GRDE15-0011

Interim Reclamation Plan for the Ravensdale Quarry

May 2014

APPROVED
SUBJECT TO PERMIT CONDITIONS
KING COUNTY
LAND USE SERVICES DIV.

See revised Page 7. 3rd paragraph struck

Table of Contents

INTERIM RECLAMATION PLAN
RAVENSDALE QUARRY

This reclamation plan has been prepared on behalf of the Reserve Silica Corporation for its Ravensdale Quarry. The plan -- including the narrative, maps and figures – is intended to comply with King County requirements as well as Chapter 78.44 RCW. As discussed below, King County has not yet determined the post-reclamation land use for the Quarry, so this reclamation plan is intended to establish only basic reclamation requirements. A final reclamation plan will be submitted once the ultimate land use determination has been made.

LOCATION

The Ravensdale Quarry is located one-half mile southwest of Ravensdale in King County, Washington. The quarry and processing facility lie in the SW corner of Section 36, Township 22 North, Range 6 East and the NW corner of Section 1, Township 21 North, Range 6 East (Figures 1 and 2). The Quarry consists of three parcels of land that comprise about 403 acres (Figures 2 and 3). The mined area comprises less than 80 acres on part of two parcels of land south of the Black Diamond Ravensdale Road; a smaller third parcel of land lies north of the Black Diamond Ravensdale Road that contains the plant where sand silica mined from the mined area was previously processed (Figure 4). The sand was mined from five pits, three of which have been completely backfilled and reclaimed and two others, the Lower Pit and the southern portion of the Upper Pit, are still undergoing backfilling. Again, see Figures 2 and 4 for the location of these areas. The Quarry entrance is located on the south side of the Black Diamond-Ravensdale Road, about two miles northeast of its junction with SR 169.

BACKGROUND

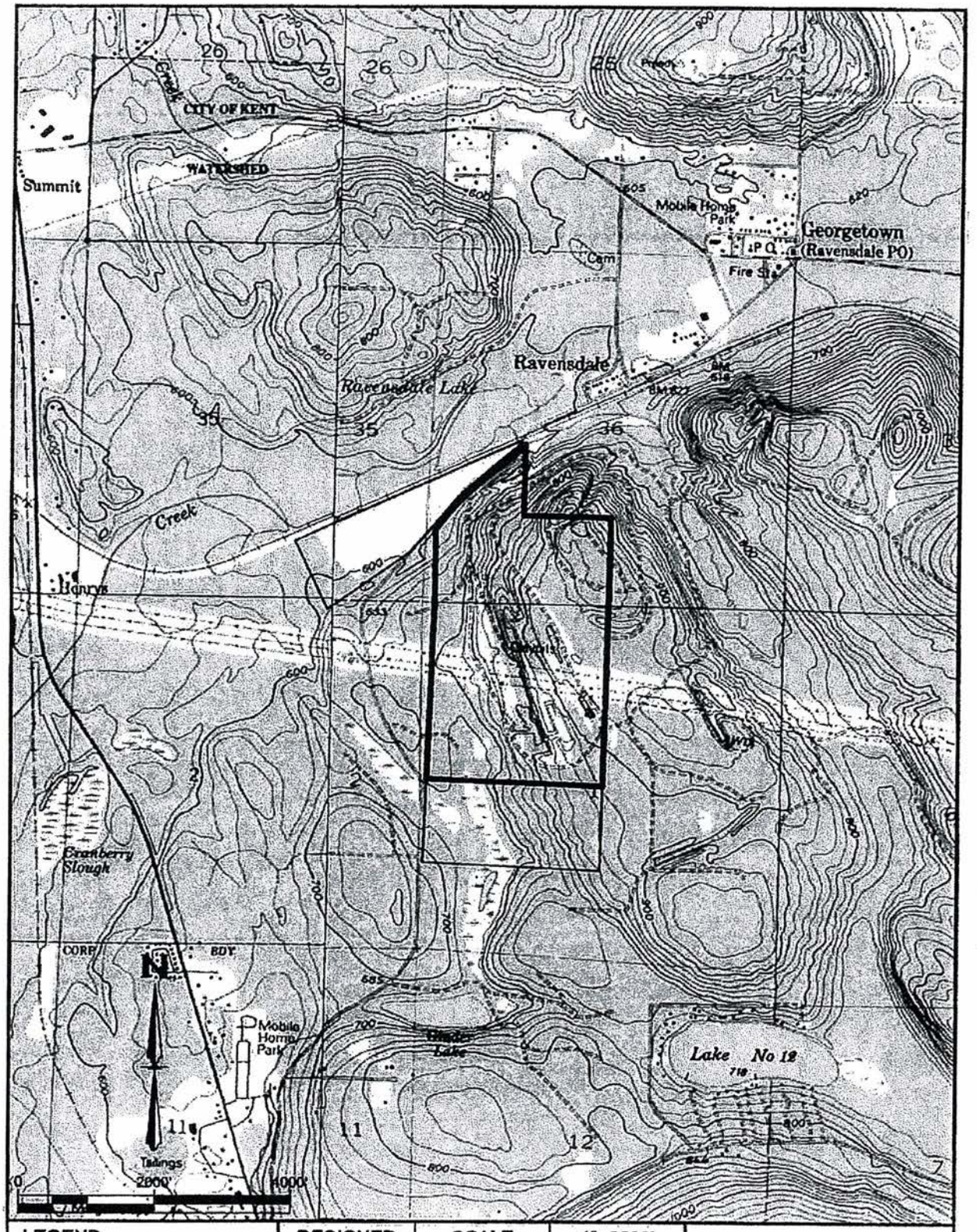
1. Early Mining Activity

The Ravensdale Quarry has a long history of mining activity. Beginning in 1900, a subsidiary of Northern Pacific Railroad conducted underground and strip mining on the property. Two coal seams were mined underground (Dale 4 and Dale 7). Later the Dale 4 seam was mined using surface mining techniques. This activity area was called the Dale Strip Pit and has been backfilled and reclaimed. (See the CKD discussion below.) Burlington Northern, the successor to Northern Pacific, stopped coal mining operations in 1947. Subsequently, the site experienced no mining activity until 1967.

2. Sandstone Mining

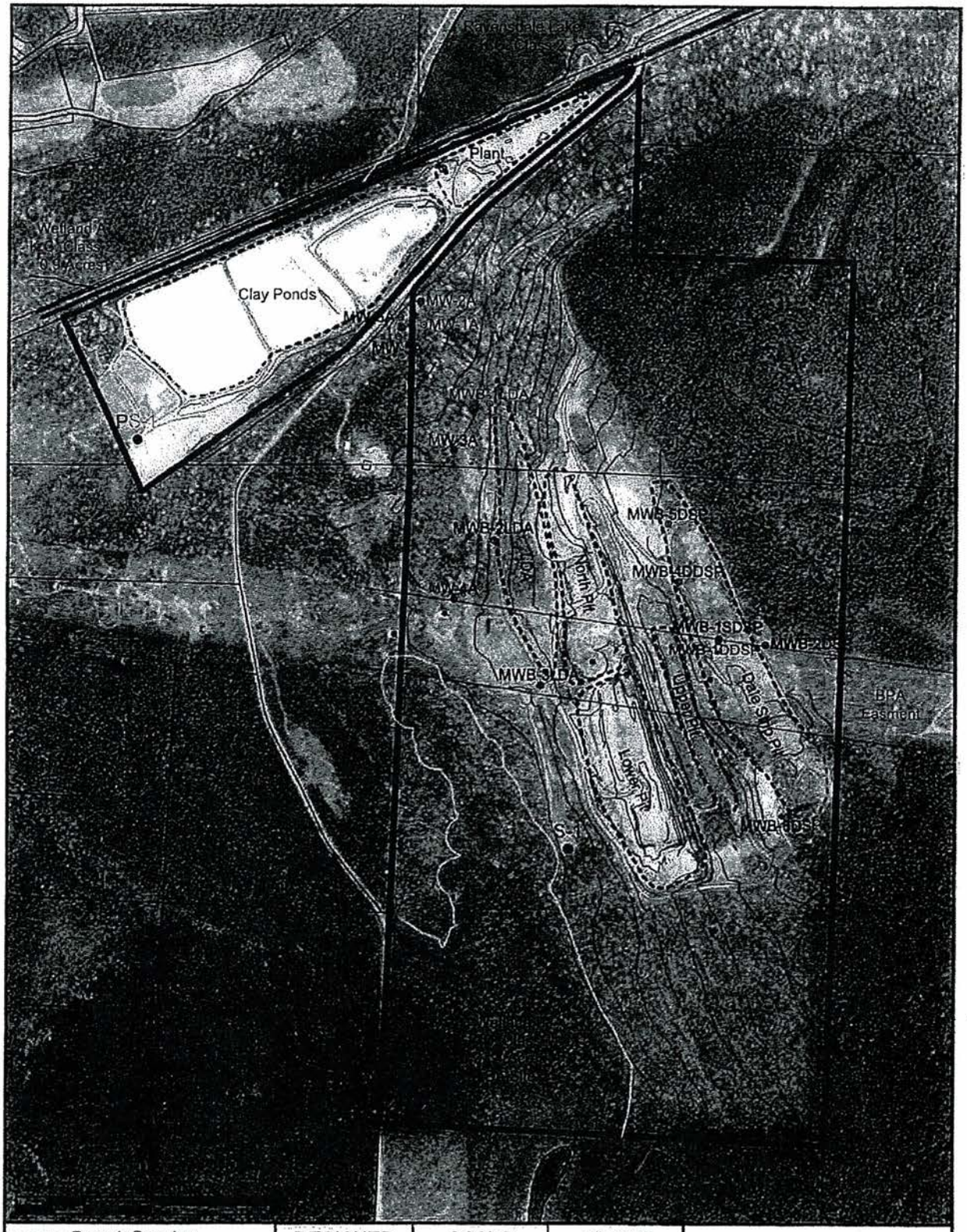
In 1967 the site was leased by Burlington Northern to allow mining of sandstone containing a high quality silica sand. The property has been leased for sand production by several operators. The current operator, Reserve Silica Corporation, began mining operations in 1986 and purchased the property in 1997.

Mining ended in December 2007 with the completion of extraction of sandstone from the lower pit. This sandstone was stockpiled for further processing into a finished sand product, which was completed in January 2010. Beginning in 2007 the backfilling and reclamation of the



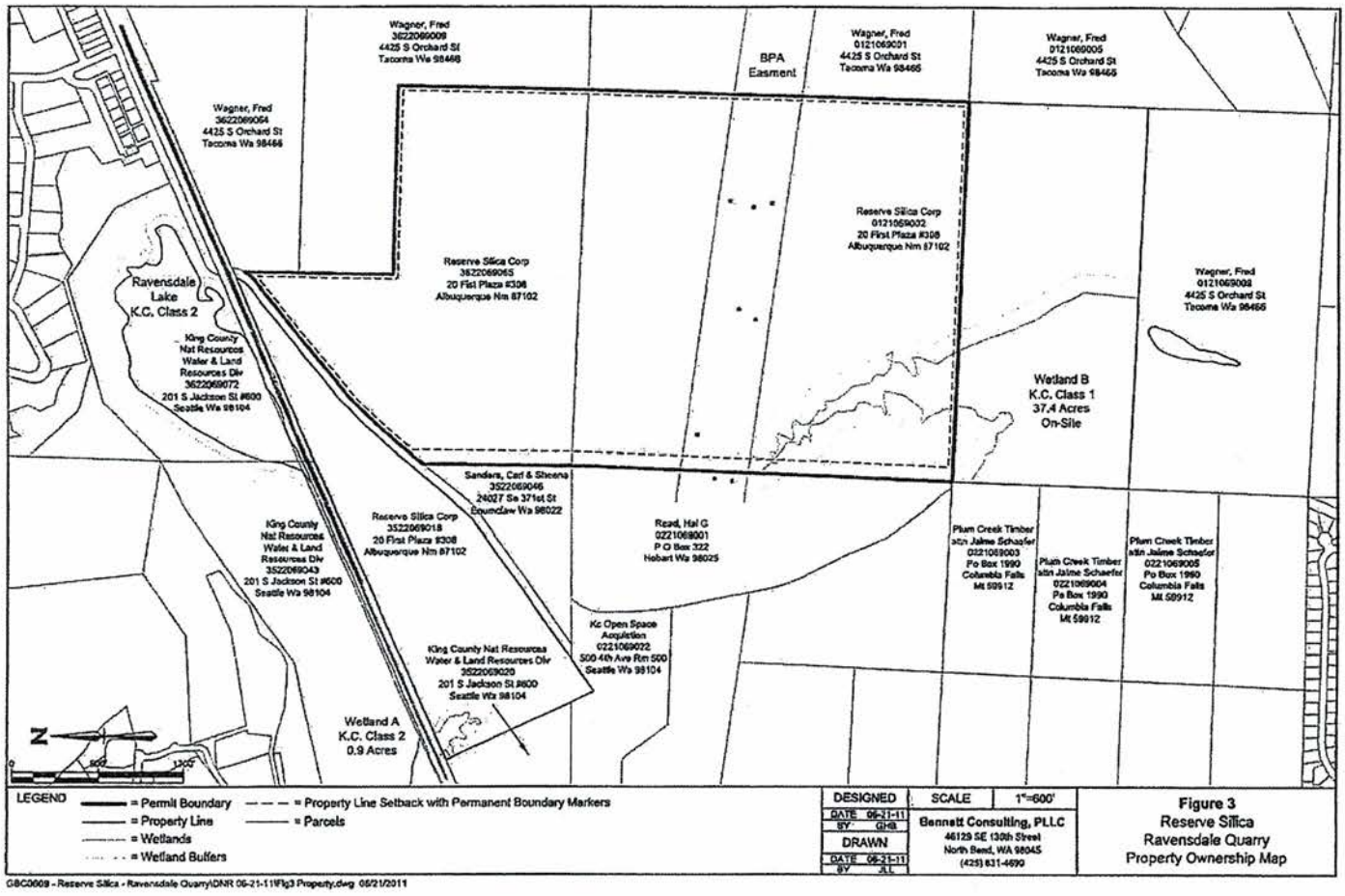
LEGEND	DESIGNED	SCALE	1"=2000'
——— = Permit Boundary	DATE 06-21-11	Bennett Consulting, PLLC	Figure 1
——— = Property Line	BY GHB	46129 SE 130th Street	Reserve Silica
	DRAWN	North Bend, WA 98045	Ravensdale Quarry
	DATE 06-21-11	(425) 831-4690	Vicinity Map
	BY JLL		

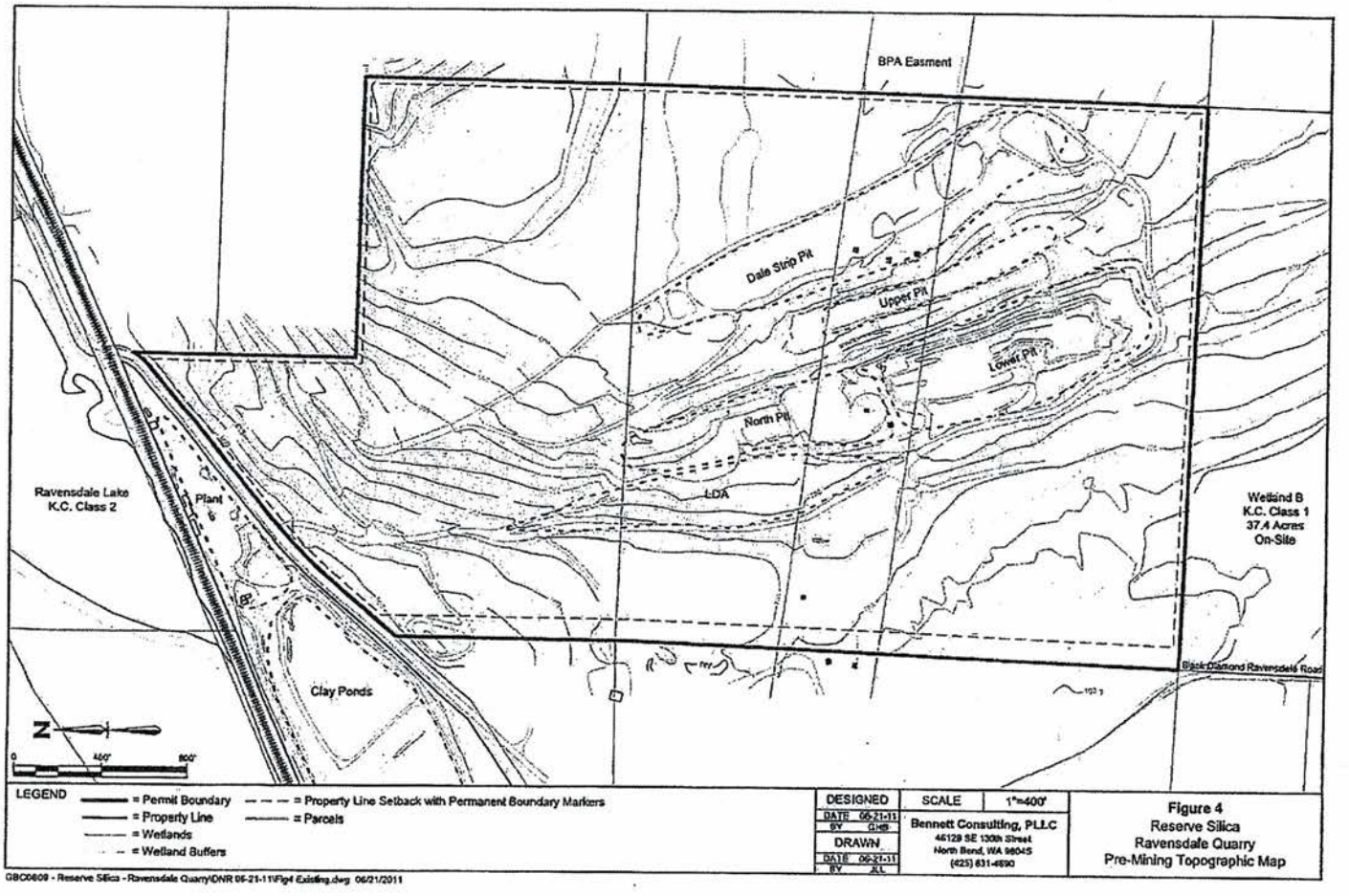
GBC0609 - Reserve Silica - Ravensdale Quarry\DNR 06-21-11\Fig1 Vicinity.dwg 06/21/2011



