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Permit No. WA-003212-3
Issuance Date: May 4, 2006
Effective Date: June 1, 2006
Expiration Date: May 4, 2011
1st Modification Date: August 15, 2006
2nd Modification Date: June 30, 2008

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT No. WA-003212-3

State of Washington
DEPARTMENT OF ECOLOGY
Northwest Regional Office
3190 – 160th Avenue SE
Bellevue, WA 98008-5452

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1251 et seq.

BNSF RAILWAY COMPANY
2454 Occidental Avenue South, Suite 1A
Seattle, WA 98134

<u>Facility Location:</u> BNSF Skykomish Cleanup Site South Fork of the Skykomish River Skykomish, WA	<u>Receiving Water:</u> South Fork of the Skykomish River
<u>Water Body I.D. No.:</u> 1215779478143	<u>Discharge Location:</u> Outfall 002: Latitude: 47° 42' 35" N Longitude: 121° 21' 49" W
<u>Industry Type:</u> Contaminated Soil Remediation	Outfall 003: Latitude: 47° 42' 37" N Longitude: 121° 21' 31" W

is authorized to discharge in accordance with the Special and General Conditions which follow.

Bob Warren
Toxics Cleanup Section Manager
Northwest Regional Office
Washington State Department of Ecology

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SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A	Discharge Monitoring Report	Monthly	August 15, 2006
S3.E	Noncompliance Notification	As necessary	
S4.A	Operations and Maintenance Manual	1/permit cycle	
S4.A	Operations and Maintenance Manual Update or Review Confirmation Letter	Annually	
S4.A	Treatment System Operating Plan		
S4.A	Treatment System Operating Plan Updates	As necessary	30 days prior to implementation
S4.B	Reporting Bypasses	As necessary	
S10.	Application for Permit Renewal	1/permit cycle	November 4, 2010
S6.C	Solid Waste Control Plan	1/permit cycle, updates submitted as necessary	July 15, 2006
S7.	Spill Plan	1/permit cycle, updates submitted as necessary	30 days prior to construction or discharge
S9.	Stormwater Pollution Prevention Plan	1/permit cycle	30 days prior to construction or discharge
S9.	Stormwater Pollution Prevention Plan Modifications or updates	As necessary	30 days prior to construction or discharge
S9.C2	Notification of Unpermitted Non-stormwater to <i>Stormwater Drainage System</i>	As necessary	
G1.	Notice of Change in Authorization	As necessary	
G4.	Permit Application for Substantive Changes to the Discharge	As necessary	
G5.	Engineering Report for Construction or Modification Activities	As necessary	
G8.	Notice of Permit Transfer	As necessary	
G21.	Reporting Anticipated Noncompliance	As necessary	
G22.	Reporting Other Information	As necessary	

SPECIAL CONDITIONS

S1. DISCHARGE LIMITATIONS

A. Authorized Discharges

This permit authorizes the discharge of treated stormwater and dewatering water associated with cleanup activities, to the South Fork of the Skykomish River from the BNSF Railway Company soil remediation project.

B. Discharge Prohibitions

Discharges of industrial stormwater and dewatering water including stormwater runoff from sand and gravel stockpiles, leachate from stockpiles of contaminated soils, and any water resulting from soil remediation activities, to the former and existing Maloney Creek, are prohibited.

Discharge of process wastewater, and domestic wastewater to surface water and ground water is prohibited. Prohibited process wastewater discharges include, but are not limited to: truck wash water, tire bath waste water, wheel wash water, and equipment wash water, and chemical wastes.

Visible track-out on public roads is prohibited.

This permit does not authorize illicit discharges, including spills of oils or hazardous substances, nor does it relieve entities from obligations under state and federal laws and regulations pertaining to those discharges.

C. Industrial Stormwater and Construction Dewatering Discharges Associated With All Cleanup Zones (Figure 3 of the fact sheet)

All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit.

The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee is authorized to discharge excavation dewatering water and industrial stormwater resulting from contaminated soil and sediment remediation to the South Fork of the Skykomish River, subject to complying with the following limitations:

In addition, beginning on the issuance date of the second permit modification of this permit and lasting through the expiration date, the Permittee is authorized to discharge treated water to groundwater through injection wells IW1 and IW2 (see Figure B-2), subject to complying with the following limitations:

EFFLUENT LIMITATIONS FOR ALL CLEANUP ZONES: OUTFALLS # 002^e and 003^e	
Parameter	Maximum Daily^a
Flow (002) summer ^g , river level <922.5 feet	673 gpm
Flow (002) winter ^g , river level <922.5 feet	269 gpm
Flow (003) summer ^g and winter ^g , river level <928.56 feet	100 gpm
Temperature (September 15 to July 1)	13°C or 55.4°F
Temperature (July 2 to September 14)	12°C or 53.6°F
Chitosan Acetate ^c	0.1 mg/L
pH (s.u.)	Between 6.5 and 8.5 standard units
Dissolved Oxygen	Minimum 8 mg/L
Turbidity	5 NTU above background ^d
Oily Sheen	No visible sheen
Benzene	1.2 µg/L
BTEX	100 µg/L
Total Petroleum Hydrocarbon (TPH)	208 µg/L
Lead ^h	17.5 µg/L (TR)/ 15 µg/L (T)
Arsenic [†]	360 µg/L (TR)/ 7.42 µg/L (T)
Anthracene	2,400 µg/L
Fluorene	640 µg/L
Naphthalene	160 µg/L
Pyrene	480 µg/L
Benzo(a)anthracene ^b	0.0028 µg/L (0.01 µg/L)
Benzo(b)fluoranthene ^b	0.0028 µg/L (0.01 µg/L)
Benzo(k)fluoranthene ^b	0.0028 µg/L (0.01 µg/L)
Benzo(a)pyrene ^b	0.0002 µg/L (0.01 µg/L)
Chrysene ^b	0.0028 µg/L (0.01 µg/L)
Dibenzo(a,h)anthracene ^b	0.0028 µg/L (0.01 µg/L)
Indeno(1,2,3-cd)pyrene ^b	0.0028 µg/L (0.01 µg/L)
Acenaphthene	643 µg/L
Fluoranthene	90.2 µg/L
Outfall 002: The Permittee must cease discharge to the Skykomish River when the river level exceeds 922.5 feet.	
Outfall 003: The Permittee must cease discharge to the Skykomish River when the river level exceeds 928.56 feet.	
^a The maximum daily effluent limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day.	
^b The method detection level (MDL) for these PAH compounds is above the effluent limits using the approved analytical test method EPA 8270C-HVI. The reporting level (RL) for these compounds has been reported as 0.01 µg/L. Therefore, these RLs will be used for assessment of compliance with these effluent limits. These RLs will be referred to as enforcement limits in this permit.	
^c The turbidity of the influent to the second tank (T-2A) shall not be greater than 600 NTU. The Permittee shall adhere to the Chitosan dosage rates and requirements set forth in Special Condition S5 of the permit.	
^d Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.	
^e Outfall 002 is located on West River Road, and is connected to the city storm sewer along 6 th Street. Outfall 003 is connected to the city storm sewer located along 3 rd Street.	

