NEBRASKA

Good Life. Great Resources.

DEPT. OF ENVIRONMENT AND ENERGY

Jim Pillen, Governor

CLEAN WATER STATE REVOLVING LOAN FUND PROGRAM
FINDING OF NO SIGNIFICANT IMPACT (FNSI)

TO: All Interested Citizens, Government Agencies and Public Groups

In accordance with the Nebraska Clean Water State Revolving Fund environmental review process, which is based on the National Environmental Policy Act, an environmental review has been performed on the proposed agency action below.

This information reviews the environmental impact likely from a project. This project is planned to be federally funded through your tax dollars; therefore, you are entitled to take part in its review. If you have concerns about the environmental impact of this project, please provide them at this time. The Nebraska Department of Environment and Energy (NDEE) encourages public input in this decision-making process.

PROJECT NAME:	Wastewater Collection System and Wastewater Treatment Facility
APPLICANT:	Village of Mullen, NE
COUNTY:	Hooker County
POPULATION:	500 (2020 Census)
CWSRF PROJECT NUMBER:	C318071
TOTAL PROJECT AMOUNT:	$935,800
TOTAL LOAN FORGIVENESS:	$477,345
PROPOSED CWSRF LOAN AMOUNT:	$458,455

The Village of Mullen is in Hooker County in western northcentral Nebraska. Industry in the area is limited to agricultural related activity. State Highways Nos. 2 & 97 provide transportation routes through the area. The population within the Village of Mullen has been decreasing over the past few decades. According to the 2020's census, the current population of Village of Mullen is 500.

According to the records of the existing collection and treatment systems that were retrieved from the Village of Mullen and NDEE, the community began to construct the collection system in 1938. The Village constructed a treatment facility that consisted of a sludge bed for separating solids from liquid and then filtering the remaining fluid through sand bed to groundwater. Then this treatment facility was renovated to incorporate a series of small lagoons in the mid-1960's. On October 6, 2011, the Village submitted an NPDES noncompliance report to NDEE, reporting a concentration of total suspended solids (TSS) of 140 mg/L, exceeding the maximum allowable concentration of 120 mg/L established by the treatment facility's NPDES permit. NDEE performed a NPDES lagoon system compliance inspection on October 10, 2013. The measured influent flow rate of approximately 122,000 gpd significantly exceeded both the flow rate expected for a community of Mullen's size and the design flow rate of 80,000 gpd.

Village staff, including the clerk and operator, have identified several locations where problems frequently arise in the collection system, requiring regular attention and maintenance. In detail, ***Location #1***: The existing 6" main between NW 1st Street and NW 2nd Street along Veteran Avenue contains a vertical drop in the pipe approximately 300 feet north of the manhole at NW 1st street. The vertical drop prevents maintenance jetting and video inspection, and creates a condition for the deposition of solids, constricting flow in pipe. Potential solutions include replacing the entire reach and eliminating the drop or plugging the reach and redirecting flow through a new reach along NW 2nd Street, between Veteran Avenue and McShane Avenue. ***Location #2***: The existing 6" main between NW 1st Street and Railroad Street along Veteran Avenue does not connect either of the two existing manholes at the intersection of NW 1st Street and Veteran Avenue. As the two adjacent manholes at this intersection tend to impede flow, it provides an alternative flow path. Additionally, both this reach and the downstreet reach along Railroad Street, east of Veteran Avenue, are bituminous fiber pipe and need to be replaced with a more resilient material. ***Location #3***: A past video inspection, which was not able to be located for review as a part of this study, indicated extensive sags and root intrusion in the reach of the 6" main between Veteran Avenue and Lincoln Avenue along SW 2nd Street. New video inspection is required to determine the extent of deficiencies along this reach. ***Location #4***: Two parallel reaches of 6" main are present between SW 2nd Street and SW 3rd Street along Cleveland Street, which has resulted in maintenance issues. Consolidating these parallel mains would improve access and facilitate better maintenance. ***Location #5***: No manhole exists at the 90-degree bend in the existing 6" main at the intersection of NE 2nd Street and Eastern Avenue. A manhole is required to facilitate cleaning, inspection, and maintenance. ***Location #6***: That past video inspection also reportedly documented extensive sand deposits in the reach of 6" main between NE 2nd Street and NE 3rd Street along Washington Avenue. It is presumed this debris is originating at the High School campus. ***Location #7***: Frequent backups have been experienced within the 6" main along Columbus Avenue between NE 3rd Street and NE 4th Street due to insufficient pipe slopes. This issue has been partially remedied by the installation of a new 6" PVC main along the same corridor, which could benefit from additional access structures for maintenance. ***Locations #8, #9 and #10***: The existing manholes at these three locations (the intersections of NW 2nd Street and Lincoln Avenue, NE 1st Street and Washington Avenue, and SW 2nd Street and Veteran Avenue, respectively) exhibit extensive deterioration and require rehabilitation or replacement.

