NOTES:
2. See Figure 1 for SWPPP Detail location.
APPLICATION FOR COVERAGE
SAND & GRAVEL GENERAL PERMIT
APPLICATION FOR COVERAGE
SAND AND GRAVEL GENERAL PERMIT

For the Discharge of Process Water, Stormwater or
Mine Dewatering Water Associated with Sand and Gravel Mining, Rock
Quarries and Similar Mining Operations, Including Stockpiles of
Mined Material, Concrete Batch Operations and Hot Mix Asphalt Operations
(Do NOT USE FOR COVERAGE OF PORTABLE OPERATIONS)

WASHINGTON STATE USE ONLY:

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Ecology Region</th>
<th>W.R.L.A.</th>
<th>Date Received</th>
<th>Coverage Date</th>
</tr>
</thead>
</table>

I. PERMITTEE:
Business/Company Name  Port of Tacoma  
Person Name  Robert Collins

II. RESPONSIBLE PARTY MAILING AND CONTACT INFORMATION:

<table>
<thead>
<tr>
<th>Name (primary mailing address)</th>
<th>Name (primary mailing address)</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port of Tacoma</td>
<td>Port of Tacoma</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mailing Address</th>
<th>Mailing Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.O. Box 1837</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tacoma</td>
<td>Tacoma</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Zip + 4</th>
<th>Zip + 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>98401-1837</td>
<td>98421-3000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact Person</th>
<th>Phone No. 253-383-5841</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert Collins</td>
<td></td>
</tr>
</tbody>
</table>

| UBI No. 278-002-558 | UBI No. 278-002-558 |

III. BILLING ADDRESS AND CONTACT INFORMATION:

<table>
<thead>
<tr>
<th>Business/Company Name</th>
<th>Contact Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port of Tacoma</td>
<td>Robert Collins</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mailing Address</th>
<th>Mailing Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Sitcum Plaza</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>City</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tacoma</td>
<td>Tacoma</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Zip + 4</th>
<th>Zip + 4</th>
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<td>98421-3000</td>
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</table>

<table>
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<tr>
<th>Phone No. 253-383-5841</th>
<th>Phone No. 253-383-5841</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert Collins</td>
<td></td>
</tr>
</tbody>
</table>

IV. FACILITY/SITE LOCATION INFORMATION:

<table>
<thead>
<tr>
<th>Business/Company Name</th>
<th>Contact Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port of Tacoma</td>
<td>Robert Collins</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Street Address</th>
<th>Street Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW Tilley Road</td>
<td>SW Tilley Road</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>City</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenino</td>
<td>Tenino</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>County</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thurston</td>
<td>Thurston</td>
</tr>
</tbody>
</table>

Legal description of site (use two of the following three):

1. Quarter Quarter Division Section 1,2,11,12 Township 16N Range 2W

2. Latitude 46-53-47 N Longitude 122-53-14 W (Specify degrees, minutes, and seconds)

3. Map enclosed

Application for Coverage
ECY 070-31 rev. 8/6/99
IV. FACILITY/SITE LOCATION INFORMATION (continued):

Directions to site from nearest Hwy or City/Town: From Olympia, southbound on I-5 towards Portland. Take Exit 99 towards Scott Lake and turn left onto SR-121 (Tilley Road). Site access road is located approx. 3 miles directly east.

V. APPLICATION TYPE:

☒ New Permit ☐ Active Site ☒ Site Permit (Important - see instructions)
Or
☐ Existing Facility ☒ Inactive Site
☐ Asphalt Batch ☐ Concrete Batch
☐ Rock Crusher ☒ Other concrete and asphalt recycling

☐ Permit Modification Permit Number WAG-50- Reason for modification:

☐ Permit Renewal Permit Number WAG-50- Reason:

☐ Site Permit - ☐ Asphalt Batch ☐ Concrete Batch ☐ Rock Crusher ☐ Other ____________________________

VI. FACILITY INFORMATION: (IMPORTANT: this includes all activities, current and planned, at the site)

Industrial activities covered by this application at this site:
1. ☒ Mining/Extraction 5. ☐ Concrete batch plant 7. ☐ Truck washout 11. ☐ Truck washing (exterior)
4. ☒ Washing 10. ☒ Other (specify) concrete recycling

SIC Codes for the industrial activities described above:
1. ☐ 0811 ___ 4. ☐ 1423 ___ 7. ☐ 1446 ___ 10. ☐ 1499 ___ 13. ☒ 3273 ___
2. ☒ 1411 ___ 5. ☐ 1429 ___ 8. ☐ 1455 ___ 11. ☐ 2411 ___
3. ☐ 1422 ___ 6. ☒ 1442 ___ 9. ☐ 1459 ___ 12. ☐ 2951 ___

All industrial activities included within these SIC Codes at new facilities and those permit modifications that add new activities must have a completed SEPA review to be considered a complete application.

1. Has SEPA review been completed for all SIC Codes? ☒ YES ☐ NO Date ___0/24/2005____________________
2. Lead agency issuing SEPA Determination: __Thurston Co. Development Services Dept__
3. SEPA Responsible Official: __Tony Kantas___ Title: _Associate Planner_
4. Type of SEPA Determination: ☐ DNS ☐ DS ☒ Mitigated DNS

Is site within a Critical Aquifer Recharge Area? ☐ YES ☒ NO
Is site within a designated Wellhead Protection Area? ☐ YES ☒ NO
Is site within a Sole Source Aquifer? ☒ YES ☐ NO

VII. REGULATORY STATUS:

1. ☐ NPDES Permit No. _________________ 4. ☐ City or County Permit No. __SUPT 020612___
2. ☐ State Waste Discharge Permit No. _________________ 5. ☐ Dept. of Natural Resources Permit No. __pending___
3. ☐ Air Notice of Construction, Permit or Order, Agency _________________
VIII. WATER MANAGEMENT ON THIS SITE:

This permit is issued for discharges of stormwater, process water, or mine dewatering to ground water or surface water.

☐ There is no discharge of process water or mine dewatering water at this site. All stormwater percolates directly to ground and does not puddle or flow in a ditch to a collection basin, drywell, drainfield or infiltration pond. (Skip the rest of this section and go on to Section IX.)

OR

1. Accompanying this application, you must provide a sketch map of your site that identifies each point of discharge. Your monitoring plan and subsequent monitoring reports to Ecology must be based on the points of discharge shown on the map you send in.

2. If you discharge to a surface water body, you must also attach the following information:
   - An estimate of the minimum width, depth and velocity or flow of the receiving water.
   - For stormwater discharges: an estimate of the width, depth and velocity or flow of discharge that will occur as a result of a 24 hour rain event greater than 0.5 inches.
   - For process water: an estimate of the maximum width, depth and velocity or flow of discharge that will occur.

3. Identify the characteristics of each point of discharge below. Copy this page if necessary to identify additional discharge points.

Is Monitoring Plan Complete and Up-to-Date? ☑ YES ☐ NO

For each discharge point listed below, mark all boxes that apply to the discharge during any time of the year.

Discharge Point 1: Name (unique identifier) GW-1

Discharge includes: ☑ Process Water

☐ Mine Dewatering Water

☑ Stormwater

Discharges to:

☐ Storm Drain System (stormwater only)

Name of system: __________________________

☑ Ground

☑ Unlined collection basin or infiltration pond

☐ Drywell or drainfield

☐ Other __________________________

☐ Surface Water (creek, river, ditch, lake, wetland, or other water body)

Name of receiving water: __________________________

Tributary to: __________________________

Discharge Point 2: Name (unique identifier)

Discharge includes: ☐ Process Water

☐ Mine Dewatering Water

☐ Stormwater

Discharges to:

☐ Storm Drain System (stormwater only)

Name of system: __________________________

☐ Ground

☐ Unlined collection basin or infiltration pond

☐ Drywell or drainfield

☐ Other __________________________

☐ Surface Water (creek, river, ditch, lake, wetland, or other water body)

Name of receiving water: __________________________

Tributary to: __________________________
IX. BMPs EMPLOYED TO REDUCE POLLUTANTS IN STORMWATER OR PROCESS WATER DISCHARGES:

Indicate with the following:

- S for stormwater  - P for process water  - B for stormwater and process water

a.  ____ Oil/water separator  
b.  ____ Management BMPs  
c.  ____ Collection/routing of water

d.  ____ Spill prevention  
e.  ____ Lined evaporation basins  
f.  ____ Water recycling

g.  ____ Infiltration basins  
h.  ____ Vegetation management  
i.  ____ Containment

j.  ____ Detention facilities  
k.  ____ Overhead coverage  
l.  ____ Chemical Additives (attach MSDS)

m.  ____ Other (specify)  

Is the Stormwater Pollution Prevention Plan Complete and Up-to-Date?  ☑ YES  ☐ NO

Is the Erosion and Sediment Control Plan Complete and Up-to-Date?  ☑ YES  ☐ NO

Is the Spill Plan Complete and Up-to-Date?  ☑ YES  ☐ NO

X. OPERATIONS AND PRODUCT(S) MINED OR PRODUCED EACH YEAR:

Does facility operate year round?  ☑ YES  ☐ NO  site is currently inactive

If no, indicate months of operation (circle all that apply): Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Other periodic operation. Describe: __________________________________________________________

Indicate annual quantity of product produced using codes from the instructions for this section. (projected)

<table>
<thead>
<tr>
<th>MINED PRODUCTS</th>
<th>BATCH PLANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sand</td>
<td>4. Quarry rock</td>
</tr>
<tr>
<td>2. Sand &amp; Gravel</td>
<td>5. Clay</td>
</tr>
<tr>
<td>3. Other (specify material and amount)</td>
<td>6. Hot Mix Asphalt</td>
</tr>
<tr>
<td>7. Concrete</td>
<td></td>
</tr>
</tbody>
</table>

XI. CERTIFICATION BY PERMITTEE:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Robert L. Collins  
Printed Name of Person Signing Below

Signature of Applicant

Director, Intermodal Services  
Title

August 13, 2007  
Date Applicant Signed

NOTE: Federal regulations require this application to be signed as follows: A.) For corporation, by a principal executive officer of at least the level of vice president; B.) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or C.) For a municipality, State, Federal, or other public facility, by either a principal executive officer or ranking elected official.

If you require this document in an alternate format, please contact the Water Quality Program at 360-407-6401(Voice) or 711 or 1-800-833-6388 (TTY).
Maytown Aggregates Groundwater Monitoring Plan

Revision 2

Purpose

The purpose of this groundwater monitoring plan is to generate information that will address the following issues and regulatory requirements:

- The potential for impairment of off-site water supply wells
- Changes in water levels and quality resulting from mining
- NPDES monitoring requirements

These requirements have been established through communication between Allen & Company and Thurston County, with the primary references being:

- Appendix F of Appendix A to the Expanded Environmental Checklist of July 2002 contained a detailed groundwater monitoring plan for water levels and groundwater turbidity, including procedures and reporting requirements.
- Response to Comments on the Expanded Environmental Checklist in a letter from Pacific Groundwater Group to Thurston County of October 25, 2002 proposed monitoring to comply with the NPDES general permit.
- The MDNS Re-Issuance document written by the County dated May 4, 2004, which stipulated that a monitoring well be established upgradient and downgradient of each pit.
- Pacific Groundwater Group’s response to MDNS comments briefly discussed the feasibility of identifying small mine-related water level changes.
- The June 8, 2004, letter from Tony Kantas of Thurston County to Jay Allen of Allen & Company, which requested a plan to remedy impaired off-site wells, if any.