<p>^f Since the treatment system for the hydraulic control and containment system is designed for 100 gpm, the summer flow limit is set at 100 gpm. The maximum capacity available in the 3rd Street storm sewer during a 2-year, 24-hour storm event is 377 gpm. Should the Permittee upgrade the treatment system to handle a higher flow, the Permittee may discharge up to that flow rate upon written approval from the Department.</p>
<p>^g The summer period is from June 1 through September 30. The winter period is from October 1 through May 30.</p>
<p>^h The effluent limit for lead for surface water discharge is 17.5 µg/L based on total recoverable (TR) metals. The effluent limit for groundwater discharge by means of injection wells is 15 µg/L based on total (T) metals.</p>
<p>ⁱ The effluent limit for arsenic for surface water discharge is 360 µg/L based on total recoverable (TR) metals. The effluent limit for groundwater discharge by means of injection wells is 7.42 µg/L based on total (T) metals.</p>

D. Contaminated Water Within the Temporary River Exclusion Wall (Cofferdam)

The Permittee shall maintain a negative hydraulic gradient between the interior of the cofferdam and the river. If an oily sheen is observed beyond the inner cofferdam, corrective measures must be implemented immediately to remedy the problem before excavation is to be continued. There shall be no oily sheen beyond the boom containment area.

E. Untreated Overflow

There shall be no untreated overflow or runoff from any excavation pits or any containment tanks on-site to surface waters of the state. When the water in an excavation pit or a containment tank reaches 90 percent storage capacity, the Permittee is required to implement a contingency plan to prevent overflow from occurring.

F. Untreated Stormwater Discharge

There shall be no untreated stormwater discharge from the excavation area to surface waters of the state.

G. Outfall Location

The Permittee shall not discharge to a dry river bed area. The discharge outfall consisting of the discharge pipe and the energy dissipation structure shall be positioned in the river such that the river flow rate is greater than the discharge flow rate.

H. Industrial Stormwater Discharges Associated With Rail Yard Operations

Industrial stormwater discharges associated with railyard operations (not related to cleanup activities) are regulated under the General Stormwater NPDES Permit No. S03003658 except for those cases in which contaminated water from railyard operations passes through the cleanup site.

I. Compliance With Standards

The Permittee shall comply with State of Washington Surface Water Quality Standards (Chapter 173-201A WAC), Sediment Management Standards (Chapter 173-204 WAC), Ground Water Quality Standards (Chapter 173-200 WAC), and human health-based criteria in the National Toxics Rule (Federal Register, Vol. 57, No. 246, December 22, 1992, pages 60848-60923).

When not in compliance with these standards, the Permittee shall take immediate action(s) to achieve compliance by implementing additional best management practices (BMPs), and/or improved compliance with existing BMPs, and file a noncompliance notification, as required under Condition S3.E.

Facilities that discharge either directly or indirectly by means of a stormwater conveyance system to waters listed as impaired by the State under Section 303(d) of the Clean Water Act must comply with the State's Surface Water Quality Standards.

S2. MONITORING REQUIREMENTS

The Permittee shall monitor in accordance with the following schedule:

A. Monitoring Schedule for All Cleanup Zones (shown on Figure 3)

Samples shall be collected after Granular Activated Carbon treatment from each treatment train (pertaining to outfalls 002 and 003) and prior to discharge to surface water and to groundwater.

Parameter	Units	Minimum Sampling Frequency	Sample Type	Test Method
Flow (002) summer	gpm	Daily	Metered	N/A
Flow (002) winter	gpm	Daily	Metered	N/A
Flow (003) summer	gpm	Daily	Metered	N/A
Flow (003) winter	gpm	Daily	Metered	N/A
Injection Rate ^c , Wells IW1 and IW2	gpm	Continuous	Metered	N/A
Chitosan Acetate	mg/L	Daily	Grab	Chitosan Field Screening Test
Temperature ^c	°F	Daily	Grab	Thermometer or equivalent
Oily Sheen	N/A	Daily	Observed	Visual
pH (s.u.)	Standard Units	Weekly	Grab	EPA 150.1
Dissolved Oxygen	mg/L	Weekly (for a period of five weeks)	Grab	Field Metering
Turbidity	NTU	Weekly	Grab	EPA 180.1 or equivalent
Benzene	µg/L	Monthly	Grab	SW8260B
BTEX	µg/L	Monthly	Grab	SW8260B
Total Petroleum Hydrocarbon (TPH) ^a	µg/L	Weekly (Two samples: One before and one after GAC treatment)	Grab	NWTPH-D _x (no silica gel filtration)
Lead (TR, and T) ^d	µg/L	Weekly	Grab	EPA 200.8
Arsenic (TR, and T) ^d	µg/L	Weekly	Grab	EPA 200.8
Anthracene ^b	µg/L	Monthly	Grab	SW8270-SIM
Fluorene ^b	µg/L	Monthly	Grab	SW8270-SIM
Naphthalene ^b	µg/L	Monthly	Grab	SW8270-SIM
Pyrene ^b	µg/L	Monthly	Grab	SW8270-SIM
Benzo(a)anthracene ^b	µg/L	Monthly	Grab	EPA 8270C-HVI
Benzo(b)fluoranthene ^b	µg/L	Monthly	Grab	EPA 8270C-HVI

