov. Thank you for the opportunity to comment on this proposed project.

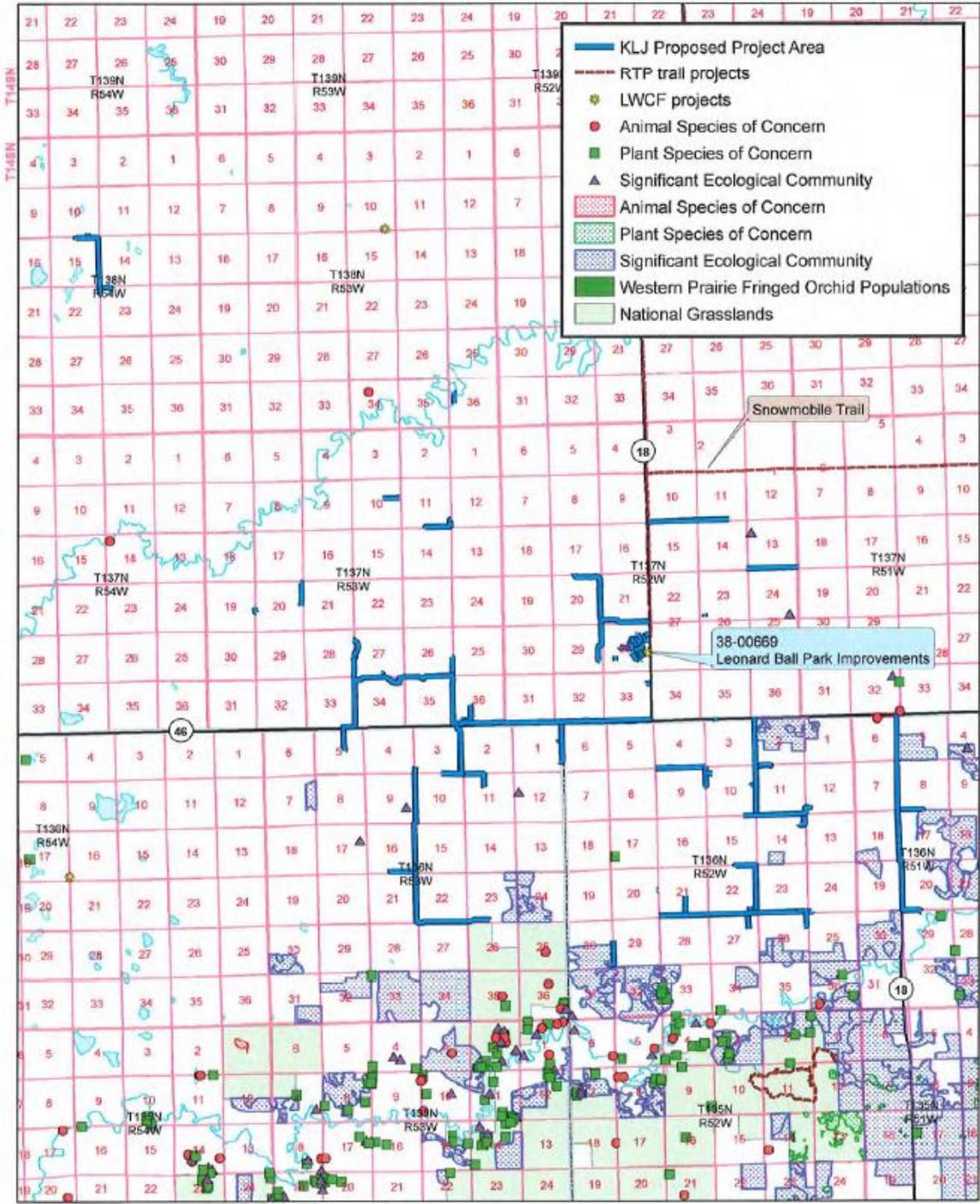
Sincerely,

Kathy Duttenhefner, Coordinator
Natural Resources Division

R:USNDNHP*2017_037KD26.6.2017DL6.7.2017

.....
Play in our backyard!

