



Cathy Wolfe
District One
Diane Oberquell
District Two
Robert N. Macleod
District Three

HEARING EXAMINER

BEFORE THE HEARING EXAMINER FOR THURSTON COUNTY

In the Matter of the Application of)	
)	FILE NO. SUPT 020612
Allen & Company, LLC)	
)	FINDINGS, CONCLUSIONS,
For Approval of a Special Use Permit)	AND DECISION
_____)	

SUMMARY OF DECISION

A Special Use Permit to mine approximately 20.6 million cubic yards of sand and gravel from a mine area totaling approximately 284 acres within a 497.3-acre project site is **GRANTED**, with conditions. The requested accessory uses (gravel washing, crushing, and sorting; asphalt and concrete recycling; and the import of 2,500,000 cy of clean fill) are **GRANTED**. The request to designate the 284-acre mine area as mineral resource lands of long-term commercial significance is **GRANTED**. The property is located at 13120 Tilley Road SW in Thurston County, Washington.

SUMMARY OF REQUEST

Request:

Allen & Company, LLC (Applicant) requested approval of a Special Use Permit (SUPT) to mine approximately 20.6 million cubic yards of sand and gravel from a mine area totaling approximately 284 acres within a 497.3-acre project site located at 13120 Tilley Road SW in Thurston County, Washington. The Applicant also requested that the 284-acre mine area be designated as mineral resource lands of long-term commercial significance.

Hearing Date:

The Thurston County Hearing Examiner held an open record hearing on November 21, 2005.

Testimony:

The following individuals presented testimony under oath at the open record hearing:

Tony Kantas, Associate Planner, Development Services Department
Arthur Saint, P.E., Roads and Transportation Department
John Ward, EH Specialist, Environmental Health Department

Alison Moss, Attorney representing Applicant
Jay Allen, Applicant Representative
Francis Naglich, Ecological Land Services, Inc.
Mara McGrath, Ecological Land Services, Inc.
Roy Garrison, Ecological Land Services, Inc.
George Bennett, Sub Terra, Inc.
Charles (Pony) Ellingson, Pacific Groundwater Group
Laura Van Dyke, Heffron Transportation Inc.
Ioana Park, BRC Acoustics & Technology Consulting
Matt Brookshire, Dept. of Natural Resources
Glenda McLucas
Jules Grele
David Frank
Sherry Frank
Todd Howard
William Aldridge
Joy Bush
Edgar Evans

Exhibits:

At the hearing the following exhibits were admitted as part of the record:

EXHIBIT 1 Development Services Department Staff Report, dated November 21, 2005

Attachment a	Notice of Public Hearing
Attachment b	Special Use Permit & Mineral Lands of Long-Term Significance Application
Attachment c	Vicinity Map
Attachment d	Site Plan
Attachment e	MDNS dated October 24, 2005
Attachment f	Roads & Transportation memo dated April 2, 2004
Attachment g	Roads & Transportation memo dated March 24, 2004
Attachment h	Health Department memo dated March 26, 2004
Attachment i	Letter dated September 29, 2005 from Alison Moss, Attorney at Law
Attachment j	Letter dated September 30, 2005 from Jessica Jensen, Attorney at Law
Attachment k	Letter dated September 27, 2005 from Joel Massmann, PhD, P.E.

Attachment l	Letter dated June 8, 2004 from the County to the Applicant
Attachment m	Letter dated November 7, 2005 from DOE
Attachment n	Letter dated October 19, 2005 from DOE
Attachment o	Letter dated April 9, 2004 from DOE
Attachment p	Letter dated February 20, 2004 from DOE
Attachment q	Letter dated February 6, 2004 from DOE
Attachment r	Letter dated April 9, 2004 from DOE (duplicate of Attachment o)
Attachment s	Letter dated September 19, 2002 from DOE
Attachment t	Letter dated November 18, 2004 from Black Hills Audubon Society
Attachment u	Contract Agreement between the Applicant and the Black Hills Audubon Society
Attachment v	Letter dated October 30, 2005 from Despina Varkados in response to the October 24, 2005 MDNS
Attachment w	<p>Comment letters received from the September 25, 2005 Notice of Application</p> <ol style="list-style-type: none"> 1. Gerald Petersen, PE, Engineering Manager – Washington Water Service Company, October 8, 2002 2. Tim Morgan, October 14, 2002 3. N. Joseph Lynch – Lynch Law Offices, October 8, 2002 4. Daniel Christoffer and Alaine Schumann, October 26, 2002 5. Mike Willis, Executive Secretary – Scott Lake Maintenance Co., Inc.
Attachment x	<p>Comment letters received from the March 26, 2004 MDNS (Copies provided to the Hearing Examiner. Available upon request)</p> <ol style="list-style-type: none"> 1. Margaret Radar and Rob Schanz, PE – Chehalis River Council, April 9, 2004 2. Janet Strong, April 9, 2004 3. Laurie Batten, April 2, 2004 4. R. Boyd Paine, April 9, 2004 5. Eric Rogers, April 9, 2004 6. Jerry Ayers, April 9, 2004 7. Earl Liss, April 9, 2004

8. Daniel Heath, April 9, 2004
9. Patrick Towner, April 9, 2004
10. Eric Erler - Capitol Land Trust, April 9, 2004
11. Mr. and Mrs. Herbert E. Brasher, April 8, 2004
12. Joy Bush, April 7, 2004
13. Ivan Rogers, April 8, 2004
14. N. Joseph Lynch, Lynch Law Offices, April 9, 2004
15. Patrick Dunn, South Sound Program Manager – The Nature Conservancy, April 8, 2004
16. Deborah Petersen, Environmental Specialist – Wash. State Parks and Recreation Commission, April 8, 2004
17. Jim Schafer, April 8, 2004
18. Sandy Swope Moody, Environmental Review Coordinator, Wa Natural Heritage Pgm - WA State DNR, April 8, 2004
19. Sue Danver, Conservation Chair – Black Hills Audubon Society, April 8, 2004
20. John Sanders, Received April 9, 2004
21. Jerry Lee Dierker, Jr., April 9, 2004
22. Matthew Brookshier, Surface Mining Reclamation Program, Geology & Earth Resources Div – WA State DNR, April 1, 2004
23. Ivan A. Rogers, April 7, 2004
24. Debbie Carnevali, Area Habitat Biologist – Wash. State Dept. of Fish and Wildlife, April 7, 2004
25. Jeffrey R. Foster, Ph.D., April 9, 2004
26. Jeri Berube, Administrative Coordinator – Wash. State Department of Ecology, April 9, 2004

Attachment y

Comment letters received from the May 4, 2004 MDNS

1. Joel Massmann, Ph.D, P.E. – Keta Waters, May 18, 2004
2. Linda Storm, Wetland Biologist, Aquatic Resources Unit – U.S. Environmental Protection Agency, Region 10, May 18, 2004
3. Sue Danver, Conservation Chair – Black Hills Audubon Society, May 18, 2004
4. Earl Liss, Received May 18, 2005
5. Tom Van De Laarshot, Received May 18, 2005
6. Michele Wolleat, Received May 18, 2005
7. Harvey Williams, Received May 18, 2005
8. Justin Williams, Received May 18, 2005
9. Michael Parfitt, Received May 18, 2005
10. Les Nettleton, Received May 18, 2005
11. Stephen Jackson, Received May 18, 2005
12. Jess Augichiodo, Received May 18, 2005
13. Patrick Towner, Received May 18, 2005

14. Mike Palko, May 17, 2005
15. Andrew Miller – Miller Properties, May 17, 2004
16. Michael Marsh, Chair, Conservation Committee – Washington Native Plant Society, May 6, 2004
17. Thor Hoyte, Attorney – Nisqually Indian Tribe, May 17, 2005
18. Jeri Berube, Administrative Coordinator – Wash. State Department of Ecology, May 18, 2004
19. Mike Silva, May 18, 2004
20. Marlene Hohn, May 17, 2004
21. Gwen Atkinson, May 17, 2004
22. Robert Hemphill, May 17, 2004
23. Laurie Batten, May 17, 2004
24. Terry and Ken Frasl, May 17, 2004
25. Paul Allen, MD, May 18, 2004
26. Jerry Lee Dierker, Jr., May 18, 2004
27. Neoma Andrews, Received May 11, 2004
28. Trudy White, May 13, 2004
29. Jeff Gilmore, Received May 17, 2004
30. Joy Bush, May 17, 2004
31. The David Frank Family May 17, 2004
32. (Illegible), received May 14, 2004
33. Laurie Batten, May 16, 2004
34. Harold and Barbara Peterfeso, Received May 16, 2004
35. Bruce Ritter, May 14, 2004
36. John Sanders, May 18, 2004
37. Ellen Ann Brown, Attorney at Law – Brown and Seelye, May 22, 2004
38. William Aldridge, May 17, 2004
39. Sue Danver, Black Hills Audubon Society, May 3, 2004

