

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
FINDING OF NO SIGNIFICANT IMPACT

June 26, 2024

To: All Interested Citizens, Government Agencies, and Public Groups

An environmental review has been performed based on the procedures for implementing the National Environmental Policy Act (NEPA), for the proposed agency action below:

Applicant: City of Winterset

SRF Number: CS1921038 01

County: Madison

Iowa DNR Project Number: W2020-0429A

State: Iowa

Other Federal Funding: seeking USDA

The City of Winterset, Iowa is planning an upgrade to their wastewater infrastructure. The city has applied for financial assistance through the State Revolving Fund (SRF) loan program to build the project. The State Revolving Loan Program is a program authorized by the Environmental Protection Agency (EPA) and administered by the Iowa Department of Natural Resources (DNR) in partnership with the Iowa Finance Authority.

The City of Winterset is located in Madison County, Iowa approximately 30 miles southwest of Des Moines, Iowa and 100 miles east of Omaha, Nebraska. The population of Winterset according to the 2020 US Census was 5,353. The design population equivalent for the year 2045 is 8,050.

The existing WWTF is a two-stage trickling filter facility consisting of the following: preliminary treatment including flow monitoring, screening, and grit removal; flow equalization basin and return pump station; primary clarifiers; secondary treatment including two stages of trickling filters with dedicated pump stations, a solids contact/trickling filter aeration basin, and final clarifiers; ultraviolet disinfection; and aerobic sludge digestion. Based on an analysis of flow and loading data the existing facility is undersized for projected flows and loads through 2045. The current secondary treatment process capacity is designed for a maximum of 2 MGD and will likely require expansion to 3.5 MGD for the 2045 design year. The Nutrient Reduction Strategy will also impact the processes selected for plant expansion improvements. The NPDES permit requires that nutrient reduction improvements be constructed by June 1, 2027.

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 Winterset's wastewater system for the next 20 years. The project area is located at the existing WWTF. The proposed project includes replacement of the trickling filter system with a higher-capacity sequencing batch

reactor (SBR) activated sludge treatment system. The proposed project also includes a new blower building serving the SBR system, upgraded EQ return pump station, and a new raw wastewater pump station. Headworks improvements include a new HVAC, screening, and grit removal. Also included are construction of an additional digester, sludge storage, and sludge loadout facilities.

The digester and sludge storage tank will be rehabilitated and were constructed in 1926 and 1969, respectively. Demolition for the project will include primary clarifiers, trickling filters and associated pump stations, and final clarifiers. The demolished structures were constructed in approximately 1969 (one primary clarifier, digester), 1991 (trickling filters and associated pump stations, final clarifiers, one primary clarifier). The rehabilitated and demolished structures themselves have no unique features. Based on this information we believe that the existing structures are not historic properties.

The treated wastewater from the proposed facility will discharge to Middle River. It has a use stream designation of A1 and Class B(WW1). Class A1 waters are primary contact recreational use waters in which recreational or other uses may result in prolonged and direct contact with the water, involving considerable risks of ingesting water in quantities sufficient to pose a health hazard. Such activities would include, but not be limited to, swimming, diving, water skiing, and water contact recreational canoeing. Waters designated Class B(WW1) are those in which temperature, flow and other habitat characteristics are suitable to maintain warm water game fish populations along with a resident aquatic community that includes a variety of native nongame fish and invertebrates species. These waters generally include border rivers, large interior rivers, and the lower segments of medium-size tributary streams. Waters designated Class HH are those in which fish are routinely harvested for human consumption or waters both designated as a drinking water supply and in which fish are routinely harvested for human consumption.

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 provided that any tree cutting is conducted between October 1 and March 31 to avoid impacting endangered bats. 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. The project will not affect the 100 year flood plain provided terms of Flood Plain Development Permit Number 2023-1749FP-01 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.