North Dakota Parks and Recreation Department North Dakota Natural Heritage Inventory



May 2017

North Dakota Natural Heritage Inventory
Rare Animal and Plant Species and Significant Ecological Communities

State Scientific Name	State Common Name	State Rank	Global Rank	Federal Status	Township Range Section	County	Last Observation	Estimated Representation Accuracy	Precision
<i>Alnus incana</i> /carex lacustris - (caltha palustris) swamp shrubland	Alder Thicket	S2	GNR		136N052W - 33; 136N052W - 32	Richland	1984-08-06	Very High	S
<i>Alnus incana</i> /carex lacustris - (caltha palustris) swamp shrubland	Alder Thicket	S2	GNR		136N052W - 36; 136N051W - 31	Richland	1997-08-21	Very High	S
<i>Alnus incana</i> /carex lacustris - (caltha palustris) swamp shrubland	Alder Thicket	S2	GNR		136N053W - 36; 136N052W - 31	Ransom, Richland	1987-08-12		S
<i>Andropogon gerardii</i> - (panicum virgatum) northern tallgrass prairie	Wet-mesic Tallgrass Prairie	S1	GNR		136N053W - 12	Ransom	1983-07-28		S
<i>Andropogon gerardii</i> - (panicum virgatum) northern tallgrass prairie	Wet-mesic Tallgrass Prairie	S1	GNR		136N053W - 17	Ransom	1983-07-28		S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Mesic Tallgrass Prairie	S1	GNR		136N051W - 04	Richland	1983-07-27		S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Mesic Tallgrass Prairie	S1	GNR		136N051W - 21; 136N051W - 22; 135N051W - 16; 136N051W - 20; 136N051W - 17	Richland	1997	Very High	S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Mesic Tallgrass Prairie	S1	GNR		136N053W - 09	Ransom	1983-07-28		S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Mesic Tallgrass Prairie	S1	GNR		136N053W - 34; 136N053W - 28; 135N053W - 04; 135N053W - 03; 135N053W - 02; 135N053W - 33; 136N053W - 35	Ransom	1997	Very High	S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Mesic Tallgrass Prairie	S1	GNR		137N051W - 32	Cass	1983-07-27		S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Mesic Tallgrass Prairie	S1	GNR		137N052W - 24	Cass	1983-07-27		S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Mesic Tallgrass Prairie	S1	GNR		136N051W - 21; 136N051W - 17; 136N051W - 09; 136N051W - 08; 136N051W - 20; 136N051W - 16	Richland	1997-10-29	Very High	S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Eastern Sand Prairie	S2	GNR		136N051W - 30; 136N052W - 26; 136N052W - 25; 136N052W - 35; 136N052W - 36	Richland	1997	Very High	S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Eastern Sand Prairie	S2	GNR		136N051W - 32; 136N051W - 33; 136N051W - 29; 136N051W - 28	Richland	1997	Very High	S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Eastern Sand Prairie	S2	GNR		136N052W - 31; 135N052W - 05; 136N052W - 04; 136N052W - 29; 136N052W - 33; 136N052W - 30; 136N052W - 32	Richland	1997	Very High	S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Eastern Sand Prairie	S2	GNR		136N052W - 34	Richland	1997	Very High	S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Eastern Sand Prairie	S2	GNR		136N052W - 35	Richland	1997	Very High	S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Eastern Sand Prairie	S2	GNR		136N052W - 36; 136N051W - 31	Richland	1997	Very High	S
<i>Andropogon gerardii</i> - (sorghastrum nutans - muhlenbergia richardsonii) tallgrass prairie	Eastern Sand Prairie	S2	GNR		136N053W - 34; 136N053W - 35; 135N053W - 03; 135N053W - 02	Ransom	1997-10-02	Very High	S
<i>Athyrium filix-femina</i>	Northern Lady-fern	S3	G5		136N052W - 33	Richland	1984-08-06		S
<i>Athyrium filix-femina</i>	Northern Lady-fern	S3	G5		136N052W - 36	Richland	1991-08-02		S