Overview

This plan addresses the requirements above through monitoring of on-site water levels and water quality, including measurement of background conditions, and by documenting the construction and performance of off-site water supply wells prior to mining. The plan includes monitoring and action elements referenced in all of the documents listed above.

Water monitoring is required at 17 stations within and surrounding the mine. Four stations are specific to NPDES monitoring of the process water. The other 13 stations serve the purposes of monitoring for protection of off-site wells and the wetland. Five stations are near
(upgradient and downgradient) of proposed pit lakes. The remaining eight stations surround the pit lakes on the east, south, and west and lie between the pits and off-site water resources that require protection. These perimeter stations will provide the best data for assessing off-site impacts because they are closest to the off-site water resources. This plan will provide ample data to address the three monitoring objectives listed above, and will augment the conservation agreement reached between Allen & Company and the environmental organizations. Providing a monitoring well upgradient and downgradient of each pit lake, as stipulated by the County in the May 4, 2004, MDNS document, is not necessary or advisable to address the monitoring objectives and is not proposed herein.

The plan is divided into the following major sections:

- Remedy if Off-site Supply Wells are Impaired
- Groundwater Level and Temperature Monitoring
- Overview of Groundwater Quality Monitoring for the NPDES General Permit

The elements of this plan need to be considered along with monitoring that will be performed by State agencies and environmental organizations for full appreciation of the scope of environmental monitoring.

**Remedy if Off-Site Supply Wells are Impaired**

This portion of the plan stipulates that nearby off-site water supply wells be documented and that wells that are shown to be impaired by mining activities be fixed or replaced. To avoid repeated intrusion into private and public supply wells, groundwater level monitoring will occur in on-site wells that are representative of (and more affected than) off-site conditions.

Wells in the following areas will be field-verified within one year of receipt of the mining permit. The inventory will be updated every five years during mine operation.

**T16N R2W:**
- west half of section 6
- northwest quarter of section 7
- southwest quarter of section 2
- northeast quarter of section 10
- south one-half of section 11
- south one-half of section 12

Assuming that access is granted by land owners and that the well is configured so that measurements can be taken, the following data will be collected for each well. If allowed, a unique well identifier provided by the State Department of Ecology will be affixed to the well. The County will be provided a report that documents the well inventory.
Table B-1. Off-Site Well Inventory Parameters

<table>
<thead>
<tr>
<th>Owner</th>
<th>Pumping rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Typical water use and well problems</td>
</tr>
<tr>
<td>Contact information</td>
<td>Water treatment facilities</td>
</tr>
<tr>
<td>Well log</td>
<td>Specific conductance</td>
</tr>
<tr>
<td>Diameter</td>
<td>pH</td>
</tr>
<tr>
<td>Total depth</td>
<td>turbidity</td>
</tr>
<tr>
<td>Depth of openings</td>
<td>odor</td>
</tr>
<tr>
<td>Pump set depth</td>
<td>iron-related bacteria activity measurement</td>
</tr>
<tr>
<td>Depth to static water level</td>
<td>appearance of wellhouse, well, and water</td>
</tr>
<tr>
<td>Depth to pumping water level</td>
<td>photo of well house and well head</td>
</tr>
</tbody>
</table>

To avoid repeated access to these private and possibly public water supply sources, routine (ongoing) water level measurements will not be collected from these wells. Instead, monitoring wells will be established to measure mining effects between the off-site supply wells and the mine. The following wells will be used for this purpose:

Table B-2. On-Site Monitoring Locations to Assess Off-Site Water Level Changes

<table>
<thead>
<tr>
<th>Location</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast and East of the site:</td>
<td>MT-9, MT-11</td>
</tr>
<tr>
<td>South of the site:</td>
<td>A new monitoring well drilled as far south as possible between Wetland A fingers 3 and 4</td>
</tr>
<tr>
<td>West of the site:</td>
<td>PP-10</td>
</tr>
</tbody>
</table>

The monitoring wells will be surveyed and manual water levels and water temperatures will be measured six times yearly starting not later than the issuance of the mining permit, and will continue for the duration of mining. Alternatively, the operator may choose to install data loggers in the wells. In that case, manual measurements may be reduced to four times per year, with the loggers programmed to collect daily water levels. In addition to routine reporting discussed below, data will be made available to County staff upon reasonable request.

Well owners with problems that they believe are caused by the mine must first contact the County and provide evidence of the impairment. Based on the evidence presented, a licensed County hydrogeologist or engineer may choose to visit the site and perform an inspection. Although the County inspection would not be required, such an inspection is required before the County may request action by the mine operator, and the County must present evidence to the mine operator of probable cause that the impairment is caused by the mine. With regard to problems related to pumping rates or volumes, probable cause must include a preliminary analysis indicating that the static water level in the well has declined more than would be caused by natural variability plus changes in local water use. With regard to
changes in water turbidity, probable cause must include evidence of increased turbidity that is not explained by local conditions, including bio-fouling of the well and pump problems. The mine operator will provide the County with any requested monitoring data during this evaluation.

Upon request by the County, and after the County’s preliminary evaluation referenced above, the mine operator will contact the well owner and quickly perform an independent evaluation of the reported well problem. If the County’s inspection results in a finding of probable cause as defined above, and the results of the mine operator’s independent evaluation concurs with the County’s finding, the mine operator shall either repair the identified impairment or replace the well. The standard of acceptance for a repaired or replaced well will be one that yields a similar amount of water as the original, and that has comparable water quality. At anytime during this process, the mine operator may choose to repair or replace the well without further evaluation.

In the event that the results of the independent evaluation do not concur with the County's finding, the County and the mine operator shall engage a third party, either a licensed hydrogeologist or engineer, to evaluate the claimed impairment and shall be bound by the results of his or her findings. The mine operator shall pay for the third party’s analysis. The third party shall be chosen as follows: the mine operator shall identify three licensed hydrogeologists or engineers and County shall choose one of these licensed hydrogeologists or engineers to perform the evaluation. If the conclusion is a finding of probable cause as defined above, the mine operator shall either repair the identified problem or replace the well to the standard specified above.

**Groundwater Level and Temperature Monitoring**

**Monitoring Stations**

Stations listed in Table B-3 will continue to be used to monitor groundwater and wetland water levels and temperatures.

<table>
<thead>
<tr>
<th>Wells</th>
<th>Surface Water Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT-5</td>
<td>DL1</td>
</tr>
<tr>
<td>MT-6</td>
<td>BC1</td>
</tr>
<tr>
<td>MT-8</td>
<td>BC2</td>
</tr>
<tr>
<td>MT-9</td>
<td>wetA1</td>
</tr>
<tr>
<td>MT-10</td>
<td></td>
</tr>
<tr>
<td>MT-11</td>
<td></td>
</tr>
<tr>
<td>PP08</td>
<td></td>
</tr>
<tr>
<td>PP10</td>
<td></td>
</tr>
</tbody>
</table>
Some of the wells are located within future pits and will be destroyed in the process of mining. Wells MT-8 and MT-10 would likely be destroyed within the first 5 years of mining, whereas wells MT-6 and MT-5 would not be destroyed until 10 to 15 years after mining starts. The perimeter wells will not be destroyed by mining.

One additional monitoring station will be established between Wetland A fingers 3 and 4 prior to any pit being excavated below the water table (Table B-4).

<table>
<thead>
<tr>
<th>Wells</th>
<th>Surface Water Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>One well as far south as possible between fingers 3 and 4</td>
<td>None</td>
</tr>
</tbody>
</table>

The new well will be constructed of 2-inch diameter PVC and be screened slightly below the water table. All wells will be physically secured to prevent entry or vandalism. Measuring points will be clearly marked and surveyed to NGVD29 datum. Unused wells will be decommissioned in accordance with Chapter 173-160 WAC regulations.

**Monitoring Personnel**

Professional or on-site personnel will perform the water level monitoring. If on-site personnel are used, a licensed professional hydrogeologist will train the on-site personnel during an initial round of monitoring, assist in setting up the data management system, and must stamp any report consistent with State licensing requirements.

**Water Level and Temperature Monitoring Parameters**

The time, date, measuring point, depth-to-water, and water temperature will be recorded at each monitoring well, along with the name of the person making the measurement. Also, related mine-activity data will be recorded to assist in the reporting discussed below.

Measuring depth-to-water in the wells will require the use of an electric water level sounder. Stage height at the gaging stations will require a hand tape. At station wetA1, the height of water above the measuring point is read directly from the stage gage.

Temperature measurements will be made with a hand-held, remote-reading, down-hole thermometer. The thermometer will be lowered into the bottom portion of the well screen and the temperature of the groundwater will be read off of the hand-held meter. The wells will not be purged.
Water Level and Temperature Monitoring Schedule

Background and foreground water monitoring will occur. Background water level data are considered to be those measurements collected before mining penetrates the water table south of the train tracks. Foreground monitoring begins immediately after background monitoring. The same parameters and frequency of data collection will occur in the background and foreground periods.

Monitoring will begin under this program no later than receipt of the mining permit and continue until one month after reclamation is complete. Monitoring will continue during periods of gravel-mine inactivity, unless approved otherwise by the County.

If data loggers are not used, manual water levels and temperatures will be measured every other month at each station. If data loggers are used, they shall be programmed for daily water level and temperature measurements, and manual measurements may be decreased to quarterly. Data logger data shall be downloaded and secured quarterly.

Data Management

One copy of data collection forms will be kept on file at the site or the operator’s corporate office and another copy will be provided to the County. The County shall maintain a secure file of project data. In addition, the owner will enter the data into a computer database which will record the date, time, person, depth-to-water, and water temperature at each station. A copy of the database will be provided to the County annually.

Data Analysis and Reporting

The owner will summarize the mining and water monitoring activity in a report to the County every two years. The hydrologic report will include:

- A map showing the extent of aggregate extraction (below the water table) at the beginning and end of the two-year period.
- The depth of each pit below the water table, if applicable.
- A summary of water use during the two-year period.
- Plots of water levels and temperature over time for the entire period of record.
- Comments on mine activities or the monitoring program pertinent to interpretation of the data.

A licensed hydrogeologist will generate the report or review the report and comment on the program at this two-year interval.
The owner will analyze the water monitoring data every second reporting period (every four years). The analysis will be summarized in an expanded report to the County and include the data and comments listed above plus:

- An analysis of water level and temperature changes or trends considering potential mining effects, background (regional) changes, water level changes permitted under existing water rights, beaver activity, and other factors the owner recognizes as pertinent.
- Identification of significant adverse water level or temperature changes likely caused by mining (the lakes or gravel extraction).

The report will be generated or reviewed and approved by a licensed hydrogeologist.