Attachment z	April 8, 2004 letter from DNR
Attachment aa	October 20, 2005 letter from Thor A. Hoyte, Nisqually Indian Tribe
Attachment bb	May 17, 2004 letter from Thor A. Hoyte, Nisqually Indian Tribe
Attachment cc	<p>Application Packet including:</p> <ol style="list-style-type: none"> 1. Application Packet <ol style="list-style-type: none"> a. Full Size Maps b. 11x17 reduced copy of site plan c. Supplemental Information for Type III Application d. Narrative Summary of Proposed uses e. Full Legal Description f. Details on existing structures g. Applicant comments on mineral extraction standards

h. Request for designation of Mineral Resource Lands of
Long Term Significance

- Appendix A Hydrogeologic Analysis
- Appendix B Surface Water Management
- Appendix C Wetland Boundary Survey and Rating System
- Appendix D Habitat Management Plan
- Appendix E Traffic Impact Analysis
- Appendix F Sound Analysis
- Appendix G Mining Reclamation Plan
 - Form DNR SM-6
 - Form DNR SM8-A
- Appendix H Spill Prevention Plan
- Appendix I Contingency Plan

EXHIBIT 2 Memorandum from Tony Kantas, re: Additional Recommended Conditions, dated November 21, 2005

EXHIBIT 3 Comment Letter from David Frank, dated November 9, 2005

EXHIBIT 4 Comment Letter from William Aldridge, dated November 16, 2005, including Newspaper Article titled “Wind Farm Developer Loses Court Appeal,” undated

EXHIBIT 5 Comment Letter from Thor A. Hoyte, Attorney, Nisqually Indian Tribe, dated October 23, 2005

EXHIBIT 6 Comment Email from Despena E. Varkados, dated November 18, 2005

EXHIBIT 7 Comment Letter from Susan C. Danver, Black Hills Audubon Society, dated November 18, 2005

EXHIBIT 8 Applicant’s Hearing Exhibits, including 25 Exhibits as follows:

- 8.1 Plan View of Zoning
- 8.2 Original proposed mine boundary
- 8.3 Revised Mine Boundary
- 8.4 Letters from WA Department of Fish and Wildlife, Black Hills Audubon Society, and Capitol Land Trust dated November 18, 2005
- 8.5 Letter from Nisqually Tribe (duplicate of Exhibit 5)
- 8.6 Letter from Archeological Investigations Northwest
- 8.7 Letter to County from J. Allen
- 8.8 Proposed Phasing Condition
- 8.9 Expert Resumes for
 - 8.9.1 Francis Naglich, Wetland Biologist
 - 8.9.2 Mara McGrath, Biologist/Botanist
 - 8.9.3 George Bennett, Professional Geologist
 - 8.9.4 Roy Garrison, Soils Reclamation Specialist

- 8.9.5 Charles Ellingson, Hydrogeologist
- 8.9.6 Laura Van Dyke, Transportation Engineer
- 8.9.7 Ioana Park, Environmental Noise Consultant
- 8.10 Critical Areas Maps
- 8.11 Letter from Sub Terra to Arthur Saint re: drainage exemption
- 8.12 Parcel Map
- 8.13 Reclamation Plan
- 8.14 Corrections to SEPA environmental checklist
- 8.15 Ground Water maps (several figures, cited by title in findings)
- 8.16 Street System Map (several figures, cited by title in findings)
- 8.17 Memo from Arthur Saint, Roads and Transportation Services, 12/10/02
- 8.18 Memo from Arthur Saint, Roads and Transportation Services, 2/6/03
- 8.19 Letter from WSDOT
- 8.20 Letter from Parametrix
- 8.21 SubTerra Pavement Analysis
- 8.22 Heffron Summary of Conservative Assumptions
- 8.23 Reports and correspondence relating to transportation impacts
- 8.24 Noise Analysis information
- 8.25 BRC Acoustics Letter

EXHIBIT 9 Map Depicting David and Cheri Frank's Home, submitted by David Frank

EXHIBIT 10 Three color Photographs of Public Notice Sign for Project, submitted by David Frank

EXHIBIT 11 Letter from William Aldridge, dated December 9, 2005¹

EXHIBIT 12 Extension of Time for Issuance of Decision, dated November 21, 2005

EXHIBIT 13 Extension of Time for Issuance of Decision email from Alison Moss, dated December 14, 2005

Based upon the record, the Hearing Examiner enters the following Findings and Conclusions:

FINDINGS

Background

1. The Applicant requests approval of a Special Use Permit (SUPT) to mine approximately 20.6 million cubic yards (cy) of sand and gravel from eight mine areas totaling approximately 284 acres within a 497.3-acre project site located at 13120 Tilley Road SW in Thurston County, Washington, approximately ten miles south of the City of

¹ Exhibit 11 was offered by Mr. Aldridge 18 days after the close of the record. Mr. Aldridge, who left before the hearing adjourned, submitted Exhibit 11 to support testimony he gave at the hearing. It does not provide new evidence or information except for naming the sources of Mr. Aldridge's information about the volume of noise generated by grinders. Its admission is not prejudicial.

Olympia.^{2,3} The Applicant also proposes accessory uses including administrative offices, the import of clean fill for use in the reclamation project, washing, crushing and sorting of gravel, and asphalt and concrete recycling. The proposal includes 300 square feet of increased impervious surface for the modular scale house and administrative offices. The Applicant proposes to conduct the mining operation over a period of 20 years and requests that the 284-acre mine area be designated as mineral resource lands of long-term commercial significance. *Exhibit 1, page 1; Exhibit 1, Attachments b, d, and j; Exhibit 1, Attachment cc, Narrative Summary.*

2. The 497.3-acre project site is south of Millersylvania State Park within a 1,613-acre area owned by the Applicant. The Applicant's property abuts Tilley Road SW at its western boundary. The Tacoma Rail Mountain Division rail line crosses the northern portion of the property from east to west. The Applicant's overall property contains Mima Mounds.⁴ *Exhibit 8.6, AINW Report, dated November 17, 2005, page 2.* The site's southern boundary is 143rd Avenue SE. The site has convenient access to Interstate 5 (I5) from a full interchange approximately 2.5 miles west of the site. Surrounding land is largely in agricultural and forestland uses in parcels ranging from five to 160 acres in size. Rural single-family residences are dispersed throughout the vicinity. A single-family residence is located on the property north of and adjacent to the entrance road into the mine area on Tilley Road SW. There is an existing single-family residence at the northeast corner of the intersection of Tilley Road SW and Maytown Road. Approximately 11 residences are located between the proposed project and I5. *Exhibit 1, page 3; Exhibit 1, Attachment cc, Narrative Summary; Testimony of Mr. Allen.*
3. The Applicant's property is the terminal moraine of a plain of Vashon recessional outwash left behind as the Vashon Glacier receded. It existed as a prairie prior to European settlement of the area. After settlement, the prairie became forested. Portions of the Applicant's property were historically used for grazing and timber production. By the 1990s, large areas had been logged, making room for invasive species such as Scotch Broom and Himalayan blackberry. The logging activities apparently substantially modified the surface, which is unnaturally flat. *Exhibit 8.6, AINW report, pages 2-3; Exhibit 8.10, 2002 Aerial photograph; Testimony of Mr. Bennett.*

² Throughout this decision, the term "mine area" will refer to the 284 acres proposed for active mining, and the term "project site" will refer to the 497.3-acre area within the Applicant's overall ownership of 1,613 acres.