North Dakota Natural Heritage Inventory
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<i>Calamagrostis stricta</i> - carex lanuginosa wet meadow	Northern Reedgrass Wet Meadow	S2S3	GNR		136N051W - 05; 136N051W - 08	Richland	1997	Very High	S
<i>Calamagrostis stricta</i> - carex lanuginosa wet meadow	Northern Reedgrass Wet Meadow	S2S3	GNR		136N051W - 33; 136N051W - 35; 136N051W - 34; 136N051W - 28; 136N051W - 26; 136N051W - 27	Richland Cass	1997-08-21	Very High	S
<i>Calamagrostis stricta</i> - carex lanuginosa wet meadow	Northern Reedgrass Wet Meadow	S2S3	GNR		136N052W - 02; 136N052W - 03; 137N052W - 36	Richland	1997	Very High	S
<i>Calamovilfa longifolia</i> /andropogon hallii sand prairie	Sand Mixed Grass Prairie	S2	GNR		136N051W - 04; 136N051W - 09	Richland	1997	Very High	S
<i>Calamovilfa longifolia</i> /andropogon hallii sand prairie	Sand Mixed Grass Prairie	S2	GNR		136N051W - 27; 136N051W - 23; 136N051W - 33; 136N051W - 35; 136N051W - 34; 136N051W - 28; 136N051W - 26; 136N051W - 22	Richland	1997-09-03	Very High	S
<i>Calamovilfa longifolia</i> /andropogon hallii sand prairie	Sand Mixed Grass Prairie	S2	GNR		136N052W - 26; 136N052W - 36; 136N052W - 35; 136N052W - 25	Richland	1997	Very High	S
<i>Calamovilfa longifolia</i> /andropogon hallii sand prairie	Sand Mixed Grass Prairie	S2	GNR		135N052W - 31; 135N052W - 05; 136N052W - 30; 136N052W - 32; 135N052W - 04; 136N052W - 29; 136N052W - 33	Richland	1997	Very High	S
<i>Calamovilfa longifolia</i> /andropogon hallii sand prairie	Sand Mixed Grass Prairie	S2	GNR		136N052W - 36; 136N051W - 31	Richland	1997	Very High	S
<i>Calamovilfa longifolia</i> /andropogon hallii sand prairie	Sand Mixed Grass Prairie	S2	GNR		136N053W - 23; 136N053W - 26; 136N053W - 24; 136N053W - 25	Ransom	1997	Very High	S
<i>Calamovilfa longifolia</i> /andropogon hallii sand prairie	Sand Mixed Grass Prairie	S2	GNR		136N053W - 24	Ransom	1997	Very High	S
<i>Calamovilfa longifolia</i> /andropogon hallii sand prairie	Sand Mixed Grass Prairie	S2	GNR		136N053W - 32; 136N053W - 33; 136N053W - 29	Ransom	1997	Very High	S
<i>Cypripedium candidum</i>	White Lady's-slipper	S2	G4		136N052W - 17; 136N052W - 18; 136N052W - 07; 136N052W - 08; 136N052W - 09; 136N052W - 16; 136N053W - 24; 136N052W - 21; 136N052W - 20; 136N052W - 19; 136N053W - 13	Ransom; Richland	1938-06-01		M
<i>Cypripedium candidum</i>	White Lady's-slipper	S2	G4		136N053W - 33; 135N053W - 14; 136N053W - 36; 135N054W - 10; 135N053W - 08; 136N053W - 05; 136N053W - 27; 136N053W - 18; 136N054W - 25; 136N053W - 03; 135N054W - 13; 136N053W - 13; 135N052W - 05; 136N053W - 15; 136N053W - 30; 136N052W - 31; 136N052W - 20	Ransom; Richland	1974-06-09		G
<i>Cypripedium candidum</i>	White Lady's-slipper	S2	G4		137N051W - 32; 137N051W - 33	Cass	1994-05-29		S
<i>Dryopteris carthustana</i>	Spirulose Woodfern	S3	G5		136N052W - 32; 136N052W - 33	Richland	1984-08-06		S
<i>Dryopteris cristata</i>	Crested Woodfern	S3	G5		136N052W - 33; 136N052W - 32	Richland	1984-08-06		S
<i>Dryopteris cristata</i>	Crested Woodfern	S3	G5		136N053W - 36	Ransom	1995-09-28		S
<i>Equisetum pratense</i>	Meadow Horsetail	S2	G5		136N053W - 36	Ransom	1995-09-28		S

