FACT SHEET FOR STATE WASTE DISCHARGE PERMIT NO. ST-5529

COUNTRY VIEW WATER & SEWER DISTRICT

DATE OF THIS FACT SHEET – MAY 15, 2008
DATE OF EXPIRING PERMIT - SEPTEMBER 30, 2013

SUMMARY

The applicant provides sewer service for a 246-space mobile home park located due south of the City of Kennewick on Game Farm Road. The Poplar Heights Sewer District began operating the facility in 1979. The wastewater treatment works is a slightly modified Marloff activated sludge package plant. The Water and Sewer District completed a major upgrade in 1987, and installed a fine-pore diffuser system for the activated sludge portion in 1995.

Discharges from the package treatment plant can be directed to either of two evaporation ponds, which encompass a total area of approximately 2.1 acres. The smaller pond is approximately half the size of the larger pond (0.95 acres). The pond liners consist of a bentonite-native clay mixture. Due to a combination of inadequate maintenance and time, Ecology believes each of the ponds' bentonite/clay liners have degraded, allowing the ponds to infiltrate wastewater and potentially contaminate ground water.

The discharge from the package plant at the facility exceeds the groundwater quality criteria for nitrates and total dissolved solids (TDS). Ecology suspects that chloride may also exceed the groundwater quality criterion. The Permittee needs to act quickly to address the probability of groundwater contamination. This issue has partially been fulfilled with the submittal and approval of an engineering report.

The proposed permit requires Country View Estates to either submit to Ecology a series of reports leading to compliance with the state wastewater discharge to ground permit or move forward with installing double lined leak detection in the lagoons to prevent a discharge to ground.

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST-5529. The Department of Ecology (Ecology) is proposing to issue this permit, which will allow discharge of wastewater to waters of the State of Washington. This fact sheet explains the nature of the proposed discharge, Ecology's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (Revised Code of Washington {RCW} 90.48.080 and 90.48.162) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. Regulations adopted by the State include procedures for issuing permits (Chapter 173-216 Washington Administrative Code {WAC}), technical criteria for discharges from municipal wastewater treatment facilities (Chapter 173-221 WAC) and water quality criteria for ground waters (Chapter 173-200 WAC). They also establish the basis for effluent limitations and other requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Washington State Department of Health and by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, Ecology will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of Ecology's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant:	Santiago Estate Country View
Facility Name and Address:	Country View Estates Water & Sewer District 200802 East Game Farm Road Kennewick, WA 99337
Type of Treatment System:	Marloff Package Plant, Activated Sludge
Discharge Location:	Latitude: 46° 09' 17" N Longitude: 119° 04' 34" W
Contact at Facility:	Name: Wes Burkhead Telephone #: (509) 438 2560
Responsible Official:	Name: Wes Burkhead Title: Manager/Operator Address: 200802 East Game Farm Road Telephone #: (509) 438 2560 Fax#: (509) 585 0597

BACKGROUND INFORMATION

DESCRIPTION OF THE COLLECTION AND TREATMENT SYSTEM

History

The applicant owns a 246-space mobile home park located due south of the City of Kennewick on Game Farm Road. The Benton County Planning Department confirmed that it permits 147 homes on the Country View property.

The Poplar Heights Sewer District, which services Country View, began operating the facility in 1979. The district since changed its name to the Country View Water & Sewer District.

As of 2008, the Sewer District serves approximately 50 homes. This is down from 130 units in 2002 and 75 units in 2004. Country View has indicated that due to land use issues at the county level a demand for rental space may increase.

Treatment Processes

The wastewater treatment works, a slightly modified Marloff activated sludge package plant, discharges to one of two evaporation ponds for disposal. A major upgrade completed in 1987, added a fine-pore diffuser system for the activated sludge portion, which replaced a large bubble diffuser. The system consists of a dual primary and secondary aeration tank, a clarifier and a sludge digester. The District disinfects the effluent using chlorine.

Ecology classifies the facility as a Class 1 wastewater treatment facility.

EVAPORATION AND INFILTRATION BASINS

Discharges are directed to the smaller evaporation lagoon. The lagoons encompass approximately 2.95acres. The smaller lagoon is approximately 0.95 acre and the larger is nearly twice that size. Due to scrub and sagebrush growth in the bottom of the lagoons, the integrity of the bentonite and native clay mixture liner of both of the lagoons has been compromised. The Sewer District has not determined the rate of infiltration in the lagoons and has only used the smaller of the lagoon to date.

