

ENVIRONMENTAL ASSESSMENT DOCUMENT

A. Project Identification:

Applicant: Village of Marquette
Project No.: D311638
City: Marquette **County:** Hamilton **State:** NE
Estimated Project Cost: \$150,000
Proposed Amount of Loan Forgiveness: \$37,500

B. Community Description:

Location: The Village of Marquette is located in southeast-central Nebraska, to the west of Lincoln.

Population: The 2010 census population of Marquette is 229. The community has experienced a slight decline in population over the past decade and is expected to stabilize throughout the design period of this project.

Current Water System Facilities: The Village owns and operates a water system consisting of three active ground water wells to produce drinking water for the Village residents. The Village has water meters and invoices the users on a monthly basis.

- C. **Project Description:** The casing of the primary well became separated right above the screen and started to produce large amounts of sand. The Village board decided to drill a new well adjacent to this impaired well and will share a generator with the county office, fire department or other agency.

D. Alternatives Considered:

Alternatives considered were:

1. No project, or
2. Well Relining, or
3. Drill a new well.

Evaluation and Selection of the Alternative: The primary well 98-1 G-098143 is the well that has to be cleaned due to elevated iron and manganese about every two years and during the cleaning this year the casing became separated right above the screen and started to produce large amount of sand. The well G-098143 is a vertical turbine well in a well house with an engine and driveshaft for backup power supply. The Village looked at the option of relining the well and repairing the well with a new PVC casing and submersible pump. Replacement of the well had several advantages and disadvantages associated with it. Initially, a cost for lining the existing well and installation of a new well with a new generator was evaluated. Looking at the Engineer's Opinion of Probably Construction Cost (EOPCC), the well lining was estimated to be approximately \$60,000 and the new well with a stationary generator was \$166,000.

During a special meeting, the Village board evaluated the options and made a motion to drill the new well with generator hook ups and not install a permanent generator at this time. Instead, they will purchase or have an agreement to share a generator with the county, fire department or other agency. The cost to remove the generator and install the switch gear

lowered the EOPCC to \$137,000. The Village decided to add \$13,000 for contingencies and request funding for \$150,000 to re-drill the well south of the existing building. The existing well was capable of providing 300 gpm and the current design that meets their needs and in the future, will be for a capacity of 300 gpm.

If no project were constructed, the Village has to rely on well G-061396 or the west well which is currently being used by the village for water supply. This well has difficulty meeting demand in the summer due to the drawdown issues. The third well or south well was constructed in 1950s and is only available for emergency use due to the high level of nitrates or other contaminants. As the owner of a Public Water Supply (PWS) system, the Village is responsible for producing water that complies with both quantity and quality regulations and standards. Water quality shall comply with Federal Drinking Water Standards. The Village is concerned with nitrates but otherwise does not have any issues with water quality MCL violations.

E. Environmental Impact Summary:

Primary:

Construction: Temporary impacts caused by construction include noise and dust, a limited potential for soil erosion, and fuel and oil spills. The Village will make application to the Upper Big Blue Natural Resources District for a well construction permit. The new well will be registered with the Nebraska Department of Natural Resources (NDNR). The Engineering Services Program at DHHS will issue a construction permit for the proposed well.

Environmental: The construction contracts will require that the contractors return the area to its original or better condition. The project will be built on Village-owned land. The well will be a submersible design with a pit, and thus will occupy a very small area of land (<1,000 square feet) and will have little, if any effect on area species. The proposed project was reviewed by Federal and State agencies for environmental impacts. The majority of the agencies responding indicated there would be no adverse impact, have no effect, or posed no concern.

Financial: An application for DWSRF loan assistance has been received for the \$150,000 project, to fund the well replacement. The Village is eligible for a 1.5 percent, 30-year loan and a corresponding amount of principal forgiveness set at 25% of eligible project costs. If executed, the community will have an annual DWSRF debt service of \$5,752, which included a 10 percent coverage that is required on all loans. Included in that amount is an administrative fee of 0.5 percent on the principal balance that will be assessed each year. The revenue from Marquette's water utility will be dedicated to repay the loan. For a typical residential connection, the current monthly rate is a base rate (1st thousand gallon used) of \$28.75 per month per meter with water use (exceeding 1st thousand gallon used) charged at the rate of \$2.75 per thousand gallons per month, resulting in an average monthly water bill of \$39.75 for a typical 5,000 gallon monthly household water use. Based on 111 active service connections, monthly household rates may need to be raised \$4.32 to pay for the new debt service. An assessment of costs and revenues will be conducted after completion of the project.

Secondary:

Land Use and Trends: The proposed project do not require the purchase of land for completion. The new well will be drilled adjacent to the existing well house, which preliminary water quality from a test hole will not be completed. A new well scan will be completed on the final well. A Nebraska State Historical Society review noted that the referenced project does not contain recorded historic resources.

Environmental: The proposed well serves as a replacement of current primary well, thus the operation of the proposed well will have minimal effect on the water quantity in the area. Minimal solid waste generated by the project will be disposed in a licensed landfill. No safety, vibration, noise or aesthetic considerations were identified other than the normal noise and disruptions associated with water main and well construction.

Environmental Justice: The proposed project will not produce any environmental justice concerns. All structures will be placed in areas previously disturbed through farming, and the services provided by the new well will be available to everyone in the Village, equally. No segments of the Marquette'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 permit for stormwater runoff associated with construction activity and a Stormwater Pollution Prevention Plan will be required by NDEE, if more than one acre of land will be disturbed. The community can designate the General Contractor as the authorized representative on the stormwater permit notice of intent submitted to the NDEE. Authorization of stormwater 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.

F. Measures Taken to Insure Environmental Soundness:

Public Involvement: A Public Hearing was held on June 12th 2019, during which Mr. Chris Miller gave an overview of the project with particular emphasis on the cost impact to rate payers in the community.

Public Opposition or Opinions: The local Albion News inquired to the status of the project, which the Engineer responded that all work is scheduled to be completed by this year. No one else in attendance commented on the project.

Coordination and Documentation with Other Agencies and Special Interest Groups:

Facility Planning: Preliminary Engineering Report
Miller & Associates, April 2019

Federal: U.S. Department of the Army, April 3, 2019, letter
U.S. Fish and Wildlife Service, April 3, 2019, letter


State: Department of Natural Resources, April 3, 2019, letter

Tribal Historic Preservation Officer, April 3, 2019, letter
Natural Resources Conservation Services, April 3, 2019, letter
Nebraska Game and Parks Commission, April 3, 2019, letter
Nebraska State Historical Society, April 3, 2019, letter

Consulting Engineers: Miller & Associates, Kearney, NE

Public Groups: Village of Marquette Residents

- G. **Positive Effects to be realized from the Proposed Project:** The proposed new well will allow Marquette to maintain compliance with the Nebraska Safe Drinking Water Act and ensure future water availability. Water quality will meet NDHHS-DPH Title 179 standards, Regulations Governing Public Water Supply Systems. The project is reasonable, not contrary to conservation or the public welfare and is a beneficial use of ground water by the Village of Marquette.
- H. **Reasons for concluding there will be no Significant Impacts:** Review of the supporting information indicates that the proposed project will result in no significant impact on the environment. All other permits have or will be obtained, including a construction permit from the Nebraska DHHS.



Reviewing Engineer



Date

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LOCAL NEWSPAPER

Aurora News - Register
1320 K Street
Aurora, NE 68818

UPPER BIG BLUE NATURAL RESOURCES
DISTRICT

319 East 25th Street
York, NE 68467

Figure 1

Well Location Map

Legend

Existing Well G-98143

Proposed Well