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<i>Euonymus atropurpureus</i>	Wahoo	S3	G5		136N051W - 24; 136N051W - 17; 136N051W - 12; 136N051W - 19; 136N051W - 16; 136N051W - 32; 136N051W - 21; 136N051W - 22; 136N051W - 28; 136N051W - 31; 136N051W - 33; 136N051W - 20; 136N051W - 30	Richland	1939-06-20		M
<i>Fraxinus pennsylvanica - celtis spp. - tilia americana - mixed forest</i>	Eastern Hardwood Forest	S3	GNR		136N052W - 35; 136N052W - 02	Richland	1997-08-21	Very High	S
<i>Fraxinus pennsylvanica - celtis spp. - tilia americana - mixed forest</i>	Eastern Hardwood Forest	S3	GNR		136N052W - 31	Richland	1987-06-12		S
<i>Fraxinus pennsylvanica - ulmus americana - (celtis occidentalis) forest</i>	Eastern Mixed Floodplain Forest	S1S2	GNR		135N052W - 06	Richland	1982		S
<i>Fraxinus pennsylvanica - ulmus americana - (celtis occidentalis) forest</i>	Eastern Mixed Floodplain Forest	S1S2	GNR		136N052W - 32; 136N052W - 33	Richland	1982-06-18	Very High	S
<i>Fraxinus pennsylvanica - ulmus americana - (celtis occidentalis) forest</i>	Eastern Mixed Floodplain Forest	S1S2	GNR		136N052W - 36; 135N052W - 02; 136N052W - 35	Richland	1997-08-21	Very High	S
<i>Hesperia dacotae</i>	Dakota Skipper	S2	G2	LT	136N051W - 06; 137N051W - 32	Cass, Richland	1991-06-22	Medium	S
<i>Hesperia dacotae</i>	Dakota Skipper	S2	G2	LT	136N053W - 36; 136N053W - 35; 136N052W - 31; 135N052W - 07; 135N053W - 01; 135N052W - 06; 136N053W - 26; 135N052W - 05; 135N053W - 12; 136N052W - 30; 135N053W - 02; 136N052W - 32; 136N053W - 25	Ransom, Richland	1973-07-05	Low	M
<i>Notropis heterolepis</i>	Blacknose Shiner	S3	G4		135N053W - 01; 136N053W - 35; 136N052W - 31; 135N052W - 07; 135N052W - 06; 136N053W - 36; 135N052W - 05; 135N053W - 12; 136N052W - 30; 135N053W - 02; 136N052W - 32; 135N053W - 25	Ransom, Richland	1977-08-03		M
<i>Oarisma poweshiek</i>	Poweshiek Skipperling	SNR	G2G3	LE	136N051W - 06; 137N051W - 32	Richland	1990-06-28	Medium	S
<i>Oenothera rhombipetala</i>	Rhombic Evening-primrose	S2	G4G5		136N051W - 28; 136N051W - 29	Richland	1908-08-05		S
<i>Onoclea sensibilis</i>	Sensitive Fern	S2	G5		136N052W - 32; 136N052W - 33	Richland	1984		S
<i>Onoclea sensibilis</i>	Sensitive Fern	S2	G5		136N052W - 36	Richland	1993		S
<i>Panicum virgatum-calamagrostis stricta-andropogon gerardii wet mesic prairie</i>	Wet Mesic Tall Grass Prairie, Sand	S2	G3G4		136N051W - 04; 136N051W - 09; 135N051W - 03; 136N051W - 10	Richland		Very High	
<i>Panicum virgatum-calamagrostis stricta-andropogon gerardii wet mesic prairie</i>	Wet Mesic Tall Grass Prairie, Sand	S2	G3G4		136N051W - 08; 136N051W - 05	Richland		Very High	
<i>Panicum virgatum-calamagrostis stricta-andropogon gerardii wet mesic prairie</i>	Wet Mesic Tall Grass Prairie, Sand	S2	G3G4		136N051W - 19; 136N052W - 13; 136N051W - 18	Richland		Very High	
<i>Panicum virgatum-calamagrostis stricta-andropogon gerardii wet mesic prairie</i>	Wet Mesic Tall Grass Prairie, Sand	S2	G3G4		136N051W - 31; 136N052W - 26; 136N051W - 29; 136N052W - 35; 136N051W - 30	Richland		Very High	
<i>Panicum virgatum-calamagrostis stricta-andropogon gerardii wet mesic prairie</i>	Wet Mesic Tall Grass Prairie, Sand	S2	G3G4		136N051W - 33; 136N051W - 34; 136N051W - 28; 136N051W - 27	Richland		Very High	