Minimum separation distances will be maintained. Noise during construction will be maintained at tolerable levels through controls on construction activities. Any construction debris will be removed from the site for proper disposal. Adverse environmental effects from construction activities will be minimized with proper construction practices, inspection, prompt clean up and other appropriate measures. Areas temporarily disturbed by the construction will be restored.

It has been determined that the proposed action will result in no significant impacts to the surrounding environment. This determination is based on a careful review of the engineering report, the environmental assessment and other supporting data which are on file at the Department of Natural Resources' office in Des Moines, Iowa. These are available for public review upon request. A copy of the environmental assessment is attached. This Department will not take any administrative action on the project for at least thirty (30) calendar days from the above date. Persons disagreeing with the above environmental decision may submit comments to the department during this period. Your comments can be sent to SRF-PC@dnr.iowa.gov or directly to me at karrie.darnell@dnr.iowa.gov or 515-901-6817.

Sincerely,

Karrie Darnell
Environmental Specialist
6200 Park Ave, Suite 200
Des Moines, IA 50321

Enclosures: Environmental Assessment
Project Map

Distribution

List (email): Taylor Hopper, Strand Associates
Edward Boling, Council on Environmental Quality
Jake Hansen, Iowa Department of Agriculture and Land Stewardship
Ken Sharp, Iowa Department of Health & Human Services
Mindy Wells, Iowa Department of Public Health
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Tracy Scebold, Iowa Finance Authority
Tony Toigo, Iowa Finance Authority
Lee Wagner, Iowa Finance Authority
Rick Andriano, Iowa Finance Authority
Mickey Shields, Iowa League of Cities
Jane Clark, Sierra Club
Josh Mandelbaum, Environmental Law and Policy Center
Kate Sand, USDA Rural Development
Tokey Boswell, USDO, National Park Service, Midwest Region
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Ann D'Alfonso, USEPA Region VII
Kelly Beard-Tittone, USEPA Region VII
The Winterset Madisonian

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**IOWA STATE REVOLVING FUND
ENVIRONMENTAL ASSESSMENT DOCUMENT**

PROJECT IDENTIFICATION

Applicant: City of Winterset
County: Madison
State: Iowa

SRF Number: CS1921038 01
Iowa DNR Project Number: W2020-0429A

Other Federal Funding: seeking USDA

COMMUNITY DESCRIPTION

Location: The City of Winterset is located in Madison County, Iowa approximately 30 miles southwest of Des Moines, Iowa and 100 miles east of Omaha, Nebraska.

Population: The population of Winterset according to the 2020 US Census was 5,353. The design population equivalent for the year 2045 is 8,050.

Current Waste Treatment: The existing WWTF is a two-stage trickling filter facility consisting of the following: preliminary treatment including flow monitoring, screening, and grit removal; flow equalization basin and return pump station; primary clarifiers; secondary treatment including two stages of trickling filters with dedicated pump stations, a solids contact/trickling filter aeration basin, and final clarifiers; ultraviolet disinfection; and aerobic sludge digestion.

Based on an analysis of flow and loading data the existing facility is undersized for projected flows and loads through 2045. The current secondary treatment process capacity is designed for a maximum of 2 MGD and will likely require expansion to 3.5 MGD for the 2045 design year. The Nutrient Reduction Strategy will also impact the processes selected for plant expansion improvements. The NPDES permit requires that nutrient reduction improvements be constructed by June 1, 2027.

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 Winterset's wastewater system for the next 20 years.

Proposed Improvements: The project area is located at the existing WWTF. The proposed project includes replacement of the trickling filter system with a higher-capacity sequencing batch reactor

(SBR) activated sludge treatment system. The proposed project also includes a new blower building serving the SBR system, upgraded EQ return pump station, and a new raw wastewater pump station. Headworks improvements include a new HVAC, screening, and grit removal. Also included are construction of an additional digester, sludge storage, and sludge loadout facilities.