Residual Solids

The treatment facility removes solids during the treatment of the wastewater at the secondary clarifier. Operators remove incidental solids (rags, scum, and other debris) as part of the routine maintenance of equipment. Drained grit, rags, scum, and screenings are disposed of once a

month by Roto-Rooter in compliance with the State Biosolids General Permit at B&B Injection in Finley, Washington.

The District pumps sludge collected in settlement Basin #3 into the aerated activated tank, Basin #4. From Basin #4 operators pump the supernatant and some sludge back into aeration Basin #1. Roto-Rooter, a certified septic tank hauler, removes 4,000 to 6,000 gallons of waste activated sludge as needed and disposes of it at B&B Farms in Southeast Benton County in compliance with the State Biosolids General Permit.

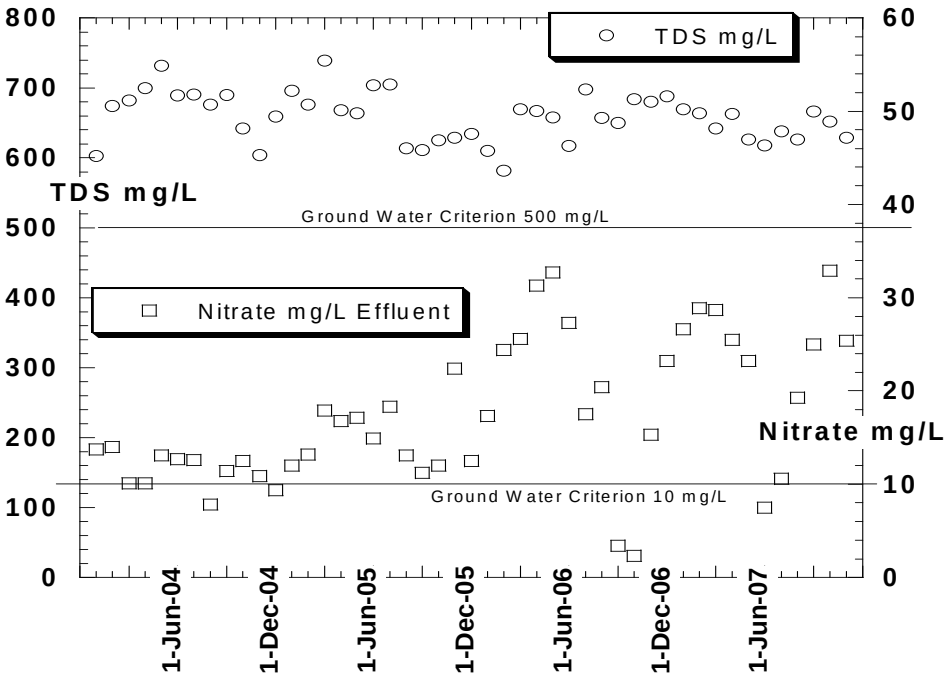
GROUND WATER

Ecology in conjunction with the Washington State Department of Health (DOH) determined that there would be little threat to ground water quality and public health during a short interim period between development of the Engineering Report and implementation of the final plan. Ecology had determined previously in 1995 that the current bentonite lined lagoons would not prevent the migration of contaminants to ground water. During this period Ecology, Country View, and The Department of Health (DOH) worked closely to develop a strategy for Reclaimed Water Status for the Country View effluent.

The Sewer District has determined reclaimed water is not a viable option for its facility. Effluent monitoring during the current permit term demonstrated that concentrations of Total Dissolved Solids (TDS), fecal coliform, and nitrate contained in the effluent have the potential to impair ground water quality.

Illustration 1 contrasts the applicable ground water criteria against the TDS and nitrate concentrations analyzed in the effluent. The levels of TDS and nitrate in the effluent exceed the water quality criteria by a significant amount.

Illustration 1: TDS and Nitrate vs Ground Water Criteria



Ecology believes that chloride contributes to the TDS. Ecology has added effluent chloride concentration monitoring to the proposed permit. Elevated chloride and TDS can significantly degrade ground water quality.

Total coliform bacteria counts in the effluent have at times exceeded both the maximum daily and average monthly effluent limits. There is some indication that improper sampling may be partly to blame for these violations.