Communities in Nebraska are increasingly turning to seasonal land application as a means to limit the surface discharge of ammonia and other nutrients from entering receiving streams. The Village of Mullen has utilized land application in the past to manage wastewater but does not have permanent land application equipment. To accommodate Mullen's population, land application could be relied on in the future to drawdown water levels in the lagoon cells to serviceable depths, as necessary. Could be, as the needed collection system improvements will first be constructed and the impacts assessed to rule out the improbable alternative of additional lagoon cell. Thus the likely benefit of the land application alternative, is that expansion of the existing facility not being required as part of this phased project approach.

The land surrounding the existing lagoon site that is owned by the Village is proposed for the land application alternative. Assuming a seepage rate of 1/16" per day, and an application time of 12 weeks with the selected design flow of 46,200 gpd, the Village would need a minimum of 11.5 acres of ground for land application. It is anticipated that the Village could use property they own west of the existing facility, which includes over 20 acres of area. The Village would also have the option to

negotiate with landowners to irrigate their land. Land application sites shall meet setback and buffer zone requirements. Land application sites shall not be located within or adjacent to residential areas and effluent shall not exceed the land application site boundaries. The application area shall be 500 feet from any public drinking water well and 100 feet from any private drinking water well or inhabited roadways. The land application of the effluent shall not be conducted when the ground is frozen or saturated and shall only be applied to sites having slope of greater than 12%. It is believed there is sufficient land remaining to land apply and meet the regulations. Treated wastewater shall not be applied to crops that are intended for distribution in their raw form for direct human consumption. Treated effluent shall be only land applied at an agronomic rate. The total hydraulic application rate shall be based on weekly local crop uptake values. The total hydraulic application rate shall not exceed 2 inches per acre (54,308 gallons per acre) per week. With the use of land application there shall be no impairment to the beneficial use of groundwater. Any substance introduced directly or indirectly by human activity shall not be allowed to exceed the applicable standards for groundwater. The distance of land surface to the seasonal high groundwater level shall be, at minimum, greater than 4 feet. The effluent shall be monitored for the following parameters, pH, Total Kjeldahl Nitrogen, Nitrate as Nitrogen, Ammonia as Nitrogen, Total Dissolved Solids, Chloride, Phosphorus, Potassium, and Sodium Adsorption Ratio (SAR).

Numerous federal, state, and local agencies were asked to review the project for environmental impacts. A response was made to the Village's engineer that the project may affect, but is not likely to adversely affect a threatened species habitat. A Public Hearing was held February 8, 2024, at the Village Hall and convened at 5:30 PM. The hearing was advertised 35 days in advance. The purpose of the public hearing was to discuss the proposed engineering report, impact to rates, any needed mitigation measures, and to meet Clean Water State Revolving Fund (CWSRF) criteria. All local citizens and any other interested parties, governmental agencies or groups were encouraged to comment. No public comments were made.