North Dakota Natural Heritage Inventory
Rare Animal and Plant Species and Significant Ecological Communities

State Scientific Name	State Common Name	State Rank	Global Rank	Federal Status	Township Range Section	County	Last Observation	Estimated Representation Accuracy	Precision
<i>Panicum virgatum-calamagrostis stricta</i>	Wet Mesic Tall Grass Prairie, Sand	S2	G3G4		136N052W - 01, 137N051W - 34; 149N052W - 36; 136N052W - 02	Richland		Very High	
<i>Panicum virgatum-calamagrostis stricta</i>	Wet Mesic Tall Grass Prairie, Sand	S2	G3G4		136N052W - 14	Richland		Very High	
<i>Panicum virgatum-calamagrostis stricta</i>	Wet Mesic Tall Grass Prairie, Sand	S2	G3G4		136N053W - 24; 136N053W - 23	Ransom		Very High	
<i>Panicum virgatum-calamagrostis stricta</i>	Wet Mesic Tall Grass Prairie, Sand	S2	G3G4		136N053W - 25; 136N053W - 24	Ransom		Very High	
<i>Panicum virgatum-calamagrostis stricta</i>	Wet Mesic Tall Grass Prairie, Sand	S2	G3G4		136N053W - 26; 136N053W - 24; 136N053W - 23; 136N053W - 25	Ransom		Very High	
<i>Panicum virgatum-calamagrostis stricta</i>	Wet Mesic Tall Grass Prairie, Sand	S2	G3G4		136N053W - 36; 136N052W - 30; 136N053W - 35; 136N053W - 26; 136N053W - 25; 135N053W - 01; 135N053W - 02; 136N052W - 06	Ransom, Richland	1955-05-18		M
<i>Plectidion septentrionalis</i>	Northern Prairie Skink	S2S3	G5		136N052W - 26; 136N052W - 35	Richland	1997-09-03	Very High	S
<i>Quercus macrocarpa</i> - (Quercus ellipsoidalis) / <i>Schizachyrium scoparium</i> - Koeleria macrantha Wooded Herbaceous Vegetation	Northern Oak Barrens	SNR	G2		136N052W - 26; 136N052W - 30; 136N052W - 32	Richland	1997	Very High	S
<i>Quercus macrocarpa</i> - (Quercus ellipsoidalis) / <i>Schizachyrium scoparium</i> - Koeleria macrantha Wooded Herbaceous Vegetation	Northern Oak Barrens	SNR	G2		136N052W - 32; 136N052W - 29; 136N052W - 33	Richland	1997-09-17	Very High	S
<i>Quercus macrocarpa</i> - (Quercus ellipsoidalis) / <i>Schizachyrium scoparium</i> - Koeleria macrantha Wooded Herbaceous Vegetation	Northern Oak Barrens	SNR	G2		136N052W - 32; 136N053W - 27; 135N051W - 18; 135N052W - 30; 135N052W - 24; 136N051W - 30; 135N053W - 02; 136N053W - 34; 135N052W - 27; 136N052W - 34; 135N052W - 15; 136N051W - 09; 136N051W - 19; 135N053W - 13; 136N052W - 25; 136N052W - 19; 136N053W - 12	Ransom, Richland	1952-06-12		G
<i>Ranunculus recurvatus</i>	Hooked Crowfoot	S1	G5		136N052W - 32; 136N052W - 28; 136N052W - 02; 135N053W - 24; 135N052W - 21; 136N052W - 24; 135N052W - 09; 136N052W - 31; 136N052W - 12; 135N053W - 12; 135N052W - 19; 136N052W - 06; 136N052W - 29; 135N053W - 23; 136N053W - 33; 136N053W - 15; 135N053W - 14	Ransom, Richland	1952-06-12		G
<i>Sanicula gregaria</i>	Cluster Sanicle	SH	G4Q		136N051W - 08; 136N051W - 05	Richland	1997-08-25	Very High	S
<i>Schizachyrium scoparium-stipa spartea-touteloua curtipendula sand prairie</i>	Dry Mesic Tall Grass Prairie, Sand	S2	G2G3		136N051W - 22; 136N051W - 16; 135N051W - 20; 136N051W - 21; 136N051W - 17	Richland	1997-10-29	Very High	S
<i>Schizachyrium scoparium-stipa spartea-touteloua curtipendula sand prairie</i>	Dry Mesic Tall Grass Prairie, Sand	S2	G2G3		136N051W - 22; 136N051W - 16; 135N051W - 20; 136N051W - 21; 136N051W - 17	Richland	1997-10-29	Very High	S
<i>Schizachyrium scoparium-stipa spartea-touteloua curtipendula sand prairie</i>	Dry Mesic Tall Grass Prairie, Sand	S2	G2G3		136N051W - 31; 136N052W - 36	Richland	1997-08-20	Very High	S

