

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

September 9, 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 State Center

SRF Number: CS192111301

County: Marshall

Iowa DNR Project Number: W2019-0322A

State: Iowa

The City of State Center, Iowa is planning an upgrade to their wastewater treatment plant. 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 State Center is located in Marshall County, Iowa approximately 85 miles west of Cedar Rapids, Iowa and 50 miles northeast of Des Moines, Iowa. The population of State Center according to the 2020 US Census was 1,391. The design population equivalent for the year 2040 is 2,324.

The existing Wastewater Treatment Plant (WWTP) is located south of the City on the south side of Highway 30. It consists of a lift station and three cell aerated lagoon facility that discharges to the North Timber Creek.

The existing lagoon system consists of two earthen basins. The second basin has a baffle curtain that divides the cell into an aerated zone and a quiescent settling zone; the baffle curtain is the original one installed in 1992 and has lived its useful life. The aeration system consists of submerged laterals and diffusers that are difficult to access for maintenance. Several diffusers appear to have deteriorated over time and reduced the aeration provided to the lagoon. In addition, airline valve manholes in the interior berm have infilled with rock and sediment over time. The diffusers, aeration laterals and valves for the aeration laterals need replacement.

The existing lift station structure is an 8-foot diameter precast manhole that was installed in 1992. The structure is 22' deep with the inlet pipe approximately 18' deep. Currently, the lift station has three (3) 10 HP pumps, two of which were replaced with ABS Sulzer pumps within the past two years. A spare pump is kept in

the blower building to allow for easy change out for maintenance. Screening is provided by a single trash basket on the inlet pipe. City staff have noted that during peak flow events, they have had to bypass the lift station. Based on this information and the increased flow data, the existing lift station is undersized for peak flow events.

The purpose of this project is to make improvements to the wastewater treatment facilities to ensure compliance with IDNR wastewater regulations & standards, to enhance their reliability, increase capacity and to reliably operate the City of State Center's wastewater system for the next 20 years.

The proposed project includes improvements to the existing wastewater treatment plant and consists of abandoning the existing wet well in-place and the construction of a prefabricated HDPE wet well (same depth) with (3) – 20 HP submersible chopper pumps and all necessary appurtenances. A 15'L x 10' pre-engineered structural steel building would be constructed adjacent to the wet well to house valves, control panels, and all necessary appurtenances and electrical connections. Additionally, a new 10" DIP forcemain will be installed from the new dry well to the existing forcemain. The new 10" forcemain will have a depth in the range of 11-5 ft below grade, and width of 6 ft.

Below is the method of construction for the design.

- General Contractor (GC) will perform dewatering, shoring and backfill around the HDPE wet well.
- GC will pour concrete for flattop / building pad
- Once concrete is cured, the GC will set the building and anchor to the slab and land the incoming power feed from the main PM disconnect switch.
- GC will make influent / Effluent pipe connections

Positive environmental effects will be improved treatment of the wastewater from the City of State Center, compliance with effluent discharge permit limits, reduced discharge of the pollutants CBOD5, TSS, ammonia, E. coli and nutrients to the receiving stream, and improved water quality in the receiving stream.

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. The project will not affect the 100-year floodplain. 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 Nicole.Osborn@dnr.iowa.gov or (515) 321-7601.

Sincerely,

Nicole Osborn
Environmental Specialist
6200 Park Ave, Suite 200
Des Moines, IA 50321

Enclosures: Environmental Assessment
Project Map

Distribution

List (email): ISG, Inc.
Region 6 Resource Partners
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 Health & Human Services
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Kelly Beard-Tittone, USEPA Region VII
Mid-Iowa Enterprise

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IOWA STATE REVOLVING FUND
ENVIRONMENTAL ASSESSMENT DOCUMENT

PROJECT IDENTIFICATION

Applicant: City of State Center
County: Marshall County
State: Iowa

SRF Number: CS192111301
Iowa DNR Project Number: W2019-0322A

COMMUNITY DESCRIPTION

Location: The City of State Center is located in Marshall County, Iowa approximately 85 miles west of Cedar Rapids, Iowa and 50 miles northeast of Des Moines, Iowa.

Population: The population of State Center according to the 2020 US Census was 1,391. The design population equivalent for the year 2040 is 2,324.

