

Why You Should Read This: The document below 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, raise them now. We encourage public input in this decision making process.



IOWA STATE REVOLVING FUND
ENVIRONMENTAL INFORMATION DOCUMENT

PROJECT IDENTIFICATION

Applicant: City of West Branch

SRF Number: CS1920982 01

County: Cedar

Iowa DNR Project Number: W2018-0227A

State: Iowa

Other Federal Funding: Applying for EDA Public Works and Economic Adjustment Assistance

COMMUNITY DESCRIPTION

Location: The City of West Branch is located in Cedar County, Iowa approximately 10 miles east of Iowa City, Iowa and 45 miles west of Davenport, Iowa.

Population: The population of West Branch according to the 2010 US Census was 2,322. The design population equivalent for the year 2040 is 3,167.

Current Waste Treatment: The City of West Branch Wastewater Treatment Facility was constructed in 1988 as a two-cell aerated lagoon treatment facility. Most of the flow from the City is pumped to the plant via 10" and 16" force mains from lift stations located just north of Interstate 80. Flow meters were included on each force main to measure influent flow to the treatment plant. In 1996, a 10" gravity line was constructed to the plant to serve the commercial area south of Interstate 80. The total plant flow comes together at the influent manhole at the treatment plant site without any type of combined measurement. From the influent manhole, the wastewater typically flows in series from the Primary Cell (6.4 MG) to the Secondary Cell (5.58 MG) and through a baffle curtain into the Quiescent Cell (0.82 MG). Finally, the water flows out of the Quiescent Cell to the effluent manhole. Effluent flow is monitored by an ultrasonic transducer mounted above a 12" Parshall flume in the Parshall Flume Structure. The treated water flows by gravity through an 18" and a 15" effluent sewer and is discharged to the West Branch Wapsinonoc Creek.

West Branch's original lift station was constructed in 1988 as part of the plant construction. The original pumps were replaced in 2016 with two (2) 25 HP submersible pumps each with a capacity of 1,080 gpm. A second lift station was also constructed in 2016 and consists of two (2) 45 HP submersible pumps each with a capacity of 2,450 gpm. The smaller lift station

pumps through an existing 10-inch force main and the larger lift station pumps to through a new 16-inch force main. The 10-inch force main and 16-inch force main come together prior to the WWTP influent manhole.

PROJECT DESCRIPTION

Purpose: The purpose of this project is to make improvements to the wastewater treatment facilities to enhance their reliability, increase capacity and to replace obsolete system to safely and reliably operate the City of West Branch's wastewater system for the next 20 years.

Proposed Improvements: The proposed project will make improvements at the existing wastewater treatment plant. The project will include construction of a new aerated lagoon cell, earthen berm/pit area for the SAGR system, an aeration system, filling with gravel, and topping with mulch. A new lagoon aeration system with blowers, a masonry building, control building, underground piping, granular resurfacing and UV disinfection will also be included as well as all necessary connections and appurtenances. Also, a new water main extension will be run to the site along 300th Street.

Receiving Stream: The treated wastewater from the proposed facility will discharge to West Branch Wapsinonoc Creek. It has a use stream designation of A2 and B(WW2) Class A2 waters are secondary contact recreational use waters in which recreational or other uses may result in contact with the water that is either incidental or accidental. During the recreational use, the probability of ingesting appreciable quantities of water is minimal. Class A2 uses include fishing, commercial and recreational boating, any limited contact incidental to shoreline activities and activities in which users do not swim or float in the water body while on a boating activity. Waters designated Class B(WW2) are those in which flow or other physical characteristics are capable of supporting a resident aquatic community that includes a variety of native nongame fish and invertebrate species. The flow and other physical characteristics limit the maintenance of warm water game fish populations. These waters generally consist of small perennially flowing streams.

ALTERNATIVES CONSIDERED

Alternatives Considered: The City of West Branch's new NPDES permit includes water-quality based effluent limits for ammonia-nitrogen. The new ammonia limits are more restrictive than the previous permit limits. Five general types of treatment alternatives were considered for meeting the ammonia effluent limits in the permit. The general alternatives considered were: 1) continued use of the existing aerated lagoon treatment facility, 2) land application of wastewater effluent, 3) construction of a new mechanical treatment plant, 4) conversion of the existing aerated lagoon into an enhanced treatment aerated lagoon, and 5) the Gross-Wen revolving algal biofilm technology. All alternatives would require the addition of disinfection.