Parameter	Units	Minimum Sampling Frequency	Sample Type	Test Method
Benzo(k)fluoranthene ^b	µg/L	Monthly	Grab	EPA 8270C-HVI
Benzo(a)pyrene ^b	µg/L	Monthly	Grab	EPA 8270C-HVI
Chrysene ^b	µg/L	Monthly	Grab	EPA 8270C-HVI
Dibenzo(a,h)anthracene ^b	µg/L	Monthly	Grab	EPA 8270C-HVI
Indeno(1,2,3-cd)pyrene ^b	µg/L	Monthly	Grab	EPA 8270C-HVI
Acenaphthene ^b	µg/L	Monthly	Grab	SW8270-SIM
Fluoranthene ^b	µg/L	Monthly	Grab	SW8270-SIM
^a For each sampling event, the Permittee shall collect one sample before and after the first Granular Activated Carbon (GAC) column for TPH analysis. Results from samples collected before the GAC treatment will be used to evaluate the performance and removal efficiency of the GAC columns (See S4, O&M of the permit for details). The Permittee shall change out the GAC column as often as necessary to ensure compliance with the effluent limits.				
^b The sampling frequency for the PAH compounds will be reduced from weekly to monthly, if the monitoring data collected during the first phase of remediation (i.e. levee remediation) clearly support TPH as a surrogate for PAH.				
^c The Permittee shall monitor the injection rate for wells IW1 and IW2. Should the Permittee choose to inject at a flow rate exceeding 5 gpm, the Permittee must seek written approval from the Department prior to discharging at that rate.				
^d For surface water discharge, the Permittee shall perform total recoverable metals analyses for arsenic and lead. For groundwater discharge, the Permittee shall perform total metals analyses for arsenic and lead.				
^e The Permittee is required to monitor effluent temperature only when the Permittee is discharging wastewater resulting from the thermal groundwater remediation pilot testing.				

B. Sampling and Analytical Procedures

Samples and measurements taken to meet the requirements of this permit shall be representative of the volume and nature of the monitored parameters, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent quality.

The detection limits achieved for those analytical test methods specified in S2.A shall be lower than the effluent limits (or enforcement limits for PAH compounds) listed in S1.C of the permit.

C. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the quantity of monitored flows. The devices shall be installed, calibrated, and maintained to ensure the accuracy of the measurements is consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with manufacturer's recommendations and at a minimum frequency of at least one calibration per year. Calibration records shall be maintained for at least three years.

D. Laboratory Accreditation

All monitoring data required by the Department shall be prepared by a laboratory registered or accredited under the provisions of *Accreditation of Environmental Laboratories*, Chapter 173-50 WAC. Flow, pH, turbidity, and internal process control parameters are exempt from this requirement.

S3. REPORTING AND RECORD KEEPING REQUIREMENTS

The Permittee shall monitor and report in accordance with the following conditions. The falsification of information submitted to the Department shall constitute a violation of the terms and conditions of this permit.

A. Reporting

The first monitoring period begins on the effective date of the permit. Monitoring results shall be submitted monthly. Monitoring data obtained during each monitoring period shall be summarized, reported, and submitted on a Discharge Monitoring Report (DMR) form provided, or otherwise approved, by the Department. DMR forms shall be postmarked or received no later than the 15th day of the month following the completed monitoring period, unless otherwise specified in this permit. The report(s) shall be sent to the Department of Ecology Water Quality Program, 3190 - 160th Avenue SE, Bellevue, WA 98008-5452.

All laboratory reports providing data for organic and metal parameters shall include the following information: sampling date, sample location, date of analysis, parameter name, CAS number, analytical method/number, method detection limit (MDL), laboratory practical quantitation limit (PQL), reporting units, and concentration detected. Analytical results from samples sent to a contract laboratory must have information on the chain of custody, the analytical method, QA/QC results, and documentation of accreditation for the parameter.

Discharge Monitoring Report forms must be submitted monthly whether or not the facility was discharging. If there was no discharge during a given monitoring period, the Permittee is required to submit the form as required with the words "no discharge" entered in place of the monitoring results.

If there was no discharge during a given monitoring period, the Permittee is required to submit the form applicable to that period as required with the words "no discharge" entered in the place of the monitoring results.

B. Records Retention

The Permittee shall retain records of all monitoring information for a minimum of three years. Such information shall include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by the Director.

C. Recording of Results

For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place, method, and time of sampling or measurement; (2) the individual who performed the sampling or measurement; (3) the dates the analyses were performed; (4) the individual who performed the analyses; (5) the analytical techniques or methods used; and (6) the results of all analyses.

D. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by this permit using test procedures specified by Condition S2 of this permit, then the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Permittee's DMR.

E. Noncompliance Notification

In the event the Permittee is unable to comply with any of the terms and conditions of this permit due to any cause, the Permittee shall:

1. Immediately take action to stop, contain, and clean up unauthorized discharges or otherwise stop the noncompliance, correct the problem and, if applicable, repeat sampling and analysis of any non-complying discharges immediately and submit the results to the Department within five (5) days after becoming aware of the violation.
2. Immediately notify the Department of the failure to comply.
3. Submit a detailed, written report to the Department within five (5) days. The report shall contain a description of the noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or any resulting liability for failure to comply.

F. Other Noncompliance Reporting

The Permittee must report all instances of noncompliance, not required to be reported within 24 hours, at the time that monitoring reports for S3.A ("Reporting") are submitted. The reports must contain the information listed in paragraph E, above, ("Twenty-four Hour Notice of Noncompliance Reporting"). Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

G. Maintaining a Copy of This Permit

A copy of this permit must be kept at the facility and be made available upon request to Department of Ecology inspectors.

S4. OPERATIONS AND MAINTENANCE

The Permittee shall, at all times, properly operate and maintain all systems of treatment and control (and related appurtenances) which are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems, which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

A. Operations and Maintenance Manual

An Operations and Maintenance (O&M) Manual shall be prepared by the Permittee in accordance with WAC 173-240-150 and be submitted to the Department for approval within thirty (30) days after permit issuance date. The Permittee shall periodically review and update the O&M Manual as necessary, in order to maintain compliance with the conditions in this permit. At a minimum, the O&M Manual shall be reviewed annually, and the Permittee shall confirm this review by letter to the Department. Updates to the O&M Manual shall be submitted to the Department for approval prior to implementation.

The approved Operations and Maintenance Manual shall be kept available at the permitted facility, and all operators shall follow the instructions and procedures of this manual.

In addition to the requirements of WAC 173-240-150(1) and (2), the O&M Manual shall include:

1. Emergency procedures for plant shutdown and cleanup in event of wastewater system upset or failure.
2. Wastewater system maintenance procedures that contribute to the generation of process wastewater.
3. Any directions to maintenance staff when cleaning, or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine).
4. The treatment plant process control monitoring schedule.
5. The change-out frequency of the Granular Activated Carbon columns shall be based on internal process control results.
6. The automatic shutoff of the discharge pump(s) when back wash or the sand filtration units are not working.
7. The contingency plan for unanticipated failure of the sand filtration units (for example, backwash, etc.).
8. The contingency treatment plan to treat the wastewater to meet the turbidity limit if Chitosan treatment failed.