**Overview of Water Quality Monitoring for the NPDES General Permit**

Training of samplers, water sampling at selected stations, and reporting will meet requirements of the NPDES Sand and Gravel General Permit. There will be no discharges to surface water, therefore sampling requirements are those for discharging stormwater and process (wash) water to the ground. The wash water will be discharged to sand-lined sedimentation ponds and largely reused. Analysis requirements are monthly testing of water in sedimentation ponds for pH, and daily visual examination for oil sheen.

In addition, the project will conduct groundwater monitoring at least quarterly, nearby and down-gradient of the sedimentation pond, regardless of whether the volume of discharge to groundwater exceeds 15,000 gallons per day (which is the regulatory threshold). Background samples will be collected from monitoring stations prior to mining. Groundwater analysis parameters will include temperature, specific conductance, turbidity, and possibly dissolved iron and manganese.

Surface water and groundwater monitoring stations are proposed to comply with General Permit requirements. Surface water stations will be the sedimentation pond or ponds, as well as other locations where stormwater collects. The following wells will be used to monitor groundwater quality downgradient of the sedimentation ponds:

- PP02 (a shallow downgradient water supply well)
- PP04 (a shallow downgradient/cross-gradient water supply well)
- One new monitoring well

PP02 is the supply well for the on-site residence and office. PP04 is one of the supply wells for the onsite industrial facilities. In both cases, samples will be collected from the spigot closest to the well (if possible, upstream of any storage or pressure tank that may be present).

The new monitoring well will be located near the downgradient (west) side of the sedimentation pond. Special attention to well development and sampling procedures will be
implemented to reduce initial drilling-induced turbidity, and to produce consistent turbidity data over time.

All wells will be physically secured to prevent entry or vandalism. Measuring points will be clearly marked and surveyed to NGVD29 datum.

On-site or professional personnel will perform the monitoring. If on-site staff are used, a professional hydrogeologist will train the on-site personnel during an initial round of monitoring, and assist in setting up the data management system, as requested.

The operator will report NPDES monitoring data quarterly in accordance with General Permit requirements, using the standard forms available from Ecology.

In addition, the data collected from NPDES monitoring stations will be incorporated into groundwater monitoring reports submitted to the County as described earlier for other groundwater monitoring.
STORMWATER POLLUTION PREVENTION PLAN
MAYTOWN AGGREGATES

13120 Tilley Road SW
Thurston County, WA
Owner/Permittee: Port of Tacoma

WASHINGTON STATE DEPARTMENT OF ECOLOGY
Sand and Gravel General Permit # ____________

SWPPP Prepared by:
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Preparation Date:
August 23, 2007

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NOTE: A copy of this plan is to be kept at or readily available to the mine site.

ABBREVIATIONS

General
AKART – All Known, Available, and Reasonable Treatment (methods)
BMP – Best Management Practice
Ecology – Washington Department of Ecology
EPA – U.S. Environmental Protection Agency
MDNS – Mitigated Determination of Non-Significance
MTCA – Model Toxics Control Act - Washington
MW – Monitoring Well
NOC – Not Otherwise Classified
NPDES – National Pollution Discharge Elimination System
RCW – Revised Code – Washington
SUP – Special Use Permit – Thurston County
SIC – Standard Industrial Classification
TESC- Temporary Erosion and Sediment Control measures
WAC – Washington Administrative Code

Reports and Forms
AIR – Annual Inspection Report – Erosion and Sediment Control
DMR – Discharge Monitoring Report/ Quarterly DMR
ESCP – Erosion and Sediment Control Plan
SCP – Spill Control Plan
SIR – Semi-Annual Inspection Report
SWPPP – Stormwater Pollution Prevention Plan

Units
If – lineal feet
diam – diameter
cfs – cubic feet per second
bgs – below ground surface
cu yds – cubic yards
gpm – gallons per minute
ft – foot/ feet
mi - miles
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1.0 SUMMARY INFORMATION

Site Name and Location: Maytown Aggregates
13120 Tilley Creek Road SW
Thurston County
T 16 N R 2 W (Willamette Meridian) portions of Sections 1,2,11, and 12.

Site Owner/ Manager: Port of Tacoma
P.O. Box 1837
Tacoma, WA 98401-1837

SWPPP Contact: Scott Hooton
Environmental Manager
Port of Tacoma
P.O. Box 1837
Tacoma, WA 98401-1837
253-383-9428

Site Description: 497-acre sand and gravel surface mine (permit area)
SIC 1442 – Construction Sand and Gravel
SIC 3272 – Concrete Products (Recycling)
SIC 2951 – Asphalt Recycling
SIC 4011/4013 – Railroads and Railroad Yards

Site Hydrology: The project area lies north of the Beaver Creek drainage and east of the Allen Creek basin. A number of groundwater-fed wetlands that receive recharge from the site are associated with both Allen and Beaver Creeks. The 284-acre mine-extraction area is underlain by Vashon outwash gravel to a depth of approximately 100 feet. Shallow groundwater within the permit boundary generally flows from northeast to west/southwest. Groundwater fluctuates seasonally from 4 to 11 feet. There are no surface-water bodies within the mining area and no surface-water connection between the project area and the off-site wetlands due to the highly permeable soils. The uppermost layers of the Vashon Drift deposits in which mining will take place typically have high hydraulic conductivity with short-term infiltration capacities estimated at greater than six inches/hour.
2.0 STORMWATER PLAN OBJECTIVES

This STORMWATER POLLUTION PREVENTION PLAN (SWPPP) is intended to meet the following objectives:

- Meet Washington Department of Ecology Sand and Gravel General Permit requirements;
- Meet requirements for NPDES well monitoring as required by Thurston County under their Special Use Permit;
- Provide guidance in implementing Best Management Practices (BMPs) to control stormwater runoff, erosion and sedimentation, and spills;
- Prevent potentially adverse impacts on surface or groundwater quality or on the beneficial uses of “waters of the state” that might be associated with site operation activities;
- Provide a plan for implementing stormwater, erosion, and spill BMPs;
- Identify periodic monitoring and reporting requirements; and
- Identify record keeping and signatory requirements for the site.

3.0 SWPPP ORGANIZATION

This report is organized so as to provide easy reference to activities (BMPs) associated with:

- General site operation and maintenance (including housekeeping, training, and general site maintenance)
- Source area runoff controls (including mining, raw materials stockpiling, loading and unloading, road maintenance, crushing, fueling, and equipment washing)
- Stormwater conveyance system management
- Treatment facility maintenance
- Monitoring and inspections
- Process water treatment
- Erosion and sediment control
- Spill response and control

The SWPPP for the Maytown Aggregates site includes Site Maps (existing topography) that identify activity areas as well as key BMPs and their locations. A MONITORING PLAN is included as Appendix A. The SWPPP Detail Map identifies monitoring and inspection locations, including NPDES groundwater monitoring locations required by Thurston County for SUP compliance. SUP compliance monitoring is described in the MONITORING PLAN.

The EROSION AND SEDIMENT CONTROL PLAN (ESCP) and associated BMPs are included as Appendix B. Some ESCP BMPs will function as both erosion and source control and are referenced in both the SWPPP and ESCP.

The SPILL CONTROL PLAN (SCP) and associated BMPs are included as Appendix C. BMPs that are common to the SWPPP and SCP are referenced in both.
More information on specific BMPs can be found in the Stormwater Management Manual for Western Washington (SWMM-Western)(Ecology, 2005).

4.0 SITE CONDITIONS AND PROPOSED SITE MODIFICATIONS

Maytown Aggregates occupies an approximately 497-acre site with an elevation range of approximately 210 feet MSL to 240 feet MSL (as shown on the Site Maps). The overall mine extraction area is approximately 284 acres and lies at elevations of 220 to 230 ft MSL. Initial extraction activities are planned for the highest portion of the site, which is located at the northeast site boundary. Mining operations will expand in stages (eight segments) toward the central portion of the site. Mining will extend below the groundwater table with the creation of a number of surface water features following reclamation. Major modifications to site hydrology (creation of lakes and wetlands) are identified in the Reclamation Plan, however no significant changes to groundwater or surface water flow patterns are anticipated. Minor adjustments will conform to the specifications of this SWPPP.

Total Site Area: 497 acres  
Surface Mine Area: 284 acres  
Settling Pond: 1.5 acres  
Infiltration Pond: 4.75 acres  
Pond and Wetland Creation: 280 acres (reclamation)  
Projected Annual Production: 1,000,000 cu yds.  
Projected Project Duration: 20 years  
Projected Post-mining Elevations: 200 - 230 ft MSL interpond  
                                   120-180 ft MSL pond floors  
                                   210 - 220 ft MSL pond surfaces  
Discharge summary: No discharges to surface water.  
                   Groundwater discharges will be monitored from the  
                   infiltration pond (G-1).  
                   Groundwater will be monitored for NPDES  
                   compliance from three shallow wells (SPGW-1  
                   through 3) as requested by Thurston County.

5.0 INVENTORY OF MATERIALS

Stockpiled materials will include:

- Aggregate product  
- Topsoil – (limited) to be used in reclamation  
- Subsoil/ overburden – to be used in reclamation and general site contouring  
- Imported fill – to construct topography in the northwest portion of the site  
- Recycled concrete and asphalt – imported by truck and rail to be crushed for reuse
Sand and gravel and crushed asphalt and concrete (product) will be stockpiled in the designated material stockpile areas. Topsoil and subsoil to be used for reclamation will be stockpiled separately adjacent to the settling pond.

Operations equipment will be limited to:

- Portable rock crusher/washer
- Loaders
- Excavators
- Bulldozer
- Haul trucks
- Bulk rail hopper cars

All equipment listed except haul trucks and rail cars will remain on site for the life of the project. Processing will include washing and sorting of aggregates and asphalt and concrete crushing and recycling. Water will be sprayed on stockpiled materials and access roads as required to control dust.

No fuel or hazardous materials will be stored on site. Stationary and mobile equipment will be fueled by mobile fueling trucks that do not remain on-site. Fueling will be conducted on a concrete pad with secondary containment, at a minimum, equal to the standard fuel truck capacity of 12,000 gals.

6.0 SOILS

On-site soils are predominately Spanaway-Nisqually Complex (Hydrologic Group A), ranging in depth from 24 inches to 30 inches. Topsoil needed for reclamation will be sequentially stored around the perimeter of each mining segment. Excess topsoil and subsoil will be transported to a soil storage (fill) area in the northwestern portion of the site. Importation of clean fill soil is proposed in conjunction with the mining operation. The fill will be placed with site derived soils, compacted, and constructed into a mound with maximum slope gradients of 3H:1V. The fill will occupy an area of approximately 44 acres in the northwestern portion of the permit boundary as shown on the Site Map. The ESCP details BMPs that will be employed to prevent erosion during the handling and stockpiling of topsoil and imported fill materials.

7.0 SITE HYDROLOGY AND DRAINAGE

The mining permit area elevation range is approximately 200 to 230 feet MSL. The site is mostly flat with a small area of steep slopes in the northeastern corner of the project boundary. Precipitation currently infiltrates directly into groundwater over the site. A portion of this recharge is assumed to feed the groundwater-fed wetlands and stream channels that feed Beaver and Allen Creeks. Site drainage will change locally as mining
proceeds. Type 2 runoff will be collected in local mining areas and all Type 3 and process water discharge will be collected in the settling pond/infiltration pond treatment system (reference SWPPP Site Map). Regional hydrological conditions will not be affected and no significant impacts to Allen and Beaver Creek stream hydrologies are expected. No new surface water drainage pathways will be created and general groundwater recharge is not expected to change. Under post-mining conditions, most incident rainfall will recharge groundwater directly through surface water ponds. Site groundwater conditions will be monitored using three SUP designated monitoring locations required by Thurston County.