Reasons for Selection of Proposed Alternative: The No-Action alternative is not viable because the existing aerated lagoon treatment facility alone is no longer sufficient to meet ammonia permit limits. After review of all proposed options, the City decided that an enhanced treatment aerated lagoon plant offered the ability to meet new discharge limits

while balancing staffing and cost concerns. The system also has the ability to accommodate possible future nutrient discharge limits with regard to total nitrogen and phosphorus. Of the three enhanced treatment aerated lagoon facilities included in this evaluation, the City selected SAGR as the treatment system that would best suit its needs with regard to operation and maintenance as the costs were less variable. SAGR technology should be able to consistently meet NPDES permit limits. This type of treatment can be modified to achieve total nitrogen removal which may become part of a future permit.

The project site was selected for the availability of land, proximity to existing wastewater infrastructure, engineering design criteria, as well as minimization of the impacts to the environment.

MEASURES TAKEN TO ASSESS IMPACT

Coordination and Documentation with Other Agencies and Special Interest Groups: The following Federal, state and local agencies were asked to comment on the proposed project to better assess the potential impact to the environment:

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- Natural Resources Conservation Service
- State Historical Society of Iowa (State Historical Preservation Office)
- Iowa DNR Conservation and Recreation Division
- Iowa DNR Water Resources Section
- Citizen Band Potawatomi Indian Tribe
- Flandreau Santee Sioux
- Ho-Chunk Nation
- Iowa Tribe of Kansas and Nebraska
- Iowa Tribe of Oklahoma
- Kickapoo Tribe in Kansas
- Kickapoo Tribe of Oklahoma
- Lower Sioux Indian Community Council
- Miami Tribe of Oklahoma
- Omaha Tribal Council
- Osage Tribal Council
- Otoe-Missouria Tribe
- Pawnee Nation of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Ponca Tribe of Indians of Oklahoma
- Ponca Tribe of Nebraska
- Prairie Band Potawatomi Nation
- Prairie Island Indian Community
- Sac & Fox Nation of Mississippi in Iowa
- Sac & Fox Nation of Missouri
- Sac & Fox Nation of Oklahoma
- Santee Sioux Nation
- Shakopee Mdewakanton Sioux Community

Sisseton-Wahpeton Oyate
Spirit Lake Tribal Council
Three Affiliated Tribes Mandan, Hidatsa & Arikara Nations
Upper Sioux Tribe
Winnebago Tribal Council
Yankton Sioux Tribal Business and Claims Committee

No adverse comments were received from any agencies or general public. Conditions placed on the applicant by the above agencies in order to assure no significant impact are included in the Summary of Reasons for Concluding No Significant Impact section.

ENVIRONMENTAL IMPACT SUMMARY

Construction: Traffic patterns within the community may be disrupted and above normal noise levels in the vicinity of the construction equipment can be anticipated during construction and should be a temporary problem. Adverse environmental impacts on noise quality will be handled by limited hours of contractor work time during the day. Other adverse environmental effects from construction activities will be minimized by proper construction practices, inspection, prompt cleanup, and other appropriate measures. Areas temporarily disturbed by the construction will be restored. Solid wastes resulting from the construction project will be regularly cleared away with substantial efforts made to minimize inconvenience to area residents.

Care will be taken to maintain dirt to avoid erosion and runoff. The proposed project will disturb soils over an area greater than one acre; therefore, the applicant is required to obtain an NPDES General Permit Number 2 (for storm water discharge associated with construction activities) and abide by its terms. Provided that this permit is obtained and the terms of which are abided by, no significant impact to surface water quality, fish, shellfish, wildlife, or their natural habitats is expected.

Temporary air quality degradation may occur due to dust and fumes from construction equipment. The applicant shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property during the proposed project (567 Iowa Administrative Code IAC 23.3(2)“c”).

This project may require the disposal of sewage sludge. It is the responsibility of the applicant to ensure that the disposal of any sewage sludge complies with applicable requirements found in 40 CFR Part 503 and 567 Iowa Administrative Code IAC 67.