= Property Boundary = Parcels S-1 = Storm Water Monitoring Point Discharge to Surface PS-1 = Storm Water & Process Water Monitoring Point Discharge to Ground	DESIGNED DATE 06-21-11 BY GHB DRAWN DATE 06-21-11 BY JLL	SCALE 1"=800' **Bennett Consulting, PLLC** 46129 SE 130th Street North Bend, WA 98045 (425) 831-4690	**Figure 2** Reserve Silica Ravensdale Quarry Aerial Site Map

GBC0609 - Reserve Silica - Ravensdale Quarry\DNR 06-21-11\Fig2 Site Map.dwg 06/21/2011


Wagner, Fred
3622069009
4425 S Orchard St
Tacoma Wa 98466
BPA
Easment
Wagner, Fred
0121069001
4425 S Orchard St
Tacoma Wa 98466
Wagner, Fred
0121069005
4425 S Orchard St
Tacoma Wa 98466
Wagner, Fred
3622069064
4425 S Orchard St
Tacoma Wa 98466
Reserve Silica Corp
0121069032
20 First Plaza #308
Albuquerque Nm 87102
Reserve Silica Corp
3622069065
20 Fist Plaza #308
Albuquerque Nm 87102
Ravensdale
Lake
K.C. Class 2
King County
Nat Resources
Water & Land
Resources Div
3622069072
201 S Jackson St #600
Seattle Wa 98104
Wagner, Fred
0121069008
4425 S Orchard St
Tacoma Wa 98466
Wetland B
K.C. Class 1
37.4 Acres
On-Site
Sanders, Carl & Sheena
3522069046
24027 Se 371st St
Enumclaw Wa 98022
King County
Nat Resources
Water & Land
Resources Div
3522069043
201 S Jackson St #600
Seattle Wa 98104
Reserve Silica Corp
3522069018
20 First Plaza #308
Albuquerque Nm 87102
Read, Hal G
0221069001
P O Box 322
Hobart Wa 98025
Plum Creek Timber
attn Jaime Schaefer
0221069003
Po Box 1990
Columbia Falls
Mt 59912
Plum Creek Timber
attn Jaime Schaefer
0221069004
Po Box 1990
Columbia Falls
Mt 59912
Plum Creek Timber
attn Jaime Schaefer
0221069005
Po Box 1990
Columbia Falls
Mt 59912
Kc Open Space
Acquistion
0221069022
500 4th Ave Rm 500
Seattle Wa 98104
King County Nat Resources
Water & Land Resources Div
3522069020
201 S Jackson St #600
Seattle Wa 98104
Wetland A
K.C. Class 2
0.9 Acres
N
0
600'
1200'
LEGEND
= Permit Boundary
= Property Line
= Wetlands
= Wetland Buffers
= Property Line Setback with Permanent Boundary Markers
= Parcels
DESIGNED
DATE 06-21-11
BY GHB
DRAWN
DATE 06-21-11
BY JL
SCALE 1"=600'
Bennett Consulting, PLLC
46129 SE 130th Street
North Bend, WA 98045
(425) 831-4690
Figure 3
Reserve Silica
Ravensdale Quarry
Property Ownership Map
GBC0909 - Reserve Silica - Ravensdale Quarry\DNR 06-21-11\Fig3 Property.dwg 06/21/2011


BPA Easment
Dale Strip Pit
Upper Pit
Lower Pit
North Pit
LDA
Ravensdale Lake
K.C. Class 2
Plant
Clay Ponds
Wetland B
K.C. Class 1
37.4 Acres
On-Site
Black Diamond Ravensdale Road
N
0
400'
800'
LEGEND
= Permit Boundary
= Property Line
= Wetlands
= Wetland Buffers
= Property Line Setback with Permanent Boundary Markers
= Parcels
DESIGNED
DATE 06-21-11
BY CHB
DRAWN
DATE 06-21-11
BY JL
SCALE 1"=400'
Bennett Consulting, P.L.L.C
46129 SE 130th Street
North Bend, WA 98045
(425) 831-4590
Figure 4
Reserve Silica
Ravensdale Quarry
Pre-Mining Topographic Map
GBC0609 - Reserve Silica - Ravensdale Quarry\DNR 06-21-11\Fig4 Existing.dwg 06/21/2011

other depleted pits (mainly the upper pit) began in earnest. Since completion of mining and processing operations, the operation has consisted of the sale of stockpiled sand and backfilling of the two remaining disturbed surface areas.

3. Cement Kiln Dust (CKD) Disposal

Ideal Cement Co. used cement kiln dust (CKD), a byproduct of cement processing, to backfill the lower disposal area (LDA) from 1979-1982, and the Dale Strip Pit was backfilled with CKD and this continued until 1989 (see Figures 2 and 4). In total these two areas encompass less than 15 acres. This activity was conducted under a Seattle King County Public Health Department solid waste disposal permit. Both of these areas have been capped, and ground water monitoring wells have been installed.

Holcim (US) Inc., the successor to Ideal, is responsible for fulfilling the WSDOE Closure Order for these two areas. In 2002 Reserve Silica executed an Agreement to allow Holcim to conduct remediation and monitoring of these CKD disposal areas and subsequently granted Holcium an easement to ensure completion of their operations (See Exhibit A).

AGENCY REGULATORY RESPONSIBILITY

Multiple agencies have had overlapping responsibility for regulating the sand mining operation at the Ravensdale Quarry.

1. State Department of Natural Resources

Since sand production began in the late 1960's, the State Department of Natural Resources (DNR) has been responsible for regulation of mining activities including reclamation. DNR oversight has occurred through Permit No. 10346. The pertinent DNR approved permits and reclamation plans are included as Exhibit B.

2. King County Department of Permitting and Environmental Review

King County Department of Permitting and Environmental Review also has regulated grading activity since 1971 through its Grading Permit L7061122. In 2010 King County requested and DNR agreed to transfer fill responsibility for reclamation from the State to King County (see Exhibit C).

3. Seattle-King County Department of Health

In 2012 the King County Health Department approved an inert waste disposal permit to allow Reserve Silica to receive inert waste materials specified in Chapter 173-350-410 WAC and certain other inert wastes approved in advance by the King County Health Department i.e. tunnel spoils from the Hwy 99 Tunnel Project.

DEMONSTRATION PROJECT

The Ravensdale Quarry is zoned Quarry Mining (QM) by King County and is not within the Forest Production District (FPD). Comprehensive Plan Policy R-688 distinguishes between

sites located within or outside the FPD. When located outside the FPD quarry sites are to be classified in a post-reclamation land use that is compatible with surrounding uses.

In 2012, Reserve Silica requested that a reclassification be approved to establish the post-reclamation land use as rural low density residential. Reserve Silica illustrated its request with a site plan showing a clustered residential use with an average density of one home per ten acres.

Independent studies conducted by International Forestry Consultants, Inc. and members of the University of Washington School of Environmental and Forest Sciences (UW) examined the commercial forestry potential of the properties. Only a small portion (67 acres) of the mining site was found suitable for timber production. The land suitable for forestry is less than 17% of the total site area. The UW concluded that none of the properties qualify as forest land of long-term commercial significance under the GMA or the criteria the County used to establish the FPD. Both studies are included with this Interim Plan at Exhibit D.

Ultimately, the King County Council did not approve the Reserve Silica zoning request. Instead, the Council adopted an amendment to Comp Plan Policy I-203 to establish a mining site conversion demonstration project. Reserve Silica is completing the studies needed to submit an amendment based on this new provision. The intent of the demonstration project option is to establish the post-reclamation land use.

RECLAMATION ACTIVITY

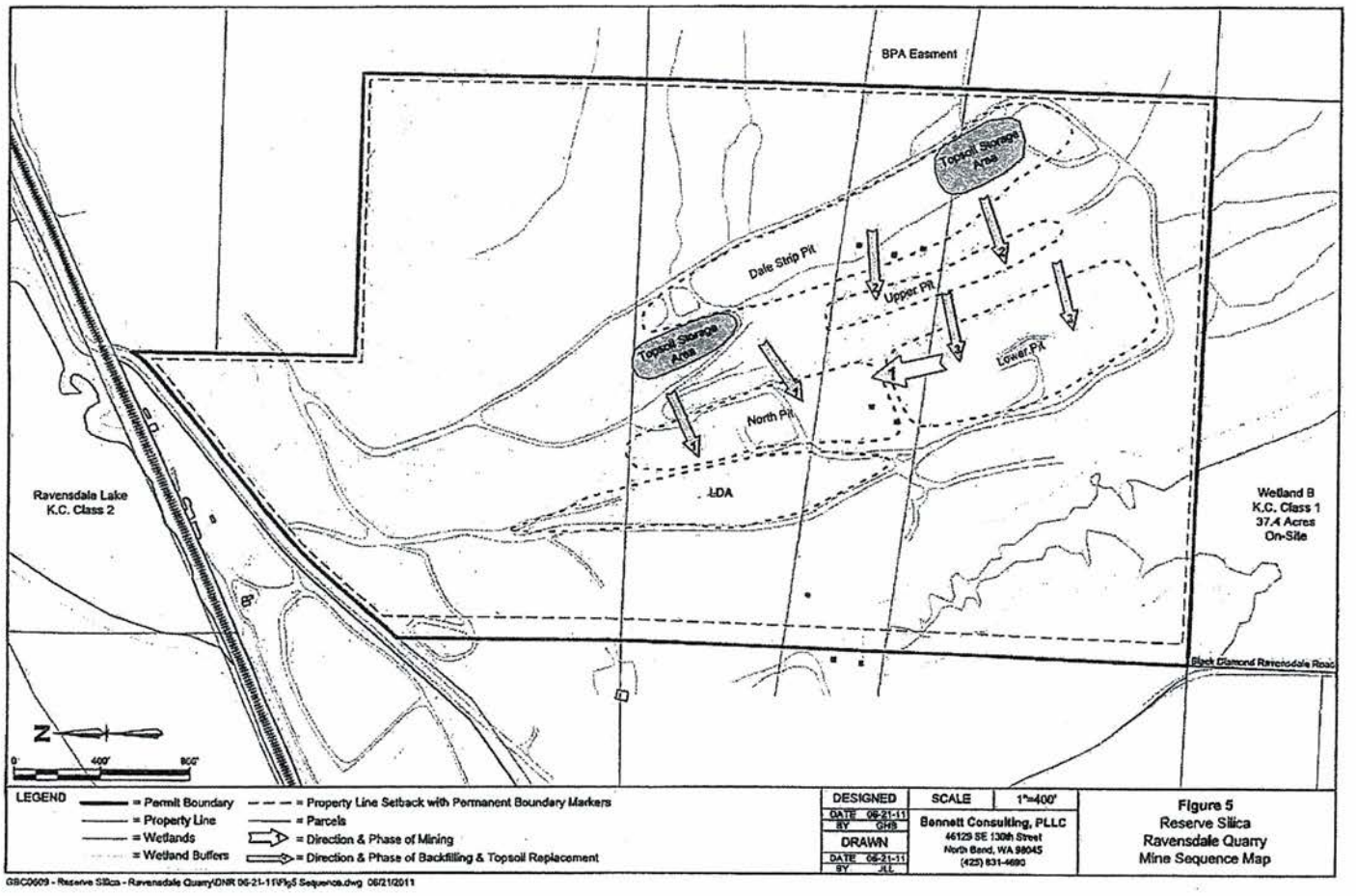
1. Reclamation Area

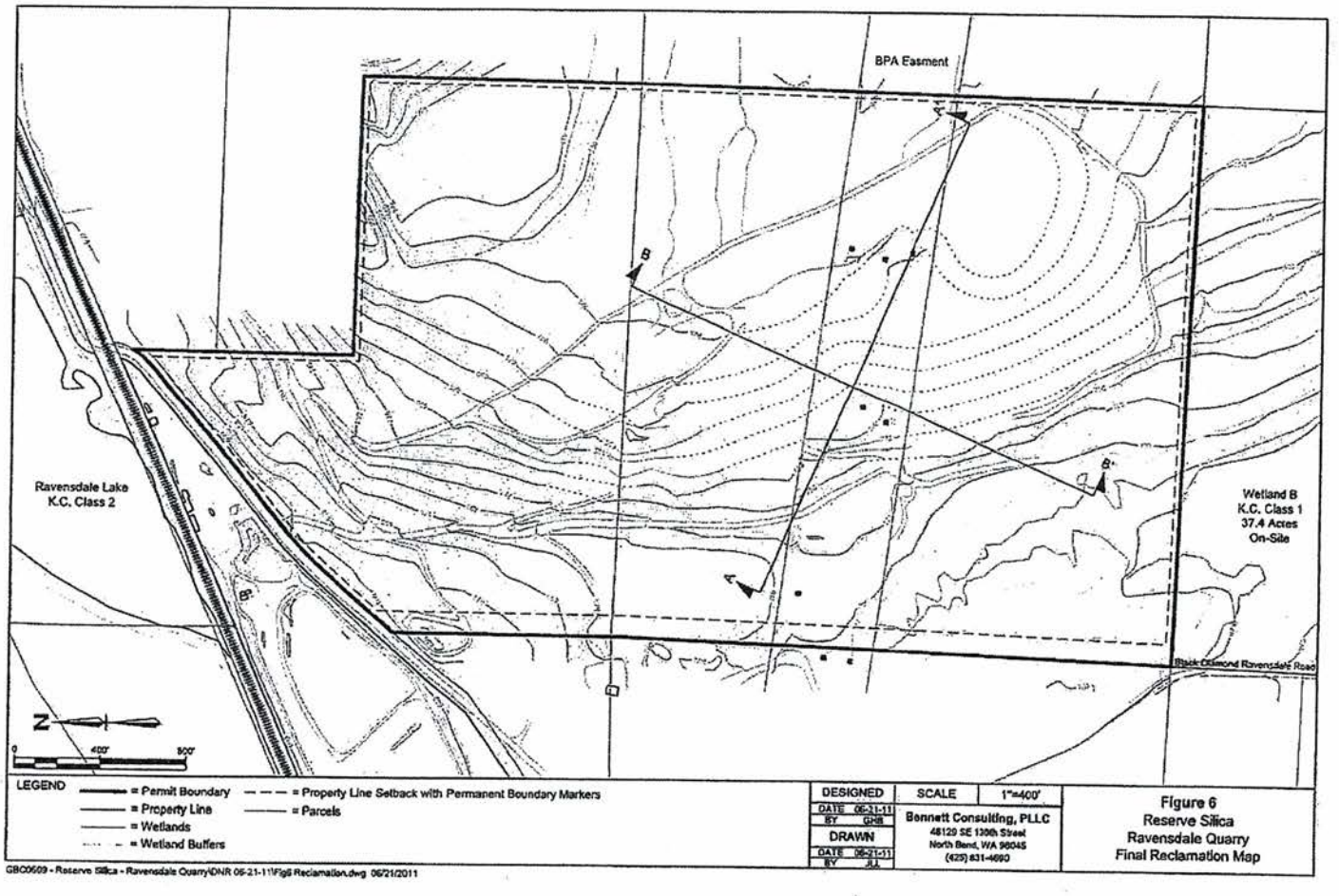
As described above, two areas of the Quarry remain to be reclaimed – the Lower and Upper Pits illustrated in Figure 2 and 4. Figure 6 shows the pre-mining contours and Figure 5 shows the planned sequence of reclamation for the Backfill Plan. In essence, this interim reclamation plan is to restore these two areas to pre-mining elevations.

The total acreage remaining to be reclaimed is 17 acres, less than 20% of the mined area. It is estimated that the Lower and Upper Pits will require 2 million cubic yards of material to complete the reclamation plan. Depending upon economic activity in the area, Reserve Silica expects these to be filled and contoured by 2020. Figures 6-8 show cross sections of the areas to be filled.

2. Backfill Plan

Fill is brought in by dump trucks that enter the site via the existing access (i.e. south side of Black Diamond-Ravensdale Road SE (Figure 5). The truck driver transporting the load contacts the dozer operator via radio. The dozer operator directs the truck driver as to the location of pre-dump staging area. Loads are transported to a staging area upslope of a/the depleted pit. After receiving communication from the Reserve Silica main office (regarding the Clean Soil/Inert Waste Acceptance Agreement for a particular load), the dozer operator oversees load tipping, inspects the load and records the load at the staging area. Loads of materials not meeting the Clean Soil/Inert Waste Acceptance agreement are rejected by the dozer operator.