The project is eligible for financing through the CWSRF and is included on the Priority Funding List in the State Fiscal Year 2024 Intended Use Plan. The total estimated project cost is $935,800. The Village is eligible for a 20-year loan at an interest rate of 0.75 percent. In addition to principal and interest payments, an administrative fee of 0.75 percent of the principal balance will be assessed each year. The revenues from Mullen's wastewater utility will be dedicated to repaying the loan. The projected annual CWSRF Debt Service (including 10% coverage) for the project is $30,939. For a typical residential connection, the current monthly rate is a flat fee of $15.25. Based on 337 active service connections, monthly household rates may need to be raised $7.65 to pay for the new debt service.

The project was planned to ensure that no segment of the community's population is impacted disproportionately from related effects. Consequently, a preliminary decision has been made that an Environmental Impact Statement (EIS) will not be prepared.

This action is taken based on a careful review of the engineering reports and other supporting data that are on file with NDEE. All are available for public review upon request. A copy of the environmental assessment is attached. The NDEE will not take any administrative action on the project for at least 30 calendar days from the date shown below. Persons having a comment on this

determination are encouraged to submit directly to the NDEE SRF Program at ndee.srf@nebraska.gov, or at 402-471-4200.

Signed this 7th day of June, 2024.

Sincerely,

Sarah Starostka, Administrator
Planning & Aid Division

Attachments: Environmental Assessment
Distribution List
Maps

ENVIRONMENTAL ASSESSMENT DOCUMENT

A. **Project Identification:**
Applicant: Village of Mullen
Project No.: C318071
City: Village of Mullen **County:** Hooker County **State:** NE
Estimated Project Cost: $935,800
Loan Forgiveness Amount: $477,345
Principal Amount: 458,455

B. **Community Description:**

Location: The Village of Mullen is located in Hooker County in western northcentral Nebraska.

Population: The community has experienced decreasing population over the past few decades. According to the 2020 census, the current population of Village of Mullen is 500.

Current Collection System and Wastewater Facilities: Roughly one-third of the Village's existing collection system was constructed in the late 1930's and was comprised of a network of vitrified clay pipe (VCP) and brick manhole structures. The configuration of the existing collection system documented by a recent inventory shows numerous deviations from the original plans, both in terms of location and pipe size. These deviations may have been constructed during the original construction or may reflect later revisions to the system's configuration. Subsequent additions to the collection system are known to have included bituminous fiber pipe, polyvinyl chloride (PVC) pipe, additional VCP, and precast concrete manholes. Village staff, including the clerk and operator, have identified several locations where problems frequently arise in the collection system, requiring regular attention and maintenance. In detail, ***Location #1***: The existing 6" main between NW 1st Street and NW 2nd Street along Veteran Avenue contains a vertical drop in the pipe approximately 300 feet north of the manhole at NW 1st street. The vertical drop prevents maintenance jetting and video inspection, and creates a condition for the deposition of solids, constricting flow in pipe. Potential solutions include replacing the entire reach and eliminating the drop or plugging the reach and redirecting flow through a new reach along NW 2nd Street, between Veteran Avenue and McShane Avenue. ***Location #2***: The existing 6" main between NW 1st Street and Railroad Street along Veteran Avenue does not connect either of the two existing manholes at the intersection of NW 1st Street and Veteran Avenue. As the two adjacent manholes at this intersection tend to impede flow, it provides an alternative flow path. Additionally, both this reach and the downstreet reach along Railroad Street, east of Veteran Avenue, are bituminous fiber pipe and need to be replaced with a more resilient material. ***Location #3***: A past video inspection, which was not able to be located for review as a part of this study, indicated extensive sags and root intrusion in the reach of the 6" main between Veteran Avenue and Lincoln Avenue along SW 2nd Street. New video inspection is required to determine the extent of deficiencies along this reach. ***Location #4***: Two parallel reaches of 6" main are present between SW 2nd Street and SW 3rd Street along Cleveland Street, which has resulted in maintenance issues. Consolidating these parallel mains would improve access and facilitate better maintenance. ***Location #5***: No manhole exists at the 90-degree bend in the existing 6" main at the intersection of NE 2nd Street and Eastern Avenue. A manhole is required to facilitate cleaning, inspection, and maintenance. ***Location #6***: That past video inspection also reportedly documented extensive sand deposits in the reach of 6" main between NE 2nd Street and NE 3rd Street along Washington Avenue. It is presumed this debris is originating at the High School