The following information shall be summarized in the initial chapter of the O&M Manual. This chapter shall be entitled the "Treatment System Operating Plan." For the purposes of this NPDES permit, a Treatment System Operating Plan (TSOP) is a concise summary of specifically defined elements of the O&M Manual. The TSOP shall not conflict with the O&M Manual and shall include the following information:

1. A baseline operating condition, which describes the operating parameters and procedures, used to meet the effluent limitations of S1 at the production levels used in developing these limitations.

2. In the event of production rates, which are below the baseline levels used to establish these limitations, the plan shall describe the operating procedures and conditions needed to maintain design treatment efficiency. The monitoring and reporting shall be described in the plan.
3. In the event of an upset, due to plant maintenance activities, severe stormwater events, start ups or shut downs, or other causes, the plan shall describe the operating procedures and conditions employed to mitigate the upset. The monitoring and reporting shall be described in the plan.
4. A description of any regularly scheduled maintenance or repair activities at the facility which would affect the volume or character of the wastes discharged to the wastewater treatment system and a plan for monitoring and treating/controlling the discharge of maintenance-related materials (such as cleaners, degreasers, solvents, etc.).
5. A description of operating procedures to be employed for treatment of turbidity if Chitosan treatment failed.

B. Bypass Procedures

Bypass, which is the intentional diversion of waste streams from any portion of a treatment facility, is prohibited, and the Department may take enforcement action against a Permittee for bypass unless one of the following circumstances (1, 2, or 3) is applicable.

1. Bypass for Essential Maintenance Without the Potential to Cause Violation of Permit Limits or Conditions.

Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limitations or other conditions of this permit, or adversely impact public health as determined by the Department prior to the bypass. The Permittee shall submit prior notice, if possible, at least ten days before the date of the bypass.

2. Bypass Which is Unavoidable, Unanticipated, and Results in Noncompliance of this Permit.

This bypass is permitted only if:

- a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.
- b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment downtime (but not if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance), or transport of untreated wastes to another treatment facility.

- c. The Department is properly notified of the bypass as required in Condition S3.E of this permit.
3. Bypass which is Anticipated and has the Potential to Result in Noncompliance of this Permit.

The Permittee shall notify the Department at least thirty (30) days before the planned date of bypass. The notice shall contain: (1) a description of the bypass and its cause; (2) an analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing; (3) a cost-effectiveness analysis of alternatives including comparative resource damage assessment; (4) the minimum and maximum duration of bypass under each alternative; (5) a recommendation as to the preferred alternative for conducting the bypass; (6) the projected date of bypass initiation; (7) a statement of compliance with SEPA; (8) a request for modification of water quality standards as provided for in WAC 173-201A-110, if an exceedance of any water quality standard is anticipated; and (9) steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

For probable construction bypasses, the need to bypass is to be identified as early in the planning process as possible. The analysis required above shall be considered during preparation of the engineering report or facilities plan and plans and specifications and shall be included to the extent practical. In cases where the probable need to bypass is determined early, continued analysis is necessary up to and including the construction period in an effort to minimize or eliminate the bypass.

The Department will consider the following prior to issuing an administrative order for this type of bypass:

- a. If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.
- b. If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.
- c. If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, the Department will approve or deny the request. The public shall be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Approval of a request to bypass will be by administrative order issued by the Department under RCW 90.48.120.

C. Duty to Mitigate

The Permittee is required to take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

S5. CHITOSAN DOSAGE RATE AND OPERATION

The Department has approved two chemical flocculant products: Liqui-Floc chitosan enhanced sand filtration produced by Natural Site Solutions, and Floc-Clear chitosan enhanced sand filtration produced by Clear Creek Systems, Inc. The Permittee is required to follow the Maintenance of Safety Margin (dosage rate) and Safety Margin Checklist as listed in Appendix I and II of the permit, for whichever approved product the Permittee chooses to use.

Both products contain different weight percentages of chitosan acetate. The dosage rate and the safety margin checklists for each product as referenced-above are not the same. Chitosan acetate can be employed to effectively treat stormwater turbidity up to 600 NTU without using chitosan acetate concentrations above 1.06 mg/L. Application at concentrations in excess of this level may result in toxicity in the effluent.

S6. SOLID WASTE DISPOSAL

A. Solid Waste Handling

The Permittee shall handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

B. Leachate

The Permittee shall not allow leachate from its solid waste material to enter state waters without providing all known available and reasonable methods of treatment, nor allow such leachate to cause violations of the state surface water quality standards, Chapter 173-201A WAC, or the state ground water quality standards, Chapter 173-200 WAC. The Permittee shall apply for a permit or permit modification as may be required for such discharges to state ground or surface waters.

C. Solid Waste Control Plan

The Permittee shall submit a solid waste control plan to the Department no later than July 15, 2006. This plan shall include all solid wastes with the exception of those solid wastes regulated by Chapter 173-303 WAC (Dangerous Waste Regulations). The plan shall include, at a minimum, a description, source, generation rate, and disposal methods of these solid wastes. This plan shall not be at variance with any approved local solid waste management plan. Any proposed revision or modification of the solid waste handling plan must be submitted to the Department within fourteen (14) days of adoption. The Permittee shall comply with the plan and any modifications thereof. The Permittee shall submit an update of the solid waste control plan with the application for permit renewal one hundred eighty (180) days prior to the expiration date of the permit.

S7. SPILL PLAN

At least thirty (30) days prior to the start of construction or discharge, the Permittee shall submit to the Department a spill control plan for the prevention, containment, and control of spills or unplanned discharges of: 1) oil and petroleum products, 2) materials, which when spilled, or otherwise released into the environment, are designated dangerous waste (DW) or extremely hazardous waste (EHW) by the procedures set forth in WAC 173-303-070, or 3) other materials which may become pollutants or cause pollution upon reaching state's waters. The Permittee shall review and update the spill plan, as needed, at least annually. Changes to the plan shall be sent to the Department within fourteen (14) days of adoption. The plan and any supplements shall be followed throughout the term of the permit.

The updated spill control plan shall include the following:

- A description of the reporting system, which will be used to alert responsible managers and legal authorities (including Snohomish County Public Works) in the event of a spill.

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- A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials.
- A list of all oil and chemicals used, processed, or stored at the facility which may be spilled into state waters.

For the purpose of meeting this requirement, plans and manuals, or portions thereof, required by 33 CFR 154, 40 CFR 109, 40 CFR 110, 40 CFR Part 112, the Federal Oil Pollution Act of 1990, Chapter 173-181, and contingency plans required by Chapter 173-303 WAC may be submitted.