³ The legal description of the property includes portions of Sections 1, 2, 11, 12 Township 16 North, Range 2 West; known as Tax Parcel Nos. 12601130000, 12601340100, 12601400000, 12602300000, 12602320500, 12602330100, 12602340000, 12602430000, 12602440000, 12603410100, 12611110100, 12611110200, 12611120000, 12611120100, 12611130100, 12611200000, 12612100000, 12612120100, 12612210100, 12612210200, 12612210300, 12612220100, 12612220200, and 12612220300. The full legal description is found at Exhibit 1, Attachment cc, Application Packet, Exhibit A.

⁴ Mima Mounds are rare topographical features that appear to be natural in origin and appear in many native outwash plains. How they were formed is not known. *Exhibit 8.6, page 2.*

4. Approximately 700 acres in the north central portion of the overall ownership, including the project site, were used for industrial manufacturing of explosives for a period of at least 55 years.⁵ This activity resulted in groundwater and soil contamination. Because of the condition of the site, the Washington State Department of Ecology (DOE) and the Applicant entered into a Model Toxics Control Act (MTCA) Agreed Order requiring a Remedial Investigation and Feasibility Study (RI/FS) for the site. The RI/FS concluded that interim cleanup actions are to be taken. The RI/FS study area contains the mining area subject to the present application. See *Exhibit 1, Attachment cc, Appendix I, Figure 7, Overlay of Proposed Mining Areas and Environmental Areas of Interest*.
5. Pursuant to the Agreed Order, as mining areas are cleaned up or determined not to be contaminated, DOE will provide written notice to the Applicant, who may then mine the areas as they are released. After a determination that the areas are not contaminated, DOE has already released Areas 1 and 2, which contain approximately 72 acres north of the railroad in the northeastern corner of the project site. Additional mining areas would be released for active mining after they are deemed clean by DOE and appropriate notice has been given. The Applicant submitted a proposed phasing condition of approval, which the County then recommended. *Exhibit 2*. The RI/FS is expected to be completed in 2006. *Exhibit 8.6, AINW Report, page 3; Exhibit 1, Attachment o, DOE letter from Jeri Berube, dated April 9, 2004; Exhibit 1, Attachment m, DOE letter from Mike Blum, dated November 7, 2005; Exhibit 1, Attachment q, DOE letter from Rebecca Lawson, dated February 6, 2004; Exhibit 8.7; Exhibit 8.8; Exhibit 1, Attachment cc, Narrative Summary; Exhibit 1, Attachment p, DOE letter from Mike Blum, dated February 20, 2004; Testimony of Mr. Allen*.
6. The overall property has domestic water service, industrial water rights, and water conveyance features including fire hydrants. Existing buildings on the site have electricity, water, and phone service.⁶ *Exhibit 1, page 3*. The Applicant has two water right certificates that allow industrial use consistent with gravel mining and processing. Together, the certificates provide 371 acre-feet per year and an instantaneous rate of 230 gallons per minute (gpm). This amount of water would be sufficient to support the proposed operations. *Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 report*. The Applicant indicated that no additional utilities would be required. *Exhibit 1, Attachment cc 1, Environmental Checklist*.
7. Within the Applicant's entire property ownership are wetland, riparian, native outwash prairie, and oak woodland habitats that house and feed many species, some of which are threatened or endangered. Jurisdictional wetlands and associated buffers are found along Beaver and Allen Creeks in the south and west portions of the site, and along the north boundary of the project site. A large native outwash prairie occupies the majority of the

⁵ For a full description of the historical industrial uses of the site, see the HartCrowser September 27, 2005 report and the AINW report. *Exhibit 1, Attachment cc, Appendix I; Exhibit 8.6, page 3*.

⁶ A list of existing on-site structures and descriptions thereof can be found in Exhibit 1, Attachment cc, Application Packet.

Applicant's overall ownership. There are four Oregon Oak Woodland stands in the Applicant's property. All mining operations and accessory uses have been designed to avoid critical areas, protected habitats, and threatened species. When the mining operation is complete, the property would revert to non-industrial rural uses. The proposed reclamation plan would create lakes, wetlands, and upland forest areas. *Exhibit 1, page 3; Testimony of Mr. Kantas; Testimony of Mr. Allen.*

Zoning

8. The proposed 284-acre mine area contains two zoning designations. Approximately 70% of the western portion of the mine area has a Rural Resource Industrial (RRI) zoning designation. *Exhibit 1, Staff Report, page 3; Exhibit 8.1, "Maytown Aggregates Zoning Map."* The intent of the RRI district is to provide areas where industrial activities and other uses dependent upon agriculture, forest practices, and minerals may be located. The district also allows uses that involve the processing, fabrication, wholesaling, and storage of products associated with natural resource uses. The RRI district requires industrial uses to be functionally and visually compatible with the character of the rural area. *Thurston County Code (TCC) 20.29.010.*
9. The remaining 30% of the proposed mine area has a Rural/Residential Resource – One Dwelling Unit Per Five Acres (RRR1/5) zoning designation. *Exhibit 1, Staff Report, page 3.* The purpose of the RRR1/5 zoning district includes the provision of opportunities for agricultural, forestry and other rural land uses that are compatible with rural residential uses, that protect sensitive environmental areas and create open space corridors; that are sensitive to the site's physical characteristics; and that do not create demands for urban level services. *TCC 20.09A.010.*
10. Mineral extraction is allowed in both zones with approval of a SUPT and provided that the Washington State Department of Natural Resources (DNR) approves a reclamation plan. In review of the present application, the following standards are considered: the general standards set forth in TCC 20.54.040, the use specific standards set forth in TCC 20.54.070, and the standards found in the mineral extraction code. *Exhibit 1, page 3; Testimony of Mr. Kantas; TCC 20.54.*

Mining Plan

11. Sand and gravel would be extracted from eight different mining areas within the project site. The boundaries of the eight proposed mine areas are irregular, with widths ranging from 2,650 to greater than 9,600 feet. The 284-acre mine area is setback between 100 and 1,000 feet from all property lines of the Applicant's overall property ownership. When the mining operation is completed, the site would be reclaimed as commercial forestland and recreational lakes. Excavation below the water table would create eight excavated lakes ranging from 4.5 to 48 acres to be developed as wildlife areas. Three accessory uses to mineral extraction are also proposed: the washing, sorting, and crushing of sand and gravel; recycling 100,000 tons of asphalt and concrete annually; and, importing clean soils, in addition to the construction of administrative offices. Approximately 2,500,000 cy of clean fill material would be imported to a western 44-acre portion of the site as part of the reclamation project for site enhancement. The

Applicant has noted that it may be necessary to have two mining areas in operation at any given time. *Exhibit 1, pages 2-3; Exhibit 1, Attachment b; Exhibit 1, Attachment cc, Application Packet, Environmental Checklist Figure G3; Exhibit 8.14, SubTerra Report November 18, 2005, pages 3-4.*

12. The projected life of the mine is 20 years. Operations would commence with an initial start up and construction period during which the rock-processing infrastructure, (e.g., the wash plant, rail siding, etc.) would be installed. Ground preparation and stripping of mine area 1 would occur during the initial start up phase. The Applicant estimates that 2,000,000 tons of aggregates would be removed from the site annually during full capacity production, 1,000,000 tons by truck and the remainder by train. Projections indicated that up to 478 trucks would depart the site per day and one 50-car train at full capacity. *Exhibit 1, Attachment cc, Narrative Summary; Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 Hydrogeologic Analysis .*
13. Initial work in each mine area would follow a similar process. First, the land would be stripped and cleared. The topsoil overburden would be stockpiled around the perimeter of the mine area. Excavation of mine area 1 would extend down to the elevation of 160 feet, approximately 55 feet below the water table. After excavation is complete, the perimeter of the mine area would be reclaimed, using the stockpiled topsoil to create the desired slopes around the edges of the proposed 40-acre lake. Reclamation of mine area 1 would proceed immediately after mining there is completed. *Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 Hydrogeologic Analysis.*
14. Proposed hours of operation are 7 a.m. to 7 p.m. Monday through Saturday, which is consistent with the County's requirements for mineral extraction operations adjacent to residential zoning districts. Approximately 15 people would be employed full time on site. The Applicant would provide at least one off-street parking space for each full time employee and at least two additional visitor spaces. *Exhibit 1, Attachment cc, Application Packet: Narrative Summary and Review of Mineral Extraction and Special Use Standards.* While the County Mineral Extraction Code (Chapter 17.20 TCC) limits the hours of operation for gravel mining and accessory uses (including asphalt production) within or adjacent to residential districts to 7:00 a.m. to 7:00 p.m. Monday through Saturday, certain activities are exempt from this limitation, including hauling to jobs under contract with a public agency when public notice is provided, with County approval. *TCC 17.20.115.* On-site lighting would be necessary for work during dark hours, especially during the winter. Outdoor and security lights would be a maximum of 30-feet tall and would be shielded with top plates to focus light downward to prevent glare onto adjacent properties. *Exhibit 1, Attachment cc, Application Packet, Review of Mineral Extraction and Special Use Standards.*
15. The import of clean fill soil for reclamation purposes would allow for more efficient use of truck and train trips, in that it would prevent all trucks and trains from entering the site empty. *Exhibit 8.14, SubTerra Report November 18, 2005, page 4.*