Historical/Archaeological: The State Historical Preservation Office (SHPO) and various Native American tribes with an interest in the area were provided information regarding the project. The DNR has determined, and the SHPO has concurred (R&C# 210716940), that this undertaking will result in “no historic properties affected” based on the scope of the project, the prior use of the project area, and the findings of the Phase I Archeological Survey conducted on the project property. However, if project activities uncover any item(s) that might be of archaeological, historical, or architectural interest, or if important new archaeological, historical, or architectural data should be encountered in the project APE, the applicant should make reasonable efforts to avoid further impacts to the

property until an assessment can be made by an individual meeting the Secretary of the Interior's professional qualifications standards (36 CFR Part 61).

Environmental: A Joint Application was submitted by the City's consultant to the Iowa DNR Conservation and Recreation Division and U.S. Army Corps of Engineers. According to the Iowa DNR Conservation and Recreation Division, the proposed project will not interfere with any State-owned parks, recreational areas or open spaces. The U.S. Army Corps of Engineers concurs that the project will not impact wetlands. The project will not impact any wild and scenic rivers as none exist within the State of Iowa. The U.S. Fish & Wildlife Service Section 7 Technical Assistance website consultation determined, and Iowa DNR Conservation and Recreation Division agree, that the project will not impact threatened or endangered species or their habitats. However, if any State- or Federally-listed threatened or endangered species or communities are found during the planning or construction phases, additional studies and/or mitigation may be required. According to the Iowa DNR Water Resources Section, this project will not impact the 100-year floodplain provided any necessary local floodplain development permits are obtained and the terms of which are abided by. No adverse impacts are expected to result from this project, such as those to surface water quantity, or groundwater quality or quantity. No significant impact to surface water quality, fish, shellfish, wildlife, or their natural habitats is expected.

Land Use and Trends: The project will not displace population nor will it alter the character of existing residential areas. The proposed project is within the present corporate limits of West Branch. An analysis of the farmland conversion impact was completed. Removing this area from production should not have a significant impact on corn or soybean production in the area, nor should it have significant impact on the agricultural industry in the area. This project should not impact population trends as the presence or absence of existing water/sewer infrastructure is unlikely to induce significant alterations in the population growth or distribution given the myriad of factors that influence development in this region. Similarly, this project is unlikely to induce significant alterations in the pattern and type of land use.

Irreversible and Irrecoverable Commitment of Resources: Fuels, materials, and various forms of energy will be utilized during construction.

POSITIVE ENVIRONMENTAL EFFECTS TO BE REALIZED FROM THE PROPOSED PROJECT

Positive environmental effects will be improved treatment of the wastewater from the City of West Branch, compliance with effluent discharge permit limits, reduced discharge of pollutants and nutrients to the receiving stream, and improved water quality in the receiving stream.

SUMMARY OF REASONS FOR CONCLUDING NO SIGNIFICANT IMPACT

- The project will not significantly affect the pattern and type of land use (industrial, commercial, agricultural, recreational, residential) or growth and distribution of population.
- The project will not conflict with local, regional or State land use plans or policies.

- The project will not impact wetlands.
- The project will not affect threatened and endangered species or their habitats. If any State or Federally listed threatened or endangered species or communities are found during the planning or construction phases, additional studies and/or mitigation may be required.
- The project will not displace population, alter the character of existing residential areas, or convert significant farmlands to non-agricultural purposes.
- This project will not impact the 100-year floodplain provided any necessary local floodplain development permits are obtained and the terms of which are abided by.
- The project will not have effect on parklands, preserves, other public lands, or areas of recognized scenic or recreational value.
- No historic properties will be adversely affected by the proposed project. However, if project activities uncover any item(s) that might be of archaeological, historical, or architectural interest, or if important new archaeological, historical, or architectural data should be encountered in the project APE, the applicant should make reasonable efforts to avoid further impacts to the property until an assessment can be made by an individual meeting the Secretary of the Interior’s professional qualifications standards (36 CFR Part 61).
- The project will not have a significant adverse effect upon local ambient air quality provided the applicant takes reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property during the proposed project (567 IAC 23.3(2)“c”).
- The project will not have a significant adverse effect upon local ambient noise levels, surface water quantity, groundwater quality or quantity, or water supply.
- No significant impact to surface water quality, fish, shellfish, wildlife, or their natural habitats is expected provided that an NPDES General Permit Number 2 (for storm water discharge associated with construction activities) is obtained and the terms of which are abided by.

The project description, scope, and anticipated environmental impacts detailed above are accurate and complete to the best to my knowledge.