8.0 BEST MANAGEMENT PRACTICES (BMPs)

There are four basic types of Best Management Practices (BMPs) to control erosion, sediment, and runoff of other contaminants in stormwater: operational, source, runoff conveyance, and treatment controls. Many of the BMPs used at the site will function in more than one category. The primary pollutants associated with quarry and concrete recycling activities include turbidity, sediments, oil and grease, gasoline, and, potentially, elevated temperature and pH.

Operational control BMPs are employed to maintain an orderly work site and reduce the potential for discharge of pollutants from support activities not directly related to the mining. Operational controls include the following:

- Forming a pollution prevention team/delegation of specific responsibilities
- Identifying and carrying out good housekeeping measures
- Performing preventative maintenance
- Regular inspections (see also the MONITORING PLAN – Appendix A)
- Inspection of erosion controls (see also the EROSION AND SEDIMENT CONTROL PLAN – Appendix B)
- Prevention of spills (see also the SPILL CONTROL PLAN – Appendix C)
- Employee training (Appendix D)

Source controls include BMPs for the active mining area and for other support operations areas such as material stockpiles, haul roads, loading areas, etc. Source controls for areas subject to erosion are also discussed in the EROSION AND SEDIMENT CONTROL PLAN (ESCP – Appendix B).

Source control BMPs include physical, structural, and mechanical devices or facilities that prevent pollutants from reaching stormwater or that remove pollutants from stormwater. Runoff conveyance controls are associated with managing the location, velocity, and potential for erosion associated with roadside ditches and culverts and with vegetated, but disturbed, portions of the site. Treatment BMPs include control structures or devices that are designed to remove pollutants from runoff.
8.1 Operational BMPs

8.1.1 Pollution Prevention Team
The pollution prevention team consists of managers and employees who are familiar with the site and its daily operations and are responsible for developing and implementing the SWPPP and for implementing, maintaining, and modifying (as needed) BMPs specified in the SWPPP, ESCP, and SCP.

Primary Contact: Scott Hooton
Title: Environmental Manager, Port of Tacoma
Phone: 253-383-5428
Responsibilities: Implementing all aspects of the SWPPP, MONITORING PLAN, ESCP, and SCP except for duties specifically delegated to other employees. Specific responsibilities include:

- SWPPP development
- Coordinating employee training
- Supervising BMP implementation
- Conducting monitoring and inspections of BMPs and SUP monitoring wells
- Keeping all records and submitting reports
- Maintaining equipment and BMPs
- Notification of agencies in the event of a reportable SPILL

8.1.2 Good Housekeeping Measures
The following practices will be employed at the Maytown Aggregates site as appropriate:

- Check daily for fuel leaks
- Perform fueling operations carefully without overfilling or “topping off”
- Immediately clean up spills consistent with the SCP
- Remove excess grease from equipment
- Dispose of oily solid waste into closed and labeled containers
- Remove trash regularly
- Regularly remove debris from drainage channels
- Remove sediment from sediment traps when they reach one-third capacity
- Perform required monitoring and inspections as scheduled in the MONITORING PLAN

8.1.3 Preventative Maintenance
All temporary and permanent erosion and spill control facilities should be inspected and maintained regularly or as soon as defects are noted. Mechanical equipment should be regularly maintained and promptly repaired.
8.1.4 Inspections and Record Keeping

Required reporting and record keeping are described in Special Condition S6 of the General Permit. Record keeping is described in more detail in the MONITORING PLAN - Section 2.0. Condition S6 specifies:

- A schedule for submittal of Quarterly Discharge Monitoring Reports (DMRs),
- Required records retention (for non-submitted records) of three years for all monitoring information,
- Specific requirements for supplemental information to accompany all monitoring data,
- Inclusion of supplemental monitoring data in the Quarterly DMRs,
- Non-compliance reporting requirements, and
- The requirement that all plans shall be made available to Ecology and/or the public within 14 days of a written request.

Table MP-2 (MONITORING PLAN) provides monitoring schedules for groundwater discharge locations and designated Thurston County SUP compliance monitoring wells. Standard DMRs will be provided to the Permittee by Ecology when the permit is awarded.

8.2 Source Control BMPs

Source controls include controls associated with the active mining area and controls associated with other operational areas such as material stockpiles, loading and unloading activities, equipment maintenance and fueling, and haul roads. Active mining areas have high infiltration capacities and will be developed so that precipitation will be contained and infiltrated. Any drainage from higher ground to the north and east will either be routed around active excavation areas or be allowed to enter the excavation area in a controlled manner and infiltrated. Grading and ditching will be used to control runoff from roads, pads and aggregate stockpiles.

8.2.1 Maintain Spill Control Kit

Spill control materials will be maintained on-site as described in the SCP (Appendix C). These materials will be employed for spills and may be utilized if oil sheens are observed.

8.2.2 Mobile Fueling BMPs

Mobile fueling will be carried out only at designated sites (concrete pads) in the vehicle operation areas. Spill control materials (sorbent materials) will be readily available on-site for collecting spilled petroleum products. Fueling will be conducted on a concrete pad constructed with adequate secondary containment (holding capacity equal or greater than 110 percent of the fueling tank volume). Spill control associated with fueling activities is addressed in the SCP (Appendix C).

8.2.3 Access Road/Parking Area Stabilization (BMP C107)

The access road and parking areas will be sloped and graded so that runoff, drippage, and loose material from trucks entering and leaving the property is diverted away from the
northern project boundary and directed to a sediment control BMP (sediment traps or the Sedimentation Pond).

8.2.4 Loading and Unloading Areas
Management of runoff from rail and truck loading/unloading areas will utilize both operational and source control BMPs. Operational BMPs include good housekeeping and preventative maintenance. Primary source control BMPs include Site Grading (8.2.6), Sedimentation Pond (8.2.7), and Infiltration Pond (8.2.8).

8.2.5 Storage or Transfer of Solid Raw Materials or By-Products
Management of runoff from the storage and transfer of solid raw and recycled materials, excluding topsoil and overburden stockpiles, will include both operational and source control BMPs as described for 8.2.4 – Loading and Unloading Areas. The loading/unloading areas and solid raw and recycled materials areas are adjacent and will be served by the same BMPs as described above.

8.2.6 Site Grading
Areas of active mining will be graded to ensure that all stormwater runoff is directed back into the area of excavation. Excavated ponds will function as temporary sedimentation ponds and subsequent sources of groundwater recharge. Activity areas (loading, unloading, crushing and washing) will be graded to direct runoff into the concrete-lined Sedimentation Pond (8.2.7).

8.2.7 Sedimentation Pond (BMP C241/ BMP T10.10)
A sedimentation or “settlement” wet pond will be created to receive runoff from processing areas including the crusher, rail loading, truck loading, and administrative activity areas. This pond will be lined to prevent potentially contaminated runoff or spills from vehicle areas from infiltrating to groundwater and to facilitate periodic access for maintenance. Discharge from this pond will enter the Infiltration Pond (8.2.8). This pond may be used as a make-up water source as necessary.

8.2.8 Infiltration Pond (Modified BMP T8.20)
An infiltration “polishing” pond will be created downstream of the Sedimentation Pond to provide additional sedimentation and treatment and facilitate infiltration of runoff into the shallow aquifer. This pond will be modified from a resource extraction area by the addition of a layer of porous sand to the pond bottom. Discharge monitoring point G-1 should be established at a consistently accessible point within the pond boundaries. The Infiltration Pond may be used as a make-up water supply source.

8.3 Runoff Conveyance BMPs
Most runoff conveyance BMPs also function as erosion and sediment control BMPs and are also described in the EROSION AND SEDIMENT CONTROL PLAN (ESCP – Appendix B).
8.3.1 Soil/ Fill Mound Area Drainage (BMP C200)
Any stormwater runoff from the soil/ fill area will be directed to a perimeter trench that will serve as both an infiltration swale and a conveyance ditch. The fill mound will occupy an area up to 44 acres as shown on the SWPPP Site Map. Materials in this permanent site-constructed feature will include site-derived topsoil and overburden and imported fill. Drainage channels (perimeter trench) will be located on both sides of the fill area. These ditches/swales will incorporate a series (two to three on each trench) of temporary sedimentation traps/ ponds (8.3.2) that will reduce sediment loads before they discharge into the Sedimentation Pond (see Section 8.2.7).

8.3.2 Temporary Sedimentation Traps (BMP C240)
Temporary sediment traps (up to three each) will be installed on the drainage trenches that collect runoff from the soil/ fill mound area. These sediment traps will be cleaned when their capacity is reduced by one-half. Approximate trap locations are shown on the SWPPP Detail Map.

8.3.3 Topsoil Stockpile and Fill Area Mulching and Seeding (BMP C120/ C121)
Any topsoil stockpiles and the soil/fill mound will be vegetated (perennial grasses) as soon as practical after placement. Temporary cover measures such as mulching, nets and blankets will be installed where required for erosion or to facilitate germination. The goal for vegetation coverage will be a minimum of 75% established at the start of the water year (October 1).

8.3.4 Site Grading
Areas of mining (and access routes to mining areas) will be graded during active operations to ensure that all stormwater runoff is directed back into the area of excavation. These excavation areas are expected to fill with groundwater and will also function as sedimentation ponds. Processing activity areas (access roads, loading/ unloading facilities, crushing and washing operations) will be graded to direct runoff into the concrete-lined Sedimentation Pond (8.2.7).

8.3.5 Wheel Wash (BMP C106)
A paved wheel wash will be constructed with drain lines leading to the Sedimentation Pond, or to a separate sump. Wash water will be changed a minimum of once per day when site is active.

8.4 Treatment BMPs

8.4.1 Sedimentation Pond (BMP C241/ BMP T10.10)
A sedimentation or “settlement” wet pond will be created to receive runoff from processing areas including the crusher, rail loading/unloading truck loading/ unloading, parking, and administrative activity areas. This pond will be lined to prevent potentially contaminated runoff or spills from vehicle areas from infiltrating to groundwater and to facilitate periodic access for maintenance. Discharge from this pond will enter the Infiltration Pond (see also 8.2.8). The Sedimentation Pond may be used as a make-up water source as necessary.
8.4.2 Infiltration Pond (Modified BMP T8.20)
An infiltration “polishing” pond will be created downstream of the Sedimentation Pond (8.4.1) to provide additional sedimentation and treatment and facilitate infiltration of runoff into the shallow aquifer. This pond will be modified by the addition of a layer of porous sand to the pond bottom. Discharge monitoring point G-1 should be established at a consistently accessible point within the pond boundaries. The Infiltration Pond may be used as a make-up water supply source.

9.0 SWPPP REVIEW/ BMP MAINTENANCE

The MONITORING PLAN is provided as Appendix A. General monitoring requirements, plan updates and BMP inspections are described in this section. Monitoring and inspection requirements apply to all active sites. A permitted site is “active” unless an Operating Status Change Form declaring the site “inactive” has been submitted to Ecology. Reports and notifications required to maintain compliance with the permit are summarized in Table MP-1 of the MONITORING PLAN.