16. No hazardous materials or fuel would be stored or disposed of on-site. All equipment would be fueled from mobile fueling trucks. All equipment lubricants would be biodegradable. Fueling operations would occur on a concrete pad furnished with appropriate spill containment design. The Applicant has submitted a Spill Prevention Plan. (See Exhibit 1, Attachment cc, Appendix H.) *Exhibit 1, Attachment cc, Narrative Summary and Appendix H; Testimony of Mr. Bennett.*
17. In response to a request from the County, HartCrowser issued an Environmental Contingency Plan in December 2002, updated on September 27, 2005, reporting the impacts of previous on-site industrial activities on the quality of the aggregate products proposed for mining and use elsewhere. HartCrowser is presently conducting pre-project construction environmental screening in conjunction with the Site-Wide RI/FS and additional on-going site investigations through DOE. The Environmental Contingency Plan in effect during mining operations would implement measures to ensure that the quality of mined materials is appropriate for future use. During excavation, operators would continuously examine materials for evidence of industrial debris and characteristics associated with contamination, such as soils containing unusual staining, sheen, crystalline material, or odor. The contingency plan would require specific measures to be followed if suspect material is encountered. *Exhibit 1, Attachment cc, Appendix I, HartCrowser September 27, 2005 Report.*

Proposed Accessory Uses

18. The Applicant requested approval of several accessory uses associated with mineral extraction: construction of administrative offices; recycling of 100,000 tons of asphalt and concrete annually; on-site aggregate washing, sorting, and crushing; and, importing 2,500,000 cy of clean fill material. *Exhibit 1, Attachment b, Application.*
19. The Applicant proposed to recycle up to 100,000 tons of asphalt and concrete at the site annually. Materials to be recycled would be trucked to the project site and stored on a pad in the north central portion of the property. (See *Exhibit 1, Attachment cc, Appendix A, Figure 3.*) The material would be broken with a hydraulic hammer and modular crusher system within the pad area, stockpiled, and trucked off-site for re-sale. Approximately 2,500,000 cy of clean fill material would be imported to a of approximately 44 acres in size in the northwestern portion of the site, south of the railroad. The imported fill material would be used in the reclamation plan to create an upland hill for reversion to into forestland. *Exhibit 1, Staff Report, pages 9-10; Comment of Ms. Moss; Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 Hydrogeologic Analysis.*
20. Asphalt recycling is permitted in the underlying zoning district subject to SUPT approval. *TCC 20.54.070(21)*. County Planning Staff indicated that a recycling/solid waste permit from the Thurston County Environmental Health Department would be required. This permit has not yet been issued. *Testimony of Mr. Ward.* The aggregate washing process would be required to comply with the Thurston County Drainage Design and Erosion Control Manual. Condition Number 30 of the MDNS requires the operator to obtain certification from the sender of the construction fill that the material is clean, as defined

in Section 1.3 of the Settlement Agreement (*Exhibit 1, Attachment u* – refer to Finding number 81 below), is suitable for construction of hills on the property, and, if approved by Department of Natural Resources, is suitable for placement in open water.⁷ *Exhibit 1, Staff Report, pages 9-10; Testimony of Mr. Kantas.*

21. TCC 17.20.100 requires the Applicant to obtain all required preconstruction approval permits from the Olympia Region Clean Air Agency (ORCAA, formerly the Olympic Air Pollution Control Authority, OAPCA). The United States Environmental Protection Agency and DOE also have jurisdiction of air quality on-site. A condition of MDNS approval requires the Applicant/operator to satisfy the standards of each agency. The Applicant stated that it has consulted with ORCAA and is in the process of preparing the appropriate application. ORCAA did not submit comments on the proposed applicants. *Exhibit 1, Staff Report, page 13; Exhibit 1, Attachment e, MDNS; Exhibit 1, Attachment m; Testimony of Mr. Kantas.*

Ground Water

22. Nearby property owners expressed concerns over impacts to domestic water supplies from the proposed mining operation. The homes along Tilley Road SW, west of the site, 143rd Avenue south of the site, and Angus Drive east of the site are presumably served by domestic wells from the glacial outwash aquifers that underlie the project site. Wells along 143rd Avenue are south of Beaver Creek; because they are not downgradient from the proposed mining operations, they would not be impacted. The wells most that could be impacted are two off-site domestic wells northeast of the mine area.⁸ No off-site domestic wells are located within 1,000 feet of mining pits. *Exhibit 8.15, Locations of Off-Site Wells; Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 report.* Conservation agencies and organizations also expressed concerns over the adequacy of hydrologic review performed by the Applicant regarding impacts of potential groundwater fluctuations from the project on adjacent streams and wetlands, which contain sensitive and protected species of plants, fish, and animals. *Exhibit 1, Attachments x and y; Testimony of Mr. Ellingson.*
23. The site receives approximately 51 inches of precipitation per year. Approximately 25 inches per year recharges the aquifer. The remainder of the rainfall evaporates or is transpired by plants. Due to the highly permeable surfaces in the site, runoff is relatively small in quantity. The majority of the site contains no runoff channels.⁹ The site's creeks are relatively shallow and associated with riparian wetland complexes rather than incised into the land. Groundwater travel time from the project site to the boundaries of the Applicant's overall property ownership ranges from six months to two years. Existing

⁷ Please refer to Findings 82 and 83 for information regarding the MDNS.

⁸ These two wells are not represented in Department of Ecology well records. *Exhibit 8.15, Locations of Off-Site Wells.*

⁹ DOE inquired about a potential runoff channel flowing north to south from the northeast corner of the site through the proposed mine area. The Applicant's wetlands biologist determined that no such runoff channel exists on-site. *Testimony of Mr. Naglich; Exhibit 8.10, Figure "Thurston County Map".*

seasonal, natural fluctuations in water levels range from four to 11 feet annually. *Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 report; Testimony of Mr. Ellingson; Exhibit 8.15, Figure "Groundwater Travel Time"; Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group September 2005 report, page 6.*

24. Ground water generally flows across the site from east to west. Substantial amounts of subsurface flow travel west toward Deep Lake, with a smaller subsurface flow parallel to Beaver Creek as it exits the Applicant's overall ownership in the southwestern portion of the site. Groundwater seeps into the ground at a rate ranging from six to ten feet per day. Water samples taken from several site wells in 1996 showed generally high quality water that meets drinking water standards, with a few localized areas of high iron, manganese, and chloride. Localized soil and groundwater contamination associated with gunpowder manufacturing materials was also identified.¹⁰ The extent of groundwater contamination was small, being detected in one of four monitoring wells installed near a known drum disposal site.¹¹ The Applicant's entire property is undergoing an environmental investigation and cleanup project. (See Finding number 4.) *Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group report; Exhibit 8.15, Ground Water Flow Direction; Exhibit 1, Attachment cc, Appendix I Exhibit 1, Attachment o, DOE letter from Jeri Berube, dated April 9, 2004; Exhibit 1, Attachment m, DOE letter from Mike Blum, dated November 7, 2005; Exhibit 1, Attachment q, DOE letter from Rebecca Lawson, dated February 6, 2004; Testimony of Mr. Ellingson.*
25. Potable domestic water from an existing Group B public system on-site would be used to provide water and septic service to employees. These water uses would have minimal to no impact on site hydrology. *Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 report, page 18.* Conditions of MDNS approval require the Applicant to obtain final Group B water system and septic system approval prior to release of any building permits for the project. *Exhibit 1, Attachment e, MDNS.*
26. The proposed creation of lakes would increase the rate of evaporation over the existing rate without standing surface water. The increase in evaporation could translate into a reduced groundwater discharge rate somewhere else within the drainage basin. According to the modeling done by the Applicant's groundwater consultants, groundwater discharge occurs to the east towards Deep Lake and to the south to Beaver Creek. Both areas would be expected to experience slight reductions in discharge, which would result in slightly lower water levels. *Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 Report, page 19.*
27. Excavation of aggregate and the creation of lakes tend to cause a lowering of groundwater levels upgradient of the lakes and a slight increase in groundwater levels

¹⁰ The primary contaminant of concern from previous explosive manufacturing operations is dinitrotoluene. *Exhibit 1, Attachment cc, Appendix A, page 13.* Information from the internet on dinitrotoluene was provided by a member of the public in Exhibit 1, Attachment x.