The digester and sludge storage tank will be rehabilitated and were constructed in 1926 and 1969, respectively. Demolition for the project will include primary clarifiers, trickling filters and associated pump stations, and final clarifiers. The demolished structures were constructed in approximately 1969 (one primary clarifier, digester), 1991 (trickling filters and associated pump stations, final clarifiers, one primary clarifier). The rehabilitated and demolished structures themselves have no unique features. Based on this information we believe that the existing structures are not historic properties.

Receiving Stream: The treated wastewater from the proposed facility will discharge to Middle River. It has a use stream designation of A1 and Class B(WW1). Class A1 waters are primary contact recreational use waters in which recreational or other uses may result in prolonged and direct contact with the water, involving considerable risks of ingesting water in quantities sufficient to pose a health hazard. Such activities would include, but not be limited to, swimming, diving, water skiing, and water contact recreational canoeing. Waters designated Class B(WW1) are those in which temperature, flow and other habitat characteristics are suitable to maintain warm water game fish populations along with a resident aquatic community that includes a variety of native nongame fish and invertebrates species. These waters generally include border rivers, large interior rivers, and the lower segments of medium-size tributary streams. Waters designated Class HH are those in which fish are routinely harvested for human consumption or waters both designated as a drinking water supply and in which fish are routinely harvested for human consumption.

ALTERNATIVES CONSIDERED

Alternatives Considered: There are several alternatives for plant expansion which can meet the flows and loads projected for 2045. Consequently, the evaluated alternatives include the improvements required to meet the objectives of the Nutrient Reduction Strategy, new NPDES permit requirements, and projected increases in flows and loads.

Alternative 1 – Maintain Existing Process: This alternative seeks to postpone major improvements for approximately 5 years, at which time another facility plan would be completed to determine the needs of the facility.

Alternative 2 – Expand EQ Basin and Add Nutrient Removal: The current EQ basin size of 4.7 MG and the projected 2045 flow necessitates a plant design flow of 3.5 MGD. However, expanding the EQ basin significantly can reduce the required plant flow to 2.56 MGD, which is the projected AWW flow and the minimum allowable plant design flow. Setting the plant flow at the AWW flow is not ideal because wastewater can stay in the EQ basin for 1-2 weeks, causing algae to grow. However, this may be acceptable based on a cost-benefit analysis. Most of the existing equipment is sized for a maximum flow of 2.5 MGD, but it may be possible to push them to 2.56 MGD. Therefore, this alternative may allow for operating the existing treatment plant for a longer period of time would otherwise be practical. Because trickling filters cannot perform nutrient removal, a standalone nutrient removal system is required. The system must be able to perform nitrogen removal and phosphorus removal, but in some cases two different technologies are needed.

Nutrient removal options evaluated for Alternative 2 include:

- Denitrifying filter and chemical phosphorus removal
- Algae-based treatment

Alternative 3 – Expand Existing Process and Add Nutrient Removal: This alternative includes expansion of the current trickling filter treatment system. This entails expansion of most of the treatment processes with similar processes as already exist on site. Where possible, equipment would be upsized while keeping existing structures in place, such as in the headworks building. Because trickling filters cannot perform nutrient removal, a standalone nutrient removal system is required. The nutrient removal alternatives evaluated are the same as in Alternative 2. When the trickling filter process is expanded, additional nutrient removal capacity will need to be added.

Alternative 4 – Supplement Existing Process with Alternative Treatment: This alternative continues to use the existing trickling filter system but adds an alternative treatment system for the flows and loads that are above the existing plant's capacity. Where possible, equipment would be upsized while keeping existing structures in place, such as in the headworks building. A significant disadvantage of this option is the operation of two separate secondary treatment processes. This would increase the labor required to operate the WWTF. Because trickling filters cannot perform nutrient removal, a standalone nutrient removal system is required. The nutrient removal alternatives evaluated are the same as in Alternative 2. Any new treatment capacity will use activated sludge treatment and will have the ability to perform its own nutrient removal.