9.1 Annual Review

This SWPPP should be reviewed annually for major changes in operation or newly installed, abandoned, or replaced BMPs. In particular, major changes to the Sedimentation and Infiltration Ponds should be documented. Following review and updating (if necessary), the SWPPP should be signed in the space provided.

9.2 Semi-Annual Inspection Report (Condition S10)

The Permittee shall conduct two stormwater inspections each year at all active sites covered under this permit. One inspection should occur during the wet season (October 1- April 30) and the other during the dry season. The Permittee should fill out the Semiannual Inspection Report (SIR) (see MONITORING PLAN – Attachment SIR) and place it in the permit file.

The wet season inspection should note the presence of floating materials, suspended solids, discoloration, oil and grease, turbidity, odor, etc. in stormwater discharges and in all sediment traps, all active mining “sedimentation” ponds, the designated Sedimentation Pond, and the Infiltration Pond. The inspection should occur during a rainfall event sufficient in intensity to ensure that: the description of pollutant sources is accurate; the Site Map reflects current conditions; and that the BMPs being implemented are adequate.

The dry season inspection should be conducted after at least seven days without rainfall. The inspection shall determine whether there are non-stormwater (non-complying) discharges to the stormwater drainage and treatment system. If a non-complying discharge is identified, a discharge monitoring report (DMR) must be submitted to the Regional Water Quality Permit Coordinator (Ecology, Olympia) in accordance with Permit
Condition S6. If no discharge is identified, the SIR is to be placed in the permit file on-site. Quarterly DMRs are discussed in the next section.

BMPs that are to be inspected for each SIR include:

- Overburden fill grading and revegetation
- Stockpile drainage trenches and sediment traps
- Site grading around mining areas
- Site grading in loading/unloading and processing areas – drainage to Sedimentation Pond
- Adequacy of spill control materials
- The Sedimentation Pond – inflow and outfall
- The Infiltration Pond – sediment accumulation
- Wheel Wash – condition of drain lines and sediment accumulation

Repairs or modifications should be made as necessary and any significant actions taken should be noted on the SIR.

9.3 Quarterly Discharge Monitoring Reports (Condition S6)

The Permittee shall submit a Quarterly Discharge Monitoring Report (DMR) to the Regional Ecology Water Quality Permit Coordinator. Each DMR is due on or before the last day of the subsequent month (e.g., a Quarterly DMR report is due April 30 for the Jan-Feb-March quarter). Copies of the DMRs shall also be kept in the SWPPP file. Ecology will supply DMR forms when the permit is issued.

Quarterly DMRs (for SIC 1442 – Construction Sand and Gravel and SIC 3272 – Concrete Products) are required for all discharge points, which for Maytown Aggregates is limited to site G-1 – Infiltration Pond. Information included on the Quarterly DMR will include monitoring period, location, sampling dates, and results. Monitoring will include monthly monitoring of the Infiltration Pond (G-1) for pH, and daily observations for visible oil sheen. Monitoring schedules are provided in Table MP-2 of the MONITORING PLAN.

In addition, The Thurston County Special Use Permit (SUP) requires monitoring of three supply/monitoring wells (SPGW-1 through SPGW -3). These well locations are identified on the SWPPP Detail Map. These wells are to be monitored quarterly for temperature, specific conductance, pH, turbidity, and dissolved iron and manganese. These monitoring/supply well data are to be recorded on a separate form (see Attachment SUP Groundwater Monitoring) and submitted to Ecology (in addition to Thurston County) along with the quarterly DMR. This SUP monitoring is discussed in more detail in the MONITORING PLAN.

9.4 Daily Observations (Oil Sheen)

Daily observations for oil sheen are required for all active mining ponds, for all erosion sediment traps, and for the designated Sedimentation and Infiltration Pond BMPs for all
days the mine is in operation. Oil sheen observations are to be recorded and kept on file at the site. These observations should be combined with monthly data to complete the Quarterly DMR that is submitted to Ecology.

10.0 EROSION AND SPILL CONTROL

Measures to be taken specifically to control erosion from non-mining related activities and to control spills of fueling hydrocarbons (and other materials) are described in separate documents: EROSION AND SEDIMENT CONTROL PLAN (ESCP) – Appendix B, and SPILL CONTROL PLAN (SCP) – Appendix C. Erosion control measures apply specifically to setbacks, berms, natural vegetation areas, and the topsoil and overburden fill.

11.0 COMPLIANCE AND REPORTING (Permit Condition S9)

Permit Condition S9 outlines general SWPPP updating requirements. The SWPPP is to be fully implemented, updated, and in compliance with permit conditions. The SWPPP is to be kept either on-site or in an accessible location and shall be immediately available to Ecology or a local jurisdiction upon request. A copy of the SWPPP is to be provided to Ecology or the public within 14 days when requested in writing. Ecology may request a review of the SWPPP at their discretion and may require specific record keeping and reporting in compliance with WAC 173-226-090. The General Permit requires the Permittee to notify Ecology in writing of a change in permit status in a timely fashion. Significant discharges of contaminants also require notification in a timely fashion. Significant additions or modifications to BMPs are to be completed “as soon as possible.” If timely notification is not received (documented delivery is suggested) by Ecology, the Permittee will be out-of-compliance (reference: Sand and Gravel General Permit Fact Sheet, January 2005, p.24).
MAYTOWN AGGREGATES SWPPP
Annual Review Signature Page

Name: ___________________________ Date: _________

Name: ___________________________ Date: _________

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Name: ___________________________ Date: _________
REFERENCES


NOTES:
2. See Figure 1 for SWPPP Detail location.
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MONITORING PLAN
APPENDIX A
MONITORING PLAN

Maytown Aggregates, Thurston County, WA
Sand and Gravel General Permit No. _____
August 23, 2007

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SHEEN - Oil-Sheen Observation Log
SUP Wells Monitoring Log
Maytown Aggregates
MONITORING PLAN

1.0 OVERVIEW

This Monitoring Plan (MP) for the Maytown Aggregates quarry identifies monitoring and reporting required for Sand and Gravel General Permit No. ____ compliance and includes monitoring specified in the Stormwater Pollution Prevention Plan (SWPPP) and the Erosion and Sediment Control Plan (ESCP). Descriptions of specific BMPs are provided in the respective plans. The SWPPP Detail Map identifies monitoring points and BMP areas.

Reports and notifications required to maintain compliance are summarized in Table MP-1. A monitoring schedule for the G-1 groundwater monitoring location is provided in Table MP-2. Additional NPDES monitoring of three supply/monitoring wells (SPGW-1, SPGW-2, and SPGW-3) is required as part of the Thurston County Special Use Permit (SUP) for the site. Monitoring of these wells is not specifically a requirement of the General Permit but is described here and reporting forms provided for easy reference.

2.0 SWPPP MONITORING AND INSPECTIONS

The Maytown Aggregates Sand and Gravel General Permit SWPPP encompasses a variety of BMPs that control discharges to groundwater. Because of the high levels of natural infiltration for the site materials, there are no surface water discharges. Groundwater discharge location G-1 (Infiltration Pond) provides sediment reduction and treatment for Type 2 and Type 3 runoff waters with discharge to shallow aquifers. The Sedimentation Pond, which discharges to the Infiltration Pond, will be lined and does not constitute a groundwater discharge location. Additional groundwater monitoring locations may be created if resource extraction proceeds below the seasonal water table. The SWPPP and this MONITORING PLAN will be modified to reflect these new groundwater discharge locations as appropriate.

Monitoring and inspection requirements apply to all “active” sites. A permitted site is “active” unless an Operating Status Change Form declaring the site “inactive” has been filed with Ecology. Stormwater monitoring and annual erosion and sediment control BMP inspections (Section 3.0) are not required for “inactive” sites with no surface water discharges.

Monitoring to maintain compliance with the SWPPP includes annual SWPPP review, semi-annual inspections, quarterly Discharge Monitoring Reports (DMRs), and daily inspection of all groundwater discharge locations for oil sheen. In addition, for the Maytown Aggregates site, quarterly monitoring of three water supply/extraction wells for pH, temperature, turbidity, specific conductance, and dissolved iron and manganese is
required to maintain compliance with Thurston County’s SUP requirements. Forms appropriate to each type of monitoring are provided as Attachments to this MONITORING PLAN. Ecology supplies DMR forms when the permit is issued. Quarterly DMRs must be submitted unless an Operating Status Change Form has been submitted to Ecology and the site has been classified as inactive.

2.1 Receiving Water Flow Report (Condition S.A.6)

There is no requirement for preparing a receiving water flow report for either Beaver or Allen Creeks in the absence of a surface water discharge. In the event that a surface water discharge is created, a receiving water flow report must be prepared prior to January 30, 2008, and submitted to Ecology as described in the General Permit, Section S6.A.6.

2.2 Annual Review

Both the SWPPP and MONITORING PLAN must be reviewed annually for major changes in operation, newly installed (or abandoned/replaced) BMPs, or changes in discharge locations, types and volumes. Following review and updating the SWPPP and MONITORING PLAN should be signed-off in the spaces provided. If either the SWPPP or MONITORING PLAN is substantially modified, an amended document should be placed in the permit file. In particular, if mining creates permanent or seasonal ponds due to extraction below the water table, additional groundwater monitoring locations will be created.

2.3 Semi-Annual Stormwater Inspections (Condition S10)

The Permittee shall conduct two stormwater inspections each year at all active sites covered under this permit. One inspection should occur during the wet season (October 1-April 30) and the other during the dry season. Both inspections require completion of a Semiannual Inspection Report (Attachment SIR) to be kept in the permit file. BMPs that are to be inspected semi-annually include:

- Infiltration Pond (G-1) – inlet and sediment accumulation
- Sedimentation Pond – sediment accumulation and outlet
- Topsoil and Overburden Fill Runoff Trenches and Sediment Traps – sediment accumulation and trench integrity
- Topsoil and Overburden Fill Grading and Revegetation – minimum 75% coverage
- Material and Activity Area Grading
- Crusher Discharge to Sedimentation Area
- Mining and Road Access Area Grading
- Rail and Truck Unloading Areas – grading to Sedimentation Pond
- Areas of Natural Vegetation and Buffer Zones
• Condition of Special Supply/ Monitoring Wells
• Adequacy of Spill Control Materials
• Condition of Wheel Wash

Repairs or modifications should be made as necessary and any significant actions taken should be noted in the SIR.

2.3.1 Wet Season Inspection
A wet season inspection of erosion control BMPs shall be carried out between October 1 and April 30 each year during a rainfall event “of adequate intensity and duration to verify that: a) the description of potential pollution sources is adequate, b) the Site Map has been updated or otherwise modified and, c) that controls to reduce pollutants in stormwater are adequate. The wet season inspection should also note the presence of floating materials, suspended solids, discoloration, oil and grease, turbidity, odor, etc. in trenches draining the Topsoil and Overburden Fill and in any discharge into the lined Sedimentation Pond and Infiltration Pond.