BPA Easement
Topsoil Storage Area
Dale Strip Pit
Upper Pit
Topsoil Storage Area
Lower Pit
North Pit
LDA
Ravensdale Lake
K.C. Class 2
Wetland B
K.C. Class 1
37.4 Acres
On-Site
Black Diamond Ravensdale Road
N
0'
400'
800'
LEGEND
= Permit Boundary
= Property Line
= Wetlands
= Wetland Buffers
= Property Line Setback with Permanent Boundary Markers
= Parcels
= Direction & Phase of Mining
= Direction & Phase of Backfilling & Topsoil Replacement
DESIGNED
DATE 06-21-11
BY GHB
DRAWN
DATE 06-21-11
BY JLL
SCALE 1"=400'
Bennett Consulting, PLLC
46129 SE 130th Street
North Bend, WA 98045
(425) 831-4690
Figure 5
Reserve Silica
Ravensdale Quarry
Mine Sequence Map
GSC0909 - Reserve Silica - Ravensdale Quarry\DNR 06-21-11\Fig5 Sequence.dwg 06/21/2011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Ravensdale Lake
K.C. Class 2
Wetland B
K.C. Class 1
37.4 Acres
On-Site
Black Diamond Ravensdale Road
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LEGEND
= Permit Boundary
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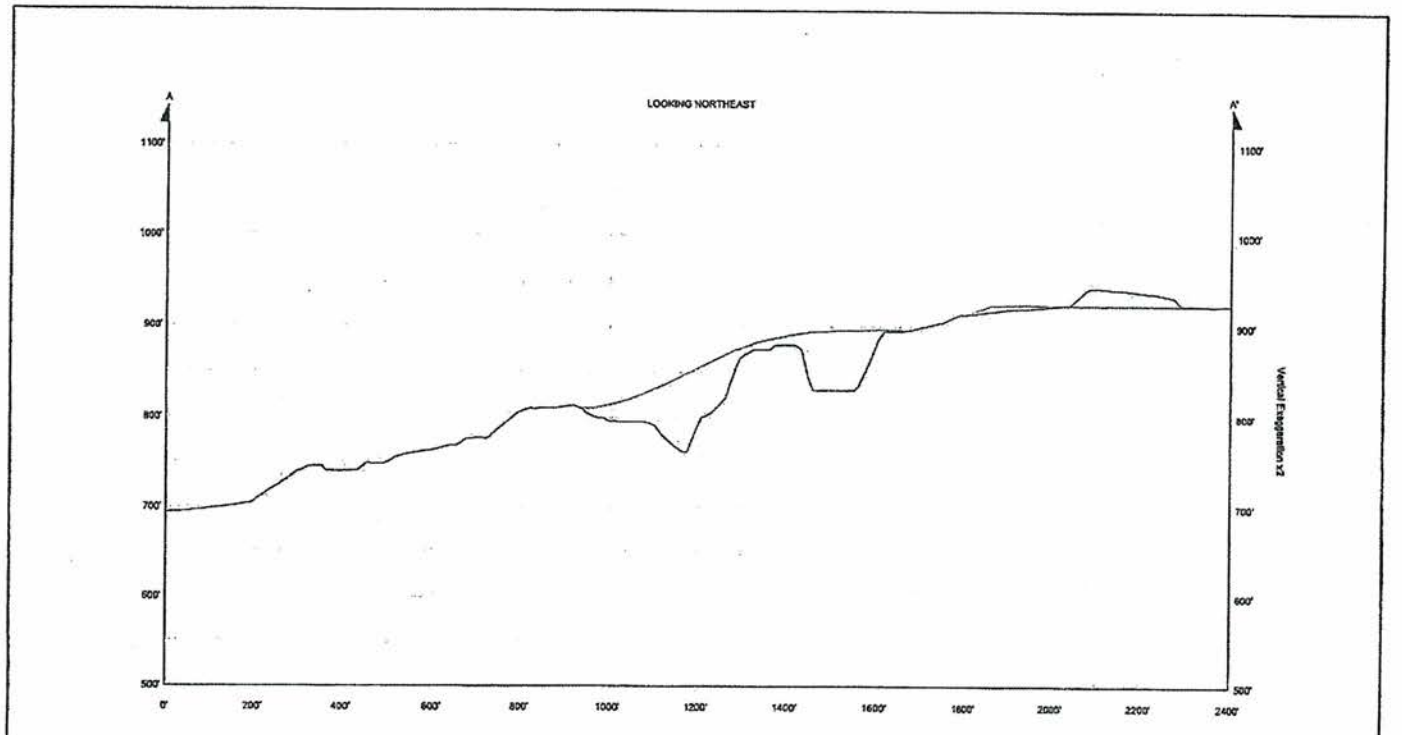
= Wetlands
= Wetland Buffers
= Property Line Setback with Permanent Boundary Markers
= Parcels
DESIGNED
DATE 06-21-11
BY GNB
DRAWN
DATE 06-21-11
BY JLL
SCALE 1"=400'
Bennett Consulting, PLLC
48129 SE 130th Street
North Bend, WA 98045
(425) 831-4690
Figure 6
Reserve Silica
Ravensdale Quarry
Final Reclamation Map
GBC0509 - Reserve Silica - Ravensdale Quarry\DNR 06-21-11\Fig6 Reclamation.dwg 06/21/2011



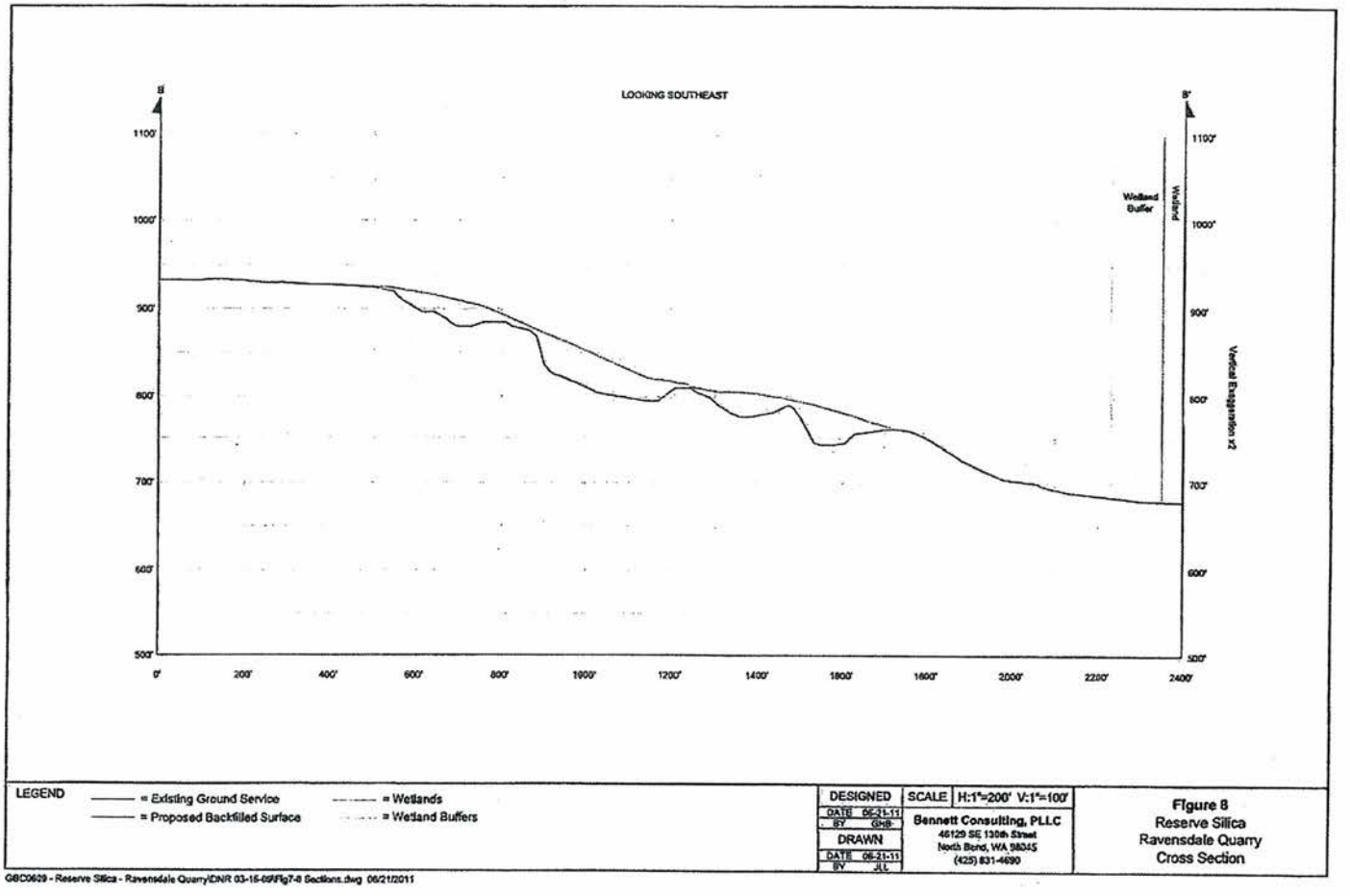
LEGEND

——— = Existing Ground Service

——— = Proposed Backfilled Surface

DESIGNED	SCALE H:1"=200' V:1"=100'		Figure 7
DATE 06-21-11 BY GHB	Bennett Consulting, PLLC		Reserve Silica
DRAWN	46129 SE 138th Street		Ravensdale Quarry
DATE 06-21-11 BY JLL	North Bend, WA 98045 (425) 831-4890		Cross Section

G:\RC0609 - Reserve Silica - Ravensdale Quarry\DNR 03-15-09\Fig7-8 Sections.dwg 06/21/2011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1000'
900'
800'
700'
600'
500'
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600'
800'
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1200'
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2000'
2200'
2400'
Wetland Buffer
Wetland
Vertical Exaggeration x2
LEGEND
= Existing Ground Service
= Proposed Backfilled Surface
= Wetlands
= Wetland Buffers
DESIGNED
DATE 06-21-11
BY GHB
DRAWN
DATE 06-21-11
BY JJL
SCALE H:1"=200' V:1"=100'
Bennett Consulting, PLLC
46129 SE 130th Street
North Bend, WA 98045
(425) 831-4690
Figure 8
Reserve Silica
Ravensdale Quarry
Cross Section
GBC0629 - Reserve Silica - Ravensdale Quarry\DNR 03-16-09\Fig7-8 Sections.dwg 06/21/2011

1. Reject loads not placed on ground surface at the staging area are sent away from the Reserve Silica Site/Facility.

2. Loads placed at the staging area and determined as unacceptable (i.e. rejected) by the dozer operator, are reloaded by Reserve Silica onto the customer's truck/trailer and sent away from the Reserve Silica Site/Facility.

Material loads meeting the clean soil/inert waste acceptance agreement/criteria and inspection procedures are pushed into the pit by the Reserve Silica dozer operator. All activities associated with the above procedures are entered into record. Bulldozing records are maintained/filed by customer and job number at the Reserve Silica office for inspection by regulatory authorities (including Public Health) and submitted monthly to King County DPER. Companies that do not comply with the Clean Soil/Inert Waste Acceptance Agreement are subject to being banned from using the Reserve Silica facility when they are repeat offenders.

3. Waste Acceptance Procedure

On a daily basis, Reserve Silica will use/employ measures to ensure that imported fill materials are properly screened, inspected and monitored to avoid receipt and/or on-site disposal of any hazardous substances as defined by WAC 173-340.

Reserve Silica Personnel will follow standard operating procedures that include:

1. The Clean Soil/Inert Waste Acceptance Agreement (Appendix E);
2. The Fill Monitoring Plan (Appendix F);
3. The Imported Fill Material Summary (Appendix G) and,
4. Following and adhering to the Plan of Operation Flow Chart [(print dated 3/29/12) (Appendix H)].

Records are maintained at the scale house/office.

4. Disposal Procedure for Specific Waste

For disposal of material such as Hardi-Board, controlled density fill, shotcrete, polymer spoils and limestone, Reserve Silica Corporation requires pre-screening and approval from Public Health.

SPILL CONTROL PLAN

1. Spill Control Reporting System

If a reportable release or discharge of possible pollutants should occur at the Reserve Quarry operation, the person who observes the spill shall immediately inform the ESCL, Pete Cawlfield, who will then notify the following responsible agencies:

a. The National Response Center (1-800-424-8802). The following information will be provided:

Name and telephone number of the caller
Name and address of the facility
Time and type of incident
Name and quantity of the material released
The extent of injuries, if any
Possible hazards to human health or the environment

b Washington Emergency Management Division (EMD) (1-800-424-8802)

c. Washington State Department of Ecology (425-648-7000, ask to speak to the Sand and Gravel Permit Manager and the ERTS Coordinator). Under state law, Reserve Quarry must notify Ecology when any amount of regulated waste, hazardous material is released to the air, land or water or whenever oil is spilled on land or waters of the state. The notification should include:

Name and telephone number of reporting party
Name and telephone number of party responsible for spill
Location of spill (address)
Date and time of incident
Type of material released
Quantity spilled and the affected media (air, soil and /or water)
Concentration
Cleanup status
Resource damage information such as dead fish or oiled birds

2. Equipment and Materials with Potential to Leak or Spill

Front End Loader (diesel, hydraulic oil, antifreeze)
Track-mounted Excavator (diesel, hydraulic oil, antifreeze)
Off-road haul trucks (diesel, hydraulic oil, antifreeze)
Stored petroleum products.
Commercial highway dump trucks with trailers (diesel, hydraulic oil, antifreeze)
Wash plant (hydraulic oil)
Diesel tank

3. Measures to Prevent, Contain, or Treat Spills

The mobile equipment that will be used on this project will be fueled and lubricated on a daily basis at which time preventative leak maintenance and checks will be performed Inspection for leaks and drips from plant equipment will be conducted daily during refueling and lubrication. If leaks or drips are discovered, they will be repaired immediately. All mobile equipment will be equipped with approved spill response kits that contain absorbent material for containing spills. Any contaminated soils will be excavated with onsite equipment and transported offsite for appropriate disposal

Reserve Quarry employees are trained on site to meet the guidelines for spill response.

4. Handling Procedures and Storage Requirements

Petroleum and other chemical products will be stored under a roofed structure with secondary containment per BMP C153. The onsite equipment can be used to provide containment.

Refueling will include adequate containment to prevent release of contaminants. Any equipment malfunction that occurs during operation (i.e., hydraulic line failure) will be dealt with immediately by shutting down the equipment and fixing the problem. Appropriate caution is, and will continue to be used in refueling mobile equipment to minimize spillage.

5. Emergency Spill Response

All necessary materials for site cleanup, as detailed in the accompanying flow chart, will be available on site. All spills will be responded to in a timely fashion, minimizing the possibility that pollutants could be discharged to any waters of the state. All employees shall receive appropriate training to ensure that any spills are reported and appropriately responded to.

The ESCL will ensure that all Reserve Quarry personnel are fully apprised of the following emergency response procedures.

Reserve Silica personnel will immediately control and respond to turbid water discharges, sediment movement, and fugitive dust. The employee responsible for, or first noticing, the discharges will take appropriate immediate action to protect the work area, private property, and the environment, including but not limited to the following:

a. Hazard Assessment – assess source, extent, and quantity of the discharge.

b. Securement and Personal Protection – If the discharge cannot be safely and effectively controlled, then immediately notify the ESCL and the Engineer. If the discharge can be safely and effectively controlled, proceed immediately with action to protect the work area, private property, and the environment as illustrated in the accompanying flow chart.

c. Containment and Elimination of Source – Contain the discharge downstream from the affected area. Eliminate the source of the discharge by building berms, piping clean water away from the area or other means necessary. Material on hand per BMP C150, in the form of stockpiled aggregate available onsite, may be used to create berms; drainage ditches may also be excavated.

d. Cleanup – When containment is complete, turbid water and sediment will be allowed to drain into the storm drainage facilities.

e. Notification – Any discharges of turbid water to storm water conveyances will be reported immediately to the Engineer by the ESCL.

f. Storm Conditions – Any emergency discharges that could develop as the result of a sudden and intense seasonal storm, or other similar occurrence, will be immediately dealt with through construction of temporary trenches or berms at the first indication of possible discharge of sediment laden waters.

6. Reporting and Records

All spills and leaks will be reported to the Department of Ecology (DOE) at the number listed above. Information pertaining to spill prevention, hazardous material and hazardous waste training records and training schedules will be kept onsite. All certificates, correspondence, fact sheets and other material received from regulatory agencies will also be kept onsite.

ONSITE BACKFILL OPERATIONS

1. Facility Personnel and Equipment

The operation has two distinct areas -- the fill site south of Black Diamond–Ravensdale Road SE and the plant site north of the road (Figure 2). Four personnel are employed – manager, secretary/scale operator, loader operator, and dozer operator. Only the dozer operator is at the fill site full time. At present, two positions operate on site during each shift. Two D65 Komatsu dozers are the primary pieces of equipment used at the pits. Occasionally a Komatsu 480 loader and Dresser 850 grader are also used. Rather than being scaled, incoming loads are recorded in cubic yards based upon the truck size and standard capacity.

2. Inspection and Maintenance of Equipment

Equipment	Inspection Frequency	Maintenance Frequency
D65 Komatsu dozer	pre operation	500 hours
D65 Komatsu dozer	pre operation	500 hours
Komatsu 480 loader	pre operation	500 hours
Dresser 850 grader	pre operation	500 hours
Water truck	pre operation	500 hours

3. Training of Personnel

All personnel are trained onsite to comply with proper procedures and emergency responses.

4. Hours of Operation and Site Security

The dump site is permitted to be open from 7:00 am to 7:00 pm Monday through Friday and from 7:00 am to 5:30 pm on Saturday. The actual hours of operation vary based upon the demand from customers. The site is also permitted to conduct nighttime operations, seven days per week when pre-approved by DPER for public works projects. To prevent illegal dumping, access to the site is secured by locked gates when Reserved Silica site/facility personnel are not present.

REVEGETATION

Once a given area is completely backfilled and the desired reclamation contours have been achieved the backfilled soil is dozer walked to achieve compaction. The final lift will consist of a 1 to 2-foot thickness of fine-grained, low permeability native soil free of foreign materials. The completed slope will then be hydro-seeded with a deep rooted grass-legume mix, as described below in the following section addressing revegetation.

It should be noted that the reclamation plan displayed on Figures 4 through 8 underwent extensive SEPA review and approval by King County DDES in 2006. Materials prepared for that review included a hydro geologic analysis, storm water management plan, geotechnical report as well as wetland and wildlife habitat analyses. These materials are on file with the County and have not been included with this application.

1. Revegetation

As soon as the final lift of low permeability native soil has been placed across the completed slope, the bare soil will be broadcast seeded and fertilized with a deep-rooted grass/legume ground cover mix applied at 25-30 lbs per acre to achieve immediate erosion control. Fertilizer will be broadcasted at a rate of 200 lbs/acre. Table 1 below identifies an appropriate vegetation mix to be used for stabilizing the bare slopes.

The seed mix identified below is a combination of native and non-native species recommended by Washington Department of Fish and Wildlife to provide effective soil stabilization, soil nutrients and wildlife forage.

TABLE 1

Revegetation Specifications

Species Common Name	Scientific Name	Planting Method	Planting Density	Planting Season
Big bluegrass	*Poa ampla*	broadcast	4 %	spring / fall
Columbia brome	*Bromus vulgaris*	broadcast	20 %	spring / fall
Orchard grass	*Dactylis glomerata*	broadcast	19 %	spring / fall
Timothy	*Phleum pretense*	broadcast	10 %	spring / fall
Tall fescue	*Festuca arundinacea*	broadcast	9 %	spring / fall
NZ White clover	*Trifolium repens*	broadcast	10 %	spring / fall
W. Dutch clover	*Trifolium repens*	broadcast	19 %	spring / fall
Ladak Alfalfa	*Medicago sativa*	broadcast	4 %	spring / fall
Burnet	*Sanguisorba sp.*	broadcast	5 %	spring / fall

2. Final Revegetation

While the revegetation plan satisfies the normal requirements, additional revegetation, if any is required, will depend upon the ultimate land use classification for the Quarry approved by King County. The final revegetation plan will be submitted with any applications submitted to implement the demonstration projection.