campus. ***Location #7***: Frequent backups have been experienced within the 6" main along Columbus Avenue between NE 3rd Street and NE 4th Street due to insufficient pipe slopes. This issue has been partially remedied by the installation of a new 6" PVC main along the same corridor, which could benefit from additional access structures for maintenance. ***Locations #8, #9 and #10***: The existing manholes at these three locations (the intersections of NW 2nd Street and Lincoln Avenue, NE 1st Street and Washington Avenue, and SW 2nd Street and Veteran Avenue, respectively) exhibit extensive deterioration and require rehabilitation or replacement.

The original dual-cell waste stabilization pond facility was constructed in 1965, with the third cell being added later, but prior to 1985. The three cells have a combined surface area of 7.0 acres. Cell #1 has an area of 1.8 acres, Cell #2 has 1.5 acres, the system is typically operated in parallel, with influent to Cell #1 and Cell #2. This resulted in 18.1 lbs/day per acre of Biological Oxygen Demand (BOD) and 7.5 lbs/day per acre of BOD and Total Suspended Solids (TSS), respectively, to Cell #1 and 21.7 lbs/day per acre and 9.0 lbs/day per acre of BOD and TSS, respectively, to Cell #2. A concern for aging wastewater treatment lagoons is the accumulation of sludge in the treatment ponds. Cell #1 sludge depth ranged between 1' to 1.5' in depth and appeared to be consistent throughout the cell. Cell #2 sludge depth range between 1' to 2' in depth with more accumulation measured on the east end of the cell. Cell #3 sludge depth ranged between 1' and 2' in depth with more accumulation in the northeast portion of the cell. To evaluate the existing stabilization ponds, the design flow of 46,200 gpd flowing through the WWTF was used. Annual precipitation and evaporation rates for this area are 18 inches and 44 inches per year, respectively. Using the maximum allowable seepage rate of 1/8 inch per day indicates that approximately 8.5 acres of wetted surface area would be required to operate as a complete retention facility. Designing a new facility with a seepage rate of 1/16 inch per day would require approximately 12.3 acres for a complete retention facility. If a land application alternative were considered, 270 days of storage would be needed and at 1/16 inch per day seepage, 6.5 acres of wetted surface area is required.

Project Description: Failing wastewater infrastructure can pose a significant threat to public health and the environment. Systems with inadequate hydraulic capacity, blockages, and damaged pipe can release untreated sewage into receiving waters disturbing environmental quality. The Village of Mullen, in some areas of the collection system, has sewer mains that need attention. Areas of root intrusions ranging from light to severe, as well as sags have been documented. Several areas of the collection system raised concerns. For example, section of pipe constructed of bituminous fiber pipe that should be replaced, section of pipe with bends that do not have manholes, flat sections of pipe that have contributed to backups within homes. There are also manholes within the system that are in poor condition. The primary concern with the Wastewater Treatment Facility is the capacity now that the effluent line has been plugged. The system is currently operating above the high-water level which is causing backup and solids buildup within the collection system piping. Alternatives to expand the existing cells or a land application method needs to be considered to lower the water level of the system.