2.3.2 Dry Season Inspection
The dry season inspection should be conducted after at least seven (7) days without rainfall. The inspection shall determine whether there are non-stormwater discharges to the stormwater drainage system. The discharge from the crusher is considered a permitted discharge. If a non-complying discharge is identified, a Discharge Monitoring Report (DMR) must be submitted to the Regional Water Quality Permit Coordinator (Ecology, Olympia) in accordance with Permit Condition S6. If no non-permitted discharge is identified, the SIR is to be placed in the SWPPP file on-site. If a non-permitted discharge is identified and cannot be eliminated within ten (10) days, the discharge will be considered process water and subject to all process water conditions. Quarterly DMRs are discussed in the next section.

The wet-season and dry-season inspections constitute the semi-annual inspections and the SIRs are to be kept in the permit file. If the wet or dry season inspections occur concurrently with the quarterly discharge monitoring, the DMR must still be prepared and submitted to Ecology.

2.3.3 Repairs and Modifications
Minor repairs or modifications should be made as necessary. Significant corrective actions taken should be noted on the SIR. Major changes to site conditions (new stockpile areas, additional runoff channels, new BMPs, road realignments, new culverts, etc.) should be documented in an Amended SWPPP. SIR forms do not have to be submitted to Ecology, but should be retained in the permit file for a minimum of three years.

2.4 Quarterly Discharge Monitoring Reports (Condition S6.A)
The Permittee shall submit a Quarterly Discharge Monitoring Report (DMR)(Attachment DMR) on a quarterly basis to the Regional Ecology Water Quality Permit Coordinator.
Each quarterly DMR is due on or before the last day of the subsequent month (e.g. a DMR is due April 30 for the Jan-Feb-March quarter).

Quarterly DMRs are required for the Infiltration Pond (monitoring location G-1). Information provided on the quarterly DMR will include monitoring period, location, sampling dates, and results. If there is no discharge (i.e. no pond) during the inspection, the words “No Discharge” are to be placed in the “results” column for that month.

2.4.1 Thurston County SUP Monitoring Wells
Quarterly monitoring of the three designated groundwater monitoring locations (SPGW-1, SPGW-2, and SPGW-3) for pH, temperature, specific conductance, turbidity, and dissolved iron and manganese is required for compliance with the Thurston County SUP. Data are to be submitted both to Thurston County and to Ecology quarterly in order to maintain compliance with the SUP. A monitoring-well data sheet is provided as Attachment – SUP Monitoring Wells. These wells are shown on the SWPPP Detail Site Map. Two of these wells are existing supply wells (SPGW-1 – previously labeled PP02) and SPGW-2 – previously labeled PP04). The third monitoring location is a proposed monitoring well, SPGW-3. The SUP Monitoring Wells data reporting forms are to be submitted to Ecology along with the Quarterly DMR.

2.4.2 Groundwater Discharge G-1 (Infiltration Pond)
The water in the Infiltration Pond constitutes a groundwater discharge (G-1) and shall be monitored monthly for pH as required for SIC 3272 discharges. Oil sheen observations are to be made daily (as described in the following Section 2.5) for all days that equipment is operating at the site.

As noted in Section 2.0, if mining extraction creates permanent or seasonal ponds, additional groundwater discharge locations will be added by amendment.

2.5 Daily Sheen Inspections

In addition to quarterly and monthly monitoring as described in Sections 2.4.1 and 2.4.2, daily inspections are required for the Infiltration Pond for oil sheen for any day equipment is operating. The Attachment SHEEN is a suggested form for recording daily oil sheen observations The Quarterly DMR provides a field with a check box for indicating if visible oil sheens have been detected.

2.6 Noncompliance Notification (Condition S6.E)

In the event the Permittee is unable to comply with permit conditions, including discharge conditions or limits, the Permittee must take immediate action to correct the permit violation and must repeat sampling and analysis. The Permittee shall notify (by phone) the Ecology Regional Sand and Gravel Permit Manager of the violation within 24
hours and shall submit a written report to Ecology within 30 days (5 days if it is a bypass or “upset”) as specified in Condition S6.E.

3.0 EROSION AND SEDIMENT CONTROL PLAN (ESCP) INSPECTIONS

Erosion and sediment control measures (BMPs - permit Condition S9.B.6) are described in the ESCP (SWPPP Appendix B). Monitoring and inspections are required to maintain BMP compliance as outlined in Condition S10.D. In general, at all active sites without a discharge to surface water, erosion and sediment control BMPs shall be inspected at a minimum during the wet season Semi-annual Inspection. Dry season inspections are intended to detect the presence of non-permitted process water discharges to the collection and treatment system. ESCP monitoring and inspection reports are to be kept in the Permit/ SWPPP file for a minimum of three years. If the site has been declared “inactive” by filing an accepted Operating Status Change Form, and if there is no discharge to surface waters, annual inspections may be suspended. All inactive sites are still subject to the discharge limits for stormwater and must maintain BMPs necessary for compliance.

On-site erosion and sediment control BMPs include:

- Preservation of natural vegetation and buffer areas
- Access road grading and grading around mining areas
- Topsoil stockpile and overburden/fill slope grading and runoff trench adequacy
- Sediment trap capacity in the fill slope runoff trenches
- Vegetative seeding on topsoil stockpiles and overburden/fill storage area
- Sediment control via settling in the Sedimentation Pond
- Removal of sediment from truck tires in the Wheel Wash

A file containing these observations shall be maintained as part of the ESCP/ SWPPP file. A standard format to assist in completing the SIR is provided with the ESCP.

4.0 SPILL CONTROL PLAN (SCP)

The SCP requires annual review and updating (at a minimum) as provided in the SCP. Periodic monitoring is not required due to the unpredictable nature of spills. If a significant contaminant RELEASE occurs, a RELEASE/ SPILL Reporting Form should be filled out. A RELEASE/ SPILL Reporting Form is included as an attachment to the SCP. If a SPILL to “waters of the State” occurs, the RELEASE/ SPILL REPORTING FORM must be filled out and Ecology shall be notified. If spill control measures are not fully successful in controlling the spill, monitoring of any potential discharge to waters of the state for oil and grease sheen, turbidity, pH, and suspended solids, temperature, and volume on a periodic (hourly to daily) basis is highly recommended.
Monitoring Plan Annual Sign-Off

Name: ___________________________ Date: __________

Position: ___________________________

Name: ___________________________ Date: __________

Position: ___________________________

Name: ___________________________ Date: __________

Position: ___________________________

Name: ___________________________ Date: __________

Position: ___________________________
Attachment SIR
SEMI-ANNUAL INSPECTION REPORT
(SIR)

Maytown Aggregates, Thurston County, WA

Instructions: All SWPPP BMPs are to be inspected during the wet season to ensure they are effective at controlling stormwater contamination and are effectively maintained. Dry season inspections should identify any non-permitted discharges to the stormwater drainage system.
NOTE: Circle responses and provide details as appropriate.

Dry Season (May-September) (circle one) Wet Season (October-April)
Following at least 7 days w/o rain. During (or shortly after) a rainfall event

Date of Inspection:

Personnel Conducting Inspection:

GENERAL SITE ITEMS

A. Has the Site Map been significantly modified or updated? YES NO
   If YES, place a copy of the newest version in the file.
   Describe major changes:

B. Have new pollution sources or discharge locations been identified or created?
   YES NO
   If YES, please describe:


Maytown Aggregates Monitoring Plan
Page 8 of 16
Ecological Land Services, Inc.
August 23, 2007
## SPECIFIC BEST MANAGEMENT PRACTICES

### 1. Overburden/Fill Storage Area Drainage

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>Runoff to drainage trenches?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Erosion or other problems noted?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Sediment traps need cleaning?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Trenches need maintenance?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Actions required?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

### 2. Topsoil Stockpiles and Fill Storage Area Vegetation

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>Coverage at least 75%?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Erosion or other problems noted?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Barriers present to prevent vehicle incursions?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Actions required?</td>
<td>Yes</td>
<td>No</td>
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</table>

### 3. Sedimentation Pond

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Excess sediment accumulation?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Inlets condition (storm and process water)?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Discharge to Infiltration Pond (clogging)?</td>
<td>Yes</td>
<td>No</td>
</tr>
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</table>

Record any oil sheen present. If excess sedimentation is noted, indicate severity.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>Actions Required?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

### 4. Infiltration Pond

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>Any notable sheen or debris accumulation?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Excess sediment build-up/ new inflow locations?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Pond level or % of capacity?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Inlet structure?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
5.) **Additional Ponds in Mining Area:** Inspected?  
Yes  
No  
If extraction-area ponds are present, identify each and indicate depth and area on SWPPP Site Map (copy and attach).  
Presence of oil sheens?  
If YES, indicate which pond:  
Yes  
No  
Actions required?  
Yes  
No  

6.) **Site Grading in Rail/Truck Unload Area:** Inspected?  
Yes  
No  
Grading directs runoff to Sedimentation Pond?  
Yes  
No  
Excess sedimentation or debris in graded channels?  
Yes  
No  
Actions required?  
Yes  
No  

7.) **Crusher Discharge Area:** Inspected?  
Yes  
No  
Grading directs runoff to Sedimentation Pond?  
Yes  
No  
Excess sediment buildup?  
Yes  
No  
Actions required?  
Yes  
No  

8.) **Grading in Mining Areas:** Inspected?  
Yes  
No  
Grading directs runoff into mining area?  
Yes  
No  
Actions required?  
Yes  
No
<table>
<thead>
<tr>
<th>9. Natural Vegetation and Buffer Areas: Inspected?</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Natural vegetation intact?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Buffer areas intact?</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Actions required?</td>
<td>Yes</td>
<td>No</td>
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<tr>
<th>10. Spill Prevention Materials: Inspected?</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Spill prevention kit accessible?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Spill control materials functional?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Check for sorbents, shovels, drum, bags?</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Actions required?</td>
<td>Yes</td>
<td>No</td>
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</table>

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<tr>
<th>11. Mobile Fueling BMPs: Inspected?</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Designated fueling areas?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Fueling limited to mining and gravel stockpile areas?</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Actions required?</td>
<td>Yes</td>
<td>No</td>
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<tr>
<th>12. Wheel Wash: Inspected?</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Drain lines open?</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Water replaced daily with fresh?</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Sediment accumulation in trap?</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Actions required?</td>
<td>Yes</td>
<td>No</td>
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</table>
COMPLIANCE CERTIFICATION

The Maytown Aggregates quarry **IS - IS NOT** (circle one) in compliance with the requirements of the Stormwater Pollution Control Plan (SWPPP).

*If additional actions to those listed above are required, please describe below or on a separate sheet.*

_Pollution Prevention Team_

_Signature: ___________________________   Date: ___________________________

---
## Attachment SHEEN
### DAILY OIL SHEEN OBSERVATION LOG
Maytown Aggregates, Thurston County, WA

**Instructions:** This form is for inspection of representative ponds for any day that equipment is operating. Unusual conditions or the presence of an oil layer on any persistent pond are to be indicated in the comments and should trigger a review of the Spill Control Plan to determine if a "release" or "spill" has occurred. Each observation should have the signature of a Pollution Prevention Team member.