North Dakota Natural Heritage Inventory
Rare Animal and Plant Species and Significant Ecological Communities

State Scientific Name	State Common Name	State Rank	Global Rank	Federal Status	Township Range Section	County	Last Observation	Estimated Representation Accuracy	Precision
<i>Schizachyrium scoparium-stipa spartea-bouteloua curtipendula sand prairie</i>	Dry Mesic Tall Grass Prairie, Sand	S2	G2G3		136N051W - 31; 136N052W - 36; 136N052W - 26; 136N051W - 29; 136N052W - 35; 136N053W - 25; 136N051W - 30	Richland	1997-08-20	Very High	S
<i>Schizachyrium scoparium-stipa spartea-bouteloua curtipendula sand prairie</i>	Dry Mesic Tall Grass Prairie, Sand	S2	G2G3		136N053W - 24	Ransom	1997-10-01	Very High	S
<i>Schizachyrium scoparium-stipa spartea-bouteloua curtipendula sand prairie</i>	Dry Mesic Tall Grass Prairie, Sand	S2	G2G3		136N053W - 26; 136N053W - 24; 136N053W - 23; 136N053W - 25	Ransom	1997-10-01	Very High	S
<i>Schizachyrium scoparium-stipa spartea-bouteloua curtipendula sand prairie</i>	Dry Mesic Tall Grass Prairie, Sand	S2	G2G3		136N053W - 29; 136N053W - 37; 136N053W - 33	Ransom	1997-10-02	Very High	S
<i>Spartina pectinata - calamagrostis stricta - carex spp. herbaceous vegetation</i>	Wet Prairie	S2S3	GNR		136N051W - 30; 136N051W - 29	Richland	1997	Very High	S
<i>Spartina pectinata - calamagrostis stricta - carex spp. herbaceous vegetation</i>	Wet Prairie	S2S3	GNR		136N053W - 07; 136N053W - 08	Ransom	1997	Very High	S
<i>Spartina pectinata - calamagrostis stricta - carex spp. herbaceous vegetation</i>	Wet Prairie	S2S3	GNR		137N052W - 13	Cass	1982-07-28		S
<i>Sparganium angustifolium</i>	Regal Fritillary	S2	G3		137N051W - 33; 137N051W - 32	Cass	1991-07-01		S
<i>Thelypteris palustris</i>	Marsh Fern	S3	G5		136N052W - 33	Richland	1984-08-06		S
<i>Tympanuchus cupido</i>	Greater Prairie-chicken	SNR	G4		136N053W - 25	Ransom	1983		S

Recreation Trails Program Projects

<u>Project Name</u>	<u>Project Number</u>
Snowmobile Trail	multiple

North Dakota Natural Heritage Inventory Biological and Conservation Data Disclaimer

The quantity and quality of data collected by the North Dakota Natural Heritage Inventory are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in North Dakota have never been thoroughly surveyed, and new species are still being discovered. For these reasons, the Natural Heritage Inventory cannot provide a definite statement on the presence, absence, or condition of biological elements in any part of North Dakota. Natural Heritage data summarize the existing information known at the time of the request. Our data are continually upgraded and information is continually being added to the database. This data should never be regarded as final statements on the elements or areas that are being considered, nor should they be substituted for on-site surveys.

Estimated Representation Accuracy

Value that indicates the approximate percentage of the Element Occurrence Representation (EO Rep) that was observed to be occupied by the species or community (versus buffer area added for locational uncertainty). Use of estimated representation accuracy provides a common index for the consistent comparison of EO reps, thus helping to ensure that aggregated data are correctly analyzed and interpreted.

Very high (>95%)

High (>80%, <= 95%)

Medium (>20%, <= 80%)

Low (>0%, <= 20%)

Unknown

(null) - Not assessed

Precision

A single-letter code for the precision used to map the Element Occurrence (EO) on a U.S. Geological Survey (USGS) 7.5' (or 15') topographic quadrangle map, based on the previous Heritage methodology in which EOs were located on paper maps using dots.