C. Alternatives Considered:

Collection System

Alternatives considered were:

1. No-Action Plan, or
2. CCTV Collection System and Repair of Problem Areas,

WWTF Alternatives

Alternatives considered were:

1. No-Action Plan, or
2. Wastewater Regionalization
3. Modification of the Existing System with Permanent Equipment for Land Application of Wastewater
4. Expansion of the Existing System to Operate as a Complete Retention Facility

Evaluation and Selection of the Alternative: For the collection system, the No-Action plan is the continued use of existing system without modification. Due to the documented appearance of root intrusion and sag at locations throughout the collection system, the noted condition of manholes and the problem areas identified, the no-action plan is not a recommended alternative. The observation of root intrusion may be evidence of pipe failures which may facilitate significant leaking from the collection system into surrounding soil. Any untreated wastewater escaping the collection system eventually reaches and contaminates local groundwater. For the WWTF, a life cycle analysis for the two proposed options (land application & expansion to complete retention) was given. It has been shown that the land application option has a lower cost. Moreover, one of the non-monetary factors in favor of the land application alternatives is that if flow is reduced over time due to the decreased population or lower water use, the water level can still be maintained, and land application may not be required, or application volume reduced. With the expansion alternative, a reduction in low or extended drought conditions could require that water be added to the system to maintain the minimum 2-foot water level, or in some cases, a cell could be required to be taken out of service.

Environmental Impact Summary:

Primary:

Construction: Temporary impacts caused by construction include noise and dust, a limited potential for soil erosion, and fuel/oil spills. All demolition, grading, and construction activities will comply with Fugitive Dust Title 129, Chapter 32 regulations. No wastewater bypasses are expected during construction. A construction permit will be obtained from the NDEE.

Environmental: The proposed project was reviewed by numerous federal and state agencies for environmental impacts. Numerous federal, state, and local agencies were asked to review the project for environmental impacts. A response was made to the Village's engineer that the project may affect, but is not likely to adversely affect a threatened species habitat for the American Burying Beetle.

Financial: An application for CWSRF loan assistance has been received for the project to fund the proposed improvements to allow for the collection system improvement and modification of the existing system with permanent equipment for land application of wastewater. The total estimated project cost is $935,800. The Village is eligible for a 0.75 percent, 20-year loan, with an administrative fee of 0.75 percent on the principal balance that will be assessed each year. If executed, the community will have an annual CWSRF debt service of $30,939, which includes a 10% coverage that is required on all loans. The

revenues from Mullen's wastewater utility will be dedicated to repay the loan. For a typical residential connection, the current monthly rate is a flat fee of $15.25. Based on 337 active service connections, monthly household rates may need to be raised $7.65 to pay for the new debt service. An assessment of costs and revenues will be conducted after completion of the project.

Secondary:

Population Impacts: The design for the proposed wastewater improvement project has taken into consideration the population trends.

Environmental: Minimal solid waste generated by the project will be disposed of in a licensed landfill. No safety, vibration, noise, or aesthetic considerations were identified other than the normal noise and disruptions associated with sewer and lagoon construction.

Environmental Justice: The proposed project will not produce any environmental justice concerns. All structures will be placed in areas already disturbed through agriculture, and the services provided by the wastewater improvements will be available to everyone in the Village, equally. No segments of Mullen's population are impacted disproportionately from related effects.

Mitigation measures necessary to eliminate adverse environmental effect: Proper construction techniques will be utilized to minimize soil erosion and other potential impacts of construction. An NPDES Construction Storm Water General Permit for stormwater runoff associated with construction activity and a Storm Water Pollution Prevention Plan will be required by NDEE since more than one acre of land will be disturbed. The community can designate the General Contractor as the authorized representative on the Storm Water Permit Notice of Intent submitted to the NDEE. Authorization of storm water runoff from the construction activities must be in place prior to commencing construction.

Irreversible and irretrievable commitment of resources: The resources committed to the project include the equipment, materials, and energy used in construction.

D. Measures Taken to Ensure Environmental Soundness:

Public Involvement: A Public Hearing was held February 8, 2024, at the Village Hall and convened at 5:30 PM. The hearing was advertised 35 days in advance. The purposed of public hearing is to discuss the proposed engineering report, impact to rates and any needed mitigation measures and to meet Clean Water SRF criteria. All local citizens and any other interested parties, governmental agencies or groups are encouraged to comment.