Special Condition S8 requires the Permittee to conduct, in accordance with an approved scope of work, a hydrogeologic study to determine the extent of negative impacts to ground water quality from excessive infiltration below the lagoons. The District must submit the hydrogeologic study with a sampling and analysis plan (SAP) to Ecology for approval.

PERMIT STATUS

The previous permit for this facility was issued on June 16, 2003

An application for permit renewal was submitted to Ecology on August 22, 2007 and accepted on August 23, 2007.

SEPA COMPLIANCE

Ecology expects that the District will need to make modifications or construct new facilities and therefore must address any associated requirements for SEPA.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility's last inspection was on July 19, 2005.

Between 2003 and 2007, the Permittee has exceeded the maximum weekly total coliform bacteria limit 12 times and the average monthly total coliform limit 10. Two violations of the dissolved oxygen minimum of 4 mg/L per liter occurred in the same timeframe. Ecology believes the coliform violations result from inadequate retention time prior to sampling. Ecology required the Permittee to relocate the sampling port in order to obtain a more representative sample.

The Permittee failed to submit to Ecology a letter stating the relocation of the sampling port with a map of the location and an estimation of the residence time of the chlorinated effluent between the chlorine contact chamber and the sampling port, by November 15, 2004. The Permittee informed Ecology that the relocated sampling port began functioning as of January 2008.

The Permittee has not yet complied with the current permit requirement to submit engineering plans and implementation plans to address reclaimed water options with plans to refurbish the wastewater lagoons to prevent contamination of ground water. The Implementation Plan was due at Ecology on May 15, 2006.

The previous permit, issued in 1998, Special Condition S4.B.5, required the Permittee submit a plan to fix the lagoons by December 31, 1999. To this date (January 2008), the Permittee has not met that requirement.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the influent and discharge contained in the characterization are taken from the permit application and in discharge monitoring reports. Table 1 contains the influent characterization.

Table 1: Influent Characterization

		January 2004 thru November 2007 Average Monthly Maximum		January 2004 thru November 2007	
Parameter	**Units**	**Value**	**% of Design**	**Maximum/Minimum Day**	**% of Design**
BOD_5	mg/L	250.7	N/A	696.0 (max)	N/A
BOD_5	lbs/day	28.0	21.4	69.9 (max)	53.3
Dissolved oxygen	mg/L	6.0	N/A	1.2 (min)	N/A
Flow [a]	MGD	0.014	20.5	0.023(max)	41.1
pH	Standard Units	-	N/A	9.6 (max) 6.8 (min)	N/A
TSS	mg/L	263.3	N/A	2117.0 (max) [b]	N/A
TSS	lbs/day	28.9	N/A	174.8 (max)	N/A

[a] Flow value is taken from the recorded flow data taken on the day BOD_5 was sampled.
[b] TSS value taken in January 2006.

Illustration 2 depicts the loading of TSS and BOD for the last four years (2004-2007) entering the wastewater treatment facility. The line indicates the BOD design criteria for BOD loading at 131 lbs/Day. The low level of loading reflects the current low level of occupancy at the mobile home park.

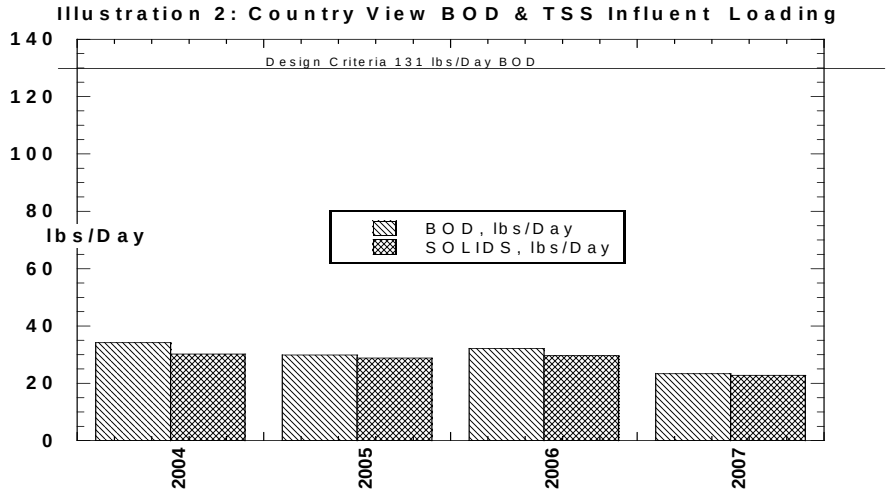


Table 2 contains the characterized effluent prior to discharge to the wastewater lagoon.