S8. BEST MANAGEMENT PRACTICES

1. The oil/water separators shall be inspected on a weekly basis at minimum and maintained as needed to ensure satisfactory performance. Oil sludges shall be disposed of in a manner that will not cause water quality degradation to state waters. A record of inspection, maintenance, and disposal shall be kept on file and available for review by the Department's inspector(s).
2. In the event of an accidental discharge of oil, chemicals, toxic, or hazardous materials into waters of the state or onto land with a potential for entry into state waters, including ground water, representatives of the Northwest Regional Office Spill Response Team shall be notified immediately (within 24 hours) at (425) 649-7000. A written spill report shall

be submitted to the Department of Ecology, Water Quality Program, within five (5) days of the time the Permittee becomes aware of the circumstances, unless the Department waives or extends this requirement on a case-by-case basis.

3. Sludges, scales, and sediments from tanks shall be disposed of in an approved manner other than to waters of the state, and other than to the sanitary sewer system.
4. All barrels, drums, or similar containers containing toxic or deleterious materials, including, but not limited to petroleum products, organic solvents, strong acids and bases, shall be stored in an upright position, in a bermed, covered area sufficient to prevent discharge into state ground or surface waters in the event of leakage or rupture.
5. Empty barrels shall be stored with all openings plugged, in an upright position, and at least 20 feet from storm drains.
6. The Permittee shall inspect the outfall line including the energy dissipation structure to document its integrity and continued function, daily during the operational period. If conditions allow for a photographic verification, it shall be included in the report. The report shall be made available to the Department's inspector(s) on-site.

S9. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR INDIVIDUAL CLEANUP ZONE CONSTRUCTION ACTIVITIES (Each Zone is Listed Under Background Information in the Fact Sheet)

A SWPPP for construction activity, including construction dewatering, shall be prepared, implemented, and updated to reflect current stage of construction activity. The Permittee shall submit the SWPPP to the Department at least thirty (30) days prior to the start of construction. The SWPPP for each new phase of construction shall be kept current, updated as necessary, and submitted to the Department. At a minimum, the SWPPP shall be submitted to the Department annually. The SWPPP will cover the current and next year's anticipated activities. The phased construction activities include clearing, grading, filling, earth work, excavation, and hauling activities.

A. General Requirements

1. The SWPPP and all of its modifications shall be signed in accordance with General Condition G.1.B. In addition, the SWPPP shall be stamped by a Professional Engineer certified by the State of Washington.
2. The SWPPP shall be retained on-site or within reasonable access to the site and be made available upon request.
3. The Permittee shall be responsible for the implementation of the SWPPP. The Erosion and Sediment Control Plan shall be attached to bid packages when seeking contractors to allow the contractor sufficient time and resources to plan implementation. At construction sites for which a lease, easement, or other use agreement has been obtained by the Permittee, the Permittee shall be responsible for the implementation of the SWPPP.

4. The Permittee shall implement procedures for reviewing the SWPPP with contractors and subcontractors prior to initiating construction activities. The Permittee shall implement procedures for addressing changes in plans and construction activities and resolving disagreements on the interpretation of the SWPPP.
5. The Permittee shall designate a contact person who will be available 24 hours a day to respond to emergencies, and to inquiries or directives from the Department. The contact person shall have authority over the SWPPP implementation. A qualified construction pollution control officer, as approved by Ecology, shall be established to advise on and determine compliance with the SWPPP and the applicable water quality standards. The name of the pollution control officer shall be listed in the SWPPP. While the Permittee is ultimately responsible for the implementation of the SWPPP, both the Permittee and the contractor/subcontractor may be held liable for violations of the permit conditions and/or the water quality standards.
6. The Permittee shall retain the SWPPP and copies of inspection reports and all other reports required by this permit for at least three (3) years after the date of final stabilization of the construction site. The Permittee shall make these documents available upon request.
7. Reports on incidents, such as discharge of spills and other noncompliance notification, shall be included in the records.
8. A rain gauge shall be installed and maintained at the project with rainfall data logged daily.
9. Modifications:
 - a. The Department may notify the Permittee when the SWPPP does not meet one or more of the requirements of this special condition. Upon notification by the Department, the Permittee shall take appropriate action(s) to come into compliance with this special condition. These SWPPP modifications shall be submitted to the Department for review, within thirty (30) days.
 - b. The Permittee shall implement SWPPP and BMP modifications as directed by the Department if compliance with State of Washington Surface Water Quality Standards (Chapter 173-201A WAC), Sediment Management Standards (Chapter 173-204 WAC), Ground Water Quality Standards (Chapter 173-200 WAC), and human health-based criteria in the National Toxics Rule (Federal Register, Vol. 57, No. 246, Dec. 22, 1992, pages 60848-60923) is not being achieved.
 - c. The Permittee shall modify the SWPPP whenever there is a change in design, construction, operation, or maintenance of any BMP which cause(s) the SWPPP to be less effective in controlling pollutants.

- d. Whenever a self-inspection reveals that the description of pollutant sources or the BMPs identified in the SWPPP are inadequate due to the actual discharge of, or potential to discharge, a significant amount of any pollutant, the SWPPP shall be modified as appropriate. The Permittee shall provide for implementation of any modifications to the SWPPP within fourteen (14) days.
10. BMPs shall be selected from Ecology's August 2001 *Stormwater Management Manual for Western Washington (SWMM)* or equivalent.
 11. The Permittee may request in writing that the Department approve the use of an experimental BMP. The request shall be submitted to the Department at least thirty (30) days prior to the proposed use of the experimental BMP. The request shall include, but need not be limited to, a description of:
 - a. The experimental BMP.
 - b. Why the experimental BMP is being requested.
 - c. Why the BMPs in the *SWMM* are not adequate.
 - d. Applicable construction techniques.
 - e. The characteristics of the site or sites at which use of the experimental BMP is proposed.
 - f. Design criteria for the experimental BMP and the expected results.
 - g. Maintenance procedures.
 - h. Cost estimates.
 - i. Monitoring procedures and duration.
 - j. If appropriate, an approved BMP that could be used if the experimental BMP fails.
 12. Chemical Treatment
 - a. Chemical treatment of stormwater, other than by means of treatment with chitosan solution as authorized in this permit, must be approved in writing by Ecology.
 - b. Chemicals may only be used to stabilize soils if the storm water from the chemical application area is routed to and treated by a stormwater detention pond. In addition, chemical treatment/soil stabilization shall be consistent with Ecology's Stormwater Management Manuals.
 - c. Spill prevention, control, and contingencies in the SWPPP should include specifics for all chemicals used.

