FACT SHEET

The United States Environmental Protection Agency (EPA) Plans to Reissue A National Pollutant Discharge Elimination System (NPDES) Permit To:

Star Water and Sewer District
P.O. Box 227
Star, Idaho 83669

Permit Number: ID-002359-1
Public Notice date:

EPA Proposes NPDES Permit Reissuance.
EPA proposes to reissue an NPDES permit to the Star Water and Sewer District. The draft permit places conditions on the discharge of pollutants from the wastewater treatment plant to the Lawrence-Kennedy Canal. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged.

This Fact Sheet includes:
- information on public comment, public hearing, and appeal procedures
- description of the current discharge
- listing of past and proposed effluent limitations, schedules of compliance, and other conditions
- a map and description of the discharge location
- detailed technical material supporting the conditions in the permit

The State of Idaho Proposes Certification.
EPA is requesting that the Idaho Division of Environmental Quality certify the NPDES permit for the City of Star, under section 401 of the Clean Water Act. The state provided preliminary comments prior to the Public Notice which have been incorporated.

Public Comment.
Persons wishing to comment on or request a Public Hearing for the draft permit may do so in writing by the expiration date of the Public Notice. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires, and all comments have been considered, EPA's regional Director for the Office of Water will make a final decision regarding permit reissuance. If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If comments are received, EPA will address the comments and issue the permit. The permit will become effective 30 days after the issuance date,

unless a request for an evidentiary hearing is submitted within 30 days.

Documents are Available for Review.
The draft NPDES permit and related documents can be reviewed or obtained by visiting or contacting EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday (See address below). Draft permits, Fact Sheets, and other information can also be found by visiting the Region 10 website at www.epa.gov/r10earth/offices/water/npdes.htm.

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, OW-130
Seattle, Washington 98101
(206) 553-0225 or
1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

The Fact Sheet and draft permit are also available at:

EPA Idaho Operations Office
1435 North Orchard Street
Boise, Idaho 83706
(208) 378-5746

Ada Community Library
Star Branch
111 S. Main Street
Star, Idaho 83668
(208) 286-9755

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I. APPLICANT

Star Water and Sewer District
NPDES Permit No.: ID-002359-1

Facility Mailing Address:
P.O. Box 277
Star, Idaho 83668

II. FACILITY INFORMATION

A. Activity

The City of Star is a small, unincorporated community located in Ada County in southwest Idaho, approximately 20 miles northwest of the City of Boise. The Star Water and Sewer District owns, operates, and has maintenance responsibility for a facility that treats domestic wastewater from local residents and commercial establishments. The facility receives no industrial wastes.

The permit application indicates that the design flow of the facility is 0.33 million gallons per day (mgd). Treatment of wastewater consists biological treatment using a 3-cell aerated lagoon system operated in series, followed by a chlorine contact basin for wastewater disinfection prior to discharge. The primary lagoon has a surface area of 4 acres, and the second and third lagoons have surface areas of 0.23 acres each. Sludge from the treatment process is biologically treated internally within the system and stored indefinitely at the bottom of the ponds. Final effluent from the treatment plant is discharged to the Lawrence-Kennedy Canal.

A map has been included in Appendix A which shows the location of the treatment plant and the discharge location.

B. Background

The NPDES permit for the wastewater treatment plant expired on September 30, 1990. Since the Permittee did not submit a timely application for a new permit, the existing permit could not be administratively extended in accordance with the federal Administrative Procedures Act. However, a review of the facility's Discharge Monitoring Reports for the past five years indicates that the facility has generally been in compliance with the effluent limits contained in its most recent permit.

III. RECEIVING WATER

A. Receiving Water

Treated effluent from the Star wastewater treatment plant (WWTP) is discharged from outfall 001, located at latitude 43° 41' 13" and longitude 116° 29' 51", to the Lawrence-Kennedy Canal, an irrigation drain that joins several other drains before eventually reaching the Boise River at the City of Middleton approximately 7 miles to the west. During irrigation season, flows in the Lawrence-Kennedy Canal are in the range of 10 - 15 cubic feet per second (cfs). Non-irrigation season flows are significantly lower between 1-5 cfs.