3. Prior to bond release, the permittee and the department shall determine the Final reclamation / Revegetation requirements for the site. This may include reforestation.

Department of Development and Environmental Services

900 Oakesdale Avenue Southwest
Renton, WA 98055-1212
(206) 296-6640

Periodic Review Report and Decision

Date of Transmittal: **June 10, 2003**

A. General Information

File No./Name:	1122-718 (L70G1122) – Reserve Silica Mine
Permittee:	Reserve Silica Corp. P.O. Box 99 Ravensdale, WA 98051
STR:	SW 36-22-6, SE35-22-6, NW 1-21-6
Tax Parcels	3622069065, 3522069018, 0121069002
Location:	28131 Black Diamond-Ravensdale Rd
Zoning:	"M" Mining
Community Plan:	Tahoma Raven Heights

B. Project Description:

Reserve Silica Corp. owns and operates a surface silica mine and silica processing plant located southwest of Ravensdale (Exhibit 1: Location of site). Reserve owns approximately 403 acres in three tax parcels of which approximately 283 acres are zoned "M" mining (Exhibit 2: Land ownership and zoning). The project area is defined as the 283 acres zoned M.

The project area is divided into two parts, separated by the Black Diamond-Ravensdale Rd. The mining production area is limited to parcels south of the Ravensdale-Black Diamond. Approximately 81 acres have been disturbed from sandstone mining and historical production of coal from surface pits of which 28.4 acres are fully reclaimed. The sandstone process facility lies north of the road and includes an office/maintenance building, sand washing plant, dryers, stockpiles and clay settling ponds and a small gravel extraction pit. Approximately 35 acres of the

process area is devoted to tailing ponds and road access, 6 acres to a small gravel pit, and 6 acres to the process area, maintenance shops, offices and stockpiles.

Reserve extracts silica-bearing sandstone from three of seven seams that are known to be within the property limits. The sand seams vary in width from 40 to over 150 feet. The sandstone is mined from open pits. The useful sandstone is hauled to the process facility located north of the Black Diamond-Ravensdale Road. Waste is hauled to surface waste dumps or placed as backfill in mined out areas. The process plant produces high quality silica sand and clay by dis-aggregating the sandstone, separating the fines from the sandstone by washing, drying sand and discharging fines contained in process water to tailings ponds. The products are used predominately for glass production, golf course sand, cement production, landscaping, and cinder block production.

C. History:

The Ravensdale area has a long history of natural resource extraction and production. A subsidiary of Northern Pacific Railroad conducted underground coal mining and strip coal mining on the site from 1900 to 1947. A coal mine adit, Dale#1 portal is located on the property and supplied underground access to two coal seams, Dale#4 and Dale#7. The adit is now closed except for a drainage culvert that keeps the underground mine dewatered. Coal was also extracted from the Dale #4 seam using surface mining techniques that created a long strip pit on the property. The pit has since been backfilled and reclaimed.

The silica mine began operation in 1967 when Smith Brothers Silica Sand Company leased the mineral rights and silica strip mines from Meridian Minerals and operated the mine and processing facilities. Industrial Mineral Products purchased Smith Bros in 1968. The site changed ownership in 1986 when L-Bar Products, a subsidiary of Reserve Oil and Minerals, purchased IMP. In July of 1990, L-Bar Products became Reserve Silica Corp. Reserve continues to be the owner, operator and permit holder of the project. The site has renewed the permit every year thereafter and is currently renewed to April 26, 2004 under renewal number L03GI078.

Regulatory History

The King County Building and Land Department (BALD) initiated inspection files for Grading Permit No. 1122-58, April 5, 1971. The files contain on-going narratives and notation of site visits from this date forward. Paperwork and grading permit conditions for annual permit renewals are available from April 26, 1981.

An environmental checklist (ECL) for open pit mining disturbing about 7 acres within a 20 acres project area was submitted for review under the State Environmental Policy Act sometime prior to 1977 (Exhibit 3). A threshold

Determination of Non-significance was issued April 5, 1977 (Exhibit 4). The ECL was only for the mining area and did not include the process area.

During the period from 1979 to 1982 Ideal Basic Industries in Seattle generated and disposed of approximately 255,000 tons of cement kiln dust (CKD) in the Dale #4 strip mine and in portions of the abandoned sandstone pit referred to as the Lower Disposal Area (LDA) pit. A new checklist submitted as part of the grading permit renewal process on March 20, 1981 (Exhibit 5), details new information that discusses backfilling old pits with CKD. It does not appear that a new SEPA threshold determination was prepared relative to the 1981 checklist. King County Public Health issued a Special Conforming Use permit for solid waste disposal to allow dumping of CKD August 28, 1981 (Exhibit 6). The LDA and Dale #4 sites were covered with a clay cap and overburden, recontoured and revegetated according to the approved closure plan. Environmental monitoring and maintenance of the disposal sites is ongoing.

King County requested a new plan of operations April 4, 1989. A new set of plans was received June 1, 1989. The plans were approved by the King County grading inspector December 15, 1989 (Exhibit 7). Although the plans show the process site, the new work for drainage control and reclamation is limited to the mining side of the project. New tailings ponds were constructed in 1992 that were not on approved plans. Although a request was made to revise approved plans, no further information was received as a result of this request.

The permittee proposed on August 3, 1998 (Exhibit 8) to amend their grading permit to allow backfilling the upper pits with filter cake from J.R. Hayes Maple Valley sand and gravel facility. King County SEPA planners determined on August 14, 1998 (Exhibit 9) that this proposal was consistent with project scope and environmental impacts described in the 1977 environmental checklist and would not require a new SEPA determination. Plans showing haul routes, construction of truck wheel washes and traffic impacts were submitted and reviewed. There is no record of a formal approval of the revised plans in the notes in the file, although filling has occurred in portions of the old pits.

There were several complaints related to tracking of mud on the highway from trucks hauling finished sand product at night. In response to these complaints, the operator provided a plan for a wheel wash on the lower site for outbound trucks dated January 6, 1999. The wash was approved February 9, 1999.

Permittee informally requested revision to grading permit conditions to allow operations beyond original operating hours on January 20, 1999. The permittee formally requested the condition change August 20, 1999 (Exhibit 10) and attached a new SEPA checklist (Exhibit 11) in support of this revision. Sound level measurements from the site and an analysis of the sound levels relative to King County noise ordinance was submitted in support of the revision October 5, 1999. Conditional approval of the change was granted February 17, 2000 (Exhibit 12).

Conditions included review of mitigation during periodic review and additional monitoring.

On August 9, 1999 (Exhibit 13) the King County inspector requested updated operating plans for additional filling, excavating and grading associated with construction of new clay tailings ponds that were first identified in 1992 and plans to extract sand and gravel from an old borrow pit on site. Plans showing site configuration and drainage paths were supplied to King County August 20, 1999 (Exhibit 14). Included in those plans was an expansion of the borrow pit in the southwestern corner of the process site. The King County drainage engineer reviewed the site and required a drainage report from the applicant that demonstrated compliance with the SWM Manual Core Requirements 1, 2 and 3 for work beyond drainage approval submitted in 1989 on September 24, 1999. (Exhibit 15). No drainage report was ever submitted. The engineer did conditionally approve without further drainage review the request to take gravel from the borrow pit on October 13, 2000 (Exhibit 16). No official approval of the plan set showing the borrow pit revision was ever prepared.

King County requested updated information as to the current conditions at the site as part of the Periodic Review process on April 2, 2001 (Exhibit 17) along with additional information as to geotechnical stability of tailings piles, wetland delineation and other information necessary to determine operator's compliance with current King County standards. Plans and reports were received between July 3, 2001 and December of 2001 (Exhibit 18).

D. Scope and Standard of Review

The periodic review process for this site is required by KCC 21A.22.050 (Exhibit 19), which states:

Periodic Review. Unless a more frequent review is required by the county, periodic review of extractive and processing operations shall be provided as follows:

A. All extractive operations shall be subject to a review of development and operating standards at five-year intervals.

B. The periodic review shall be:

1. Conducted by the director or zoning adjuster pursuant to the review process outlined in K.C.C. 21A.42.040 - .090.; and

2. Used to determine that the site is operating consistent with the most current standards and to establish other conditions as necessary to mitigate identifiable environmental impacts.

KCC 21A.22.050 implements King County 1994 Comprehensive Plan Policies RL-410 and 411. The scope of periodic review was further defined in the Hearings Examiner's Report and Decision on Appeal of Periodic Review Decision for

Grading Permit L89G3180, Black River Quarry. The examiner concluded that periodic review should be used to determine whether the current and future adverse environmental impacts generated by site operations are being satisfactorily mitigated and that current standards and Best Management practices are being employed. This type of analysis would be consistent with the intent of the periodic review procedure, which explicitly recognized that extractive mining operations are a dynamic process extended over decades. In this context, the examiner indicated that the character and the location of the extractive activity, the regulatory framework applicable to such activities, the technologies for performing the onsite work and the nature and intensity of surrounding land uses all may change over time. Part of the need for a periodic review is to examine the results of these changes and mitigate for impacts resulting from these changes.

The Department requested information from the permit holder undergoing periodic review to develop a current snapshot of operation conditions at the time of the review. The Department requested that the permit holder provide information as to planned development for the five-year time frame prior to the next periodic review. This information, along with information contained within the permit file was used by the Department to systematically analyze whether the operation is now and prospectively:

1.) Compliant with current permit conditions
2.) Consistent with approved plans
3.) Not causing significant, unmitigated environmental impacts.
4.) Compliant with the provisions of Chapters 21A.22 and 21A.24 of the zoning code; the grading code, K.C.C. 16.82 (Exhibit 20): Title 9 and the King County Surface Water Design Manual; and Title 12, specifically sections 12.86 through 12.100 that refers to noise control in the county and other applicable sections of King County Code.

A complete discussion of the elements reviewed for conformance with the applicable regulations is included in the following section.

If the Department determines that current or prospective operations are not consistent with approved conditions or plans or have unmitigated environmental impacts, the Department may require revisions to plans or other code related mitigation to bring the operation into compliance.

For the purposes of review and comparison the following documents are considered the current standard for plans and conditions.

1.) A threshold Determination of Non-significance was issued April 5, 1977 (Exhibit 4).
2.) A new checklist submitted as part of the grading permit renewal process on March 20, 1981 (Exhibit 5)
3.) The plans were approved by King County Grading Inspector Fred White December 15, 1989 (Exhibit 7)
4.) A new SEPA checklist submitted August 20, 1999 (Exhibit 11)

5.) Plans showing site configuration and drainage paths were supplied to King County August 20, 1999 (Exhibit 14)
6.) Grading Permit Conditions for permit number 1122-718 (Project no. L70G1122) Conditions currently renewed to L02GI112 (Exhibit 21)
7.) Other notes, data and information in file for grading permit 1122-718
8.) Reserve Silica provided information in response to the Departments request for information as part of this periodic review (Exhibit 18).

E. Notice of Periodic Review

A letter informing the permit holder that DDES was prepared to begin the periodic review process was sent April 2, 2001. (Exhibit 17). DDES reviewed the records for the permit and developed a list of required information needed in order to start the review of operations and proposed a schedule for the review process. The permit holder responded to this letter with the requested information on July 3, 2001 (Exhibit 18).

A Notice of Periodic Review was sent to all landowners within a 500 foot radius on May 7, 2002 (Exhibit 22). The notice was published in the Seattle Times and the Enumclaw Courier Herald May 30 17, 2002. No comments were received.

F. Finding of Fact:

Zoning

Approximately 283 acres of the 3 parcels owned by Reserve Silica are zoned M Mining. (See Exhibit 2). All QM zoned properties were converted to M zone in 1995 when King County adopted zoning classifications to implement the new zoning code (Title 21A) and the 1994 King County Comprehensive Plan. The boundary of the M zone cuts across the southern property. The remainder of that property is zoned F. Currently no development occurs outside the M zone portion of the property.

A p-suffix condition is a property specific development standard which has been placed on specific properties through either an area zoning process (adoption of a Community Plan for example) or by a property owner initiated rezone. P-suffix conditions increase development standards or limit uses beyond the general requirements of the zoning code. For example, a p-suffix condition may require that access to a property be taken from a specific roadway, or it may restrict the property to a specific use (e.g. a convenience store). They are referred to as p-suffix conditions because a "P" is added at the end of the base zoning classification for the property (e.g. R-4-P).

No pre- or post – conversion development conditions are attached to the Reserve Silica Mine.

Future development will likely occur on the portion of the southern property that is zoned F, Forestry. Mining is a permitted use in the F zone with certain conditions and restrictions.

Land Use Patterns

The area is undergoing significant developmental pressure. The 1984 Tahoma/Raven Heights community plan shows the project area surrounded by a large area of Forest-designated zoning. The project is now bounded on its north, west and south sides by RA-10 zoned property except for a small sliver of F zoned property west of the mine pits (see Exhibit 2). To the northwest, the new Maplewood Heights development, a large area of R-6 housing is currently under construction and will look directly towards the mine. A new development due north of the project is also under construction and will bring the residential community closer to the mine.

Buffers are often retained as part of development conditions to minimize impacts from mine operations on surrounding residential communities. No buffers are currently required by condition. Some minimum vegetated buffers are required by King County code between commercial development and residential areas. These buffers are discussed in the Visual/Aesthetics/Safety section below.

K. C. C. 16.82.060 requires permits to show property limits, limiting dimensions of disturbance, property-specific development restrictions, calculations of the total proposed area cleared on site as a percentage of the total site area, landscaping and rehabilitation plans and clearing or grading proposed to take place in or adjacent to sensitive areas as regulated in K. C. C 21A. 24. No approved map exists that show the locations and tax parcel identification of the property controlled by the permit holder, the project area boundaries that shows area of permitted disturbance, calculated size of permitted disturbance, zone designation of properties within the project area, location and size of buffers proscribed by various conditions imposed during the permitted life of mine and locations and zoning designations of surrounding parcels.

Grading

Mining operations in King County are required to have a grading permit consistent with K. C. C. 16.82 to operate. The King County Building and Land Department (BALD) initiated inspection files for Grading Permit No. 1122-58, April 5, 1971. The files contain on-going narratives and notation of site visits from this date forward. Paperwork and grading permit conditions for annual permit renewals are available from April 26, 1981. No maps or plans that show the scope of the project are available or were not submitted with the grading permit application. Inspection

of air photos shows that the tailing pond area for Pond 1 and 2 was established as early as 1970.

An environmental checklist for open pit mining covering 20 acres was submitted for review under the State Environmental Policy Act sometime prior to 1977. A threshold Determination of Non-significance was issued May 5, 1977. No grading plan or map showing area of disturbance associated with this checklist is available in the permit file.

King County requested a plan of operations April 4, 1989. A new set of plans was received June 1, 1989. Even before this time, the tailing ponds had expanded to include the area now covered by Ponds 3 and 4. The plans were approved by King County December 15, 1989 (Exhibit 7). The 1989 approved plan set shows ponds 1 through 4, but County review and analysis of drainage plans and grading disturbance apparently was limited to the impacts on the mining side of the operation only. No estimates were made of the size, shape, or stability of the tailing piles and no drainage facilities for the process side of the project were planned or reviewed. The operator continues to use all these facilities and is responsible for including these facilities in approved grading plans.

A new tailing pond was constructed in 1992 that was not on approved plans. Although a request was made to revise approved plans, no further information was received as a result of this request. On August 9, 1999 the King County inspector requested updated operating plans for additional filling and excavating and grading associated with construction of new clay tailings ponds that were first identified in 1992. Plans showing site configuration and drainage paths were supplied to King County August 20, 1999. As part of the review of these plans, the King County engineer requested drainage review showing compliance with King County Surface Water Manual (KCSWM) Requirements 1, 2, 3 as part of the next periodic review (Exhibit 15). The engineer did approve extraction of gravel from an old borrow pit (Exhibit 16). There is no formal plan revision approval for the 1999 grading and drainage plans.

Conceptual plans showing expected expansion in the next 5 years were submitted as part of the request for information related to the periodic review (Exhibit 18). The plans show expansion of the lower pit beyond the extent approved in the 1989 plans.

SEPA

The State Environmental Policy Act (SEPA), (Chapter 43.21C RCW) requires evaluation of environmental impacts associated with a project or an agency action prior to approval. The SEPA Rules, Chapter 197-11 WAC, are the implementing regulations that identify standard procedures to be used in evaluating a project's environmental impact.

A threshold determination is required for any action that is not categorically exempt under the SEPA rules. The permit holders for the project area have on four separate occasions made significant proposals to change operating conditions and submitted supporting Environmental Checklists or revisions to plans that County agencies reviewed for environmental impacts associated with development.

1. An environmental checklist limited to the open pit mining development south of the road was submitted for review under the State Environmental Policy Act sometime prior to 1977 (Exhibit 3). The checklist estimated a 15 year mine life and an area of disturbance on the mine side of the project of about 20 acres. A threshold Determination of Non-significance was issued May 5, 1977 (Exhibit 4). The checklist and decision is limited to the mining portion of the project south of the road.
2. A new checklist submitted as part of the grading permit renewal process March 20, 1981 details new information that discusses backfilling old coal pits with cement kiln dust (CKD) (Exhibit 5). It does not appear that a new SEPA threshold determination was prepared relative to the 1981 checklist. King County Public Health issued a Special Conforming Use permit for solid waste disposal to allow dumping of CKD August 28, 1981 (Exhibit 6).
3. The permittee proposed on August 3, 1998 to amend their permit to allow backfilling the upper pits with filter cake from J.R. Hayes Maple Valley sand and gravel facility (Exhibit 8). King County SEPA planners determined on August 14, 1998 that this proposal was consistent with project scope and environmental impacts described in the 1977 environmental checklist and would not require a new SEPA determination (Exhibit 9).
4. Permittee informally requested revision to grading permit conditions to allow operations beyond original operating hours on January 20, 1999 (Exhibit 10). A new SEPA checklist was prepared July 13, 1999 in support of this revision and submitted to King County August 15, 1999 (Exhibit 11). The checklist did not indicate significant changes from original approved decision in 1977, except for changes in hours and trucking. It appears there was no threshold decision made, but the revision was approved.