S - Seconds: accuracy of locality mappable within a three-second radius; 100 meters from the centerpoint

M - Minute: accuracy of locality mappable within a one-minute radius; 2 km from the centerpoint

G - General: accuracy of locality mappable to map or place name precision only; 8 km from centerpoint

U - Unmappable



Appendix C

North Dakota Department of Transportation

2014 Standard Specifications

Section 251: Seeding

SECTION 251 SEEDING

251.01 DESCRIPTION

This work consists of seeding disturbed areas.

251.02 EQUIPMENT

A. Class I, II, III, and Wetland Seed Mixture Equipment.

Use a grass drill equipped with double disk furrow openers that are:

- Spaced no greater than 8 inches apart;
- Individually mounted;
- Adjustable;
- Spring loaded;
- Capable of planting seeds at depths between 1/4 and 3/4 inches; and
- Packer wheels meeting one of the following requirements:
 - Mounted individually to each furrow opener and have an adjustable spring tension; or
 - Mounted independently with a press wheel positioned to follow directly behind each furrow opener.

Equip the seed box with:

- A positive feed mechanism that meters seed in a uniform manner with agitators that prevent seed bridging; and
- Baffles or partitions that keep all seeds uniformly mixed during drilling.

If chaffy native grasses (sideoats grama, big bluestem, or Indiangrass) are part of the seed mixture, equip the seed box with a positive picker-wheel mechanism with oversize teeth and auger style agitators that meters the chaffy native grasses either in a mixture or separately in a uniform manner.

B. Temporary Cover Crop Seed Mixture Equipment.

Use a seed drill that provides a uniform flow of seed at the required rate and a planting depth between 1/2 and 1 1/2 inches.

251.03 MATERIALS

A. General.

Furnish seed that meets or exceeds Pure Live Seed requirements for the specified seed.

Use seed that contains no prohibited noxious weed seeds and contains less than 25 seeds per pound of restricted noxious weed seeds. North Dakota Department of Agriculture classifies noxious weeds at www.nd.gov/ndda.

The Engineer will not accept seed that is wet, moldy, or damaged.

B. Seed Testing.

Provide seed that has been tested for purity and germination within 12 months of the planting date by one of the following methods:

- North Dakota Seed Department, Seed Lab;

- Commercial seed testing lab; or
- A registered member of the Society of Commercial Seed Analysts.

Provide the certified test report before beginning seeding operations.

C. Labeling.

Provide a label for each bag of seed that meets the requirements of the North Dakota State Seed Department. The labeling requirements can be found at the following location:

<http://www.nd.gov/seed/index.aspx>

D. Seed Class.

Provide the minimum amount of seed per acre shown in Table 251-01. The mix requirements for Class III seed will be specified in the plans.

**TABLE 251-01
Seed Class Mix Requirements**

Grass Species	Variety	Pounds Pure Live Seed Per Acre
Class I		
Kentucky Blue Grass	Park	4.0
Perennial Rye Grass	--	5.4
Blue Grama	Bad River	2.4
Sideoats Grama ¹	Killdeer, Pierre, Butte	7.2
TOTAL		19.0
Class II – Early Season		
Western Wheatgrass	Rodan, Rosana, Walsh, Flintlock, W.R. Poole, Recovery	9.6
Switchgrass	Dacotah, Forestburg, or Sunburst, Summer	3.2
Green Needlegrass	Lodorm, AC Mallard, Fowler	2.4
Sideoats Grama ¹	Killdeer, Pierre, Butte	3.6
Slender Wheatgrass	Revenue, Primar, Adanac, Pryor, Firstrike	5.0
TOTAL		23.8
Class II – Late Season		
Western Wheatgrass	Rodan, Rosana, Walsh, Flintlock, W.R. Poole, Recovery	9.6
Switchgrass	Dacotah, Forestburg, or Sunburst, Summer	1.6
Green Needlegrass	Lodorm, AC Mallard, Fowler	3.6
Canada Wild-rye	Mandan	5.2
Slender Wheatgrass	Revenue, Primar, Adanac, Pryor, Firstrike	5.0
TOTAL		25.0

¹ Substitute Thickspike or Stream bank Wheatgrass of the Critana, Banstock, Sodar, AC Polar or Elbee variety if Sideoats Grama is unavailable.