B. Water Quality Standards

A State's water quality standards are composed of use classifications, and numeric and/or narrative water quality criteria. The use classification system designates the beneficial uses (such as cold water biota, contact recreation, etc.) that each water body is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary, by the State, to support the beneficial use classification of each water body. The anti-degradation policy represents a three-tiered approach to maintain and protect various levels of water quality and uses.

The Lawrence-Kennedy Canal is a man-made waterway. Section IDAPA 16.01.02.101.02 of the Idaho *Water Quality Standards and Wastewater Treatment Requirements* states that such waterways are to be protected for the use for which they were developed. The Lawrence-Kennedy Canal was constructed for the purpose of agricultural water supply.

Flows from the Lawrence-Kennedy Canal eventually reach the Boise River near the City of Middleton. This segment of the Boise River is protected for cold water biota, primary and secondary contact recreation, salmon spawning, and agricultural water supply.

C. Water Quality Limited Segment

A water quality limited segment is any waterbody, or definable portion of water body, where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards. The Boise River near Middleton where the Lawrence-Kennedy Canal reaches the river has been listed as a "water quality limited segment." This section of the Boise River has been listed as "water quality limited" for nutrients, sediment, dissolved oxygen, temperature and bacteria.

Section 303(d) of the CWA requires States to develop a Total Maximum Daily Load (TMDL) management plan for water bodies determined to be water quality limited. A TMDL documents the amount of a pollutant a waterbody can assimilate without violating a state's water quality standards and allocates that load capacity to known point sources and nonpoint sources.

The Idaho Division of Environmental Quality, Boise Regional Office is scheduled to prepare TMDLs for the tributaries to the Boise River in the year 2001. The TMDLs will address phosphorus, sediment, temperature, and bacteria.

IV. EFFLUENT LIMITATIONS

In general, the Clean Water Act requires that the effluent limits for a particular pollutant be the more stringent of either technology-based effluent limits or water quality-based limits. A technology-based effluent limit requires a minimum level of treatment for municipal point sources based on currently available treatment technologies. A water quality-based effluent limit is designed to ensure that the water quality standards of a waterbody are being met. For more information on deriving technology-based effluent limits and water quality-based effluent limits see Appendix B.

The following summarizes the effluent limitations that are in the draft permit:

Table 1: Effluent Limitations

Parameters	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit
BOD_5	45 mg/l (124 lbs/day)	65 mg/l (179 lbs/day)	----
TSS	70 mg/l	105 mg/l	----
Fecal Coliform Bacteria	----	200 colonies/100 ml	----

In addition to the requirements listed above, the following limitations shall also apply:

1. The pH range shall be between 6.0 - 9.0 standard units.
2. 65 percent removal requirements for BOD_5: For any month, the monthly average effluent concentration shall not exceed 35 percent of the monthly average influent concentration.
3. There shall be no discharge of floating solids or visible foam other than trace amounts.

V. SLUDGE REQUIREMENTS

Currently, sludge from the treatment process is stored at the bottom of the facultative ponds. The permittee does not anticipate having to remove the sludge from the bottom of the ponds during the term of this permit (five years).

Section 405(f) of the CWA requires sludge use and disposal requirements to be incorporated into NPDES permits issued to a treatment works treating domestic wastewater. In addition, the sludge permitting regulations in 40 CFR §122 and §124 apply to all treatment works treating domestic wastewater.

General conditions have been incorporated into the proposed permit requiring the permittee to comply with all existing federal and state laws, and all regulations applying to sludge use and disposal.

VI. MONITORING REQUIREMENTS

Section 308 of the Clean Water Act and federal regulation 40 CFR §122.44(i) requires that monitoring be included in permits to determine compliance with effluent limitations. Monitoring may also be required to gather data for future effluent limitations or to monitor effluent impacts on receiving water quality. The permittee is responsible for conducting the monitoring and for reporting results on Discharge Monitoring Reports (DMRs) to EPA. Table 2 presents the proposed monitoring requirements based on the minimum sampling necessary to adequately monitor the facility's performance. Effluent monitoring for Outfall 001 is required only when the facility is actually discharging to the Lawrence-Kennedy Canal. Nutrient monitoring has been included in the proposed permit to help support the development of a TMDL for the Boise River and its tributaries. Nutrient monitoring will be required for a two year period.