For the Maytown Aggregates site there will be one potential sheen observation location (G-1 Infiltration Pond) prior to any excavation below the water table and creation of pit ponds.

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<tr>
<th>YEAR</th>
<th>MONTH</th>
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<tr>
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<th>Comments</th>
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<td>Comments:</td>
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Maytown Aggregates Monitoring Plan
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*Observation of persistent or significant sheens should trigger a review of petroleum house-keeping practices and spill control BMPs. Sheen observation logs are to be kept in the SWPPP file.*
SUP MONITORING
Thurston County Special Use Permit
Supply & Monitoring Wells
Temperature, Specific Conductivity, pH, Turbidity
Dissolved Iron and Manganese
Maytown Aggregates, Maytown, WA

Instructions: This form is to be used for monitoring designated Special Wells (supply and monitoring wells) as required by the Thurston County SUP. The wells are designated SPGW-1, SPGW-2, and SPGW-3. These wells are to be monitored quarterly. For SPGW-1 and -2, the spigot nearest the well should be opened and allowed to run for a minimum of 20 minutes before monitoring or collecting samples. For SPGW-3, at least 3 casing volumes (approximately 1 – 1.5 gallons) should be removed (by bailing or peristaltic pump) before monitoring (See NOTE). Water is to be contained in a clean plastic container for measurement. Temperature, pH, conductivity and turbidity are to be monitored using calibrated field meters. Dissolved iron and manganese may be measured with a field test kit or by a qualified laboratory. If unusual conditions are observed, they should be noted in the comments section. Monitoring results are to be submitted quarterly to both Thurston County and Washington State Department of Ecology.

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<thead>
<tr>
<th>YEAR</th>
<th>QUARTER</th>
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<td>(e.g. Jan-March)</td>
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Date __________________ (am or pm)

<table>
<thead>
<tr>
<th>SPGW-1</th>
<th>SPGW-2</th>
<th>SPGW-3</th>
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Temperature (°F) __________________ __________________ __________________

pH (to 0.1 unit) __________________ __________________ __________________

Specific Conductance (to ± 10 uS) __________________ __________________ __________________

Turbidity (NTU) __________________ __________________ __________________

Dissolved Iron (mg/L) __________________ __________________ __________________
Dissolved Manganese (mg/L) ________  ________  ________

Comments:

__________________________________________________________

Signature  ___________________________  Date  ___________________

Monitoring results are to be submitted quarterly to Washington Department of Ecology along with the quarterly Discharge Monitoring Report (DMR). Results should also be submitted quarterly to Thurston County and a copy should be kept in the SWPPP file on-site.

NOTE: Monitoring well SPGW-3 should be installed using 2” o.d. PVC well casing with 0.01 inch slotted screen. Monitoring should not begin until the well has been overdeveloped by pumping to stable pH, conductivity, temperature, and turbidity levels. Sampling should use permanent low volume peristaltic tubing methods to minimize potential disturbance to the casing water.
APPENDIX B
EROSION AND SEDIMENT CONTROL PLAN
APPENDIX B
EROSION AND SEDIMENT CONTROL PLAN (ESCP)

Maytown Aggregates, Thurston County, WA

Sand and Gravel General Permit No. ______
August 23, 2007

CONTENTS

Purpose
Erosion and Sediment Control BMPs
Annual Sign-Off
Maytown Aggregates
EROSION AND SEDIMENT CONTROL PLAN

1.0 PURPOSE

An Erosion and Sediment Control Plan (ESCP) is required under Condition S9.B.6 of the Sand and Gravel General Permit. This ESCP for the Maytown Aggregate facility identifies erosion and sediment control best management practices (BMPs) required for Sand and Gravel General Permit No. ______ compliance. Monitoring requirements are detailed in the MONITORING PLAN Section 3.0 and in this plan.

2.0 EROSION AND SEDIMENT CONTROL

Erosion and sediment control measures are based on Washington Department of Ecology Best Management Practices (BMPs) as provided in the Storm Water Management Manual (SWMM) for Western Washington (Ecology, 2005). Erosion and sediment control BMPs include many of the BMPs used for source control and stormwater conveyance (see SWPPP, Section 8.0) and are applied to topsoil and overburden stockpile areas, areas slated for reclamation but not yet reclaimed, and areas of cleared land slated for future mining activities.

2.1 Erosion and Sediment Control BMPs

The following BMPs will be applied to non-operational areas potentially subject to erosion and sediment production. In general, erosion is expected to be minimal at this site due to the coarse nature of the outwash gravels. Infiltration is rapid over most of the site and surface flow is not anticipated under most conditions. The main potential area for erosion is the soil/overburden stockpile.

2.1.1 Preservation of Existing Vegetation (BMP C101)
Existing and natural vegetation will be preserved in critical areas and buffers as identified in Thurston County’s Mitigated Determination of Non-Significance (MDNS) and Summary of Decision and indicated generally on the SWPPP Site Map.

2.1.2 Buffer Zones (BMP C102)
Operations will maintain and preserve all required critical-area buffers as completely undisturbed (clearing limits to be marked).

2.1.3 Topsoil and Overburden Fill Drainage (BMP C200)
Any stormwater runoff from the topsoil and overburden fill area will be directed to a perimeter trench that will serve as both an infiltration swale and a conveyance ditch. This stockpile area will occupy an area up to 44 acres as shown on the Site Map. Materials in this stockpile will include site derived topsoil and overburden and imported fill. Drainage channels will be located on both sides of the fill area. These ditches/swales will
incorporate a series (two to three on each trench) of temporary sedimentation traps/ponds (Section 8.3.2 of the SWPPP) that will reduce sediment loads before they discharge into the Sedimentation Pond (see Section 8.2.7, SWPPP).

2.1.4 Temporary Sedimentation Traps (BMP C240)
Temporary sediment traps (up to three each) will be installed on the drainage trenches that collect runoff from the overburden fill area. These sediment traps will be cleaned when their capacity is reduced by one-half. Approximate trap locations are shown on the Detail SWPPP Map.

2.1.5 Topsoil Stockpiles and Overburden/Fill Mulching and Seeding (BMP C120/ C121)
The perimeter topsoil stockpiles and mounded overburden/fill material will be vegetated (perennial grasses) as soon as practical after placement. Temporary cover measures such as mulching, nets, and blankets will be installed where required for erosion or to facilitate germination. The goal for vegetation coverage will be a minimum of 75% established at the start of the water year (October 1).

2.1.6 Site Grading
Areas of mining (and access routes to mining areas) will be graded during active operations to ensure that all stormwater runoff is directed back into the area of excavation. These excavation areas are expected to fill with groundwater and will also function as sedimentation ponds. Processing activity areas (access roads, loading/unloading facilities, crushing operations) will be graded to direct runoff into the Sedimentation Pond (SWPPP, Section 8.2.7).

2.1.7 Wheel Wash (BMP C106)
A paved wheel wash will be constructed with drain lines leading to the Sedimentation Pond, or to a separate sump. Wash water will be changed a minimum of once per day when site is active.

2.2 Erosion and Sediment Control Inspections and Monitoring

Requirements for erosion and sediment control are defined in Special Condition S10.A-D. Because the Maytown Aggregates site does not discharge to surface water, ESCP monitoring requirements are limited to twice yearly BMP inspections.

All on-site erosion and sediment control BMPs are to be inspected twice yearly, in the dry season and in the wet season. The dry season inspection is intended primarily to determine the presence of non-stormwater discharges to the stormwater drainage and treatment system. The dry season inspection is to be conducted after at least seven (7) days without rain (S10 B). Process water from the crusher is currently identified as a permitted process water discharge to the drainage and treatment system, and does not have to be reported. If a non-permitted discharge is identified, it is to be eliminated within 10 days. If it cannot be eliminated, it will be considered “process water” and subject to all process water conditions of this permit.

Maytown Aggregates
Erosion and Sediment Control Plan

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Ecological Land Services, Inc.
August 23, 2007
Wet season inspections are intended to determine the condition and adequacy of the existing ESCP BMPs and are to be conducted during a period of typical wet weather. In addition to functional observations, all drainage ditches should be observed for the presence of floating materials, suspended solids, oil and grease, discoloration, turbidity, and odor. Observations are to be made of the following BMPs:

- Preservation of natural vegetation and buffers
- Grading adjacent to mined areas
- Topsoil and overburden fill slopes and revegetation
- Silt/sediment buildups in the temporary sediment traps
- Condition of the runoff collection trenches
- Sedimentation pond capacity and the condition of entrance and exit areas
- Wheel-wash drain lines and sediment accumulation in wash structure

A file containing these observations shall be maintained as part of the ESCP file.

2.3 Other Inspections

Because there are no identified surface water discharges at the site, weekly and storm related monitoring are not required at the site. Daily inspections for oil sheens on all ponds where extraction is occurring and monthly monitoring for pH in the Infiltration Pond (G-1) are discussed in APPENDIX A – MONITORING PLAN. The occurrence of a discharge to surface waters (Beaver or Allen Creeks and/or associated wetlands) will require SWPPP modification and surface water discharge monitoring.
EROSION AND SEDIMENT CONTROL PLAN
ANNUAL SIGN-OFF

The ESCP shall be reviewed annually and modified (with amendments or supplemental materials) as necessary to reflect significant changes in erosion control.

Name: ____________________________ Date: ________
Position: __________________________

Name: ____________________________ Date: ________
Position: __________________________

Name: ____________________________ Date: ________
Position: __________________________

Name: ____________________________ Date: ________
Position: __________________________

Name: ____________________________ Date: ________
Position: __________________________

Name: ____________________________ Date: ________
Position: __________________________
APPENDIX C
SPILL CONTROL PLAN
(SCP)

Maytown Aggregates, Thurston County, WA

Sand and Gravel General Permit No. _____
August 23, 2007

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Introduction and Purpose
Spill Response Actions and Reporting
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1.0 INTRODUCTION AND PURPOSE

A SPILL CONTROL PLAN (SCP) is required under Special Condition S11 of the Sand and Gravel General Permit. This SCP for the Maytown Aggregates surface mine identifies best management practices (BMPs) for spill control required for Sand and Gravel General Permit compliance. Monitoring for SCP compliance is also addressed in the MONITORING PLAN Section 4.0. The SCP must be kept in an accessible location at the site.

Mobile equipment that may be used on-site and could be involved in a petroleum hydrocarbon spill includes: haul trucks, rail cars, modular rock crusher, stationary power generator (for the crusher), front-end loaders, backhoes, personnel vehicles, and bulldozers. All such equipment will be refueled as needed by mobile refueling trucks brought to the site for the purpose and then removed. There are no plans for on-site storage of petroleum products, hazardous materials, or other bulk liquids (other than water).

The SCP addresses potential spills associated with refueling and maintenance of the listed site equipment. Personnel vehicles will not be refueled on-site. A “spill” is defined according to Chapter 173-180D WAC as a “release’ of environmental contaminants to “waters of the state”, either surface waters or groundwater. There are no proposed discharges to surface waters. Discharge to groundwater water will occur in the Infiltration Pond (monitoring point G-1).