Current Waste Treatment: The existing Wastewater Treatment Plant (WWTP) is located south of the City on the south side of Highway 30. It consists of a lift station and three cell aerated lagoon facility that discharges to the North Timber Creek.

The existing lagoon system consists of two earthen basins. The second basin has a baffle curtain that divides the cell into an aerated zone and a quiescent settling zone; the baffle curtain is the original one installed in 1992 and has lived its useful life. The aeration system consists of submerged laterals and diffusers that are difficult to access for maintenance. Several diffusers appear to have deteriorated over time and reduced the aeration provided to the lagoon. In addition, airline valve manholes in the interior berm have infilled with rock and sediment over time. The diffusers, aeration laterals and valves for the aeration laterals need replacement.

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PROJECT DESCRIPTION

Purpose: The purpose of this project is to make improvements to the wastewater treatment facilities to ensure compliance with IDNR wastewater regulations & standards, to enhance their reliability, increase capacity and to reliably operate the City of State Center's wastewater system for the next 20 years.

Proposed Improvements: The proposed project includes improvements to the existing wastewater treatment plant and consists of abandoning the existing wet well in-place and the construction of a prefabricated HDPE wet well (same depth) with (3) – 20 HP submersible chopper pumps and all necessary appurtenances. A 15'L x 10' pre-engineered structural steel building would be constructed adjacent to the wet well to house valves, control panels, and all necessary appurtenances and electrical connections. Additionally, a new 10" DIP forcemain will be installed from the new dry well to the existing forcemain. The new 10" forcemain will have a depth in the range of 11-5 ft below grade, and width of 6 ft.

Below is the method of construction for the design.

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Receiving Stream: The treated wastewater from the proposed facility improvements will continue to discharge to North Timber Creek, tributary to the Iowa River. It has a use stream designation of A-1. The is classified as a water stream.

ALTERNATIVES CONSIDERED

Alternatives Considered: Several alternatives were identified for potential improvements to address the WWTP concerns. The alternatives evaluated as part of the Facility Plan are as follows:

Alternative 1 – WWTP Lift Station Improvements: includes the demolition of process equipment in the existing wet well, installation of a wall mounted grinder, and construction of a new dry well housing (3) horizontal dry pit submersible pumps and associated valves and piping. An upgrade to these pumps will enable the City to handle their high flow conditions and future developments anticipated by the City.

Alternative 2 – OPTAER Aerated Lagoons and SAGR: includes a Submerged Attached Growth Reactor (SAGR) system by Nexom. The SAGR consists of a rock-filled trench that is continuously aerated. Effluent from the lagoons is distributed through the rock and a biomass of ammonia oxidizing bacteria develops on the rock surfaces. Seasonal flow adjustments are made by operators which creates additional biomass in the secondary SAGR cells. As ammonia removal becomes more difficult during the winter, this attached biomass allows the system to continue to oxidize ammonia during these colder winter months. For this alternative, the aeration laterals and diffusers in the existing lagoons would be replaced with floating HDPE laterals and new diffusers. Effluent from the lagoons would then be routed to four SAGR cells on site for ammonia removal. Following this type of treatment, disinfection will be required for *E. coli*. A UV disinfection system installed on the discharge line will inoculate *E. coli* prior to final discharge into North Timber Creek. The disinfection process will only take place in the summer months per IDNR requirements.

Due to the size of the cells, some of the existing solar panels would need to be relocated, or additional land would need to be acquired adjacent to the existing site to accommodate these cells. The existing blower building would be utilized, with the existing blowers inside being replaced.

Alternative 3 – LEMNA Covered Aerated Lagoon and LPR: includes a covered aerated lagoon system followed by a polishing reactor by LEMNA Environmental Technologies. The covered lagoon system consists of floating insulated covers that help retain heat and prevent ice formation in the wintertime, followed by a polishing reactor for ammonia removal. Traditional aerated lagoon systems are very effective in removing ammonia during warm weather conditions; however, the nitrification process slows down when the wastewater temperatures fall. This results in excessive amounts of ammonia being discharged from the WWTP. This system utilizes a cover to retain heat in the wastewater during periods of cold weather.