In the time since the first SEPA threshold decision was made the mine has operated more or less continually, beyond the originally estimated 15 year mine life. Much of the process site including tailing ponds 1 through 4 were identified on the approved 1989 grading plans, but records indicate that the plan analysis and review did not include any analysis of grading and drainage on the process site. These same tailings ponds are now volumetrically much larger than shown on those plans. The increase in volume not anticipated in the 1989 grading plans require a revision to the current approved plans for this increase. The expansion to Pond 5 in the early 1990's has never been part of any grading permit revision. Conceptual plans provided as part of the periodic review show an increase to the volume of the ponds by increasing their height over the next 5 years which would be a significant material change to the operation.

Soils and Geology

The site is located in the Puget Sound Lowland, a topographic structure subjected to several major glaciations during the Pleistocene. Based on geologic maps and reports the geologic units that occur at the site consists of artificial fill, glacial outwash and till deposits and Tertiary sedimentary rocks of the Puget Group. The Puget Group at the site form outcrops in the hillside south of the road and consists of series of interbedded arkosic sandstone, mudstone, shale and coal beds. The sandstone and coal layers dip steeply to the west. Coal was mined from surface pits between 1946 to 1950. Silica from sandstone beds has been mined since at least 1968. The pits are steep walled and stable and form at least 3 long, trench like surface mines. At least one pit has been backfilled, recontoured and reclaimed. Two pits are currently used for mine waste dumping or backfilling with imported fill. Silica sand is currently being mined from the southwest end of the lower pit. Plans call for increasing the width and depth of the pit to the southwest.

North of the mining area across the road, glacial outwash and till fill a large valley. The 1965 geologic map shows the western portion of the site is underlain by artificial fill. Based on studies submitted as part of the periodic review scoping process, the fill was probably a layer of coal process waste. The coal process waste was a byproduct of coal mining activities that occurred during the past in the vicinity of the site. Based on the subsurface conditions encountered in the site explorations to determine slope stability of the tailing impoundment, it appears a large portion of the process site may be underlain by coal process waste.

Almost the entire 53-acre property owned by Reserve Silica north of the road is now part of the processing plant or settling pond complex. The settling ponds are approximately 1300 feet long (east-west) by 400 to 700 feet wide (north south) and cover an area of about 20 acres. The existing embankments are constructed of locally available soils, including oversized material from the process plant and on-site sand and clay and silt from the settling pond. The majority of berm materials for holding the sediment-laden water are observed as being composed of the clay and silt from the settling ponds. Additional capacity is obtained by raising the embankment using an upstream construction method: that is, material is dredged from the pond and placed on the embankment in lifts to raise the embankment crest. This results in an embankment that is built partially on the lower embankment and partially on the accumulated sediment in the pond. The lower and upper stages of the embankment are each typically about 20 feet high. The side slope of the lower and upper embankments typically average about 1.7H:1V. The largest pond, Pond 1, in not being used for settling, although it will continue to be used for throughput of process water and any collected rainwater. The operator has indicated that Ponds 2 ,3 and 4 will be expanded in the next 5 years. Those ponds will be filled with an additional 160,000 cubic yards of material and increased in height from between 5 feet to 8 feet annually. During the previous summer (2002), a previously used pond identified on the Exhibit 14 as Pond 3 on the southwest corner of the process site

was cleared and reopened and is expected to be used as part of the tailings pond system. Pond 5 was not identified in the approved 1989 plans and has not been approved as a revision to the plans.

A geotechnical analysis of the slope stability of the tailings impoundment (Exhibit 18) indicates that the slopes exhibit a factor–of-safety less than 1.0 under seismic loading conditions. Potentially the slopes could be even more unstable if the ground water level rises into the coal process waste and become potentially liquifiable. 16.82.100.B.1 states that no slope shall be steeper that is safe for the intended use and shall not exceed two horizontal to one vertical, unless otherwise approved by the director.

Noise

The noise provisions in the King County Code 12.88 to 12.100 regulate sound levels associated with the mining and processing. The regulation establishes limits on the levels of noise crossing property boundaries based on the zoning of the sound source and the receiving properties and duration of the sound levels and the time of day of the sound. The silica site is zoned M and is considered an industrial source. Noise is addressed in the grading permit through limitation of hours (Condition 0100) and the condition that the work shall comply with the provisions of King County Noise ordinance (Condition 0080).

Review of the inspection record indicates a single noise complaint in January 2001related to nighttime operations. The drying drum allegedly was making a low frequency rumble and dump trucks were being loaded at 10:00PM. The complaint was made after the operator applied for and received conditional permission to operate at night.

The permittee requested a revision to grading permit conditions 0100 in October, 1999 to allow operation of the processing plant and truck loading in the nighttime hours. The operator provided sound level measurements and a noise analysis to support this request. Noise measurements at the nearest residential receivers located approximately 1450 feet from the plant were very similar during both full operations of the pit/plant and prior to any on-site activity. Calculating the operational noise levels from measurements taken closer to the plant indicate that that operation sound levels at the nearest receiver comply with the daytime and nighttime County noise limits. Sound level measurements taken within 350 feet of the property show that the processing operations comply with daytime County Noise limits but would exceed nighttime noise limits. There are no sensitive receivers within the area affected by these exceedences.

The hours of operation were increased with conditions. It does not appear that additional studies as required in Condition 1 were ever completed. These studies need to be completed as required. The area surrounding the project is currently undergoing rapid change and many new residences are proposed or being built,

particularly on the hill overlooking the property to the north. Nighttime compliance with noise standards is currently not likely and will impact residences as development permitted by zoning continues in the area.

Air Quality

Condition 0120 requires that the permittee shall abide by the regulations of the Puget Sound Clean Air Agency (PSCAA). The specific regulations pertaining to fugitive dust are contained in Sections 9.15 and 9.20 of PSCAA's Regulation 1 and require the use of best available control technology to control emissions that would achieve the goal of no visible dust. Also, the operator must register any air contaminant source. The most recent Registration Certificate for the dryer was provided as part of the periodic review data.

Sources of fugitive dust include the mine pits, haul and access roads, plant stockpiles, and the dry plant. Spraying water on the roadways with a water truck mitigates fugitive dust at the mine, on haul roads and access roads. Gravel and other surfacing material are periodically applied to the road surface to minimize dust production. The dry plant uses a wet scrubber to mitigate dust produced in the drying and processing of sand. The moisture content of the stockpiles is in excess of 10% and produces very little dust. The piles are constantly being replenished with new wet sand and dust is not a problem. Water is added to dry plant conveyor reject stream to mitigate fugitive dust from this source.

Recent site visits in the last eighteen months revealed no dust problems. The operator often uses mine waste for roadbed material. The waste has a high percentage of fines that tend during the dry months to produce more dust then gravel surface roads. There is no discernible odor associated with the dry plant. Dust from mud tracked on the Black Diamond-Ravensdale Road is an occasional problem during mining campaigns when haul trucks cross the county road from the mine side to the process site. The wheel wash reduces mud from truck tires and undercarriages when hauling processed silica product. A review of the available information in the file indicates the department did not receive complaints regarding dust pollution at this site.

The department has developed a list of Best Management Practices and applied these conditions to most new mining permits. The potential for dust production from roadbeds and truck crossings could be minimized with adoption of these conditions.

Visual/Aesthetics/Safety

All outside lights are directional floodlights that are used to provide illumination at specific areas for operating personnel and security. Directing the light specifically onto the desired work area reduces glare. Hauling of finished product does take place at night. Trucks are loaded by gravity flow from overhead bin. Front–end

loaders are also used in nighttime loading operations, but the yard is laid out such that the loaders do not generally face traffic along the Ravensdale-Black Diamond Rd. during loading operations. There are no complaints in the inspection logs about light or glare.

The process area is separated from any residential zoned property to the north by a spur of the Burlington Northern railroad line. Along the western boundary of the process site, the mine access road and berm for Pond 5 is slightly over the property line with adjoining property owned by Plum Creek. The southern boundary of the property is along the King County Black Diamond-Ravensdale Road right of way. Approximately 800 feet of the processing site is visible from the road frontage with natural vegetation screening the remainder of the site along the road.

The strip mines are also plainly visible. No residential development occurs around the mines. A Bonneville Power Administration transmission line runs across the middle of the mine development area. Those mines are part of ongoing site development. The operator is required under the Washington State Department of Natural Resources (State DNR) Surface Mining Reclamation permit to reclaim the site to standards developed in response to Chapter 78.11 RCW. For the purposes of visual impact the County will require that the operator comply with state standards for reclamation. The operator is currently revising and updating their reclamation permit and will be in compliance with those standards.

K.C. C. 21A.22.060.F, Development Standards for mineral extraction, does not allow clearing, grading or excavation excluding that necessary for roadway or storm drainage facility construction within 20 feet from any property line. K. C. C. 21A.22.060.G requires landscaping as required pursuant to K. C. C. 21A.16 along any portion of the site perimeter where disturbances such as site clearing and grading, or mineral extraction or processing is performed.

New site plans showing the minimum buffers and screening required as per K. C. C. 21A.16 shall be submitted for review and approval as part of a permit revision.

Warning and trespass signs advising of the extractive operation should be placed on the perimeter of the site adjacent to RA, UR or R zones at intervals not greater than 200 feet along any unfenced portion of the site as per KCC 21A.22.060.D. Currently, those required signs are not consistently placed and will be a required grading permit condition as part of this decision.

21A.22.060.C requires that an operator provide adequate methods to discourage access to safety hazards, which may arise on areas of the site. Access to the site is controlled by limiting entrance points to the property, by posting signs in potential access points and by locking gates to the two roads that enter the property. The main gate is locked when Reserve or contractor personnel are not on site. All other access points have been blocked by a number of means including trenching, berms, plant growth and closure with logs/timber.

Reclamation

Reclamation of mine sites is administered by the Department of Natural Resources under Washington's Surface Mining Act (Chapter 78.44 RCW). The basic objective of state reclamation standards is to reestablish on a continuing basis the vegetative cover, soil stability, water conditions, and safety conditions appropriate to the intended subsequent use of the area. The goal of RCW 78.44 is that reclamation creates stable, usable land at a mined site.

WADNR has the responsibility for review, approval and enforcement relative to the final reclamation of mines in the unincorporated areas of the county. King County Development standards for Mineral Extraction 21A.22.060.B does require extractive operation on sites large than 20 acres shall occur in phases to minimize environmental impact, with the size of each phase to be determined during review process. Discussions with WADNR personnel indicate that mining reclamation plans cover only the mining side of the project south of the road. Without a reclamation plan for the process site, King County will request that the operator provide a plan that shows eventual size of the process site disturbance and how the fill on this site will be compliant with conditions of the K. C. C. 16.82, Grading Code.

The operator indicated that the current reclamation permit #70-101346 is being updated for submittal to the State DNR. King County will request that the DNR require concurrent reclamation of the property consistent with King County regulations and state DNR standards. King County will inform the state if there are changes to the mining plans as result of the periodic review decision. The decision to require revisions to reclamation plans and whether the process area is to be included in the revision will be left to the WADNR.

King County Public Health issued a Special Conforming Use permit for solid waste disposal to allow dumping of CKD August 28, 1981. The LDA and Dale #4 sites were covered with a clay cap and overburden, recontoured and revegetated according to the approved closure plan. Environmental monitoring and maintenance of the disposal sites is ongoing.

Recent data from wells constructed to monitor groundwater in the vicinity of the disposal sites indicate some potential contamination. The operator felt these indications were a result of poor or failing well construction. With the approval of Washington State Department of Ecology and the K. C. Public Health, new monitor wells were recently installed. New water quality tests consistent with the Special Use conditions will be run to determine if there are indications of groundwater contamination related to the CKD fill site. Portions of the cap placed over the Dale #4 CKD sites will be improved in the near future to prevent influx of groundwater.

Drainage and Water Quality

It is readily apparent from review of the inspection record associated with this grading permit that the majority of complaints from citizens and non-compliance issues raised by County inspectors are related to observed exceedences of King County and state mandated water quality parameters. In general the stormwater system does not control sediment from discharging into surface, storm and/or groundwater to a level required by the projects NPDES permit, K. C. C. 9.12.025 (Z) and the grading permit.

Several particular areas are noted as contributors of sediment off site.

1. The addition of a substantial quantity of sediment-laden process water to storm water contained within the 5 tailing ponds results in untreated flows that occasionally overwhelm the existing storm water detention facilities, especially during prolonged rain events common to the area. Recent pictures taken by inspectors and site visit by the drainage engineer show discharges from Pond 5 that likely exceed threshold values for turbidity under the NPDES permit and do not comply with K. C. C. 9.12.025 (z), Water Quality and grading permit conditions 2200 and 2210. The overflow discharges are to a probable Class 2 wetland that is connected to Covington Creek.
2. Erosion and sediment control features are either absent or not performing on the mining side of the operation as evidenced from inspections that observed breached berms, eroding road surface, dirty water in roadside ditches and overflowing and undersized drainage control ponds. Examples include a sediment pond located to pre-treat stormwater from the fill in the Middle Pit that received so much sediment during rains as to totally fill the pond, causing very turbid water to be conveyed into lower ditches, which do not flow into any other treatment facility. The sediment detention pond located downhill from the lowest pit discharges significant amounts of water after only moderate precipitation events. Lacking design parameters, the pond may be undersized relative to standard design overflow parameters.
3. The present infiltration areas are at risk of becoming less permeable due to the prolonged introduction of sediment-laden water in violation of permit conditions 2200 and 2210.
4. Site inspection during the last 18 months note that a conveyance ditch surrounding the LDA sometimes contains a whitish, sudsy effluent that could be from the interaction of groundwater and the CKD.

In addition to possible violations of the King County surface water management code, there are design deficiencies of existing ponds, alterations without required reviews and approvals, and discrepancies of project operations with current permits.

1. Reserve Silica and its predecessors have operated under the guidelines and regulation defined in Site Waste Discharge Permit No. 5136. The site currently is allowed to discharge mine de-watering water to the surface water through a

settling pond to an unnamed slough under a National Pollutant Discharge Elimination System (NPDES) Permit No. WAG503029. Process Water and Storm Water is to be discharged to ground water through infiltration. Arguably, the water being discharged is actually a combination of process water and storm water and receives little drainage from mine dewatering.

2. King County requested a plan of operations April 4, 1989 as no plans were submitted with the original permit application. A set of grading and drainage plans was received 6/1/89 and lay out a system of ponds for the mining portion of the site south of the Black Diamond-Ravensdale Road. This pond system is still evident today. None of the ponds have supporting design calculations or design detail sufficient to determine the storm water detention capacity nor does it appear that there are estimates of the capacity needed for the site.
3. No information was provided in the 1989 set of plans for stormwater drainage control on the process side of the operation. Yet through the growth of tailing ponds caused by the settling of fines from the processing of silica sand, almost the entire 47 acres of disturbed land controlled by the operator would be considered impervious. None of the stormwater/process water flows through any approved stormwater or water quality drainage feature, although the tailings do settle out for the most part through the system of tailings impoundments before discharge.
4. There is also a component of stormwater from a significant portion of the operation from the south side of the road that flows to the lower site via ditches in the right of way. These ditches appear to insufficient to control storm water and have overflowed into the road on several occasions over the years of operation
5. The operator will continue to monitor the condition of the reclamation cap and groundwater standards relative to the requirements of the applicable state and local jurisdictions. King County water quality standards and special requirements regarding source controls may be applied to the project area impacted by the CKD site.
6. New tailings ponds were constructed in 1992 that were not on approved plans. Although a request was made to revise approved plans, no further information was received as a result of this request. On August 9, 1999 the King County inspector requested updated operating plans for additional filling, excavating and grading associated with construction of new clay tailings ponds that were first identified in 1992. Plans showing site configuration and drainage paths were supplied to King County 8/20/99. The King County drainage engineer at the time recommended that a drainage report be prepared that demonstrates that the new disturbance complies with the SWDM Core Requirements 1, 2, and 3.

A King County Land Use Engineer reviewed site plans and draft drainage information provided by Reserve in the response to King County's request for information for the periodic review. The engineers conclusion was that the Reserve Silica mining and milling operation meet the criteria of projects requiring Full Drainage Review as defined in Sec. 1.1.2.3 of the King County Surface Water Design Manual. Special Requirements #1, #4, and #5 may also apply.

This periodic review finds the drainage system inadequate to prevent impacts to water quality water standards as required under K. C. C. 9.12 and the Grading Permit condition 2200 and 2210. To comply with these codes, the permittee is required to comply with the K. C. C. 9.12 through implementation of Best Management Practices (BMP) and all known, available and reasonable methods of prevention, control and treatment (AKART) to correct deficiencies. The County has relied on the Surface Water Design Manual (SWDM) to implement BMP's and AKART.

A drainage plan shall be submitted for any new disturbance requiring a revision to the grading permit or previously constructed disturbance not approved under the current grading plan. See the grading section above for a discussion of these areas.

Wetland Sensitive Areas

A King County Senior Ecologist performed a site visit at the Reserve Silica Project Site. The purpose of the visit was to review the Sensitive Areas report prepared by Habitat Technologies (March 25, 2002) submitted in response to the request for information for a periodic review and to determine if existing operations are in compliance with the King County Sensitive Areas Code 21A.24.

A wetland/stream, which eventually flows into Ravensdale Creek, occurs off-site and to the southwest of parcel 3522069018. On-site settlement ponds discharge to the wetland/stream though an existing culvert. Based on the ecologists observations, it appears that during the rainy season, large quantities of sediment-laden water discharge to this wetland/stream system. The historical condition of the wetland/stream is unknown; however, the King County Sensitive Areas Folio and National Wetland Inventory identify this feature as a stream (unclassified stream). Therefore, it is likely that increased stormwater outputs associated with mine processing operations have resulted in the expansion of wetland area associated with the historic stream.