Table 2: Effluent Characterization

		January 2004 thru November 2007 Monthly Average		Monthly Maximum/Minimum	
Parameter	**Units**	**Value**	**% of Limit**	**Maximum/Minimum Day**	**% of Limit**
BOD_5	mg/L	4.71	15.7	13.6 (max)	45.3
BOD_5	lbs/day	0.55	3.9	1.95 (max)	55.9
Dissolved oxygen	mg/L	7.18	NA	3.4 (min) [b]	N/A
Flow [a]	MGD	0.017	42.9	0.048 (max)	50
pH	Standard Units	-	N/A	8.5 (max) 6.5 (min)	N/A
TSS	mg/L	5.54	18.5	18.0(max)	60.0
TSS	lbs/day	0.67	4.8	2.7 (max)	19.4
TDS	mg/L	658.3	132 [c]	739.0	148 [c]
Nitrate	mg/L	17.3	173 [d]	39.7	397 [d]

[a] Flow value is derived from the recorded flow data on the day the highest nitrate monthly value was sampled.
[b] Permit limit is a dissolved oxygen concentration of no less than 4 mg/L.
[c] Percent of limit is based on the ground water criterion of 500 mg/L of TDS.
[d] Percent of limit is based on the ground water criterion of 10 mg/L of Nitrate.

Facility Loading Design Criteria

Flows or waste loadings of the following design criteria for the permitted treatment facility must not be exceeded:

Monthly average flow (max. month):	0.056 MGD
Influent BOD_5 loading (max. month):	131 lbs/day
Population equivalent:	655 persons

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be either technology- or water quality-based. Wastewater must be treated using all known, available, and reasonable methods of prevention, control, and treatment (AKART) and not pollute the waters of the State. The minimum requirements to demonstrate compliance with the AKART standard are derived from the *Water Reclamation and Reuse Standards*, the *Design Criteria for Municipal Wastewater Land Treatment*, and Chapter 173-221 WAC.

The permit also includes limitations on the quantity and quality of the wastewater applied to the wastewater lagoons that have been determined to protect the quality of the ground water. The approved engineering report includes specific design criteria for this facility. Water quality-based limitations are based upon compliance with the Ground Water Quality Standards (Chapter 173-200 WAC).

The more stringent of the water quality-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by Ecology must specify conditions requiring AKART for discharges to waters of the state (WAC 173-216-110). The following permit limitations are necessary to satisfy the requirement for AKART:

Table 4: Technology-Based Limitations

EFFLUENT LIMITATIONS				
Parameter	Units	**Average Monthly** [1]	**Maximum Daily** [2]	**Minimum Daily** [3]
BOD_5	mg/L; lbs/day	30; 14	N/A	N/A
Dissolved Oxygen	mg/L	N/A	N/A	4.0
Total Coliform Bacteria	# colonies/100 ml	23	240	N/A
TSS	mg/L; lbs/day	30; 14	N/A	N/A
pH	Standard Units	6.5 to 8.5 at all times		

[1] The average monthly effluent limitation is defined as the highest allowable average of daily discharge values over a calendar month, calculated as the sum of all daily discharge values measured during a calendar month divided by the number of daily discharge values measured during that month. A "daily discharge value" is defined as the average discharge of a pollutant measured during a single 24-hour period (i.e. a calendar day). The Permittee may avoid a potential violation of the monthly average limit by sampling more than the required frequency of once a month in order to derive an average within the limitations set forth in this permit.

[2] The maximum daily effluent limitation is defined as the highest allowable daily discharge value.

[3] The minimum daily effluent limitation is defined as the lowest allowable daily discharge value.

GROUND WATER QUALITY-BASED EFFLUENT LIMITATIONS

It is the policy of the State of Washington to maintain the highest possible standards to insure the purity of all waters of the state consistent with public health and enjoyment, and the protection of aquatic life and wildlife; RCW 90.48. This antidegradation policy mandates the protection of

background ground water quality and prevents the degradation of water quality that would harm an existing or future beneficial use [refer to WAC 173-200-030].