Roger Laughlin
 Signature of the Mayor, City of West Branch

9.7.21
 Date

ROGER LAUGHLIN
 Printed Name of the Mayor, City of West Branch

USGS 7.5 Minute Quadrangle: West Branch
Section: 08, Township: 79 N, Range: 04 W
Date: 1965
Scale: 1 Inch = 2,000 Feet



North

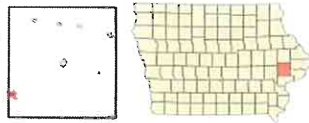
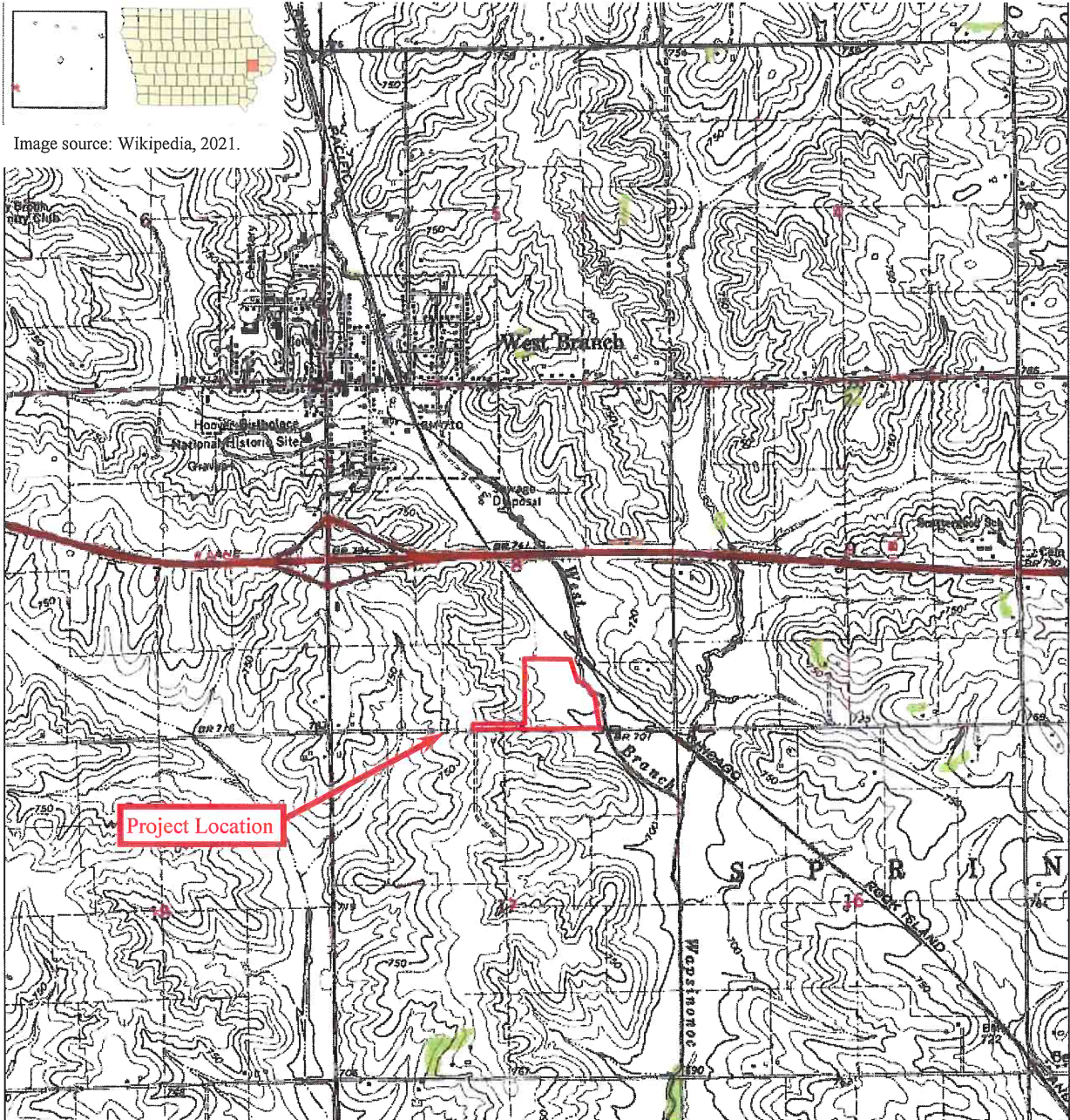


Image source: Wikipedia, 2021.