Alternative 4A – Sequencing Batch Reactors (SBR): SBRs take up a relatively small footprint. They can also perform nutrient removal and can be expanded in a modular nature.

Alternative 4B – Aero-Mod: Aero-Mod systems are favored by many operators for their ease of maintenance. They take up a relatively small footprint and can perform nutrient removal.

Alternative 4C – Oxidation Ditch: Oxidation ditches can provide reliable treatment as well as nutrient removal. However, they require more space than SBR or Aero-Mod plants.

Alternative 5 – Replacement of Secondary Treatment Process: This alternative includes the construction of larger scale secondary treatment facilities while completely replacing the trickling filter system with a different treatment method. Many elements of the existing facility would remain in service and be rehabilitated or upgraded. Three secondary treatment alternatives were considered for a new treatment process: Sequencing Batch Reactor (SBR), Aero-Mod, and Oxidation Ditch. These processes can achieve nutrient removal; therefore, a separate nutrient removal system would not be required.

Reasons for Selection of Proposed Alternative: The SBR system, which appears to have the lowest present worth cost, would allow the treatment plant to expand so that it can properly treat the growing flows and loads of Winterset while also removing nitrogen and phosphorus. Therefore, alternative 5A – New SBR System has been selected. The project site was selected for the availability of land (it is already City-owned) as well as minimization of the impacts to the environment.

MEASURES TAKEN TO ASSESS IMPACT

Public Involvement: A public hearing was held on December 4, 2023 at 7:00PM at the City's regular council meeting. The public notice of this hearing was published in the Winterset Madisonian on

October 25, 2023. The purpose of this hearing was to present the environmental and financial impacts of the proposed improvement project. No written or oral comments were received.

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
- State Historical Society of Iowa (State Historical Preservation Office)
- Iowa DNR Conservation and Recreation Division
- Iowa DNR Flood Plain Management 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
- Madison County Preservation Commission

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), the Certified Local Government 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#220961427), 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 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 protected species or their habitats provided that any tree cutting is conducted between October 1 and March 31 to avoid impacting endangered bats. 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 Flood Plain Management Section, this project will not impact the 100-year floodplain provided all terms of Flood Plain Development Permit Number 2023-1749FP-01 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 Winterset in areas zoned residential, commercial, or industrial. No significant farmlands will be impacted. 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

Nondiscrimination: All programs, projects, and activities undertaken by DNR in the SRF programs are subject to federal anti-discrimination laws, including the Civil Rights Act of 1964, section 504 of the Rehabilitation Act of 1973, and section 13 of the Federal Water Pollution Control Amendments of 1972. These laws prohibit discrimination on the basis of race, color, national origin, sex, disability, or age.

POSITIVE ENVIRONMENTAL EFFECTS TO BE REALIZED FROM THE PROPOSED PROJECT

Positive environmental effects will be improved treatment of the wastewater from the City of Winterset, compliance with permit limits, reduced discharge of the 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 provided that any tree cutting is conducted between October 1 and March 31 to avoid impacting endangered bats. 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.
- The project will not affect the 100-year flood plain provided terms of Flood Plain Development Permit Number 2023-1749FP-01 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.

THEREFORE:

The above project conforms to the criteria in 567 Iowa Administrative Code 92.8(1)“b” for wastewater relating to compliance with the National Environmental Policy Act of 1969. No adverse effect or significant environmental impact is foreseen at this time.