B. SWPPP Contents and Requirements

The SWPPP shall consist of and include provisions for the following:

1. An Erosion and Sediment Control Plan:

The Erosion and Sediment Control Plan shall describe stabilization and structural practices, both of which shall be implemented to minimize erosion and the transport of sediments.

a. Stabilization Practices

The Erosion and Sediment Control Plan shall include a description of stabilization BMPs, including site-specific scheduling of the implementation of the practices. Stabilization practices may include: temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, commercially available soil stabilization products, and other appropriate measures. A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be included in the plan. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.

The plan shall ensure that the following requirements are satisfied:

- i) All exposed and unworked soils shall be stabilized by suitable and timely application of BMPs.

From October 1 to April 30: No soils shall remain unstabilized for more than two (2) days.

From May 1 to September 30: No soils shall remain unstabilized for more than seven (7) days.

- ii) Existing vegetation should be preserved whenever possible. Areas which are not to be disturbed, including setbacks, sensitive/critical areas and their buffers, trees and drainage courses, shall be fenced or flagged on-site before construction activities are initiated. These areas should not be harmed when measures under the SWPPP and/or construction activities are undertaken.
- iii) Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes shall be stabilized in accordance with the requirements of this subsection.
- iv) Stabilization adequate to prevent erosion of outlets and adjacent stream banks shall be provided at the outlets of all conveyance systems.

- v) All storm drain inlets made operable during construction shall be provided with adequate inlet protection and be properly maintained.
- vi) Any and all use of polyacrylamides (PAM) for soil erosion protection shall be consistent with BMP C126 in Chapter 4, Volume II, of Ecology's *SWMM*.
- vii) Wherever construction vehicle access routes intersect paved roads, provisions must be made to minimize the transport of sediment (mud) onto the paved road. If sediment is transported onto a road surface, the roads adjacent to the construction site shall be cleaned on a regular basis. Street washing shall be allowed only after other methods to prevent the transport or removal of the sediments are unsuccessful. Street wash water may not be discharged to surface waters.

b. Structural Practices

In addition to stabilization practices, the Erosion and Sediment Control Plan shall include a description of structural BMPs to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include silt fences, earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and sediment basins. Structural practices should be placed on upland soils to the degree attainable. The installation of these devices may be subject to Section 404 of the Federal Clean Water Act.

The plan shall ensure that the following requirements are satisfied:

- i) Prior to leaving the site, stormwater runoff shall pass through a sediment pond or sediment trap, or other appropriate BMPs.
- ii) Properties adjacent to the project site shall be protected from sediment deposition.
- iii) Sediment ponds and traps, perimeter dikes, sediment barriers, and other BMPs intended to trap sediment on-site shall be constructed as a first step in grading. These BMPs shall be functional before other land disturbing activities take place. Earthen structures used for sediment control such as dams, dikes, and diversions shall be stabilized as soon as possible.
- iv) Properties and waterways downstream from the construction site shall be protected from erosion due to increases in volume, velocity, and peak flow of stormwater runoff from the project site. The stormwater discharge rate for the area affected by construction shall not exceed 50 percent of the predevelopment peak flow rate for the two-year, 24-hour storm.

- v) All temporary erosion and sediment control BMPs shall be removed within thirty (30) days after final site stabilization is achieved or after the temporary BMPs are no longer needed. Trapped sediment shall be removed or stabilized on-site. Disturbed soil areas resulting from removal shall be permanently stabilized.

c. Inspection and Maintenance

All BMPs shall be inspected, maintained, and repaired as needed to assure continued performance of their intended function. All on-site erosion and sediment control measures shall be inspected daily when construction is occurring and within 24 hours after any storm event of greater than 0.25 inches of rain per 24-hour period.

d. Record Keeping

Reports summarizing the scope of inspections, the personnel conducting the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWPPP, and actions taken as a result of these inspections shall be prepared and retained as part of the SWPPP.

e. Format

The Erosion and Sediment Control Plan shall consist of two parts: a narrative and a set of site plans. The Permittee may refer to Chapter 3, Volume II, of Ecology's *SWMM* for guidance on the content and format.

2. Control of Pollutants Other Than Sediment on Construction Sites

All pollutants that occur on-site during construction shall be handled and disposed of in a manner that does not cause contamination of storm water or ground water. A Spill Prevention and Emergency Cleanup Plan shall be included as a section in the SWPPP. BMPs for Spills of Oil and Hazardous Substances in Chapter 2 of Volume IV of Ecology's *SWMM* shall be used for guidance in developing this plan.

Solid chemicals, chemical solutions, paints, petroleum products, solvents, acids, caustic solutions and waste materials, including used batteries, shall be stored in a manner which will prevent the inadvertent entry of these materials into waters of the state, including ground water. Storage shall be in a manner that will prevent spills due to overfilling, tipping, or rupture. In addition, the following practices shall be used:

- a. All liquid products and wastes shall be stored on durable impervious surfaces and within bermed containment capable of containing 110 percent of the largest single container in the storage area. Reasonable steps shall be taken to prevent releases of liquid products from malicious tampering or vandalism.

b. All waste shall be stored under cover, such as tarpaulins or roofed structures. All waste storage areas, whether for waste oil or hazardous waste, shall be clearly designated as such and kept segregated from new product storage.

4. Coordination with Local Requirements

This permit does not relieve the Permittee of compliance with any more stringent requirements of local government.

S10. APPLICATION FOR PERMIT RENEWAL

The Permittee shall submit an application for renewal of this permit by November 4, 2010, to the Department of Ecology for permit renewal.

GENERAL CONDITIONS

G1. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to the Department shall be signed and certified.

- A. All permit applications shall be signed by either a responsible corporate officer of at least the level of vice president of a corporation, a general partner of a partnership, or the proprietor of a sole proprietorship.
- B. All reports required by this permit and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 1. The authorization is made in writing by a person described above and submitted to the Department.
 2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
- C. Changes to authorization. If an authorization under paragraph B.2, above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph B.2, above, must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.
- D. Certification. Any person signing a document under this section shall make the following certification:

“I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

G2. RIGHT OF INSPECTION AND ENTRY

The Permittee shall allow an authorized representative of the Department, upon the presentation of credentials and such other documents as may be required by law:

- A. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit.
- B. To have access to and copy - at reasonable times and at reasonable cost - any records required to be kept under the terms and conditions of this permit.
- C. To inspect - at reasonable times - any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.
- D. To sample or monitor - at reasonable times - any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G3. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the Permittee) or upon the Department's initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 122.64 or WAC 173-220-150 according to the procedures of 40 CFR 124.5.