Based on the ecologists evaluation, this feature would likely be classified as a Class 2 wetland/Class 2p stream (i.e., Class 2 wetland associated with a Class 2p stream; KCC 21A.24.06). Class 2 wetlands require a 50-foot buffer, measured from the wetland edge (KCC 21A.24.320), and Class 2p streams require 50-foot buffer, measured from the ordinary high water mark of the stream (KCC 21A.24.360). A 15- foot building setback is required from the outer perimeter of the stream and wetland buffers (KCC 21A.24.200).

Per King County Code 21A.24.370 E., Surface water discharge to a stream from a flow control or water quality treatment facility, sediment pond or other surface water management activity or facility may be allowed if the discharge is in compliance with the King County Surface Water Design manual.

Per King County Code 21A.24.330 I., surface water discharge to a wetland from a flow control or water quality treatment facility, sediment pond or other surface water management activity or facility may be allowed if the discharge does not increase the rate of flow, change the plant composition in a forested wetland, or decrease the water quality of the wetland.

As identified in Habitat Technologies report, a Class 2 wetland occurs within a topographic depression within the northwestern corner of the parcel (#3522069018). The report identifies that this wetland extends to the east, but that the eastern portion of the wetland is used as part of the ongoing series of existing settlement ponds. If the eastern wetland area has been used as a settling pond for over 12 years (before 1990), it may be maintained in its existing condition/use.

The Western portion of the wetland that is in a non-disturbed state must be preserved in its existing conditions. In addition, Per King County Code. 21A.24, this Class 2 wetland shall receive a 50-foot buffer, measured from the wetland edge and a 15-foot building setback, measure from the perimeter of the buffer. Regulation of sensitive (including buffers) areas is subject to the provisions of King County Code 21A.24. Except for some specific exemptions, the Sensitive Areas Code does not allow alteration of sensitive areas or their buffers without express permission from the King County Department of Development and Environmental Services. "Alteration" means, among other things, the removal of any vegetation or the grading of any soil.

During the ecologists site visit, a small area of wetland to the southeast of a settling pond, and to the northwest of Black Diamond-Ravensdale Road (wetland area along southeast parcel boundary; parcel # 3522069018). This wetland area was not identified in Habitat Technologies report, and at this time it is unknown if the wetland is a remnant of a historical wetland or was created as a result of existing stormwater activities.

Grading operations were recently performed on existing roadway systems and in adjacent upland areas along the western edge of the processing site. These grading operations have resulted in steep, unvegetated roadway embankments and exposed soil throughout the Silica production site.

Based on review of 1990 and 2000 aerial photographs, it appears that a sediment pond was established/expanded sometime after 1990 in the southeast portion of parcel 3522069018. This pond expansion may have impacted a wetland area.

On the mining side of the project area located south of the Ravensdale-Black Diamond Road, several sensitive areas are known to occur or suspected to occur near disturbed areas associated with the mine. King County sensitive areas maps show that much of the actual strip mines within erosion and coal mine sensitive areas. A surface water drainage feature was identified that originated in the hillslope area to the south of the project site, south of the road. This drainage was conveyed via roadside ditches into a topographic swale just off the western property boundary of the process area north of the road. Surface water stormwater drainage and mine dewatering water from the abandoned coal mine is conveyed by ditches from the lower slopes of the mine side of the project via roadside ditches also into

the same topographic swale. Finally, a large wetland complex occurs in the southwest corner of the project area on the mine side of the project. Overflows from the upper sediment detention ponds probably flows overland into this complex. Its not known whether the wetland complex and the surface drainage feature mentioned above are connected.

Habitat and Wildlife

The process site is actively managed for the production, initial processing and handling of silica. Vegetation on the lower site is limited to a narrow band deciduous upland forest along the northern boundary, a clump of young deciduous Wetland forest in the northwest corner and in the offsite wetland slough. The majority of the remainder of the site is considered a young deciduous upland forest with low under story typical of recently logged conditions. Eleven Federal candidate species and a number of State candidate species were identified to potentially be present within the project site. A single state monitored species, the osprey, was observed to utilize the top of a crane for nesting adjacent to the onsite production facility. Ospreys are identified as a raptor of local importance within the King County Comprehensive Plan and are regulated/protected under SEPA authority.

There is no information in the record on the effects of the operation on habitat, vegetation, and wildlife. The site has disturbed nearly 100 acres of a 250 acre site over a period of nearly 75 years. There is no reclamation plan for the processing side of the operation, so it is difficult to assess the long term impact of the project on that portion of the property. The mining side of the operation is planned for restoration to forest, consistent with original habitat and vegetation.

Traffic

The operator provided estimates on total yearly trips to/from the project site based on current averages for sales. Included in this estimate was inbound traffic generated from filter press clay for backfill and reclamation of upper sites. Based on these numbers, approximately 12 truck trips a day are generated to transport finished product. The majority of these trips occur in the night to the downtown Seattle glass production facility. The permittee is allowed nighttime loading as per the February 17, 2000 approved revision to the conditions limiting hours of operations. Inbound trucks with clay from sand and gravel operations generate on average 14 truck trips per day. Currently the operation does not exceed threshold levels requiring a traffic impact analysis and mitigation.

Additional traffic is generated from mining operations. Raw product on the south side of the road is mined in a series of short, intense mining campaigns throughout the year depending on market conditions. The sandstone is transported across the road in 25 –ton, off-highway dump trucks. Certified crossing guards are stationed at the crossing during all mining activities to protect the motorist community using the

Ravensdale-Black Diamond Rd. The county in the recent past has concurred that in place warning signs and the use of certified flaggers during mining satisfies traffic safety standards to alert oncoming traffic about truck hauling.

The operator provided a copy of an existing haul road agreement with the King County Division of Roads and Engineering dated May 8, 1987. The agreement grants permission to cross the road with off-highway trucks provided the safety of the driving public was maintained, the structure of the road be maintained by the operator and the crossing be kept clean. One of the major complaints from the driving public in the inspection record is the mud and rock trail left at this crossing during mining operations. Although limited in width, the amount of mud can be substantial. No equipment exists on site to mechanically sweep the narrow segment of road that gets very muddy. Specific grading permit conditions, King County road standards, and King County grading regulations require that roads be kept clean. The road is significantly deteriorating along the join with the haul access route and there is a substantial dip in the road where trucks traverse the ROW to get to the processing side

King County Traffic engineering will be requested to review the current road haul agreement and assess the current condition of the road. The operator may be required by the traffic engineer to submit an updated or new haul road agreement consistent with current standards and reflecting the effect of 15 years of hauling across the ROW.

G. Conclusions

This periodic review is of an existing open pit silica sand mine and associated processing facilities. Reserve Silica Corp. owns and operates a surface silica mine and silica processing plant located southwest of Ravensdale. Reserve owns approximately 403 acres in three tax parcels of which approximately 283 acres are zoned "M" mining.

The decision on this periodic review is made in the context of the King County Comprehensive Plan adopted in 1994 to satisfy the requirements of the statewide Growth Management Act, RCW Chapter 36.70A. Among other things, the GMA required King County to designate mineral resource lands that are not already characterized by urban growth and that have long term significance for the extraction of minerals, RCW 36.70A.170(c). King County designated this property as a mineral resource land. The GMA further directs counties not only to inventory and designate mineral resource lands but also to conserve them, RCW 36.70A.180. King County has responded to the directions of the GMA through the adoption of the King County Comprehensive Plan. This plan states: "In large measure, King County's quality of life is dependent upon the thoughtful planning and sound management of these Natural Resource Lands to ensure their long-term conservation and productive use.... Natural Resource Lands and the industries they support are conserved by encouraging development to occur as envisioned by the Washington

State Growth Management Act...". King County Comprehensive Plan p. 95 The comprehensive plan recognizes the fundamental importance of basic industries such as this quarry and provides that the county seek to retain such industries. Comprehensive Plan, Policy Ed—202, p. 80: The comprehensive plan then goes on to establish a framework of specific policies whose purpose is to guide both the development and the application of land use regulations as they apply to this type of operation. These policies, and the regulations that have been adopted to implement these policies, are the guidelines that King County must apply to its decision in this periodic review.

The comprehensive plan recognizes that natural resource uses such as the Reserve Silica Mine create unavoidable adverse impacts on the surrounding area. The comprehensive plan deals with this inevitable conflict between different uses by making natural resource uses a preferred use, Comprehensive Plan, Policy—RL 102, p.96, by requiring notice of the existence of designated resource production areas be provided to owners of nearby properties at the time that development approvals on those properties is granted in order to prevent or minimize conflicts, Comprehensive Plan, Policy—RL 108, p. 98, and by providing for thorough environmental review and the use of developmental conditions to reduce, to the extent practical, the impacts associated with such natural resource uses, Comprehensive Plan, Policy—RL 411, p. 111. The plan notes that: "Conflict with surrounding land uses and environmental problems can arise even with the best of precautions. Resource-based industries need reasonable certainty that operations can continue if activities are performed in an environmentally sound manner." Comprehensive Plan, p. 96.

In this context and the context of applicable codes as set forth in section D of this report, and after a complete review of the files and associated documents, King County DDES has determined the following:

Zoning

1. The Reserve Silica mine and processing plant is located on land zoned M. Mining and mineral processing is an allowed use on the subject property as per K. C. C. 21.08.090.A.

Land Use Patterns

2. No approved map exists that show the locations and tax parcel identification of the property controlled by the permit holder, the project area boundaries that shows area of permitted disturbance, calculated size of permitted disturbance, zone designation of properties within the project area, location and size of buffers proscribed by various conditions imposed during the permitted life of mine and locations and zoning designations of surrounding parcels. K. C. C. 16.82.060 requires permits to show property limits, limiting dimensions of disturbance, property-specific development

restrictions, calculations of the total proposed area cleared on site as a percentage of the total site area, landscaping and rehabilitation plans and clearing or grading proposed to take place in or adjacent to sensitive areas as regulated in K. C. C 21A. 24.

Grading

3. The operator has a valid grading permit currently renewed until until April 26, 2004.

4. Based on review of the file and inspection record, the only approved plan set is the plans approved by King County December 15, 1989 (Exhibit 7). The 1989 approved plan set shows ponds 1 through 4, but County review and analysis of drainage plans and grading disturbance apparently was limited to the impacts on the mining side of the operation only.

5. The expansion of the mine to the southwest and depth, expansion of tailings ponds both in height and beyond the extent shown in the 1989 plans, new grading over the CKD cap, possible expansion of stormwater facilities associated with drainage analysis and expansion of internal haul roads to access new mining constitute additional disturbance and/or changes to the scope of the project beyond limits of original approvals.

6. K. C. C. 16.82.060.D.4 requires that no work shall be done that is not provided for in the permit. The work done to date without approvals does not conform to this requirement.

7. There are no plans for restoration of processing side of operation either with State DNR or King County. K. C. C 16.82.110 requires removal and dismantlement of all building, structures, apparatus or appurtenances accessory to the mining operation.

SEPA

8. The size and extent of the project has exceeded the extent of the project assessed in the 1977 Environmental Checklist and it associated decision, particularly on the process side of the project. Several portions of the project are not part of the approved grading plans. Pond 5 was not included on the approved set of plans. Conceptual plans provided as part of the periodic review show a substantial increase in the volume of the ponds by increasing their height over the next 5 years. The mine has operated well past it's the 15 year life estimated in the 1977 checklist. Current scoping plans submitted as part of the periodic review process anticipate expansion of the mining area beyond approved plan extents which will require a revision to the grading permit and pass the threshold requiring a SEPA analysis. The magnitude of the changes are considered a material change to

the approved grading permit and its ongoing renewal and is not categorically exempt under WAC 197-11-800 14 (i) from threshold determination. A revision to the grading permit to reflect the current conditions not approved and modifications to the approved plan as recommended as part of this report meets the definition of an action and probably exceeds thresholds above which a SEPA threshold decision may be required (K. C. C. 20.44.040).

Soils and Geology

9. Geotechnical analysis of the large tailing ponds shows that they form steep slopes greater than 2H:1V and are estimated to be unstable under seismic loading conditions. K. C. C. 16.82.100. B.1 does not allow embankments greater than 2H:1V without director approval.

10. No plans exist for reclamation plan of the tailing ponds and sediment ponds. 16.82.110 requires that all mining operations be removed and restored.

Noise

11. The hours of operation were increased contingent on a more thorough review of the sound environment using additional measurements. It does not appear that additional studies as required in Condition 1 were ever completed.

12. The existing noise analysis contends the operator will be compliant with King County noise regulations based on fact there are no sensitive receivers near the operation, even though noise measurements at night indicate a possible exceedence of county limits from operations at or near the property line. As residential development proceeds in the area, additional noise studies and mitigation may be necessary to prove that the operation will remain compliant with King County regulations 12.82-12.100 regarding noise.

Air Quality

13. A review of the available information in the file indicates the department did not receive complaints regarding dust pollution at this site and the site is compliant with air quality standards.

14. Inspections indicate some dust problems associated with haul roads on the mining side and across the King County ROW especially during dry summer months.

Visual/Aesthetics/Safety

15. Glare is reduced by using directional lighting in compliance with outdoor illumination standards.

16. K. C. C. 21A.22.060.G requires landscaping as required pursuant to K. C. C. 21A.16 along any portion of the site perimeter where disturbances such as site clearing and grading, or mineral extraction or processing is performed. No buffer consistent with these requirements exists between the KC ROW boundary and the property boundary along the Ravensdale-Black Diamond Rd.

17. Natural vegetation fulfills the minimum buffer requirements over much of the rest of the property.

18. The site is disturbed up to and in places over the property boundary along the west end of the property. No buffer exists at these locations.

19. The strip mines are south of the road are plainly visible. Those mines are part of ongoing site development. The operator is required under the Washington State Department of Natural Resources (State DNR) Surface Mining Reclamation permit to reclaim the site to standards developed in response to Chapter 78.11 RCW and include standards for segmental reclamation. Segmental reclamation reduces visual impact by minimizing site disturbance at any one time.

20. Warning and trespass signs advising of the extractive operation on the perimeter of the site adjacent to RA, UR or R zones placed at intervals not greater than 200 feet along any unfenced portion of the site are required as per KCC 21A.22.060.D. Currently, those required signs are not consistently placed.

21. The operator has provided adequate methods to discourage access to safety hazards.

Reclamation

22. The operator indicated that the current reclamation permit #70-101346 is being updated for submittal to the State DNR.

23. The current and updated plans do not include the process site in reclamation plans.

24. Reclamation over portions of the pits filled with CKD are subject to reclamation regulations that are part of the operators Special Use Permit issued through King County Public Health Dept. for placing CKD as fill.

The operator indicated that the maintenance and repair of the cap may be necessary.

25. Segmental reclamation as required by both State and County codes is occurring on the mine portion of the site.

26. Pending and approved reclamation plans do not show any plans for the tailings ponds. The tailings ponds have long term slope stability concerns that are not addressed in any reclamation plan.

27. King County has no final restoration/grading plan that is required under K. C. C. 16.82.060 and 16.82. 110.

Drainage and Water Quality

28. The drainage system is inadequate to prevent impacts to water quality water standards as required under K. C. C. 9.12 and the Grading Permit condition 2200 and 2210. In general the stormwater system does not control sediment from discharging into surface, storm and/or groundwater to a level required by the projects NPDES permit, K. C. C. 9.12.025 (Z) and the grading permit.

29. The operator has incorrectly stated that discharge is allowed under the National Pollutant Discharge Elimination System (NPDES) Permit No. WAG503029 mine dewatering water. Arguably, the water being discharged is actually a combination of process water and storm water and receives little drainage from mine dewatering.

30. The current system of ponds for the mining portion of the site south of the Black Diamond-Ravensdale Road have no supporting design calculations or design detail sufficient to determine the storm water detention capacity nor does it appear that there are estimates of the capacity needed for the site.

31. There is no information regarding operators compliance with stormwater drainage control on the process side of the operation.

32. There is no information regarding compliance with stormwater drainage control and water quality controls relative to the project area impacted by the CKD site.

33. New tailings ponds were constructed in 1992 that were not on approved plans.

Wetland Sensitive Areas

34. Several un-delineated, un-surveyed wetland/stream complexes exist within the project area boundaries, particularly on the processing side of the operation. Some of these sensitive areas are impacted by site operations.

35. On-site settlement ponds in the processing area discharge to a wetland/stream though an existing culvert. Based on inspections, it is common, especially during the rainy season that significant quantities of sediment-laden water discharge to this wetland/stream system. It is likely that increased stormwater outputs associated with mine processing operations have resulted in the expansion of wetland area associated with the historic stream.

36. Based on the ecologists evaluation, this feature would likely be classified as a Class 2 wetland/Class 2p stream (i.e., Class 2 wetland associated with a Class 2p stream; KCC 21A.24.06). Class 2 wetlands require a 50-foot buffer, measured from the wetland edge (KCC 21A.24.320), and Class 2p streams require 50-foot buffer, measured from the ordinary high water mark of the stream (KCC 21A.24.360). A 15- foot building setback is required from the outer perimeter of the stream and wetland buffers (KCC 21A.24.200). In places development has already encroached into the buffer.

37. A Class 2 wetland occurs within a topographic depression within the northwestern corner of the parcel (#3522069018) in the processing area. The Western portion of the wetland that is in a non-disturbed state must be preserved in its existing conditions. In addition, Per King County Code. 21A.24, this Class 2 wetland shall receive a 50-foot buffer, measured from the wetland edge and a 15-foot building setback, measure from the perimeter of the buffer.

38. Based on review of 1990 and 2000 aerial photographs, it appears that a sediment pond was established/expanded sometime after 1990 in the southeast portion of parcel 3522069018. This pond expansion may have impacted a wetland area. If the eastern wetland area has been used as a settling pond for over 12 years (before 1990), it may be maintained in its existing condition/use.

39. Finally, a large wetland complex occurs in the southwest corner of the project area on the mine side of the project. Overflows from the upper sediment detention ponds probably flows overland into this complex. Its not known whether the wetland complex and the surface drainage feature mentioned above are connected.

Habitat and Wildlife

40. Development of the site since the 1900's has resulted in the disturbance and loss of approximately 100 acres of a 250 acres site.

41. There is no study of affected wildlife and habitat for the project. Inspection of the site by county ecologist/biologist discovered an osprey nest.