E. Temporary Cover Crop.

Provide a temporary cover crop that consists of oats. Spread at a rate of 64 pounds pure live seed per acre.

F. Wetland Seed.

Provide the minimum amount of seed per acre shown in Table 251-02.

**TABLE 251-02
Wetland Seed Mix**

Grass			Pounds Pure Live Seed Per Acre	
Common Name	Scientific Name	Variety	East of HWY 83	West of HWY 83
Prairie Cord Grass	<i>Spartina pectinata</i>	Red River	1.1	1.1
American Slough Grass	<i>Beckmannia syzigachne</i>	Common	0.2	0.2
Fowl Blue Grass	<i>Poa palustris</i>	Common	0.2	0.2
Fox Sedge	<i>Carex vulpinoidea</i>	Common	0.2	0.2
American Manna Grass ¹	<i>Glyceria grandis</i>	Common	0.2	0.2
Fowl Manna Grass ¹	<i>Glyceria striata</i>	Common	0.1	0.1
Bluejoint Grass ²	<i>Calamagrostis canadensis</i>	Common	0.1	0.1
Virginia Wild-rye	<i>Elymus virginicus</i>	Omaha	2.0	---
Canada Wild-rye	<i>Elymus canadensis</i>	Mandan	---	1.3
Total			4.1	3.4

¹ American, Fowl, or both may be used. If only one is used the seeding rate of other species does not need to be increased.

² Seed may not be available and can be removed without increasing the seeding rate of other species.

G. Fertilizer.

Use a fertilizer mixture that contains a minimum of 20 pounds of nitrogen (N) and 20 pounds of phosphorous (P₂O₅) per acre.

251.04 CONSTRUCTION REQUIREMENTS**A. General.**

Clear seeding areas of all deleterious materials. Shape the cleared areas before seeding.

Do not place seed in frozen ground or in standing water.

Operate equipment parallel to the contours of the ground.

B. Seedbed Preparation.

Cultivate or disk topsoil to a depth of approximately 3 inches. Break up lumps and clods exposed by the initial pass of tillage equipment into pieces less than 1 inch in diameter. Remove materials greater than 1 inch in diameter that cannot be broken up. Construct a smooth and firm seedbed that allows seeds to be placed at a depth between 1/4 and 3/4 inches.

Do not cultivate or disk topsoil if temporary cover crop has achieved greater than 25 percent vegetative coverage determined by the Engineer.

Round the tops of backslopes before seeding.

Cover the exposed backslope with existing topsoil during the finish grading work without loading and transporting the topsoil.

Leave seedbeds that are to be hydraulic mulched with seed in loose condition.

Mow temporary cover crop to a height between 8 and 10 inches before placing final seed mixture.

C. Seasonal Limitations.

If seeding is required before April 20 or between July 16 and August 9, plant a temporary cover crop as specified in [Section 251.03 E, "Temporary Cover Crop"](#). Re-seed the area with the specified seed mixture between April 20 and July 15 or after August 10 and before the ground freezes.

If planting Class II seed between April 20 and July 15, use the Class II – Early Season seed mixture specified in Table 251-01.

If planting Class II seed after August 10 and before the ground freezes, use the Class II – Late Season mixture specified in Table 251-01.

D. Seeding Requirements.

1. Class I, II, III, and Wetland Seeding Requirements.

Plant seeds to a depth between 1/4 and 3/4 inches.

2. Other Equipment Seeding Requirements.

Employ other methods in areas that are inaccessible to a grass drill.

Use a drag harrow to cover the seed. Use a light-weight packer over the seeded area.

Seed only when wind is less than 15 mph when not using a grass drill.

E. Fertilizer.

Only apply fertilizer to sites where less than 2 inches of topsoil is available. Apply fertilizer before placing topsoil.

251.05 METHOD OF MEASUREMENT

The Engineer will measure, completed and in place, as specified in Section 109.01, "Measurement of Quantities".

251.06 BASIS OF PAYMENT

Pay Item	Pay Unit
Seeding Class	Acre or Mile
Wetland Seed	Acre or Mile
Temporary Cover Crop	Acre or Mile
Fertilizer	Acre

Such payment is full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