TABLE 2: Monitoring Requirements

Parameter	Sample Location	Sample Frequency	Sample Type[1]
Flow, mgd	Influent or effluent	Continuous	----
$BOD_{5,}$ mg/L	Influent and effluent	1/week	8-hour composite
TSS, mg/L	Influent and effluent	1/week	8-hour composite
pH, standard units	Effluent	1/week	grab
Fecal Coliform Bacteria, colonies/100 ml	Effluent	5/week	grab
Temperature, °C	Effluent	3/week	grab
Chlorine, mg/l	Effluent	1/week	grab
Total Ammonia as N, mg/L	Effluent	1/month	8-hour composite
Total Kjeldahl Nitrogen, mg/l	Effluent	1/month	8-hour composite
Nitrate-Nitrite, mg/l	Effluent	1/month	8-hour composite
Total Phosphorus, mg/L	Effluent	1/month	8-hour composite
Ortho-Phosphate, mg/l	Effluent	1/month	8-hour composite

Footnotes:

1. An eight (8) hour composite sample shall consist of three discrete aliquots collected over an eight hour period. Each aliquot shall be a grab sample of not less than 100 ml and shall be collected and stored in accordance with procedures prescribed in *Standard Methods for the Examination of Water and Wastewater*, 18th Edition.

VII. OTHER PERMIT CONDITIONS

A. Quality Assurance Plan

The federal regulation at 40 CFR §122.41(e) requires the Permittee to develop and submit a Quality Assurance Plan to ensure that the monitoring data submitted is accurate and to explain data anomalies if they occur. The Permittee is required to submit a Quality Assurance Plan within 60 days of the effective date of the draft permit. The Quality Assurance Plan shall consist of standard operating procedures the Permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting.

B. Additional Permit Provisions

Sections II, III, and IV of the draft permit contain standard regulatory language that must be included in all NPDES permits. Because they are regulations, they can not be challenged in the context of an NPDES permit action. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, and other general requirements.

VIII. OTHER LEGAL REQUIREMENTS

A. Endangered Species Act

The Endangered Species Act requires federal agencies to consult with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service if their actions could adversely affect any threatened or endangered species. EPA has determined that issuance of this permit will not affect any of the threatened or endangered species in the vicinity of the discharge. See Appendix C for further details.

B. State Certification

Section 401 of the Clean Water Act requires EPA to seek state certification before issuing a final permit. As a result of the certification, the state may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards.

C. Permit Expiration

This permit will expire five years from the effective date of the permit.