42. The Washington Department of Fish and Wildlife Management Reconditions for Washington's Priority Habitats and Species (1991) recommends permanent no- disturbance buffers of 200 feet around all osprey nests and seasonal no-disturbance buffers of 660 feet. However, because the pair tolerates existing and ongoing silica production activities (nest was established under these conditions), and future disturbance activities are not expected to exceed disturbance levels of existing activities, the permanent and seasonal buffers do not apply.

Traffic

1. There is significant deterioration of the road and edge of road where haul trucks traverse the King County ROW. There are numerous complaints of mud on the road during mining operations.

2. Currently the amount of offsite hauling operations does not exceed threshold levels requiring a traffic impact analysis and mitigation.

H. Recommendations

Zoning

1. No changes recommended. Please note that further expansion to the south will be within the F zone. Mining is still a permitted use in the F zone, with minor conditions

Land Use Patterns

2. A map shall be provided that show: a) the locations and tax parcel identification of the property controlled by the permit holder; b) the project area boundaries that shows area of permitted disturbance; c) calculated size of permitted disturbance; d) zone designation of properties within the project area; e) location and size of buffers proscribed by various conditions imposed during the permitted life of mine, and; f) locations and zoning designations of surrounding parcels.

Grading

3. A new set of site plans prepared in a form prescribed by the director as per K. C. C. 16.82.055 and 16.82.060 shall be submitted that reflects current disturbed conditions as well as proposed grading /clearing disturbance

associated with the project. These plans will be submitted as a revision to the current grading permit.

SEPA

4. Based on significant deviations from current approved plans, a grading permit revision shall be required. A new SEPA checklist shall be required as part of a permit revision. The checklist should sufficiently identify the current project scope and impact along with project scope for the foreseeable future and quantify environmental impacts, if any. A threshold determination may be required

Soils and Geology

5. The operator shall submit a plan as part of a permit revision to ensure slope stability of tailings ponds and all other potentially unstable areas to a factor of safety based on the best available engineering and geological practices which either eliminates or minimize the risk of damage or injury or impacts on contiguous properties.

6. A reclamation plan for the tailing ponds sediment ponds shall be prepared and implemented that exhibits slope stability safety factor required by K. C. C. 16.82.100.B.1 and is consistent with requirements of 16.82.110.

Noise

7. It does not appear that additional studies as required in Condition 1 were ever completed. These studies need to be completed as required and submitted as part of a revision to the grading permit.

8. Evaluation of the noise impacts shall be included as part of the SEPA environmental checklist required as part of a permit revision. Additional noise studies may be required to prove that the operation will remain compliant with King County regulations 12.82-12.100 regarding noise.

Air Quality

9. Dust suppression techniques and best management practices should be reviewed as part of the SEPA analysis. The county has developed a list of Best Management practices for similar facilities.

Visual/Aesthetics/Safety

10. New site plans showing the minimum buffers and screening required as per K. C. C. 21A.16 shall be submitted for review and approval as part of a permit revision.

11. Warning and trespass signs advising of the extractive operation should be placed on the perimeter of the site adjacent to RA, UR or R zones at intervals not greater than 200 feet along any unfenced portion of the site as per KCC 21A.22.060.D.

12. For the purposes of visual impact the County will require that the operator comply with state standards for reclamation. The operator is currently revising and updating their reclamation permit and will be in compliance with those standards.

13. There are no outstanding impacts currently related to glare or safety.

Reclamation

14. King County will request that the DNR require concurrent reclamation of the property consistent with King County regulations and state DNR standards. King County will inform the state that the operator is changing the mining plans by revision to comply with the decisions of the periodic review and that DNR should require updated reclamation plans.

15. King County water quality standards and special requirements regarding source controls may be applied to the project area impacted by the CKD site. New drainage plans consistent with the 1998 SWDM are required as part of a permit revision.

16. Areas of new grading and filling associated with the new CKD cap shall be included as part of a permit revision.

17. A reclamation plan for the tailing ponds and process area shall be prepared and implemented that exhibits slope stability safety factor required by K. C. C. 16.82.100.B.1 and is consistent with requirements of K. C. C. 16.82.110, Land Restoration.

Drainage and Water Quality

18. The permittee is required to comply with the K. C. C. 9.12 through implementation of Best Management Practices (BMP) and all known, available and reasonable methods of prevention, control and treatment (AKART) to correct deficiencies noted in the drainage and water quality discussion. The County has relied on the Surface Water Design Manual (SWDM) to implement BMP's and AKART.

19. A drainage plan shall be submitted for any new disturbance requiring a revision to the grading permit or previously constructed disturbance not

approved under the current grading plan and identified in the grading discussion.

Wetland Sensitive Areas

20. Per KCC 21A.224.090, the applicant is required to identify sensitive areas within 100 feet of their property boundaries. Within a revised sensitive area report, the applicant must submit a map that identifies the location (approximate), classification, buffer, and 15-foot building setback of the off-site wetland/stream.

21. To satisfy KCC 21A.24.330 I. and 21A.24.370E the applicant must assure that their drainage facilities (sediment ponds) comply with the King County Surface Water design manual. Minimum buffer widths shall be established from edge of wetland on all areas not graded prior to November 1, 1990. These buffers shall be shown on a grading plan submitted as part of a revision.

22. Within a revised sensitive area report, the applicant must submit a map that identifies the location (already shown), classification, buffer, and 15-foot building setback.

23. Additional wetlands may be present on the property or within 100 feet of the project's boundary. The operator shall evaluate these areas for the presence of wetland. If wetlands are present, the wetlands must be delineated and classified. The wetland must be described within the revised sensitive areas report, and a map must be submitted identifies the location, classification, required buffer, and the 15-foot building setback.

24. To protect on-site and of-site wetlands and watercourses, the applicant must stabilize roadway slopes and implement erosion control Best Management Practices (BMPs). Revegetation of disturbed areas (including roadway embankments) shall be performed on an ongoing basis. Exposed soils shall be covered and protected during the dry season as needed to prevent soils erosion, and during the wet season soils shall be covered immediately using BMPs. All work shall comply with the standards set forth in the King County Surface Water Design Manual.

25. Sediment pond expansion activities in the above-mentioned areas that occurred after 1990 shall be identified within the revised sensitive areas report. Within the report, the applicant's environmental consultant should determine if wetland was impacted (and extent of wetland impacted) by pond expansion or establishment activities. Based on the finding, mitigation may need to be provided.

26. A drainage plan consistent with 1998 KCSWDM shall be submitted as part of a revision to protect water quality discharged into wetlands.

Habitat and Wildlife

27. In the future, if the applicant identifies that they wish to remove the decommissioned crane, removal of the crane must occur outside of the osprey pairs nesting season (April 1- October 1). Additionally, before crane removal, an evaluation shall be conduced to identify if alternative nesting platforms exist in the vicinity of Ravensdale Lake (and if the nest is still active). If no nesting platforms are identified, and the nest is still being active, the applicant may be required to construct an alternative nesting platform prior to crane removal.

28. The environmental checklist provided as part of a grading permit revision should provide information about affected habitat, wildlife, and vegetation.

Traffic

29. Specific grading permit conditions, King County road standards, and King County grading regulations require that roads be kept clean and are part of the current permit. No additional conditions are necessary, except the change that road washing is not an acceptable form of street cleaning, unless the operator can show mitigation for impacts of road washing.

30. King County Traffic engineering will be requested to review the current road haul agreement and assess the current condition of the road. The operator may be required by the traffic engineer to submit an updated or new haul road agreement consistent with current standards.

Administrative

31. Operator will perform the required analyses and engineering and submit an application for a permit revision accompanied by January 1, 2004 with the required supporting technical analysis and engineering. Failure to submit the revision in the time period may result in the finding that the operation is in violation of King County code. Violation may result in the posting of a Stop Work order and potentially expose the permit holder to civil penalties

I. Decision

King County DDES has established general conditions of approval that apply to the grading and clearing permits it issues. In addition, the department has reviewed and approved several mining operations in the last few years. Since many of the impacts of such operations are typical, DDES has developed conditions and requirements under applicable King County code authority that provide an appropriate level of mitigation and that are practical to implement and enforce.

The periodic review process with supporting file documentation provides a sufficient level of information from which to amend existing permit conditions, establish new conditions/mitigations, and/or require revisions to the existing permit. Based on the recommendations discussed in Section H of this report, the Grading Permit conditions are amended and adopted to include these recommendations (Exhibit 23) with the approval of this document subject to any appeals of the decision.

Operator will perform the required analyses and engineering and submit an application for a permit revision accompanied with the required information by January 1, 2004. Failure to submit the revision in the time period may result in the finding that the operation is in violation of King County code. Violation may result in the posting of a Stop Work order and potentially expose the permit holder to civil penalties

APPROVED subject to implementation of recommendations listed in Section H.

ORDERED THIS June 9th 2003

Joe Miles, Manager
Land Use Services Division
Dept. of Development and Environmental Services

Transmitted to the following Parties and Persons of Interest:

Jim Melfi, Reserve Silica
David Rogers, Reserve Silica
John Freeman, Reserve Silica
Randy Sandin, SDSS, LUSD, DDES
Joe Miles, Manager, LUSD, DDES

Exhibits:

Exhibit 1: Location of site
Exhibit 2: Land ownership and zoning
Exhibit 3: 1977 Environmental Checklist
Exhibit 4: Threshold Determination of Non-significance issued April 5, 1977
Exhibit 5: Environmental Checklist submitted March 20, 1981
Exhibit 6: Special Conforming Use permit for solid waste disposal issued August 28, 1981
Exhibit 7: Grading plans, approved December 15, 1989
Exhibit 8: Letter requesting change in permit conditions to allow import of fill materials
Exhibit 9: Email from SEPA planner concluding no additional SEPA review requirement.
Exhibit 10: Operator request to change conditions to expand hours of operation, August 20, 1999
Exhibit 11: Environmental checklist submitted August 20, 1999 in support of condition change.
Exhibit 12: Letter, (revised) approving permit change with conditions February 17, 2000.
Exhibit 13: Letter, August 9, 1999 requesting updated operating plans
Exhibit 14: Drainage plans submitted in response to request for updated plans.
Exhibit 15: Email from county engineer requesting drainage review, September 24, 1999.
Exhibit 16: Memo to mine inspector allowing operator to extract gravel.
Exhibit 17: King County request for information as part of the Periodic Review process, April 2, 2001
Exhibit 18: Information received in response to request for information (binder).
Exhibit 19: K. C. C. 21A.22, Development Standards – Mineral Extraction
Exhibit 20: K. C. C. 16. 82, Grading Code
Exhibit 21: Grading Permit 1122-718 conditions
Exhibit 22: Notice of Periodic Review, May 7, 2002

The complete file and all documents used in the review and preparation of this report are available for public viewing. You may arrange to review the record by contacting the Land Use Division Records Section at (206) 296-6640. Please reference the permit name and number when making your request.

RIGHT TO APPEAL

This action may be appealed in writing to the King County Zoning and Subdivision Examiner, with a fee of $250 (Check payable to the King County Office of Finance).

As required by KCC 20.24.090 and KCC 20.24.090, appeals must be filed within fourteen (14) calendar days from the date of transmittal (issuance of a decision).

Filing requires actual delivery to the King County Land Use Services Division prior to the close of business (4:30 p.m.) on the date due, and a copy must be provided to the Office of the Hearing Examiner. Prior mailing is not sufficient if actual receipt by the Division does not occur within the applicable time period. The Examiner does not have authority to extend the time period unless the Division is not open on the specified closing date, in which event delivery prior to the close of business on the next business day is sufficient to meet the filing requirement.

Once a Notice of Appeal has been filed, the appellant shall file a statement of appeal within 15 calendar days from the date of issuance of the decision. The statement of appeal shall identify the decision being appealed (including file number) and the alleged errors in that decision.

The statement of appeal shall state: 1) specific reasons why the decision should be reversed or modified; and 2) the harm suffered or anticipated by the appellant, and the relief sought. The scope of an appeal shall be based principally on matters or issues raised in the statement of appeal. Failure to timely file a notice of appeal, appeal fee, or statement of appeal deprives the Examiner of jurisdiction to consider the appeal.

Appeals must be submitted to the Department of Development and Environmental Services, addressed as follows:

LAND USE APPEAL
Land Use Services Division
Department of Development and Environmental Services
900 Oakesdale Avenue Southwest
Renton, WA 98055-1212

Any party may make a request for a pre-hearing conference. For more information regarding appeal proceedings and pre-hearing conferences, please contact the Office of the Hearing Examiner for a Citizens' Guide to the Examiner Hearings and/or read KCC Ordinance 11502 and KCC 20.24.

King County

Department of Development and Environmental Services
State Environmental Policy Act (SEPA)

Mitigated Determination of Non-Significance (MDNS)
For
Reserve Silica Corporation (L10RE002)

Date of Issuance:	February 17, 2012
Project:	Reclaim retired mining trenches by grading and filling with clean soil material to restore the site to open space or recreational uses. Material extractions operations ceased in 2007, and the site is now undergoing reclamation. Applicant requests revised hours of operation from the current 7:00 a.m. to 7:00 p.m., Monday through Friday and between 9 a.m. and 6 p.m. on Saturday to allow hauling and filling operations seven days a week/24 hours per day, subject to conditions and mitigations. The applicant intends to only operate outside the previously stipulated hours to accommodate public works projects sponsored by a Public Agency.
Location:	28131 Black Diamond-Ravensdale Road, postal cities Black Diamond and Ravensdale
King County Permit:	Grading Permit L10RE002
DDES SEPA Contact:	Mark D. Mitchell, Project/Program Manager III, 206-296-7119 or E-mail: mark.mitchell@kingcounty.gov
DDES Permit Contact:	Fred White, Site Development Specialist II, 206-296-6783 or E-mail: fred.white@kingcounty.gov
Proponent:	Reserve Silica Corp. Pete Cawfield, Operations Manager 28131 Black Diamond-Ravensdale Road. Ravensdale, WA.98051 425-432-1241
Zoning:	F (Forestry), M (Mineral)
Community Plan:	Tahoma/Raven Heights
Drainage Subbasin:	Lower Cedar River, WRIA 8, Covington Creek WRIA 9
Section/Township/Range:	SW 36-22-6/NW 1-21-6

Notes:

A. This finding is based on the revised Environmental Checklist (ECL) dated November 2, 2008 and an environmental noise analysis dated January 22, 2010, as well as other environmental documents in the file.

B. Issuance of this threshold determination does NOT constitute approval of the requested Grading Permit. This proposal will be further reviewed for compliance with all applicable King

County codes which regulate development activities, including KCC title 21A, King County Noise Ordinance, King County Road Standards, Surface Water Design Manual, and Critical Areas and Grading regulations.

C. During the initial SEPA comment period, and extended public comment period, correspondence was received from governmental agency's and concerned citizens. Principle concerns expressed were in regards to the proposed night time activities and associated truck traffic operations; that is: routes/intersections, intensity, hours, duration, public safety, and noise. Onsite impacts of concern were related to material quality, potential contamination of surface and ground water. In response to these concerns, the applicant conducted a community meeting on February 15, 2011, at the Black Diamond Community Center in order to provide additional project information and clarification and to hear comments and concerns from effected citizens. (See attachment). Subsequent to said meeting, the applicant amended the operational elements of the project by proposing twenty additional mitigations to address the communities concerns.

Threshold Determination

The responsible official finds that the above described proposal does not pose a probable significant adverse impact to the environment when viewed in the context of existing regulations and other available authorized mitigations. This finding is made pursuant to RCW 43.21C, KCC 20.44 and WAC 197-11 after reviewing the environmental checklist and other information on file with the Department and considering mitigation measures which this agency or the applicant will implement as part of the proposal. The responsible official finds this information reasonably sufficient to evaluate the environmental impact of this proposal.

The lead agency has determined that the requirements for environmental analysis, protection, and mitigation measures have been adequately addressed in the development regulations and comprehensive plan adopted under chapter 36.70A RCW, and in other applicable local, state, or federal laws or rules, as provided by RCW 43.21C.240 and WAC 197-11-158. The following additional mitigation measures are included under SEPA authority:

A. The hours of operation for clearing, grading, and hauling activities, unless otherwise specifically authorized by the DDES Director, shall be between 7:00 a.m.and 7:00 p.m., Monday through Friday and between 9:00 a.m. and 6:00 p.m. Saturday. Operations outside of these hours may be authorized by the DDES Director only for public works projects sponsored by a Public Agency. To receive approval, the applicant shall provide the DDES Director with the following:

1. A detailed project description document of the public works project(s) as it relates to the terms and conditions of the subject Grading Permit (L70G1122), including reasons for night time operations. Public bid documents and/or correspondence will satisfy this requirement and multiple projects may be submitted simultaneously.

   Said project documents shall include the following:

   a. Project scope and timeline
   b. Proposed haul routes and hauling frequency
   c. Proposed day time and night time hauling and/or onsite grading schedule.

2. After approval by the DDES Director and as long as the approved night time operations continue the applicant shall:

a. Maintain a dedicated phone mail box and/or email address available on a 24 hour basis to receive public comments, questions or concerns about the night time operations. Public notice shall be provided of the phone number and/or email address.
b. Annually the applicant shall conduct a public meeting to received comments, concerns and suggestions regarding the night time operations conducted over the prior year.
c. The applicant shall submit an annual report that documents the actual night time operations conducted based on the Director's authorization. The report shall include information on quantity, duration and source of the fill accepted by the applicant; compliance with the operational mitigations set forth in C below; the public comments and responses thereto received via the phone mail box and/or email address; and a summary of the public meeting comments.
d. The site operator shall make available to DDES a summary of any public comments received regarding nighttime operations at the site and measures taken to address said comments. The permittee shall maintain this summary in the form of a log of all calls and comments received onsite and keep this log available for inspection by the DDES Inspector. This shall be made available to DDES upon request.
e. The permittee shall provide routine periodic monitoring for compliance with the requirements of the noise ordinance and permit conditions related to noise for all night-time operations. The monitoring will be provided to DDES on a quarterly basis. If it is determined that the site is maintaining compliance with the noise standards, the frequency of the monitoring may be reduced upon written request by the permittee.