¹¹ For a more complete discussion of RI/FS well water testing results, see pages 6 and 7 of the HartCrowser report. *Exhibit 1, Attachment cc, Appendix I.*

downgradient of the lakes. This is known as the “lake effect.” Modeling performed by the Applicant’s groundwater consultants indicates that the lake effect would have a greater impact than increased evaporation on surface and ground waters. Maintenance of augmented side-wall sediments in the created lakes can mitigate the impacts of the lake effect. The Applicant provided a recommended long-term groundwater monitoring and mitigation plan incorporating management of the sediment layers in the sidewalls of the lakes to reduce the lake effect. *Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 report, pages 19-20.* Because the lake effect follows ground water flows, hydrology east and west of the project site could be impacted, but not south and north of the site. *Testimony of Mr. Ellingson.*

28. Another possible impact on groundwater would be temporary drawdown of water levels in the aquifer within 1,000 feet from mining pits. Modeling for the site indicated that water levels in the aquifer would be expected to be reduced by less than one foot as a result of temporary drawdown. *Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 report, pages 19-20.*
29. Groundwater temperature fluctuations are a possible impact on temperature sensitive species that live in groundwater-fed wetland and stream habitats. In the winter, surface water temperatures in the pit lakes would be colder than groundwater temperatures, and in the summer, surface water temperatures would be warmer than the groundwater temperature. In the present case, temperature fluctuations are not expected to be significant; nor are temperature changes anticipated to survive the recharge process and actually affect water temperatures in streams and wetlands. *Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 report, page 21.*
30. Increased turbidity in the groundwater could result from the dredging of aggregates. Wash water from the aggregate processing plant would be highly turbid and would re-infiltrate into the aquifer, presenting another potential source of groundwater turbidity. Wash water would be routed to a settlement pond lined with sand to remove fines. Travel time of wash water from the settlement pond to the mine boundary is projected to be one year, based on modeling. Because the proposed settlement pond would be isolated by distance from surface waters or wells, the pond is not expected to be a significant source of increased groundwater turbidity. The highly permeable soils of the project site would be anticipated to capture most fine sediments as water recharges into the aquifer. *Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 report, pages 21-22; Testimony of Mr. Ellingson.*
31. The Applicant’s groundwater consultant determined that the lake effect on groundwater flow and discharge could be mitigated by managing sedimentation of the lakes’ side walls. A proposed groundwater monitoring plan would start with the gathering of baseline groundwater data against which ongoing monitoring results would be compared. The consultants recommended that mining operations proceed without intentional sedimentation of lake sidewalls, but rather that the natural process of sediment capture be allowed to occur, which would create a sediment “skin” on the bottom and sides of the pit lakes as water seeps into the aquifer. If groundwater quality or quantity impacts were

discovered, low-permeability sediment augmentation would be implemented locally on an as-needed basis to maintain similar groundwater levels to the pre-project condition. Data would be periodically reviewed and interpreted by a hydrologist. *Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group July 2002 report, pages 22-23.*

32. Full details of the revised proposed groundwater quantity and quality monitoring plan are found in Exhibit 1, Attachment cc, Appendix A, Attachment B. The plan requires monitoring at 17 stations inside and around the project site. *See Exhibit 8.15, Figure "Work Performed," with monitoring wells depicted in yellow.* Four of the stations are specific to the NPDES monitoring requirements. Thirteen stations are provided to monitor and protect off-site wells and the adjacent wetlands: five are located near the proposed pit lakes, upgradient and downgradient, and eight perimeter stations are located closer to the off-site water sources (e.g., wells, creeks, wetlands, and lakes). The monitoring stations would provide data necessary to address possible future impairment of off-site well supplies, changes in water levels and quality, and the required NPDES monitoring. The most recent modeling performed by Pacific Groundwater Group shows that any water level impacts resulting from the project would be minor and would be able to be mitigated through management of low permeability fines deposited on the sidewalls of the pit lakes. *Exhibit 1, Attachment cc, Narrative Summary; Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group September 26, 2005 letter; Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group's Response to Comments on Thurston County MDNS, April 23, 2004; Testimony of Mr. Ellingson.*
33. The Applicant proposes to do a baseline water level and water quality survey, including interview of neighboring well owners, of domestic wells in the vicinity when development is approved. The Applicant would also re-inventory every five years. Data from the Applicant's monitoring activities would be made public. *Testimony of Mr. Ellingson; Exhibit 8.15, Assurances for Off-Site Well Owners.* Minimum requirements of the baseline survey of domestic wells are established in Condition No. 6 of the MDNS, including identification of off-site wells in specific locations around the site and gathering information on each well, including (but not limited to) the following: owner; location; contact information; depth to static water level; pumping rate; specific conductance; pH; turbidity; odor; iron-related bacteria activity measure; and appearance of well house, well, and water. The condition of MDNS approval requires the Applicant (or subsequent operator) to re-inventory the identified wells once every five years. *Exhibit 1, Attachment e, MDNS.*
34. The Applicant's groundwater consultant has studied the site since the early 1990s and has developed a strong understanding of its hydrology. His conclusion is that surface and ground water level changes from the proposed mining activities would be small and would develop slowly over the life of the project, without causing sudden changes to habitats or nearby domestic supply wells. Domestic wells to the east (Jules Greley) and south are not expected to experience water quality impacts. Water quality impacts, if any, would be limited to properties northwest of the project site. *Exhibit 1, Attachment cc, Narrative Summary; Testimony of Mr. Ellingson; Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group September 2005 Report, pages 7-8.*

35. Combined water level (quantity) impacts are expected to be less than approximately three feet at any off-site location. Water quantity impacts, if any, would most likely affect wells east of the project along Angus Drive due to their closer proximity to the pit lakes. No water quantity impacts are expected to affect properly constructed wells (e.g., wells drilled down into the lower aquifer rather than only into the upper aquifer). Wells north, south, and west of the site are at least 2,000 feet from the nearest pit, and in many cases are separated from the pits by Beaver or Allen Creek. The wells north, south, and west of the project are too far away to experience water quantity impacts. Studies by Pacific Groundwater Group concluded that the combination of natural site features, such as its size and the direction of groundwater flow, and the nature of the proposed uses, which exclude on-site fuel storage and an asphalt plant, and the numerous best management practices proposed by the Applicant provide a high level of protection to domestic wells in the surrounding areas. However, in the event that adverse impacts were discovered, pursuant to TCC 17.20.080 the Applicant would be required to repair or replace damaged wells. *Exhibit 1, Attachment cc, Narrative Summary; Testimony of Mr. Ellingson; Exhibit 1, Attachment cc, Appendix A, Pacific Groundwater Group September 2005 Report, pages 7-8.* The hydrogeologist retained by the Black Hills Audubon Society, a conservation organization that filed a SEPA appeal of the County's May 4, 2004 MDNS for the proposed mine, reviewed the final groundwater modeling data from the Applicant's consultants and agreed with the modeling results; however, he did not form an opinion regarding the most likely outcome. *Exhibit 1, Attachment k, Joel Massmann Letter, dated September 27, 2005.*