Public Opposition or Opinions: No comments were made.

Coordination and Documentation with Other Agencies and Special Interest Groups:

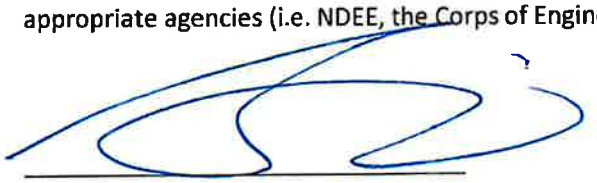
Facility Planning: Preliminary Engineering Report, David Blau, September 2021

State: Nebraska Game and Parks Commission, Environmental Review Report, September 30, 2021
Nebraska Game and Parks Commission, letter, October 15, 2021

Consulting Engineers: Miller & Associates, McCook, Nebraska

Public Groups: Village of Mullen Residents

E. **Reasons for Concluding there will be no Significant Impacts:** Review of the engineering reports and supporting information indicates that the proposed project will result in no significant impact to the environment, in that it only may affect, but is not likely to adversely affect a threatened species habitat. All necessary permits for construction have been or will be obtained from the appropriate agencies (i.e. NDEE, the Corps of Engineers, etc.), if necessary.



Reviewing Engineer

06/03/2024

Date

FONSI DISTRIBUTION LIST

MULLEN, NEBRASKA

DEPARTMENT OF ENVIRONMENT & ENERGY
Kim McCord-Fisher
kim.mccord-fisher@nebraska.gov
P.O. Box 98922
Lincoln, NE 68509-8922

DEPARTMENT OF NATURAL RESOURCES
John Miller, Permits and Registrations Division
john.j.miller@nebraska.gov
P.O. Box 94676
Lincoln, NE 68509-4676

NEBRASKA GAME & PARKS COMMISSION
Melissa Marinovich
ngpc.envreview@Nebraska.gov
P.O. Box 30370
Lincoln, NE 68503-0370

NEBRASKA STATE HISTORICAL SOCIETY
Jill Dolberg, Interim Director & CEO
jill.dolberg@nebraska.gov
P.O. Box 82554
Lincoln, NE 68508-2554

STATE OFFICE OF POLICY RESEARCH
Cicely Wardyn, Policy Advisor
cicely.wardyn@nebraska.gov
Rm 1319, State Capitol
P.O. Box 94601
Lincoln, NE 68509-4601

DEPARTMENT OF ECONOMIC DEVELOPMENT
Tom Stephens, Financial Packager
tom.stephens@nebraska.gov
P.O. Box 94666
Lincoln, NE 68509

DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Janae Johnson
nebraskaES@fws.gov
9325 South Alda Road
Wood River, NE 68883

NATIONAL PARK SERVICE
Christine Gabriel, Environmental Coordinator/Midwest
mwro_compliance@nps.gov
601 Riverfront Drive
Omaha, NE 68102-4226

USDA RURAL DEVELOPMENT
Ryan Brandt/Kelley Messenger
ryan.brandt@usda.gov; kelley.messenger@usda.gov
Room 308, Federal Building
100 Centennial Mall North
Lincoln, NE 68508

ENVIRONMENTAL PROTECTION AGENCY
Chris Simmons/Carter Tharp
simmons.christopher@epa.gov; tharp.carter@epa.gov
11201 Renner Blvd
Mail Code: WWPDWIMB
Lenexa, KS 66219

STATE CONSERVATIONIST
Robert Lawson, Natural Resources Conservation Svc.
robert.lawson@usda.gov
Federal Building, Room 152
100 Centennial Mall North
Lincoln, NE 68508-3866