B. Prior to the initiation of hauling, the applicant shall enter into a haul road agreement with the King County Department of Transportation (KCDOT). Said haul road agreement shall include the provision of an Accelerated Deterioration Bond (ADB). The bond will be in the form of a cash assignment of funds. Said bond amount shall be established based on a "fair share" determination of night time operation impacts through a pavement analysis by KCDOT as subsequently recommended to DDES. The bond amount shall not exceed $25,000. (Details regarding the purpose and use of the bond are included in the standard haul road agreement between the applicant and KCDOT)

C. The following operational mitigations shall be employed for night time operations:

1. Engine brake use shall be prohibited.
2. Truck speed limit on site shall be limited to 15 mph between.
3. Dozer work shall occur during the day shift unless a noise study prepared by a qualified noise engineer shows that nighttime dozer operation will comply with applicable noise standards.
4. Lighting generators shall be equipped with noise suppression barriers.
5. Bumpers on tailgates shall be employed.
6. Directional or white noise backup alarms shall be employed on all equipment at night.
7. Empty truck/trailers leaving the wheel wash shall be limited to 5-10 mph until over the railroad crossing.

8. The speed limit between the railroad crossing and the last residence on the Black Diamond-Ravensdale Road shall be limited to 20 mph.
9. The exit roadway on the site shall be graded frequently to minimize wash boarding and ruts.
10. Use of "low wash" lighting shall be employed.
11. Lighting plants shall face south away from residential areas.
12. To the extent possible, night time dumping shall be on the low side of the pit below the ridge line.
13. Trucks shall go thru a wheel wash before entering the public roadway when needed to prevent dirt from being tracked onto the Black Diamond-Ravensdale Road..
14. The public roadway adjacent to the site shall at all times be washed and maintained to the satisfaction of the King County Department of Transportation.
15. The applicant shall post, in a conspicuous manner, and in a location adjacent to site entrance, a sign providing the name and 24 hour contact phone number for the community to utilize regarding night time operations.

Comments and Appeals

This determination is issued pursuant to the optional DNS/MDNS process in WAC 197-11-355. No further comment period is provided. There is no administrative appeal of this decision. Any appeals must be submitted to Superior Court.

Information about the project is available from the Building Services section of DDES. The application, permit studies and environmental documents may be reviewed at the address listed below.

Department of Development and Environmental Services
Building and Fire Division
900 Oakesdale Avenue Southwest
Renton, WA 98057-5212

Responsible Official:

Kimberly Claussen, Responsible Official
Planning and Customer Services Section
Building and Fire Services Division

Date

King County
Department of Permitting and Environmental Review
35030 SE Douglas St., Suite 210
Snoqualmie, WA 98065-9266
206-296-6600 TTY 206-296-7217
www.kingcounty.gov

FILE COPY

June 5, 2014

Reserve Silica Corp.
P.O. Box 99
Ravensdale, WA 98051

RE: Permit Extension Notification – Ravensdale Sand Pit L70G1122
Clearing/Grading File/Project L70G1122 – Activity #L12GI106

Dear Mr. Melfi:

This letter is to inform you that the above referenced project has been extended for 1 year from when the most recent grading permit extension expired under file L70G1122 and the permit is current through April 26, 2015. Enclosed is your copy of the signed Permit Extension Approval form and a fee summary. Please submit payment of the extension fees within thirty (30) days of the date of this letter. NOTE: The renewal fees under King County Code Title 27 were revised effective January 1, 2012. The attached billing reflects those changes from hourly to flat fees.

If you have any questions regarding the above, please contact me at 206 477-0363 or by **e-mail at fred.white@kingcounty.gov.**

Sincerely,

Fred White
Site Development Specialist II
Resource Products Line

Enclosures: (2)

King County
Department of Permitting and Environmental Review
35030 SE Douglas St., Suite 210
Snoqualmie, WA 98065-9266
206-296-6600 TTY 206-296-7217
www.kingcounty.gov

FILE COPY

Project No: L70G1122
Activity No: L12GI106

Date: June 5, 2014

PERMIT EXTENSION APPROVAL

INSP.: FWHI

Permit Type:	**G-INSPCT**	**Sub Type:**	**INSPGRAD**
Title:	**Ravensdale Sand Pit #1122-718**	**Date Issued:**	**06/05/2014**
Description:	**Silica sand processing, reclamation, import of suitable fill materials.**	**Expires:**	**04/26/2015**
Site Location:	**28131 Black Diamond-Ravensdale Rd. SE**	**Parcel No.:**	**362206-9065**

Applicant:	**Reserve Silica Corp.**	**Owner's Name:**	**Reserve Silica Corp.**
Address:	**P.O. Box 99** **Ravensdale, WA 98051**	**Address:**	
Phone No.:	**425-432-1241**	**Phone No.:**	

Other Information:

Please refer to the above project number when making inquiries regarding this extension. For Permit information or requests for inspections, call your Grading/Clearing Inspector at **206-477-0363.**

The above referenced project has been approved for issuance for a 1 year permit extension from when last permit renewal expired. All conditions attached to this project and its associated activities, if any, must be complied with by the contractor and verified by your Grading/Clearing Inspector or this permit will become null and void.

Approved By	**Title** SDS II	**Date** 6/5/2014

King County
Department of Permitting and Environmental Review
35030 SE Douglas St., Suite 210
Snoqualmie, WA 98065-9266
206-296-6600 TTY 206-296-7217
www.kingcounty.gov

May 14, 2015

FILE COPY

Reserve Silica Corp.
P.O. Box 99
Ravensdale, WA 98051

RE: Permit Extension Notification – Ravensdale Sand Pit L70G1122
Clearing/Grading File/Project GRDE15-0011

Dear Mr. Melfi:

This letter is to inform you that the above referenced project has been extended for 1 year from when the most recent grading permit extension expired under file GRDE15-0011 and the permit is current through April 26, 2016. Enclosed is your copy of the signed Permit Extension Approval form and a fee summary. Please submit payment of the extension fees within thirty (30) days of the date of this letter. NOTE: The renewal fees under King County Code Title 27 were revised effective January 1, 2012. The attached billing reflects those changes from hourly to flat fees.

If you have any questions regarding the above, please contact me at 206 477-0363 or by **e-mail at fred.white@kingcounty.gov.**

Sincerely,

Fred White
Site Development Specialist II
Resource Products Line

Enclosures: (2)

King County
Department of Permitting
and Environmental Review
35030 SE Douglas St., Suite 210
Snoqualmie, WA 98065-9266
206-296-6600 TTY 206-296-7217
www.kingcounty.gov

FILE COPY

Project No: L70G1122
Activity No: GRDE15-0011

Date: May 24, 2015

PERMIT EXTENSION APPROVAL

INSP.: FWHI

Permit Type:	G-INSPCT	Sub Type:	INSPGRAD
Title:	Ravensdale Sand Pit #1122-718	Date Issued:	05/14/2015
Description:	Reclamation, import of suitable fill.	Expires:	04/26/2016
Site Location:	28131 Black Diamond-Ravensdale Rd. SE	Parcel No.:	362206-9065

Applicant:	Reserve Silica Corp.	Owner's Name:	Reserve Silica Corp.
Address:	P.O. Box 99 Ravensdale, WA 98051	Address:	
Phone No.:	425-432-1241	Phone No.:	

Other Information:

Please refer to the above project number when making inquiries regarding this extension. For Permit information or requests for inspections, call your Grading/Clearing Inspector at **206-477-0363.**

The above referenced project has been approved for issuance for a 1 year permit extension from when last permit renewal expired. All conditions attached to this project and its associated activities, if any, must be complied with by the contractor and verified by your Grading/Clearing Inspector or this permit will become null and void.

Approved By	Title	Date
[signature]	SDSII	5/14/15

King County

Department of Permitting and Environmental Review
35030 SE Douglas St., Ste. 210
Snoqualmie, WA 98065-9266

Summary of Charges

Project Name: Reserve Silica Fill Site
Project Location: 28131 BLACK DIAMOND-RAVENSDALE RD

As of: 05/14/2015
Permit #: GRDE15-0011
PO Number:
Parcel Number: 3622069065
Permit Type: Mining

Customer:
RESERVE SILICA CORP
P.O. BOX 99
RAVENSDALE, WA 982501

FILE COPY

Permit Status: Inspections In Process

Fees

Fixed Fees Due at Issuance

Inspection, Mining and Industrial Uses - Active Sites, More Than 20 Acres	$9,284.00	
Total:		**$9,284.00**

Hourly Charges:

Project Cost to Date: **$9,284.00**

Payments

Date	Type	Check #/Trust #	Payee	Amount

Total Payments:

Total Balance of Project Cost **$9,284.00**

Based on information submitted by the applicant, King County DPER has determined the fee estimate for the subject application. The fees shown above represent current charges as of this date and do not include ancillary permit fees, project-related mitigation fees, or any other fees that are passed through to the applicant from other agencies or as part of the project's environmental review, including any finance charges that may be added due to overdue balances.

Hourly fees are charged at the rate in effect at the time of service. Where applicable, permit fees include a 5% surcharge per King County ordinance 16959. All fees must be paid in full before DPER issues Final Approval, T.C.O. or C.O.

For billing questions, please call 206-296-6659 or email BillingHotline.DPER@kingcounty.gov.

Reserve

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

February 29, 2016

FILE COPY

Reserve Silica Corporation
20 First Plaza, #308
Albuquerque, NM 87102

Re: SITE HAZARD ASSESSMENT: Facility Site ID # 2041

- Reserve Silica Site
- 28131 Ravensdale-Black Diamond Road
- Ravensdale, WA
- Property Tax #s: 0121069002, 3622069065, 3522069018, 3522069046
- Cleanup Site ID: 4728

Dear Sir or Madam:

This letter is to inform you of an error in the notification letter that I sent you on January 25, 2016. In that letter, I stated that the Reserve Silica site identified above was ranked a 2, however it was actually ranked a 1 indicating higher priority. I apologize for any inconvenience.

The correct rank of 1 was published in our Hazardous Sites List on February 17, 2016. The report is available here: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=4728.

To view the documentation the Department of Ecology (Ecology) has available electronically, on the right-hand side of the web-page, click on View Electronic Documents.

For inquiries regarding what may occur with your site now that it is on Ecology's Hazardous Sites List, please contact me at (425) 649-7135 or by email at priscilla.tomlinson@ecy.wa.gov.

Sincerely,

Priscilla Tomlinson

Priscilla Tomlinson
Site Hazard Assessments
Toxics Cleanup Program

cc: Ted Benson, Ecology
Donna Musa, Ecology
Madeline Wall, Ecology

Sandin, Randy

From: Dearborn, Keith W. <KDearborn@SCHWABE.com>
Sent: Monday, April 11, 2016 1:50 PM
To: Sandin, Randy; White, Fred
Cc: 'Bill Melfi'; 'Frank melfi'
Subject: RE: RS Interim Reclamation Plan

Hi Guys. Reminding you of this email/question/suggestion...Keith

---

From: Dearborn, Keith W.
Sent: Wednesday, March 30, 2016 3:24 PM
To: 'randy.sandin@kingcounty.gov'; 'White, Fred'
Cc: Bill Melfi; Frank melfi
Subject: RS Interim Reclamation Plan

Hi Randy and Fred. Bill Melfi forwarded the addition you made to the reclamation plan. I have several concerns about you added language in particular what is meant by reforestation. However, rather than address this I suggest we simply add some language from the Grading Code, KCC 16.82.040R, and Minerals provisions of the zoning code, RCW 21A.22.081C.6, to acknowledge the applicability of these code sections and provide some context. The additions are in bold. Hope you find them acceptable...Keith

KEITH W. DEARBORN | Shareholder
SCHWABE, WILLIAMSON & WYATT
1420 5th Ave., Ste. 3400, Seattle, WA 98101
Direct: 206-689-1200 | Fax: 206-292-0460 | Email: kdearborn@schwabe.com
Assistant: Feve R. Retonio | Direct: 206-407-1533 | fretonio@schwabe.com
Legal advisors for the future of your business®
www.schwabe.com

RS Interim Reclamation Plan

3. Prior to the bond release, the permittee and the department shall determine the Final reclamation/Revegetation requirements for the site **to accommodate the approved long term zoning classification.** Plantings **shall be indigenous to the surrounding area and appropriate for the soil, moisture and exposure conditions.** This may include reforestation.

D. The applicant shall prevent rocks, dirt, mud and any raw or processed material from spilling from or being tracked by trucks onto public roadways and shall be responsible for cleaning debris or repairing damage to roadways caused by the operation;

E. The applicant shall provide traffic control measures such as flaggers or warning signs as determined by the department during all hours of operation;

F. The operator shall control surface water and site discharges to comply with K.C.C. chapter 9.04 and the surface water design manual and K.C.C. chapter 9.12 and the stormwater pollution prevention manual. For the life of the mineral resource operation and until site reclamation is complete, the operator shall maintain a valid Washington state Department of Ecology National Pollutant Discharge Elimination System individual permit or maintain coverage under the sand and gravel general permit. The operator shall keep onsite and available for department review copies of the erosion and sediment control plan, the applicable National Pollution Discharge Elimination System individual or general permit and the Stormwater Pollution Prevention Plan. The operator shall make the plans and permit available for public inspection upon request. The operator shall provide to the department copies of the monitoring results on permit monitoring data submittal dates. The department shall make the monitoring results available for public inspection. If the department determines that National Pollution Discharge Elimination System monitoring frequency or type is not adequate to meet the demands of the site and the requirements of this subsection, the department may require more frequent and detailed monitoring and may require a program designed to bring the site into compliance;

G. The operator shall not excavate below the contours determined through hydrologic studies necessary to protect groundwater and the upper surface of the saturated groundwater that could be used for potable water supply;

H. If contamination of surface or ground water by herbicides is possible, to the maximum extent practicable, mechanical means shall be used to control noxious weeds on the site;

I. Upon depletion of mineral resources or abandonment of the site, the operator shall remove all structures, equipment and appurtenances accessory to operations; and

J. If the operator fail to comply with this section, the department shall require modifications to operations, procedures or equipment until compliance is demonstrated to the satisfaction of the department. If the modifications are inconsistent with the approved permit conditions, the department shall revise the permit accordingly. (Ord. 18000 § 103, 2015: Ord. 15032 § 30, 2004: Ord. 11621 § 68, 1994: Ord. 10870 § 445, 1993).

21A.22.081 Reclamation

A. A valid clearing and grading permit shall be maintained on a mineral extraction site until the reclamation of the site required under chapter 78.44 RCW is completed.

B. A reclamation plan approved in accordance with chapter 78.44 RCW shall be submitted before the effective date of a zone reclassification in Mineral-zoned properties or the acceptance of any development proposal for a subsequent use in Forest-zoned properties. The zone reclassification shall grant potential zoning that is only to be actualized, under K.C.C. chapter 20.24, upon demonstration of successful completion of all requirements of the reclamation plan. Development proposals in the Forest zone for uses subsequent to mineral extraction operations shall not be approved until demonstration of successful completion of all requirements of the reclamation plan except that forestry activities may be permitted on portions of the site already fully reclaimed.

C. Mineral extraction operations that are not required to have an approved reclamation plan under chapter 78.44 RCW shall meet the following requirements:

1. Upon the exhaustion of minerals or materials or upon the permanent abandonment of the quarrying or mining operation, all nonconforming buildings, structures, apparatus or

appurtenances accessory to the quarrying and mining operation shall be removed or otherwise dismantled to the satisfaction of the director;

2. Final grades shall:

a. be such so as to encourage the uses permitted within the primarily surrounding zone or, if applicable, the underlying or potential zone classification; and

b. result in drainage patterns that reestablish natural conditions of water velocity, volume, and turbidity within six months of reclamation and that precludes water from collecting or becoming stagnant. Suitable drainage systems approved by the department shall be constructed or installed where natural drainage conditions are not possible or where necessary to control erosion. All constructed drainage systems shall be designed consistent with the Surface Water Design Manual;

3. All areas subject to grading or backfilling shall:

a. incorporate only nonnoxious, nonflammable, noncombustible and nunputrescible solids; and

b. except for roads and areas incorporated into drainage facilities, be surfaced with soil of a quality at least equal to the topsoil of the land areas immediately surrounding, and to a depth of the topsoil of land area immediately surrounding six inches, whichever is greater. The topsoil layer shall have an organic matter content of eight to thirteen percent and a pH of 6.0 to 8.0 or matching the pH of the original undisturbed soil layer. Compacted areas such as pit floors or compacted fill shall be tilled or scarified prior to topsoil placement;

4. All reclaimed slopes shall comprise an irregular sinuous appearance in both profile and plan view and blend with adjacent topography to a reasonable extent;

5. Where excavation has penetrated the seasonal or permanent water table creating a water body or wetland:

a. All side slopes below the permanent water table and banks shall be graded or shaped as to not constitute a safety hazard;

b. Natural features and plantings to provide beneficial wetland functions and promote wildlife habitat shall be provided; and

c. Appropriate drainage controls shall be provided to stabilize the water level and not create potential flooding hazards;

6. All cleared, graded or backfilled areas, including areas surfaced with topsoil, shall be planted with a variety of trees, shrubs, legumes and grasses indigenous to the surrounding area and appropriate for the soil, moisture and exposure conditions;

7. Waste or soil piles shall be used for grading, backfilling or surfacing if permissible under this section, then covered with topsoil and planted in accordance with subsection C.3. and 6. of this section. Waste or soil piles not acceptable to be used for fill in accordance with this chapter or as top soil in accordance with subsection C.3. of this section shall be removed from the site; and

8. Where excavation has exposed natural materials that may create polluting conditions, including but not limited to acid-forming coals and metalliferous rock or soil, such conditions shall be addressed to the satisfaction of the department. The final ground surface shall be graded so that surface water drains away from any such materials remaining on the site.

D. The department may modify any requirement of this section when not applicable or if it conflicts with an approved subsequent use for the site. (Ord. 15032 § 32, 2004; Ord. 14199 § 223, 2001: Ord. 3108 § 9, 1977: Ord. 1488 § 12, 1973. Formerly 16.82.110).

21A.22.085 Mitigation and monitoring. The applicant shall mitigate adverse impacts resulting from the extraction or processing operations and monitor to demonstrate compliance with this chapter. (Ord. 15032 § 34, 2004).