Surface Water

36. The Applicant commissioned a surface water management plan and review of the proposed aggregates mine. SubTerra Inc. studied the site and reviewed the proposed operations. In its report, SubTerra identified the project site as flat with a small area of steep slopes in the northeastern corner of the Applicant's overall property. The identified project site is situated north of Beaver and Allen Creeks. SubTerra indicated that the riparian wetlands associated with those creeks are fed by groundwater. It was noted that soils within the project site are highly permeable and that no surface water features connect the project site to the wetlands and creeks to the south. *Exhibit 1, Attachment cc, Appendix B, SubTerra Surface Water Management Report, September 2005, pages 2-3; Testimony of Mr. Bennett.*
37. All storm drainage would be infiltrated on-site. The applicable design standards for flow control are those from the 1994 Thurston County Drainage Design and Erosion Control Manual. As proposed, all stormwater runoff generated within a particular mine area would be retained within that mine area. Storm drainage from the fill slopes (where the import fill is used to create a hill) would be directed to a perimeter trench that will serve both as an infiltration swale and conveyance ditch. The conveyance ditch will lead to a series of sedimentation ponds flowing into an infiltration pond. The fill area will be placed, compacted, and constructed into hills up to about 50-feet in vertical height and revegetated as quickly as possible. Runoff from non-extraction areas is not anticipated to change as a result of the proposed project due to the highly permeable conditions of the

gravelly site soils. *Exhibit 1, Attachment cc, Appendix B, SubTerra Surface Water Management Report, September 2005, pages 2-3; Testimony of Mr. Bennett.*

38. The Applicant proposes an erosion and sedimentation control plan incorporating best management practices including: controlled stockpile slopes; armored drainage ditches; silt fences and natural brush barriers; and, sedimentation ponds. The sedimentation ponds would be designed to promote the natural process of sedimentation of suspended solids. *Exhibit 1, Attachment cc, Appendix B, SubTerra Surface Water Management Report, September 2005, pages 2-3; Testimony of Mr. Bennett.* Thurston County Roads and Transportation Services Department reviewed the proposed surface water management plan and recommended approval, subject to conditions. *Testimony of Mr. Saint; Exhibit 1, Attachment f.*¹²

Critical Areas

39. The site contains four wetlands with well defined boundaries. Water levels seasonally fluctuate in the wetlands by less than ten feet. Wetland A is a Class I wetland of approximately 265 acres along Beaver Creek in the south of the Applicant's overall 1,613-acre holding.¹³ The wetland extends along the riparian corridor of Beaver Creek with irregular boundaries that extend north in four "fingers," identified as Fingers 1 through 4 from west to east. Wetland A is classified as a Class I wetland due to the documented presence of "a federal or state listed endangered [or] threatened plant, animal, or fish species." *Exhibit 1, Attachment cc, Appendix C, Ecological Land Services (ELS) Wetland Boundary Survey and Rating Report (Wetland Report), page 10.* The two species documented to inhabit Wetland A are an aquatic plant called howellia and the Oregon Spotted Frog. Wetland A provides high quality habitat for both species, as well as many other forms of plant and animal wildlife. Class I wetlands require 300-foot buffers from high intensity uses such as mineral extraction. The wetland and its required 300-foot buffer are located entirely outside of the project site. The existing 300-foot area surrounding Wetland A is in a relatively undisturbed condition, although the outer 100 feet are dominated by the invasive non-native species Scotch Broom. The project site was intentionally designed so that no portion of the mine area is closer than 300 feet to the edge of Wetland A. *Exhibit 1, Attachment cc, Appendix C, Wetland Report, pages 7-15; Exhibit 8.10, Critical Areas Site Map, dated 11-02-05; Testimony of Mr. Naglich; Testimony of Ms. McGrath.*
40. The site's three other jurisdictional wetlands are smaller in area. Wetland B is a narrow linear wetland abutting an abandoned gravel road on either end near the northwestern limits of Wetland A. It is a 1.6-acre Class II wetland because it has a habitat value of 23 points from the DOE *Washington State Wetland Rating System for Western Washington*, 1993. *Exhibit 1, Attachment cc, Appendix C, Wetland Report, page 16; TCC 17.15.920(B)(4).* Class II wetlands require a 200-foot buffer from high intensity uses.

¹² The approval recommended in Exhibit 1, Attachment f was based on the Applicant's earlier preliminary drainage plan and report, dated July 2002.

¹³ There are possibly 50 to 80 additional acres of Wetland A off-site to the south and west of the Applicant's property. *Exhibit 1, Attachment c, Appendix C, page 7.*

Except for the abandoned gravel driveway, the buffer of Wetland B is undisturbed. Scotch Broom dominates the outer 100 feet of Wetland B's buffer. Wetland C-2002 is an isolated depression in the northwestern corner of the Applicant's overall property, north of the paved entrance road. It is a 1.6-acre forested-scrub/shrub wetland with a habitat value of 19 points. It appears to have been excavated in the past as evidenced by the presence of some six- to eight-foot slopes that appear to have been cut. It has a Class III rating and requires a 100-foot buffer from high intensity uses. The existing buffer consists of a narrow band of upland vegetation 25 to 50 feet wide. The south side of the buffer is interrupted by the existing paved access road, while the railroad intrudes into the north buffer. The west side of the buffer contains abandoned cars and other debris. Wetland D-2002 is in the northeast corner of the Applicant's land, north of the rail line, entirely outside of the project site. Approximately 0.8 acres in size, Wetland D-2002 has a Class III rating and requires a 100-foot buffer from high intensity uses. Wetland D's buffer area contains sapling Douglas firs, broadleaf maples, and a drainage swale that opens into a grassy area in its south portion. Wetlands B, C-2002, and D-2002 and their associated buffers are located entirely outside the project site. *Exhibit 1, Attachment cc, Appendix C, Wetland Report, pages 15-18; Exhibit 8.10, Critical Areas Site Map, dated 11-02-05; Testimony of Mr. Naglich.*

41. Proposed mining operations would maintain and preserve all required wetland buffers. The Applicant's wetland report identified potential erosion of stockpiled materials or permanently places soils as potential sources of impact to the wetlands, but stated that if proper erosion control measures were taken, the proposed mining operations would have no negative impacts to the wetlands or their buffers. The proposed excavation over a large area was reviewed for potential hydrologic impacts to Wetland A. The Applicant's groundwater studies determined that "although small reductions in stream baseflows [Beaver Creek] as a result of the proposed surface gravel mine can be inferred from the groundwater recharge and evaporation analysis, they will not be measurable." *Exhibit 1, Attachment cc, Appendix C, Wetland Report, pages 18-19.* The wetland report also concluded that "a combination of factors relating to the downgradient extent of thermal effects concludes that changes to water temperature at the wetlands and stream will be insignificant." *Exhibit 1, Attachment cc, Appendix C, Wetland Report, page 20.*
42. The Applicant's critical areas consultant conducted site studies of both Beaver and Allen Creeks. The portions of Allen Creek within the Applicant's 1,613-acre property run north-south starting approximately from the main access road south the property boundary. Beaver Creek runs roughly east-west across the southern portion of the Applicant's overall property. The floodplain of Beaver Creek is flat and wide in many locations, without a discernible channel. Both creeks contain beaver dams, and both creeks are located entirely outside of the project site. *Exhibit 1, Attachment cc, Appendix D.1, ELS Supplement Report to the Habitat Management Plan (Habitat Supplement 1), April 23, 2004, page 1.*
43. The subject property has been identified by Thurston County as potential habitat for several County important species, including the bald eagle, Oregon Spotted Frog, the Mardon Skipper (a small butterfly), and the Whulge Checkerspot (a small butterfly). The

property was identified by the U.S. Fish and Wildlife Service (USFWS), the Washington Department of Fish and Wildlife (WDFW), and DNR as potential habitat for several other species of statewide or federal concern, including Bull Trout, Coho salmon, Coastal Cutthroat Trout, the Oregon Branded Skipper (a butterfly), the Oregon Silverspot (a butterfly), the Puget Blue (a butterfly), and the Valley Silverspot (a butterfly). The property is also considered potential habitat for protected plant species including the Golden Paintbrush, Howellia, and the White-Top Aster. *Exhibit 1, Attachment cc, Appendix D, ELS Habitat Management Plan, dated August 1, 2002, pages 7-19; See Exhibit 1, Attachment cc, Appendix D, Table 1 for a list of potentially impacted species and their protected status; Testimony of Ms. McGrath.*