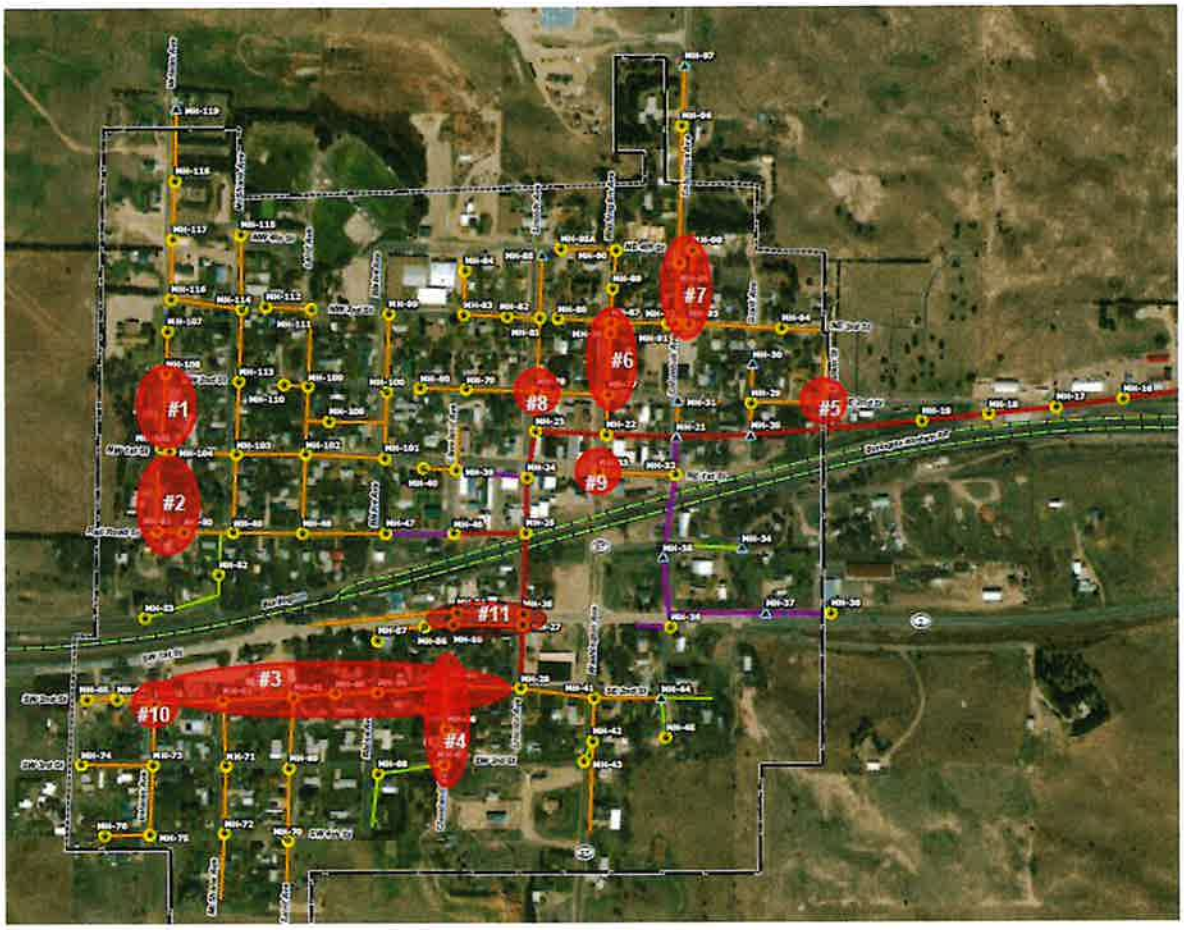
DEPARTMENT OF THE ARMY
Jeremy Grauf, State Program Manager
US Army corps of Engineers
Jeremy.grauf@usace.army.mil
Nebraska State Office, Suite 1
8901 South 154th Street
Omaha, NE 68138-3621

VILLAGE OF MULLEN
Deb Daly, Clerk
mullenclerk@nebnet.net
111 Northwest 1st Street
PO Box 187
Mullen, NE 69152