In order to protect existing water quality and preserve the designated beneficial uses of Washington's ground waters including the protection of human health, WAC 173-200-100 states that waste discharge permits must be conditioned in such a manner as to authorize only activities that will not cause violations of the Ground Water Quality Standards. The goal of the ground water quality standards is to maintain the highest quality of the State's ground waters and to protect existing and future beneficial uses of the ground water through the reduction or elimination of the discharge of contaminants to ground water [WAC 173-200-010(4)]. This goal is achieved by:

1. Requiring that AKART (all known available and reasonable methods of prevention, control and treatment) be applied to any discharge;
2. Application of the antidegradation policy of the ground water quality standards. This policy mandates protecting background water quality and preventing degradation of water quality which would harm a beneficial use or violate the ground water standards; and
3. Establishing numeric and narrative criteria for the protection of human health and welfare in the ground water quality standards.

The procedures for estimating background water quality are contained in the *Implementation Guidance for the Ground Water Quality Standards* (Ecology, Revised October 2005). Background water quality is defined as the 95 percent upper tolerance interval with a 95 percent confidence.

Numeric ground water criteria (maximum contaminant concentrations) are based on drinking water quality criteria. Applicable criteria concentrations are listed below:

Table 5: Ground Water Quality Criteria

Total Coliform Bacteria	1 Colony/ 100 mL
Total Dissolved Solids	500 mg/L
Chloride	250 mg/L
Sulfate	250 mg/L
Nitrate	10 mg/L
pH	6.5 to 8.5 standard units
Manganese	0.05 mg/L
Total Iron	0.3 mg/L
Toxics	No toxics in toxic amounts

Ecology reviewed existing records and is unable to determine if background ground water quality is either higher or lower than the criteria given in Chapter 173-200 WAC; therefore, Ecology will require the Permittee, in Special Condition S8, to conduct a Hydrogeologic Study to determine background ground water quality and determine whether the Permittee's discharge is negatively impacting ground water quality.

The Antidegradation policy within the State of Washington's Ground Water Quality Standards requires that beneficial uses of ground water be preserved. In cases where ground water quality is above the criteria, the background concentrations shall constitute the water quality criteria. In these cases, discharges to ground water shall not degrade the existing water quality. When the ground water quality is below the criteria, the existing water quality shall be protected. More information on the Antidegradation Policy can be obtained by referring to WAC 173-200-030.

Pollutant concentrations in the proposed discharge exceed ground water quality criteria. Ecology in previous permits required the Permittee to determine if its facility meets the requirements of AKART. An approvable facility plan that addresses AKART is long overdue. Ecology will establish ground water quality-based limits based on background groundwater quality and AKART following implementation of the Sampling and Analysis Plan (SAP) either through a permit modification or at the time of permit renewal.

COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED 2003

Table 7: Comparison of Previous and New Limits

Technology-Based Effluent Limitations					
Parameter	**Units**	**Existing Limits**		**Proposed Limits**	
		Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
BOD_5	mg/L; lbs/day	30; 14	NA	30; 14	
Dissolved Oxygen	mg/L	NA	4 mg/L Minimum	NA	4 mg/L Minimum
Total Coliform Bacteria	# colonies/100 ml	23	240	23	240
TSS	mg/L; lbs/day	30; 14	NA	30; 14	NA
pH	Standard Units	6.5 to 8.5 at all times		6.5 to 8.5 at all times	

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

INFLUENT AND EFFLUENT MONITORING

The monitoring and testing schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

Monitoring for pH, BOD, TSS, Total Coliform Bacteria, and Dissolved Oxygen, is required. TDS, Chloride, and Nitrate levels in the effluent and lagoon are required to further characterize the effluent. These pollutant(s) are capable of significantly impacting the quality of the ground water. If and once the lagoons are double lined and with leak detection, monitoring of chloride and nitrate levels in the effluent and lagoon will not be required. TDS monitoring in the lagoon will not be required as well.

GROUND WATER MONITORING

Ground water monitoring may be required to begin 100 days following approval of the SAP. Monitoring contained in the SAP if required, at minimum, to be conducted on a monthly basis. The monitoring requirements contained in the SAP will be placed in the permit through a permit modification. They will then constitute an addition to the enforceable monitoring requirements of the permit.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

Special Condition S3. is based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110).

OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.5. as authorized under RCW 90.48.110, WAC 173-220-150, Chapter 173-230 WAC, and WAC 173-240-080. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

RESIDUAL SOLIDS HANDLING

To prevent water pollution the Permittee is required in permit condition S6. to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and State Water Quality Standards. Ecology requires the Permittee to submit to an update to the residual solids handling plan.

GROUND WATER QUALITY EVALUATION (HYDROGEOLOGIC STUDY)

In accordance with WAC 173-200-080, the permit requires the Permittee to prepare and submit a hydrogeologic study for Ecology approval, Special Condition S8. The hydrogeologic study will be in accordance with the guidelines given in Ecology's *"Implementation Guidance for the Ground Water Quality Standards, Revised October 2005"*, to address soil and hydrogeologic characteristics and be capable of assessing impacts on ground water in accordance with an approved SAP.

ENGINEERING REPORT

Special Condition S9 requires the Permittee to submit to Ecology an approvable engineering report that evaluates AKART for wastewater treatment to achieve compliance with ground water-quality based limits within three (3) months of permit issuance. Six (6) months following approval of the engineering report, the Permittee is required to submit Plans and Specifications for Ecology approval detailing any upgrade or modifications to the treatment facility. The Permittee is required to complete all improvements or upgrades to the treatment facility 18 months following approval of the engineering report.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by Ecology.

- Condition G1 requires responsible officials or their designated representatives to sign submittals to Ecology.
- Condition G2 requires the Permittee to allow Ecology to access the treatment system, production facility, and records related to the permit.
- Condition G3 specifies conditions for modifying, suspending or terminating the permit.
- Condition G4 requires the Permittee to apply to Ecology prior to increasing or varying the discharge from the levels stated in the permit application..
- Condition G5 requires the Permittee to submit written notice of significant increases in the amount or nature of discharges (typically new industrial discharges) into the sewer system tributary to the permitted facility.

- Condition G6 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents.
- Condition G7 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations.
- Condition G8 requires the payment of permit fees.
- Condition G9 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the State of Washington. Ecology proposes the permit be issued for 5 years.

REFERENCES FOR TEXT AND APPENDICES

Faulkner, S.P., Patrick Jr., W.H., Gambrell, R.P., May-June, 1989. Field Techniques for Measuring Wetland Soil Parameters, Soil Science Society of America Journal, Vol. 53, No.3.

Washington State Department of Ecology, 1993. Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems, Ecology Publication # 93-36. 20 pp.

Washington State Department of Ecology and Department of Health, 1997. Water Reclamation and Reuse Standards, Ecology Publication # 97-23. 73 pp.

Washington State Department of Ecology.

Laws and Regulations(http://www.ecy.wa.gov/laws-rules/index.html)

Permit and Wastewater Related Information
(http://www.ecy.wa.gov/programs/wq/wastewater/index.html)

Washington State Department of Ecology, 1996, revised October 2005. Implementation Guidance for the Ground Water Quality Standards, Ecology Publication # 96-02.

Washington State University, November, 1981. Laboratory Procedures - Soil Testing Laboratory. 38 pp.

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

Ecology has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on June 21, 2007 in the Tri-City Herald to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

Ecology will publish a Public Notice of Draft (PNOD) on June 30, 2008 in the Tri-City Herald to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Central Regional Office
15 West Yakima Avenue, Suite 200
Yakima, WA 98902

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the 30 day comment period to the address above. The request for a hearing must indicate the interest of the party and reasons why the hearing is warranted. Ecology will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least 30 days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

Ecology will consider all comments received within 30 days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. Ecology's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from Ecology by telephone, 509/457-7105, or by writing to the address listed above.

The fact sheet was written by Richard Marcley.

APPENDIX B--GLOSSARY

AKART – The acronym for "all known, available, and reasonable methods of prevention, control and treatment." AKART must be applied to all wastes and contaminants prior to entry into waters of the state in accordance with RCW 90.48.010 and 520, WAC 173-200-030(2)(c)(ii), and WAC 173-216-110(1)(a).

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD_5--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD_5 is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring –Uninterrupted, unless otherwise noted in the permit.

Distribution Uniformity--The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report must contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria--A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart

from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

APPENDIX C--RESPONSE TO COMMENTS

No comments were received by the Department of Ecology.