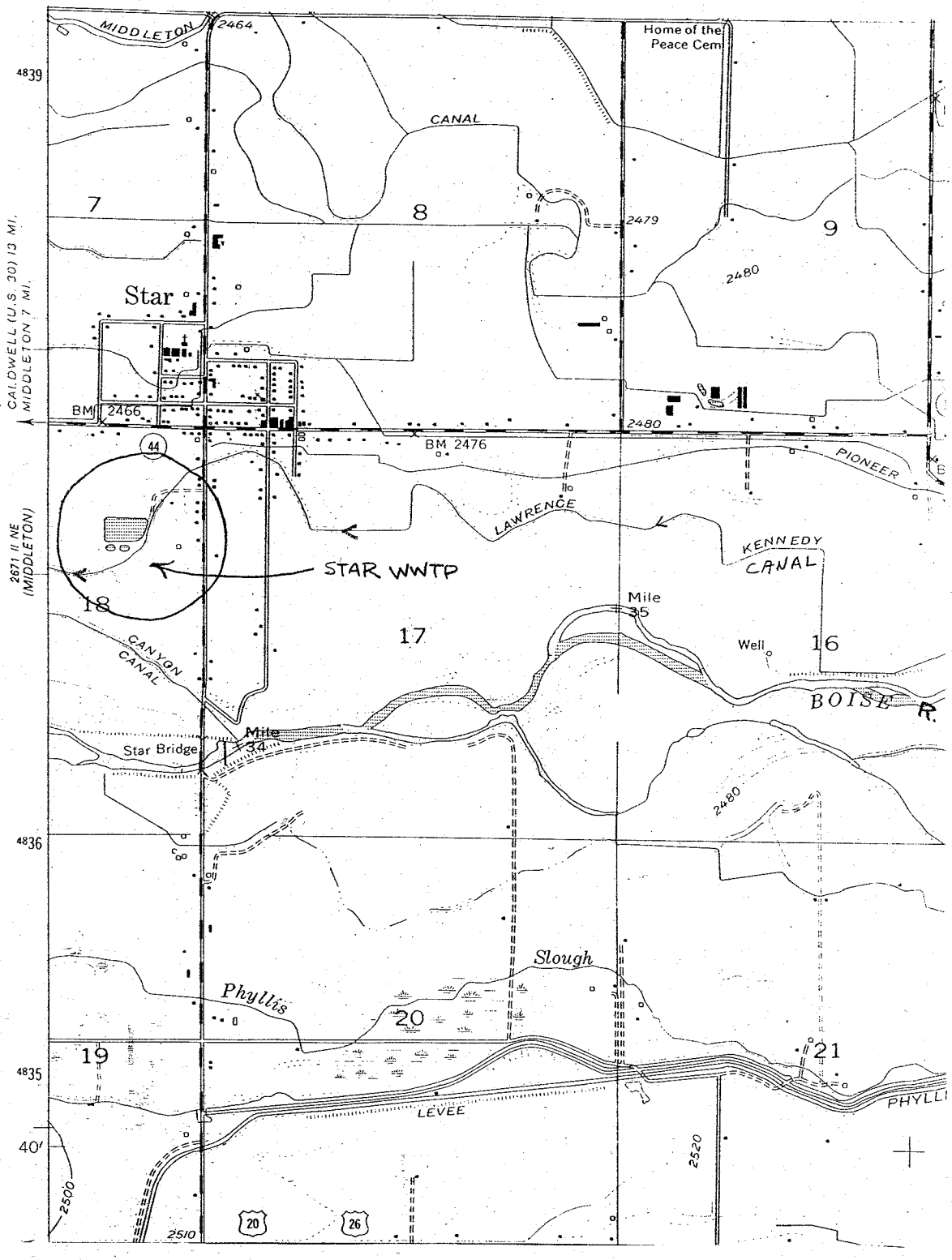
REFERENCES

State of Idaho, 1997. *Water Quality Standards and Wastewater Treatment Requirements.* IDAPA 16, Title 01, Chapter 02.

EPA 1991. *Technical Support Document for Water Quality-based Toxics Control*. Office of Water Enforcement and Permits, Office of Water Regulations and Standards. Washington, D.C., March 1991. EPA/505/2-90-001.

APPENDIX A

Map of Star Wastewater Treatment Facility



APPENDIX B
Basis for Effluent Limitations

Sections 101, 301(b), 304, 308, 401, 402, and 405 of the Clean Water Act (CWA) provide the basis for the effluent limitations and other conditions in the draft permit. The CWA requires Publicly Owned Treatment Works (POTWs) to meet performance-based requirements (effluent limits) based on available wastewater treatment technology. EPA may find, by analyzing the effect of an effluent discharge on the receiving water, that the technology-based effluent limits are not sufficiently stringent to meet water quality standards. In such cases, EPA is required to develop more stringent, water quality-based effluent limits designed to ensure that water quality standards are met. The draft effluent limits reflect the more stringent of either the technology-based limits or the water quality-based limits.

The following explains in more detail the derivation of technology-based effluent limits and water quality- based effluent limits.

A. Technology-based Evaluation

The CWA requires Publicly Owned Treatment Works to meet performance-based requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level, referred to as "secondary treatment," that all POTWs were required to meet by July 1, 1977. EPA developed "secondary treatment" regulations which are specified in 40 CFR 133. These technology-based limits apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

The definition of "secondary treatment" includes special considerations regarding waste stabilization ponds. The regulations allow alternative limits for facilities, such as the City of Star, using waste stabilization ponds. These alternative limits are called "treatment equivalent to secondary treatment."

The regulation also includes a provision for an Alternative State Requirement (40 CFR 133.105(d)). This allows the State the flexibility to set permit limits above the maximum levels for "treatment equivalent to secondary treatment." For waste stabilization ponds, the Idaho *Water Quality Standards and Wastewater Treatment Requirements* (IDAPA16.01.02.420.02.b) establish average monthly limits for BOD_5 and TSS. The technology-based limits for BOD_5 and TSS are contained in Table C-1.