USGS Topographic Map

West Branch Wastewater Treatment Plant Upgrade
West Branch, IA

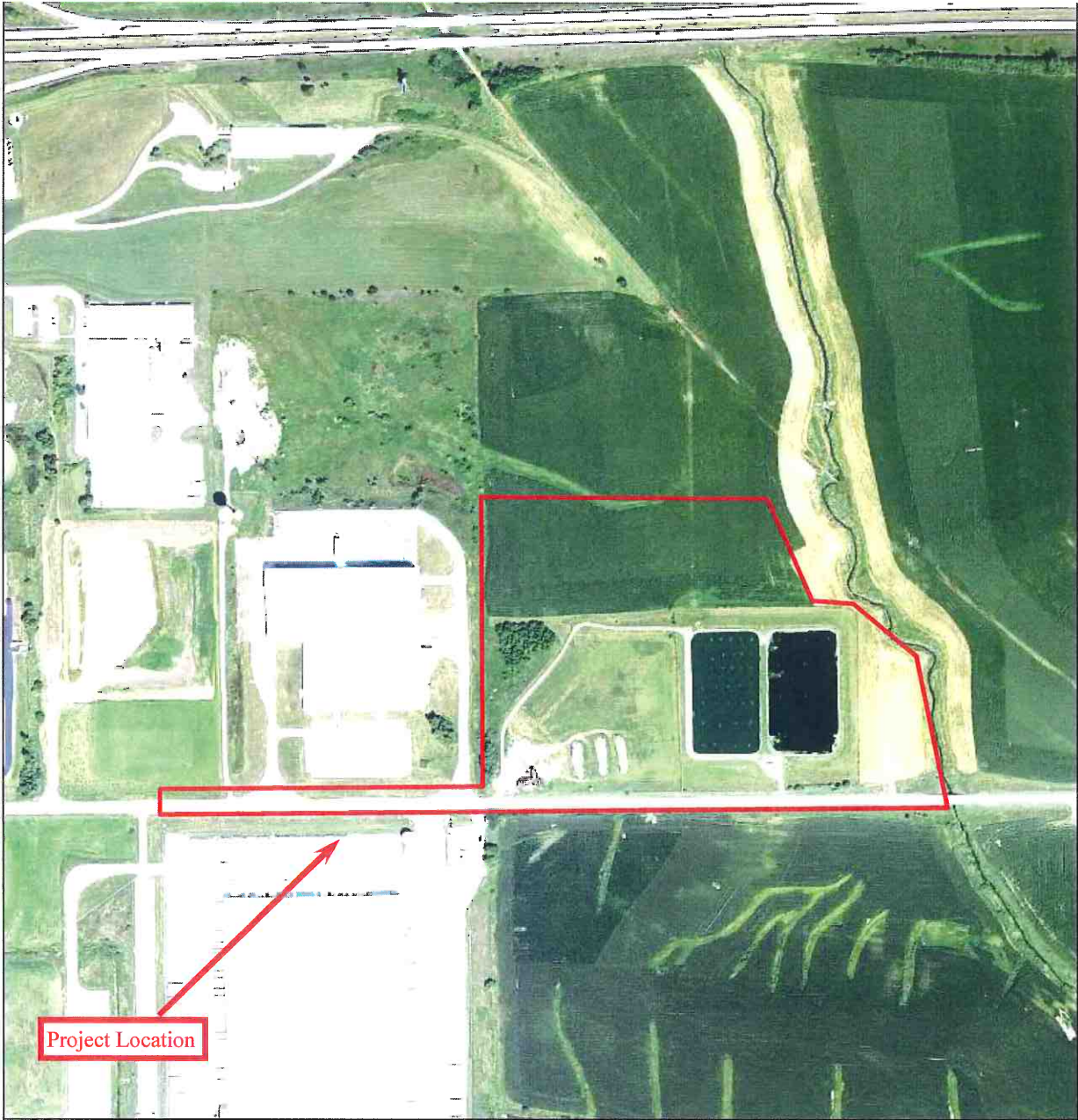


State Revolving Fund
502 East 9th Street
Des Moines, IA 50319-0034

Location information provided by Veenstra & Kimm



North



Aerial Photograph

West Branch Wastewater Treatment Plant Upgrade
West Branch, IA



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