44. Native outwash prairie is defined as “open areas of excessively drained soils... greater than five acres in size which are covered by native drought-resistant species of grasses, forbs, lichens, and mosses. The topography may be flat or mounded.” *TCC Chapter 17.15, Table 8*. Native outwash prairie is an extremely rare and endangered habitat, with only 20 extant areas in the world. It is protected as an “important habitat” by the Thurston County Critical Areas Ordinance (CAO). *Exhibit 1, Attachment z, DNR letter dated April 8, 2004; TCC 17.15.700*. A large area of native outwash prairie was identified in the northeastern portion of the site, bounded by the railroad on the north and Beaver Creek on the south. Eighteen small, isolated areas characterized by prairie vegetation were identified within the Scotch Broom-dominated interior portion of the site, west of the larger prairie area. The isolates range in size from 0.01 to 0.33 acres in area. None of them meets the definition of native outwash prairie due to their sizes less than five acres. However, the isolates have been included within the project site and would not be protected. *Exhibit 1, Attachment cc, Appendix D, ELS August 2002 report, page 5; Exhibit 8.10, Figure 3, Native Outwash Prairie Detail Map; Testimony of Ms. McGrath*. The CAO states that buffers for important habitats should be established on a case by case basis as described in a habitat management plan. *TCC 17.15.720*. The Applicant proposed a 35-foot buffer for the native outwash prairie habitat on-site. Due to its extreme endangerment and the high intensity of the proposed use, the County requested a 100-foot buffer and the Applicant altered the proposed project site to provide the requested 100-foot buffer. *Testimony of Mr. Kantas; Exhibit 8.10, Figure 1, Critical Areas Site Map*. The on-site portion of the native outwash prairie is estimated to contain another 1.5 million cy of aggregate, but it will not be mined. *Comment of Ms. Moss*.
45. The butterflies identified as potentially inhabiting the Applicant’s property generally tend to inhabit native outwash prairie areas and use native plants as host and nectar plants. The project site specifically excludes the native outwash prairie and provides a 100-foot buffer to the area. In addition, the project site is dominated by Scotch Broom, a non-native invasive species that is not known to provide habitat for the listed butterfly species. The Oregon Silverspot is believed to be extirpated from Washington. No impacts to protected butterflies are anticipated. *Exhibit 1, Attachment cc, Appendix D, ELS August 2002 report, pages 20-25; Testimony of Ms. McGrath*.
46. The Bull Trout, Coastal Cutthroat Trout, and Coho Salmon are unlikely to be impacted by the proposed mining operations even if they exist within or downstream of the subject

property. Beaver and Allen Creeks and their associated 300-foot buffers are avoided completely by the project. With mitigation through augmented sedimentation of the sidewalls of the created lakes, the project would not adversely affect water levels or temperatures within the Applicant's overall property. *Exhibit 1, Attachment cc, Appendix D, ELS August 2002 report, pages 21-23.*

47. No groupings of Golden Paintbrush or White-Top Aster were observed during on-site field studies. Both species, if found at all within the Applicant's overall property, would be most likely to inhabit the native outwash prairie rather than the Scotch Broom-dominated central portion of the site. The Applicant's environmental consultants determined that the project would not negatively impact these plant species because no adverse impacts to the native outwash prairie are anticipated. *Exhibit 1, Attachment cc, Appendix D, ELS August 2002 report, pages 25-26; Testimony of Ms. McGrath.*
48. Neither bald eagles nor bald eagle habitat were observed within the Applicant's property during field studies. The Applicant's environmental consultant opined that the proposed mining activities would not impact the species. *Exhibit 1, Attachment cc, Appendix D, ELS August 2002 report, page 19.*
49. *Howellia* is an "aquatic winter annual plant with submerged and floating stems" that is found in wetlands that typically flood in the spring from rains and snowmelt and then dry out during the growing season. Seasonal drying is important because *howellia* seeds must be exposed to air in order to germinate. *Howellia* is usually found in the shallow margins around the edges of wetlands that are partially surrounded by deciduous trees and shrubs and is extremely sensitive to changes in its environment. It is a state listed endangered species. *Exhibit 1, Attachment cc, Appendix D.1, ELS Habitat Supplement 1, April 23, 2004, page 15; Exhibit 1, Attachment z, DNR letter dated April 8, 2004; Testimony of Ms. McGrath.* Based on the foregoing criteria, Finger 4 of Wetland A is the most likely portion of the Applicant's overall property to provide suitable *howellia* habitat, because Fingers 1, 2, and 3 are too densely forested. Two primary area of *howellia* were found on the northern edges of Finger 4. *Exhibit 1, Attachment cc, Appendix D.2, ELS Second Supplement Habitat Report, September 23, 2005 (Habitat Supplement 2), page 7.* One possible effect of the mining operation could be to alter the timing of the annual drawdown in the wetlands from the current month of October to July/August. This effect could be mitigated through measures to control the lake effect. The effect of beaver damming is also likely to continue to increase wetland water levels. The proposed mine pit reclamation, with monitoring and mitigation if impacts arise, is expected to prevent the project from negatively impacting *howellia* distribution. In the opinion of the Applicant's consultants, it is likely that even without intentional mitigation, there will be only minor changes to the water level in Wetland A. Adverse impacts to *howellia* are not anticipated from the project. *Exhibit 1, Attachment cc, Appendix D.1, ELS Habitat Supplement 1, April 23, 2004, pages 15-17; Testimony of Ms. McGrath.*
50. Beaver and Allen Creeks present an abundance of preferred habitat for the Oregon Spotted Frog, a federal candidate species, state endangered species, and a Thurston

County important species. This species has been documented to inhabit the subject drainages. The Oregon Spotted Frog is a species that rarely leaves the water. Increased water levels from beaver damming appear to have enlarged available spotted frog habitat in the vicinity. Similar to the howellia, the Oregon Spotted Frog is sensitive to changes in water levels and temperatures. In the worst-case project impacts scenario, if all eight pit lakes were excavated simultaneously without mitigation, the water level in Finger 4 of Wetland A would be expected to drop a maximum of 1.3 feet in the summer. Again, the timing of draw down could be expected to move up to July/August from October. However, even this shift in the annual draw down time frame would not be expected to strand juvenile Oregon Spotted Frog tadpoles, which mature in late May or early June and move into deeper waters. According to the proposed plan, excavation would occur in only two pits at one time and reclamation would ensure immediately after completion of excavation. Therefore, the expected water level drop is not anticipated to dramatically impact water levels in the wetlands, and a monitoring and mitigation plan would be in place to address impacts once identified. *Exhibit 1, Attachment cc, Appendix D.1, ELS Habitat Supplement 1, April 23, 2004, pages 16-18.*

51. The Olympic Mudminnow is a species that only exists in Washington State and is found in slow moving streams, wetlands, and ponds. It is listed as a State Sensitive Species. Because the Olympic Mudminnow is known to prefer similar environmental conditions to those inhabited by the Oregon Spotted Frog, and the Frog has been documented to exist in the subject drainages, it is likely that the Mudminnow is also present. The Applicant's consultant credibly concluded that sufficient preferred habitat for the Olympic Mudminnow would remain on-site despite potential minor impacts from the mining operation. *Exhibit 1, Attachment cc, Appendix D.1, ELS Habitat Supplement 1, April 23, 2004, pages 5-6.*
52. Three small stands of Oregon White Oak woodlands were identified in the southern central portion of the Applicant's overall property within Wetland A's 300-foot buffer. Oak Area 1 is 4.02 acres; Oak Area 2 is 3.06 acres; and Oak Area 3 is 0.72 acres. Oregon White Oak woodlands equal to or greater than five acres in area are identified as areas of important habitat in TCC Chapter 17.15 Table 8, for their function of supporting diverse wildlife populations. Oak Areas 1 and 2 are separated by at least 80 feet of non-forested land dominated by Scotch Broom. Oak Area 3 is 4,400 feet away. These three oak areas are too small to satisfy the County's five-acre minimum to obtain important habitat status. A fourth, 2.3-acre oak woodland is located in the north central portion of the Applicant's property, south of the railroad. Even though Oak Area 4 is too small to be jurisdictional, the Applicant has voluntarily excluded it from the mine areas. *Exhibit 1, Attachment cc, Appendix D.1, ELS Habitat Supplement 1, April 23, 2004, pages 19-20; Exhibit 8.13, Figure 1, Plan View of Full Mine Development; Testimony of Ms. McGrath.*
53. Condition number 9 of MDNS approval requires the Applicant to post signage at the edges of off critical area buffers to prevent encroachment. *Exhibit 1, Attachment e, MDNS; Testimony of Mr. Brookshire.*