Karrie Darnell

Environmental Review Specialist

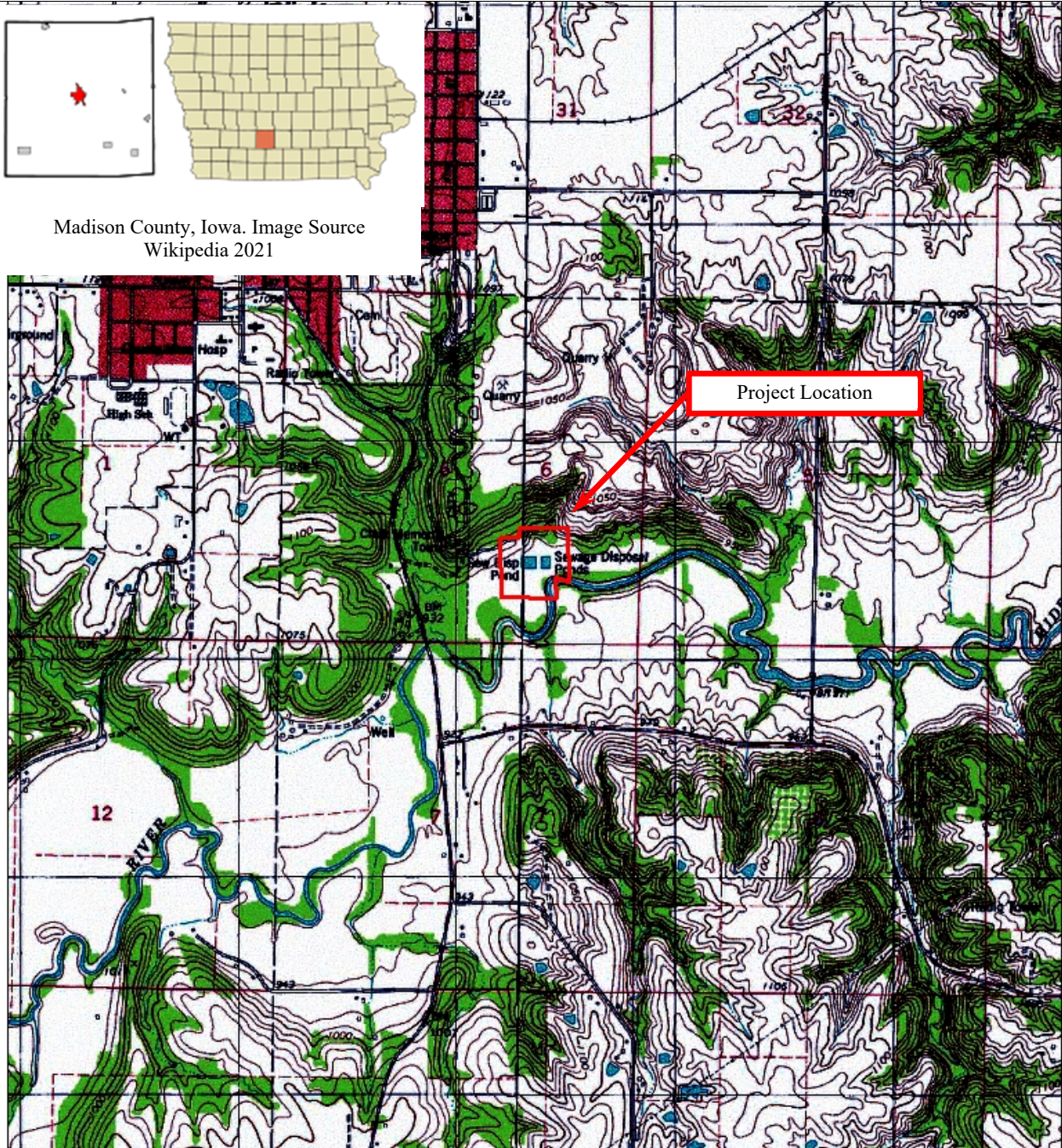
State Revolving Fund

Iowa Department of Natural Resources

USGS 7.5 Minute Quadrangle: Patterson
Sections: 06, Township: 75 N, Range: 27 W
Date: 1983
Scale: 1 Inch = 2,000 Feet



North



Madison County, Iowa. Image Source
Wikipedia 2021

USGS Topographic Map

Wastewater Treatment Facility Improvements
Winterset, IA



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

Location information provided by FOX Strand



North



Aerial Photograph

Wastewater Treatment Facility Improvements
Winterset, IA



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