TABLE C-1: Technology-based Effluent Limits for BOD and TSS

Parameters	Average Monthly Limit	Average Weekly Limit	Percent Removal Requirements
BOD_5	45 mg/l	65 mg/l	65
TSS	70 mg/l	105 mg/l	----

Footnotes:
1. Although not specified in the Idaho State Water Quality Standards, a weekly average effluent limitation for BOD_5 and TSS has been established in accordance with 40 CFR §122.45(d)(2). The average weekly limit is 1.5 times the value of the monthly average limitation.

In accordance with 40 CFR § 122.45(f), NPDES permits must also express these requirements in terms of mass-based limits. The draft permit establishes loading limits based on the plant design capacity of 0.33 mgd (40 CFR § 122.45(b)). The limits are calculated by multiplying the concentration limits by the design flow and a conversion factor of 8.34 (pounds)(liters)/(milligrams)(million gallons) as shown below:

Biological Oxygen Demand (BOD_5)
Monthly Average Load = (0.33 mgd)(45 mg/L)(8.34) = 124 lbs/day
Weekly Average Load = (0.33 mgd)(65 mg/L)(8.34) = 179 lbs/day

In addition to the requirements listed above, the Idaho *Water Quality and Wastewater Treatment Requirements* also require the following technology-based limitations for wastewater discharges:

1. The pH range shall be between 6.0 - 9.0 standard units.

2. Fecal Coliform Bacteria: In addition to the requirements listed above, the Idaho *Water Quality and Wastewater Treatment Requirements* (IDAPA 16.01.02.420.02.b) also require that fecal coliform concentrations in treated effluent not exceed a geometric mean of 200 colonies/100 ml based on no more than one week of data and a minimum of five samples.

B. Water Quality-based Evaluation

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards by July 1, 1977. Discharges to state waters must also comply with limitations imposed by the state as part of its certification of NPDES permits under section 401 of the CWA.

The NPDES regulation (40 CFR 122.44(d)(1)) implementing section 301 (b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters which "are or may be discharged at a level which will cause, have the reasonable potential to cause, or

contribute to an excursion above any state water quality standard, including state narrative criteria for water quality."

Section IDAPA 16.01.02.101.02 of the Idaho *Water Quality Standards and Wastewater Treatment Requirements* states that man-made waterways such as the Lawrence-Kennedy Canal are to be protected for the use for which they were developed. The Lawrence-Kennedy Canal was constructed for the purpose of agricultural water supply. EPA considers the proposed limits to be protective of the narrative criteria contained in the Idaho water quality standards for agricultural water supply.

Although the Idaho water quality standards do not contain criteria for total residual chlorine for man-made waterways, flows from the Lawrence-Kennedy Canal eventually reach the Boise River. As a result, EPA considered the potential for total residual chlorine in the Star WWTP effluent to exceed water quality criteria for total residual chlorine in the Boise River. Using effluent data collected by the Star Water and Sewer District and the dilution available in the Lawrence-Kennedy Canal and subsequent agricultural drains prior to their confluence with the Boise River, EPA determined there is not reasonable potential to exceed water quality standards in the Boise River for total residual chlorine from the Star WWTP.

APPENDIX C

Endangered Species Act

Section 7 of the Endangered Species Act (ESA) requires federal agencies to request a consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service regarding potential effects an action may have on listed endangered species.

In a letter dated February 11, 1999, the U.S. Fish and Wildlife Service identified the Gray wolf as being a federally-listed endangered species that may occur in the area of the discharge. There are no proposed or candidate species in the area of the discharge. In a letter dated February 9, 1999, the National Oceanic and Atmospheric Administration, National Marine Fisheries Service stated that there are no listed endangered species within the Boise River basin.

EPA has determined that the requirements contained in the draft permit will not have an impact on the Gray wolf. Hunting and habitat destruction are the primary causes of the Gray wolf's decline. Issuance of an NPDES permit for the Star Water and Sewer District wastewater treatment plant will not result in habitat destruction, nor will it result in changes in population that could lead to increased habitat destruction. Furthermore, issuance of the NPDES permit will not impact the food sources of the Gray wolf.

EPA will provide USFWS and NMFS with copies of the draft permit and fact sheet during the public notice period. Any comments received from these agencies regarding this determination will be considered prior to reissuance of this permit.