The system proposed for the City of State Center consists of two equally sized lagoon cells operating in series. The two lagoons are separated into four zones by floating baffles. The first three zones will be partially mixed cells utilizing low rate diffusers to provide oxygen. The diffusers will provide oxygen for optimal degradation of BOD5 and provide mixing to achieve biological reaction rates and maintain partial suspension of solids. The last cell will be a quiescent zone to settle out solids prior to being discharged to the LPR. The LPR consists of a fixed media and coarse bubble diffusers under the media to provide oxygen for the nitrification process. Following this type of treatment, disinfection will be required for *E. coli*. An Ultraviolet (UV) disinfection system on the discharge line will inoculate *E. coli* prior to final discharge into North Timber Creek

Alternative 4 – Aerated Lagoons & NitrOx: involves the installation of the NitrOx System, a moving bed biofilm reactor (MBBR) system between the second cell and the quiescent (3rd) lagoon cell. This alternative was designed by Triplepoint Environmental and consists of a standard aerated lagoon system followed by a MBBR; aeration improvements would also be performed in lagoon cells one and two with this option.

Construction of this system involves adding concrete aeration tanks with insulated covers between the second and third cells. Inside these tanks is plastic media suspended in wastewater, which allows nitrifying bacteria to grow and remove ammonia from the waste stream. An aeration system is located along the tank floor, keeping the media suspended and providing additional aeration required for nitrification. A heating system is included with this option as the waste stream entering the tanks is typically too cold to achieve proper nitrification. This heating source may consist of natural gas boilers or an underground electric heater depending on space availability and existing utilities located at the site. As with all alternatives, a UV disinfection system on the discharge line will need to be installed to inoculate *E. coli* prior to final discharge into North Timber Creek

Reasons for Selection of Proposed Alternative: Alternative 1 will be the first construction phase with a Phase 2 wastewater treatment plant improvements project as outlined in Alternatives 2-4 and bid as a separate project and performed after completion of Alternative 1.

MEASURES TAKEN TO ASSESS IMPACT

Public Involvement: A public hearing was held on July 16, 2024 at 6:30PM at the City's regular council meeting. The public notice of this hearing was made available by publication in the Mid Iowa Enterprise on June 13, 2024 and posted in public locations on June 13, 2024. 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
- State Center Historic 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.

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”).

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#240464267), that this undertaking will result in “no historic properties affected” based on the scope of the project, the prior use of the project area. 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: According to the Iowa DNR Flood Plain Management Section, this project will not impact the 100-year floodplain. 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. 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.

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 State Center 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 Irretrievable Commitment of Resources: Fuels, materials, and various forms of energy will be utilized during construction.

Environmental Justice: Based on the current EPA EJScreen tool, this project area has been evaluated for Environmental Justice (EJ) and is not considered a community of concern at the time of this review and for the purposes of this proposed project. The EJScreen report is available upon request.

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 State Center, compliance with effluent discharge permit limits, reduced discharge of the pollutants CBOD5, TSS, ammonia, E. coli and nutrients to the receiving stream, and improved water quality in the receiving stream.