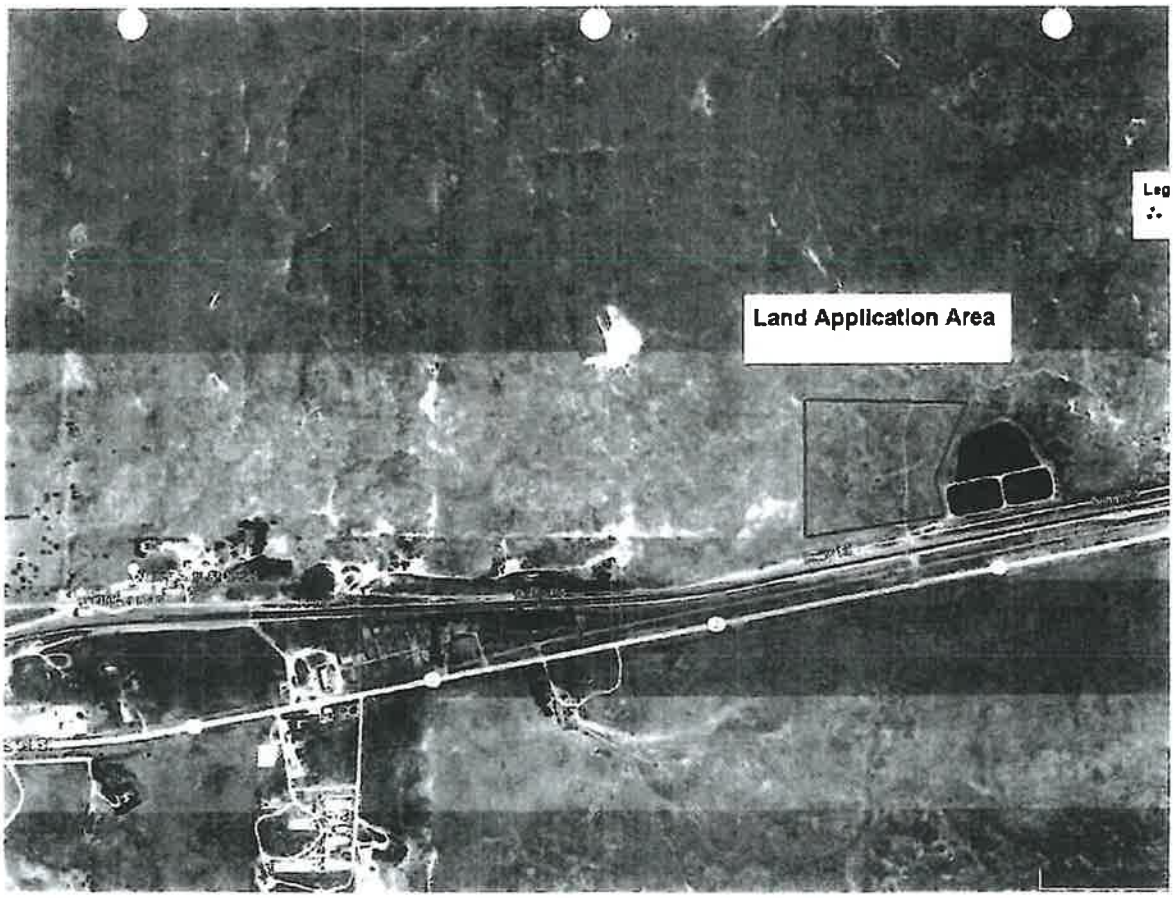
ENGINEER: MILLER & ASSOCIATES
David Blau, P.E.
dblau@miller-engineers.com
109 East 2nd Street
McCook, NE 69001

HOOKER COUNTY TRIBUNE
tribune@nebnet.net
PO Box 125
Mullen, NE 69152
(Public Information Only not for Public Notice)

UPPER LOUP NATURAL RESOURCES
DISTRICT
ulnrd@upperloupnrd.org
39252 Highway 2
Thedford, NE 69166



Map of Historic Problematic Areas (Red Circle)
Village of Mullen, NE



Proposed Land Application Area