- A. The following are causes for terminating this permit during its term, or for denying a permit renewal application:
 - 1. Violation of any permit term or condition.
 - 2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.
 - 3. A material change in quantity or type of waste disposal.
 - 4. A determination that the permitted activity endangers human health or the environment or contributes to water quality standards violations and can only be regulated to acceptable levels by permit modification or termination [40 CFR Part 122.64(3)].
 - 5. A change in any condition that requires either a temporary or permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit [40 CFR Part 122.64(4)].
 - 6. Nonpayment of fees assessed pursuant to RCW 90.48.465.
 - 7. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.

- B. The following are causes for modification but not revocation and reissuance except when the Permittee requests or agrees:
1. A material change in the condition of the waters of the state.
 2. New information not available at the time of permit issuance that would have justified the application of different permit conditions.
 3. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.
 4. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.
 5. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR Part 122.62.
 6. The Department has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.
 7. Incorporation of an approved local pretreatment program into a municipality's permit.
- C. The following are causes for modification or alternatively revocation and reissuance:
1. Cause exists for termination for reasons listed in A1 through A7, of this section, and the Department determines that modification or revocation and reissuance is appropriate.
 2. The Department has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer (General Condition G8) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new Permittee.

G4. REPORTING PLANNED CHANGES

The Permittee shall, as soon as possible, but no later than sixty (60) days prior to the proposed changes, give notice to the Department of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in: 1) the permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b); 2) a significant change in the nature or an increase in quantity of pollutants discharged; or 3) a significant change in the Permittee's sludge use or disposal practices. Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G5. PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications shall be submitted to the Department for approval in accordance with Chapter 173-240 WAC. Engineering reports, plans, and specifications shall be submitted at least one hundred eighty (180) days prior to the planned start of construction unless a shorter time is approved by Ecology. Facilities shall be constructed and operated in accordance with the approved plans.

G6. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit shall be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. TRANSFER OF THIS PERMIT

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the Permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Department.

A. Transfers by Modification

Except as provided in paragraph B, below, this permit may be transferred by the Permittee to a new owner or operator only if this permit has been modified or revoked and reissued under 40 CFR 122.62(b)(2), or a minor modification made under 40 CFR 122.63(d), to identify the new Permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

B. Automatic Transfers

This permit may be automatically transferred to a new Permittee if:

1. The Permittee notifies the Department at least thirty (30) days in advance of the proposed transfer date.
2. The notice includes a written agreement between the existing and new Permittee's containing a specific date transfer of permit responsibility, coverage, and liability between them.
3. The Department does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under the subparagraph may also be minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

G8. REDUCED PRODUCTION FOR COMPLIANCE

The Permittee, in order to maintain compliance with its permit, shall control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

G9. REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G10. DUTY TO PROVIDE INFORMATION

The Permittee shall submit to the Department, within a reasonable time, all information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also submit to the Department upon request, copies of records required to be kept by this permit.

G11. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G12. ADDITIONAL MONITORING

The Department may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G13. PAYMENT OF FEES

The Permittee shall submit payment of fees associated with this permit as assessed by the Department.

G14. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars (\$10,000) and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars (\$10,000) for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be deemed to be a separate and distinct violation.

G15. UPSET

Definition – “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that:

- 1) an upset occurred and that the Permittee can identify the cause(s) of the upset;
- 2) the permitted facility was being properly operated at the time of the upset;
- 3) the Permittee submitted notice of the upset as required in Condition S3.E; and
- 4) the Permittee complied with any remedial measures required under S4.C of this permit.

In any enforcement proceedings the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G16. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G17. DUTY TO COMPLY

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G18. TOXIC POLLUTANTS

The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G19. PENALTIES FOR TAMPERING

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two (2) years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this Condition, punishment shall be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or by both.

G20. REPORTING ANTICIPATED NONCOMPLIANCE

The Permittee shall give advance notice to the Department by submission of a new application or supplement thereto at least one hundred eighty (180) days prior to commencement of such discharges, of any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility or activity which may result in noncompliance with permit limits or conditions. Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during noncritical water quality periods and carried out in a manner approved by the Department.

G21. REPORTING OTHER INFORMATION

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

G22. REPORTING REQUIREMENTS APPLICABLE TO EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL DISCHARGERS

The Permittee belonging to the categories of existing manufacturing, commercial, mining, or silviculture must notify the Department as soon as they know or have reason to believe:

- A. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels":
 1. One hundred micrograms per liter (100 µg/L).
 2. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony.
 3. Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
 4. The level established by the Director in accordance with 40 CFR 122.44(f).

- B. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following “notification levels”:
1. Five hundred micrograms per liter (500 µg/L).
 2. One milligram per liter (1 mg/L) for antimony.
 3. Ten times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
 4. The level established by the Director in accordance with 40 CFR 122.44(f).

G23. COMPLIANCE SCHEDULES

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.

APPENDIX I

LIQUID-FLOC CHITOSAN ENHANCED SAND FILTRATION (Natural Site Solutions)

Maintenance of Safety Margin

Chitosan acetate can effectively treat stormwater turbidity up to 600 NTU without using a concentration above 1.06 mg/L. 1.06 mg/L chitosan is below its toxic threshold of 1.21 mg/L in clear water. In addition, chitosan will be removed from solution by binding to solids and by being withheld in the sand filter. The safety margin will certainly be maintained if the treatment concentration is kept to 1.06 mg/L or below. Any mechanical failure of the positive displacement metering pump will immediately cause a reduction in Liqui-Floc dosing, so pump failure is only a problem for treatment effectiveness and not safety margin maintenance.

The following dose rate table shall be used to ensure both treatment plant effectiveness and a chitosan concentration below 1.06 mg/L prior to sand filtration.