2.0 SPILL RESPONSE ACTIONS

2.1 Procedures

Proactive BMPs are an important management tool to prevent releases of regulated materials (primarily petroleum products) to the environment. The following BMPs should be employed as part of this SCP:

- Inspect machinery and equipment daily for fuel leaks; leaking equipment will be repaired as soon as possible to minimize or prevent releases,
- Check the spill containment pad for the equipment fueling area periodically to ensure capacity and absence of leaks,
- Remove all accumulated petroleum materials in the containment area immediately,
- Clean-up spills as quickly as possible with proper disposal of spill material,
- Keep spill response materials in an accessible and clearly marked location,
- Train employees on spill response procedures and other aspects of the SWPPP (see SWPPP – Appendix D for an Employee Training Sheet),
- Do not top-off liquids when refueling, and
- Refuel mobile equipment in designated areas only.
In the event of a release, the first determinations should be the type of material, the volume, and the potential for the contaminant to reach “waters of the state”, i.e. groundwater. The first response should be to minimize the amount of the release consistent with human safety requirements by controlling the source. Once the release amount has been minimized, spill control equipment (sorbent material, barriers, etc.) should be deployed as appropriate. Immediately following containment, and consistent with human safety requirements, the National Response Center (1-800-424-8802) and Washington Emergency Management Division (EMD) (1-800-258-5990)[1-800-OILS-911] hotlines are to be notified if there is a potential for pollutants to move off-site and/or to enter either surface water or groundwater, i.e. to constitute a reportable “spill”. The Southwest Regional Office of Ecology (360-407-633) should also be notified as soon as possible. A Phone and Contact Information sheet is attached to this SCP.

All employees are to receive training that includes familiarization with the spill control materials available on-site and spill response procedures to be used in controlling the spill (see SWPPP - Appendix D)

2.2 Spill Cleanup Kit

A clean-up kit shall be maintained on-site for the control of petroleum product releases. This spill kit should be easy to access and should contain the following:

- sorbent materials (absorbent pads, clay, peat, or equivalent) designed to control oil, diesel fuel, and/or gasoline leaks and spills (to control at least 50 gallons)
- shovels or other soil removal implements
- drip pans
- a boom or skimmer sock
- 9-mil plastic bags
- safety gloves, and
- at least one 55-gallon drum for clean-up materials.

In the event of a release to soil, adsorbent pads and/or absorbent material should be used. If the release is into water, a skimmer or absorbent sock should be used. Contaminated soil or sorbent materials should be shoveled into the 9-mil bags and placed in the 55-gal drum. This material should be treated as a Special Waste and handled according to WAC 173-303-040.

2.3 Spill Reporting

Following the release incident, the Permittee shall notify the proper regulatory agencies in accordance with Chapter 173-180D WAC (see also the How to Report a Spill attachment) if a “spill” has occurred or is likely to occur. A “spill” is a “release” that reaches (or has the likelihood to reach) “waters of the state” (surface water or groundwater). A member of the Pollution Prevention Team (see SWPPP, Section 2.0) shall complete and sign a Release/Spill Report Form (attached) for all events. This
completed form shall be retained on-site with the SWPPP. For releases that qualify as “spills”, notification of the National Response Center, the Washington EMD, and the SW Regional Ecology Office is required. The Thurston County Environmental Health Department should also be notified and provided with a copy of the completed Spill Report Form.

2.4 Spill Contact Information

Report all oil or fuel releases that constitute “spills” (releases that impact “waters of the state”) to the following agencies or responsible parties as appropriate:

- National Response Center (hotline) 1-800-424-8802
- Washington Emergency Management Division (hotline) 1-800-258-5990
- Port of Tacoma, Scott Hooton, Tacoma, WA (253)-363-9428
- Washington Department of Ecology, SW Office, Olympia (360)-407-6300
- Thurston County Environmental Health Department (360)-754-4111

If needed, emergency medical assistance is available from:

- Capital Medical Center, Olympia, WA (360)-754-5858
- Providence Centralia Hospital, Centralia, WA (360)-470-8389

3.0 SPILL RECORD KEEPING

A Release/Spill Reporting Form should be filled out for all significant releases and ALL releases that become “spills” to “waters of the state”. The forms should be kept in the SWPPP/SCP file at the site. A signed copy must be submitted to Ecology in the event of a “spill”.

The SCP must be reviewed and updated as appropriate, but no less frequently than annually. The SCP and any Release/Spill Reporting Forms should be signed-off by an authorized representative of the Pollution Prevention Team.
SPILL CONTROL PLAN ANNUAL SIGN-OFF

The SCP shall be reviewed annually and modified (with amendments or supplemental materials) as necessary to reflect significant changes in spill control procedures or equipment.

Name: ______________________________  Date: __________

Position: ______________________________

Name: ______________________________  Date: __________

Position: ______________________________

Name: ______________________________  Date: __________

Position: ______________________________

Name: ______________________________  Date: __________

Position: ______________________________

Name: ______________________________  Date: __________

Position: ______________________________
Maytown Aggregates Quarry
RELEASE / SPILL Reporting Form
(circle one)

Definitions and Directions:
A RELEASE is a discharge of contaminants, especially including petroleum products (oil, grease, fuel), into the site environment. A SPILL is a release that reaches or has the likelihood of reaching “waters of the state”. For the Maytown Aggregates sites, all releases larger than approximately 0.5 gallon should be reported to file; i.e. this form should be completed and retained in the SWPPP file. If a SPILL occurs or if a release is likely to discharge to groundwater, the National Response Center, Washington EMD, and SW Regional Office of Ecology must be notified. A copy of the completed Release/Spill Reporting Form is to be forwarded to Ecology for all spills.

DATE__________________ TIME_____________ RELEASE or SPILL (circle one)

MATERIAL RELEASED________________________________________________________

VOLUME RELEASED ________________________________ (gallons)

DURATION OF RELEASE______________________________________________________

LOCATION AND CAUSE OF RELEASE____________________________________________

____________________________________

PERSON REPORTING RELEASE

____________________________________

ACTIONS TAKEN (to control release)

____________________________________

Yes                                                                 No
Reported to National Response Center?

Yes                                                                 No
Reported to Washington EMD?

Yes                                                                 No
Reported to Owner/Manager (Port of Tacoma)?

Yes                                                                 No
Reported to Ecology – SW Region?

Yes                                                                 No
Reported to Thurston County Environmental Health?

Other Notes:

____________________________________

Pollution Prevention Team Sign-off: __________________________________________

Date: __________________________

Maytown Aggregates
Spill Control Plan.
PHONE AND CONTACT INFORMATION

Report all oil, fuel, or other chemical spills to the following:

National Response Center (24-hour hotline) 1-800-424-8802
Washington Emergency Management Division (24-hour hotline) 1-800-258-5990
Department of Ecology- SW Regional Office 1-360-407-6300
Scott Hooton, Port of Tacoma, Tacoma WA 1-253-383-9428
Thurston County Environmental Health Department Attn: Gerald Tousley 1-360-754-4111

Emergency medical services:

Capital Medical Center, Olympia, WA 1-360-754-5858
Or
Providence Centralia Hospital, Centralia, WA 1-360-470-8389

Other Information:

SW Regional Office, Washington Department of Ecology
PO Box 47600
Olympia, WA 98504-7600
APPENDIX D
EMPLOYEE INFORMATION
TRAINING SHEET
Appendix D
Employee Information Training Sheet

The goal of a stormwater pollution prevention plan (SWPPP) is to keep stormwater as clean as possible by preventing contact between the stormwater and on-site contaminants such as sediment, oil, or grease. This will prevent violation of surface water quality ground water quality and sediment management standards. An SWPPP will also help to eliminate discharges of unpermitted process water or wastewater to stormwater drainage systems or to surface waters of the state. Violations cost money and could potentially shut down operations. The Sand and Gravel General Permit requires periodic review and updates to keep the plan current. All employees are required to receive appropriate training on the SWPPP that emphasizes spill response, good housekeeping and material management practices. Employees who understand the goals and responsibilities of the SWPPP can help assure that pollution prevention measures succeed and can suggest creative ways to improve water management on-site and alert managers to potential problems. The SWPPP is intended to become part of operations at a site and to be a living document with modifications being made as necessary to reflect changing conditions.

BEST MANAGEMENT PRACTICES

Erosion, sedimentation and spill prevention can best be controlled by implementing Best Management Practices (BMPs). There are two basic types of BMPs: Operational and Source Control. Operational BMPs are employed to improve and maintain an orderly work environment to reduce the potential of a pollutant discharge. Operational BMPs include good housekeeping measures, preventative maintenance, spill prevention and regular inspections. Source Control BMPs include physical, structural and mechanical devices or facilities to prevent pollutants from entering stormwater.

Operational BMPs at Maytown Aggregates

- Check daily for fuel or oil leaks on vehicles and machinery, repair immediately.
- Use care to properly dispense fluids without overfilling or topping off.
- Do not pour any liquids on the ground.
- Wipe off excess grease on equipment.
- Remove trash on a regular basis.
- Maintain and repair as needed all temporary and permanent erosion control measures to assure continued performance of their intended function.
- Maintain equipment in good working condition.
- Immediately clean up spills, consistent with the spill control plan located in Appendix C of the SWPPP.
- Refuel mobile equipment in designated areas only.
- Perform required inspections and maintain inspection records as detailed in the Monitoring Plan (Appendix A).
Source Control BMPs at Maytown Aggregates

➢ The access road and parking areas will be sloped and graded so that runoff and loose material from trucks entering and leaving the site will be diverted away from the northern boundary and directed into excavation or processing areas with appropriate BMPs in place.

➢ Critical-areas buffers (30 feet from WDFW boundary) will be marked and maintained as completely undisturbed.

➢ Materials stockpiling and activity areas (loading, unloading, processing) will be graded to direct drainage to the Sedimentation Pond. The periphery of the soil stockpile/fill area will be graded with drainage channels incorporating a series of sediment traps to reduce sediment levels before runoff is directed into the Sedimentation Pond.

➢ Soil stockpiles will be seeded with erosion-control grasses and mulched to achieve a minimum 75% vegetation coverage.

➢ Spill control materials to be kept on-site as described in the Spill Control Plan (Appendix C).

➢ Mobile fueling to be carried out only in designated areas of the site (concrete pads constructed with secondary containment).

Maintenance of BMPs

➢ If an erosion control measure is discovered to be malfunctioning or setback area/grading limits are disturbed or machinery is leaking, immediate action should be taken to correct the problem.

➢ Remove sediment within erosion control devices once they reach 1/3 capacity and dispose of in an approved off-site location or stabilize on-site.

STORMWATER MANAGEMENT GUIDELINES

Be on the lookout for opportunities to make operational changes that could reduce stormwater pollution. Some ideas to consider are as follows:

➢ Alter the Practice – Substitute processing, storage and maintenance practices that will not contaminate stormwater for those practices that may contaminate stormwater. This includes substituting nonhazardous chemicals for hazardous chemicals and changing activities to minimize contact of contaminants with stormwater.

➢ Enclose and Cover the Area – Enclose and cover activity inside a building or structure to prevent contact of processing, storage and maintenance activities with stormwater.

➢ Segregate the Practice – Keep those practices which are likely to contaminate stormwater separate from those practices which will not contaminate stormwater.

➢ Be sure to pass your ideas on to your supervisor.