

STAFF REPORT TO THE AMES CITY COUNCIL

Environmental Impacts of Construction of Proposed Disinfection System at WPC Plant June 2011

A public hearing is on the June 28, 2011 agenda to discuss the results of the environmental review performed by the Iowa Department of Natural Resources (IDNR). An environmental information document has been prepared by the IDNR evaluating the impact of constructing a new disinfection system for the Ames Water Pollution Control Plant. The evaluation concluded that the project will have no significant environmental impacts.

A public hearing on the environmental impacts of the project construction is one of the first steps in meeting requirements of the State Revolving Fund (SRF) loan program. The City of Ames intends to obtain an SRF loan to finance the construction of the disinfection system. A separate hearing will be held before the City enters into any financial agreements with the SRF loan program.

The Ames Water Pollution Control Plant (WPCP) is required to have a National Pollutant Discharge Elimination System (NPDES) permit to discharge into the South Skunk River. The receiving stream (South Skunk River) for the plant effluent was reclassified as an A1 full-body contact recreational river in 2007. The A1 full-body contact recreation designation sets seasonal (March 15-November 15) in-stream water quality standards for *E. coli*, a bacteria used as an indicator of human waste contamination. New *E. coli* limits are given in the city's NPDES permit issued in September 1, 2010. Disinfection of the WPC Plant effluent is now a requirement.

On November 17, 2009, staff presented Council with the results of a study where several methods of disinfection were evaluated. The recommended method of disinfection was ultraviolet (UV) disinfection.*

The contract for professional services to design the UV system was presented and subsequently approved on March 22, 2011.

*The study was conducted pro-actively, before disinfection was a requirement of the WPC Plant NPDES permit.

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 Ames

SRF No.: CS1920526 01

County: Story

Project No.: S2010-0041

State: Iowa

COMMUNITY DESCRIPTION

Location: The City of Ames is located in Story County approximately 35 miles north of Des Moines, Iowa.

Population: The population of Ames was estimated at 54,745 for 2009. Projected design population is for the year 2030, or 65,000.

Current Waste Collection & Treatment: Wastewater generated within the City of Ames service area is collected by approximately 200 miles of sewer collection pipes and 5 sanitary lift and pump stations. Wastewater is conveyed to the existing Water Pollution Control Facility (WPCF). The WPCF is a mechanical wastewater treatment facility that consists of a series of clarifiers, trickling filters, solids contact basin, sludge lagoon, equalization basins, and a cascade aerator to re-aerate wastewater prior to being discharged into the receiving stream.

PROJECT DESCRIPTION

Purpose: The purpose of this project is to make improvements to the wastewater treatment facilities to safely and reliably operate the City of Ames's wastewater system for the next 20 years.

Proposed Improvements: The project involves the construction of a new UV disinfection system at the existing WPCP site. A new building will be constructed to house the UV disinfection system and electrical equipment. In addition, an uncovered, concrete by-pass channel will be constructed adjacent to the proposed building.

Receiving Stream: The treated wastewater from the proposed facility will discharge to the South Skunk River. The South Skunk River has a recreational stream designation of Class A1, 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. The South Skunk River has an aquatic stream designation of Class B(WW2), in which the physical characteristics of the water body are capable of supporting a resident aquatic community that includes a variety of native nongame fish and invertebrate species.

ALTERNATIVES CONSIDERED

Alternatives Considered: Alternative disinfection technologies that were evaluated included sodium hypochlorite, chlorine gas, chlorine dioxide, peracetic acid, ozone, and wetlands.

Reasons for Selection of Proposed Alternative: The No-Action alternative is not viable due to more stringent water quality standards in the current NPDES permit. The construction of a UV disinfection system was deemed the most cost effective option.

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

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 Water Resources Section
- Citizen Band Potawatomi Indian Tribe
- Delaware Tribe of Indians
- 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
Ames Historic Preservation Commission

To date, no adverse comments have been 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. Therefore, 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 (IAW Iowa Administrative Code 567-23.3(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 agreed (R&C# 110585129), that this undertaking will result in “no historic properties effected” 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: 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 agrees that the project will not impact threatened or endangered species or their habitats provided that tree clearing take place outside of the summer breeding season (April 15-July 15). In addition, the Iowa DNR Conservation and Recreation Division recommends that construction activity avoid the destruction of Canada geese habitat during the species’ nesting period (March 1-May 31). 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 is within the 100-year floodplain and is required to obtain flood plain permits from the DNR and local flood plain authority. Overall, no adverse impacts are expected to result from this project, such as those to surface water quantity, or groundwater quality or quantity.

Land Use and Trends: The project will not displace population nor will it alter the character of existing residential areas. The proposed project is located in Story County in an area zoned as agricultural. No significant farmlands will be impacted. This project should not impact population trends as the presence or absence of existing wastewater 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.

POSITIVE ENVIRONMENTAL EFFECTS TO BE REALIZED FROM THE PROPOSED PROJECT

Positive environmental effects will be improved water quality in the South Skunk River. The new UV disinfection system will bring the City of Ames into compliance with department requirements and existing water quality standards.

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.
- This project will not impact threatened or endangered species or their habitats provided that tree clearing take place outside of the summer breeding season (April 15-July 15). In addition, construction activity must avoid the destruction of Canada geese habitat during the species' nesting period (March 1-May 31). 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 is within the 100-year flood plain and requires a DNR Flood Plain permit as well as a local flood plain permit.
- 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 (IAW Iowa Administrative Code 567-23.3(2)“c”).

- The project will not have a significant adverse effect upon local ambient noise levels, surface water & groundwater quality or quantity, water supply, or to wildlife or aquatic species or their habitats.

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

Signature of the Mayor, City of Ames

Date

Printed Name of the Mayor, City of Ames