Dose Rate Table for Liqui-Floc (1% Chitosan Acetate) Based on Flow and Turbidity

Turbidity	Stormwater Flow Rate	Liqui-Floc Dose Rate	Chitosan Concentration
50 - 200 NTU	200 gpm	20 ml/min or 0.32 gph	0.26 mg/L
	300 gpm	30 ml/min or 0.48 gph	
	400 gpm	40 ml/min or 0.64 gph	
	500 gpm	50 ml/min or 0.8 gph	
	600 gpm	60 ml/min or 0.96 gph	
	700 gpm	70 ml/min or 1.11 gph	
200 - 400 NTU	200 gpm	40 ml/min or 0.64 gph	0.53 mg/L
	300 gpm	60 ml/min or 0.96 gph	
	400 gpm	80 ml/min or 1.27 gph	
	500 gpm	100 ml/min or 1.6 gph	
	600 gpm	120 ml/min or 1.91 gph	
	700 gpm	140 ml/min or 2.23 gph	
400 - 600 NTU	200 gpm	80 ml/min or 1.27 gph	1.06 mg/L
	300 gpm	120 ml/min or 1.91 gph	
	400 gpm	160 ml/min or 2.54 gph	
	500 gpm	200 ml/min or 3.17 gph	
	600 gpm	240 ml/min or 3.81 gph	
	700 gpm	280 ml/min or 4.45 gph	

Checking formula:

chitosan concentration in mg/L = (ml/min Liqui-Floc x 0.01 x 1 g/ml x 1000 mg/g)/system flow rate in liters/min
 liters/min = gpm x 3.78 liters/gal

Safety Margin Checklist

- Only Storm Klear Liqui-Floc™ containing 1 percent chitosan acetate shall be used.
- The metering pump shall be calibrated using a calibration cylinder at startup and every time that the Liqui-Floc dose rate needs changed. The calibration shall be recorded in the log. The stroke frequency shall be set as high as possible, and the stroke length adjusted to provide the correct dosing.

- The system flow rate and the turbidity of both influent and effluent shall be measured hourly and recorded in the log.
- No chitosan-treated water shall be discharged to surface water without first being sand-filtered.
- Secondary containment for the Liqui-Floc storage container and the metering pump shall be at least equal to the volume of the storage container.
- Spill adsorbent material shall be readily available to immobilize any spill of Liqui-Floc during handling.
- If the treatment system is located less than 50 feet from surface water, a 1-foot high earthen berm shall be constructed and maintained down-gradient as additional spill containment.
- Only discharges to streams are allowed at this time.
- The occasional use of the Residual Chitosan Field Screening Test to confirm a discharge concentration below 0.1 is encouraged in order to further build confidence in CESF system safety.

APPENDIX II

FLOC-CLEAR CHITOSAN ENHANCED SAND FILTRATION (Clear Creek Systems, Inc.)

Maintenance of Safety Margin

Chitosan acetate can effectively treat storm water up to 600 NTU without using a concentration above 1.06 mg/L. 1.06 mg/L chitosan from FlocClear™ is below its toxic threshold of 2.5 mg/L in clear water. The chitosan concentration will decrease after dosing due to binding to solids and the sand filter. If the metering pump fails, the anti-siphon valve will prevent FlocClear™ from being siphoned into the system. If the metering pump is incorrectly calibrated and the storm water is overdosed, treated water will not coagulate well enough to be clarified and the turbidimeter will trigger the return of effluent to the detention structure instead of discharge.

The following dose rate table shall be used to ensure both treatment plant effectiveness and a chitosan concentration below 1.06 mg/L prior to sand filtration.

Influent Turbidity (NTU)	Influent Flow Rate (gpm)	FlocClear™ 2% Solution Dose Rate		chitosan (mg/L)	Influent Turbidity (NTU)	Influent Flow Rate (gpm)	FlocClear™ 2% Solution Dose Rate		chitosan (mg/L)
		ml/min	gph				ml/min	gph	
50 - 150	100	5	0.08	0.265	150 - 300	100	10	0.16	0.529
	200	10	0.16			200	20	0.32	
	300	15	0.24			300	30	0.48	
	400	20	0.32			400	40	0.63	
	500	25	0.40			500	50	0.79	
	600	30	0.48			600	60	0.95	
	700	35	0.56			700	70	1.11	
	800	40	0.64			800	80	1.27	
	900	45	0.72			900	90	1.43	
	1000	50	0.79			1000	100	1.59	
300 - 450	100	15	0.24	0.794	450 - 600	100	20	0.32	1.058
	200	30	0.48			200	40	0.63	
	300	45	0.71			300	60	0.95	
	400	60	0.95			400	80	1.27	
	500	75	1.19			500	100	1.59	
	600	90	1.43			600	120	1.90	
	700	105	1.67			700	140	2.22	
	800	120	1.91			800	160	2.54	
	900	135	2.14			900	180	2.86	
	1000	150	2.38			1000	200	3.17	

Checking formula:

chitosan concentration in mg/L = (ml/min FlocClear™ x 0.02 x 1 g/ml x 1000 mg/g)/system flow rate in liters/min
 liters/min = gpm x 3.78 liters/gal

Safety Margin Checklist

- Only FlocClear™ containing 2 percent chitosan acetate shall be used and discharges shall only be to streams.
- No chitosan-treated water shall be discharged without first receiving sand-filtration.

- Secondary containment for the FlocClear™ tote and metering pump shall be at least equal to the tote volume.
- FlocClear™ shall be stored at least 50 feet away from all natural drainages, conveyances, and storm drain inlets or a 1-foot high earthen berm shall be constructed and maintained down-gradient as additional containment.
- Spill absorbent material shall be readily available to immobilize any spill during handling.
- The FlocClear™ metering pump shall be positive displacement and provided with an anti-siphon valve which shall be inspected and the inspection recorded at the beginning of each treatment shift.
- The metering pump shall be calibrated using a calibration cylinder at the beginning of each treatment shift and every time that the FlocClear™ dose rate changes. The calibration shall be recorded in the log. The stroke frequency shall be set as high as possible, and the stroke length/speed adjusted to provide correct dosing.
- Flow rate, turbidity, and pH of influent and effluent shall be recorded at startup and every 2 hours thereafter.
- Bench/jar testing shall be done at startup and when influent turbidity changes more than 50 NTU. If the results of the jar tests indicate that the dose needs to be adjusted, the jar testing results and the indicated dose rate change shall be documented in the daily operating log.
- The volume of chitosan in the tote shall be recorded at the beginning and end of the treatment period. The volume used shall be determined and compared to the volume of water treated to further validate dose rate.
- The Residual Chitosan Field Screening Test shall be used twice per day during CESF operation at 1 hour and 2 hours after startup to confirm a discharge concentration below 0.1. If any chitosan is detected in the discharge, the operator shall shut down the CESF until the malfunction has been found and fixed.
- All inspections, calibrations, tests, measurements, dose rate changes, and equipment adjustments shall be recorded in a daily operating log which must be kept available for at least the duration of the treatment project.