SUMMARY OF REASONS FOR CONCLUDING NO SIGNIFICANT IMPACT

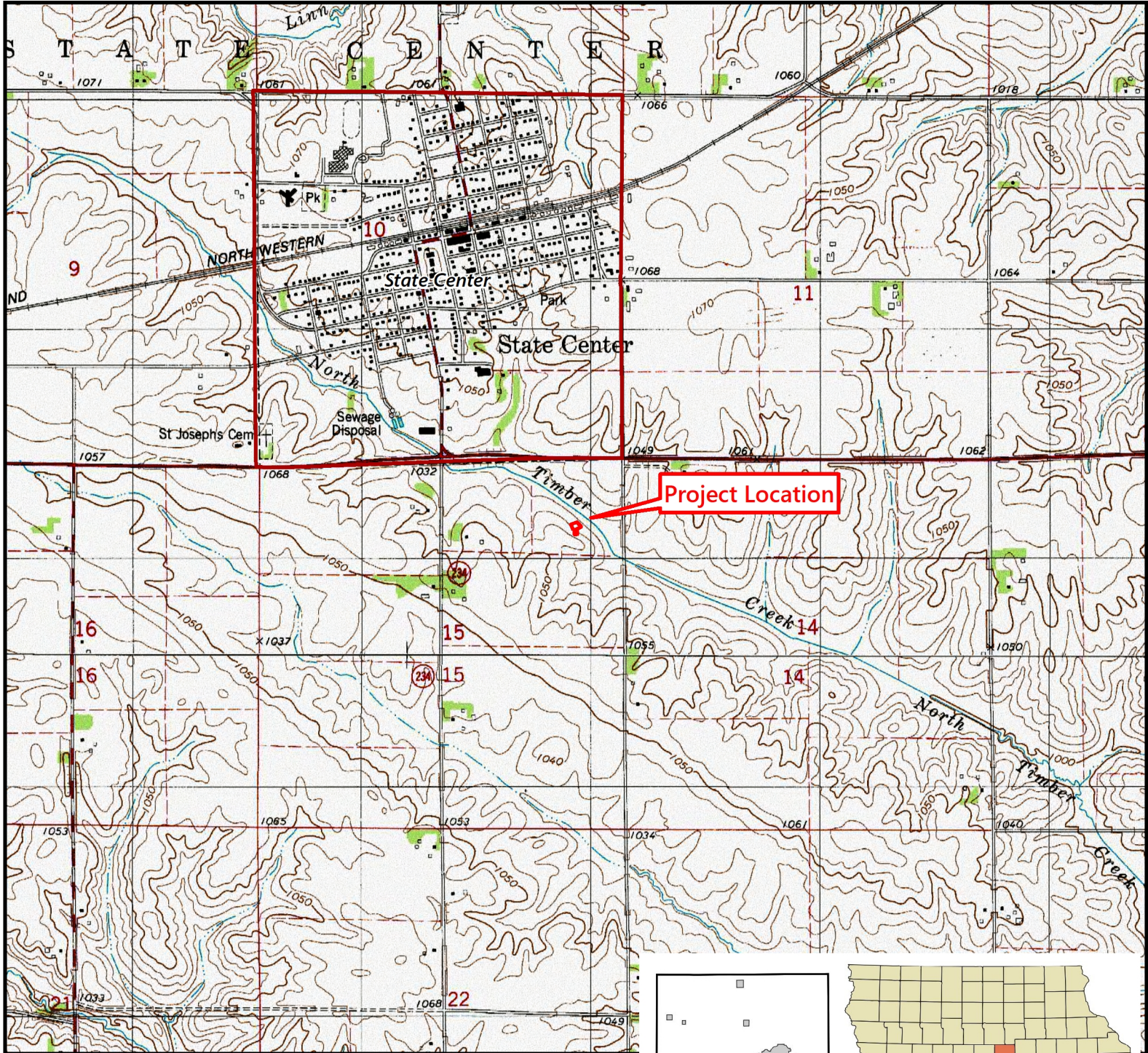
- The project will not significantly affect the pattern and type of land use (industrial, commercial, agricultural, recreational, residential) or growth and distribution of population.
- The project will not conflict with local, regional or State land use plans or policies.
- The project will not impact 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.
- The project will not affect the 100-year floodplain.
- 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.

Nicole Osborn

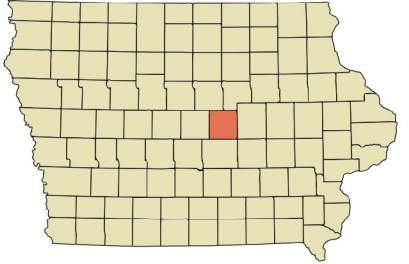
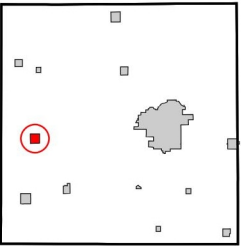
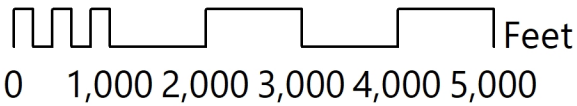
Environmental Review Specialist
State Revolving Fund
Iowa Department of Natural Resources



Project Location

Legend

 Project Area



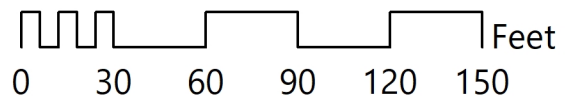
Marshall County. Image source: Wikipedia, 2023.



Legend



Project Area



State Center Wastewater Treatment Improvements Phase 1
State Center, IA (Marshall County, Iowa)