Transportation

54. Access to the industrial areas on-site is from I5 to SR 121 to Tilley Road SW. The existing access driveway is located on Tilley Road approximately 670 feet south of Maytown Road SW. The driveway intersects with Tilley Road with an approximately 90 degree angle. The access road, which has been used for industrial purposes for many years, is 25 feet in width. Tilley Road has a posted speed limit of 50 mph and a design speed of 60 mph. Entering and stopping sight distances were measured at the existing entrance and were found to be a minimum of 1,000 feet in both directions. These entering and stopping distances satisfy the existing American Association of State Highway and Transportation Officials (AASHTO) road standards for anticipated transport vehicles. Access into the site would be fenced and gated to control entry. *Exhibit 1, Attachment cc, Application; Exhibit 8.16, Roads Map; Exhibit 1, Attachment cc, Application Packet, Exhibit C; Exhibit 1, Attachment cc, Appendix E, Heffron Transportation Traffic Impact Analysis (TIA), July 26, 2002, pages 8-9.*
55. The Applicant commissioned a Level I Traffic Impact Analysis (TIA) from Heffron Transportation, Inc. Heffron used a number of “conservative assumptions” in conducting the (TIA) to ensure that results adequately projected project impacts, including the following: assumed 284 annual production days; assumed all clean fill would be imported to the site within the first five year of operations; used peak summer traffic volumes to estimate background traffic; and, assumed the PM peak hour trips to be 5% of the total daily trips, rather than 1.7% generated in a three-day traffic count at a similar quarry, per the request of WSDOT.¹⁴ Together, these conservative assumptions functioned to increase the total number of project trips and increased the projected PM peak hour trips to demonstrate a truly worst-case transportation condition. The TIA was conducted in 2002, using preliminary project figures that subsequently changed (such as the import of a total of 5,000,000 cy of fill, which was reduced to 2,500,000 cy, and the reduction of the total excavation goal from 22,000,000 cy to 20,600,000 cy). The project modifications result to making the 2002 TIA an even more conservative (safe) estimate of the worst-case transportation condition. *Exhibit 8.22, Heffron Transportation Inc. List of Conservative Assumptions; Testimony of Ms. Van Dyke.*
56. During a maximum production year, the project would generate 478 trips (total in/out trips, 412 trucks, 66 passenger and deliver vehicles) on an average day and 740 trips (total in/out trips, 674 trucks, 66 passenger and deliver vehicles) on an average day in a peak month. The heaviest traffic is anticipated during the AM peak hour. On an average day during maximum production, the AM peak hour would generate 48 trips (44 trucks and 4 passenger/deliver). On an average day in a peak month, the AM peak hour would generate 74 trips (70 trucks and 4 passenger/delivery). *Exhibit 1, Attachment cc, Appendix E, TIA, July 26, 2002, page 6; Testimony of Ms. Van Dyke.*
57. The majority of clean fill material transported to the site and finished product transported from the site would be carried by heavy haulers, non-heavy haulers, and single dump

¹⁴ *Exhibit 8.19, WSDOT October 15, 2002 letter.*

trucks. The maximum axle load of all trucks proposed for project use would be less than or equal to the maximum load limits set by WSDOT, which are 20,000 pounds for single axle vehicles and 34,000 for dual axle vehicles. *Exhibit 1, Attachment cc, Appendix E, TIA, July 26, 2002, page 6; Testimony of Ms. Van Dyke.*

58. Ninety percent of project trips were assumed to be from or destined for I5 via Maytown Road SW. Five percent of project trips were assumed to travel north of Tilley Road SW north of Maytown Road, and five percent of project trips were assumed to travel south on Tilley Road. *Exhibit 1, Attachment cc, Appendix E, TIA, July 26, 2002, page 6.*
59. At peak production, the project is anticipated to ship out one full train load per day; trains would range from 35 to 58 full cars. Tacoma Rail Mountain Division (TRMD), owned by the City of Tacoma, operates on a railroad that crosses east to west through the northern portion of the site. The tracks are north of and parallel to Maytown Road between Tilley Road SW and I5. There are several at-grade crossings near the site. Flashing lights control the crossing at Tilley Road SW, approximately 70 feet north of Maytown Road. Three crossings in Maytown are located at Taylor Street, Shelley Street, and Reeder Road. The railroad crosses Maytown Road approximately 160 feet north of its intersection with I5 southbound ramps. *Exhibit 1, Attachment cc, Appendix E, TIA, July 26, 2002, page 9.*
60. The Washington State Department of Transportation (WSDOT) reviewed the project and requested specific information concerning project impacts on roads under its jurisdiction. WSDOT requested a right turn lane from Maytown Road onto the southbound I5 ramps due to existing road conditions and projected traffic volumes. WSDOT also requested that the Applicant provide turning template information for the State Route 121/Tilley Road SW intersection. *Exhibit 1, Staff Report, Attachment g, WSDOT letter dated December 9, 2002.*
61. The TIA concluded that existing traffic volumes on Maytown and Tilley Roads were 2,300 and 3,200 average daily trips, respectively. Existing traffic has peak volumes in the PM peak hour, but with the anticipated project trips, future AM peak hour volumes would be comparable to PM peak hour volumes. *Exhibit 1, Attachment cc, Appendix E, TIA, July 26, 2002, pages 6, 10-13.*
62. Heffron performed a Level of Service (LOS) analysis of the intersections of Maytown Road SW with I5 southbound ramps, I5 northbound ramps, and Tilley Road SW for the years 2003 and 2023. As described by Heffron, LOS is “a qualitative measure used to characterize traffic operating conditions.” LOS may range from “A” through “F,” with LOS A representing “good traffic operations with little or no delay to motorists” and LOS F representing “poor traffic operations with long delays.” Results at the three study intersections are stated in Table 9 of the TIA. All movements at the three intersections would operate at a LOS of “C” or better. Thurston County considers LOS “C” to be an

acceptable operating condition at intersections outside its urban growth boundary.¹⁵ *Exhibit 1, Attachment cc, TIA, July 26, 2002, page 28; Testimony of Ms. Van Dyke; Testimony of Mr. Saint.*

63. The Applicant proposed the following measures to mitigate impacts of the proposed mining operation on roads in the vicinity:

- Provide illumination at the site driveway
- Prepare and implement a plan to keep quarry materials out of the public right-of-way, including a wheel wash
- Design and construct roadway widening to accommodate truck turning radii at the site entrance
- Design and construct roadway widening to accommodate truck turning radii at the Maytown/Tilley Road intersection
- Design and construct a northbound right turn pocket at the intersection of Maytown Road and the I5 southbound ramps¹⁶

Exhibit 1, Attachment g, Heffron Transportation January 30, 2003 letter; Exhibit 8.20, Parametrix March 31, 2003 letter; Testimony of Mr. Bennett. The measures were required as conditions 1 through 5 of MDNS approval. *Exhibit 1, Attachment e, MDNS.*

64. The Applicant's plan to prevent quarry materials from entering the County right-of-way was reviewed and approved by Thurston County Roads and Transportation Services staff. The Applicant would also be required to comply with the load covering requirements established in Section 26.61.655 of the Revised Code of Washington (RCW). *Testimony of Mr. Saint.*

65. The Applicant submitted a geotechnical engineering report by SubTerra Inc. that projected the condition of Tilley Road SW after 20 years of mining operations. The report indicated that Tilley Road would be expected to be in "better than fair" condition after 20 years of project traffic. *Exhibit 8.21, SubTerra report dated January 16, 2003.* Based on concerns about the adequacy of SubTerra's road samples and calculations, the County had the SubTerra report reviewed by its own consultant to verify the projected serviceability of the road. The County's consulting firm, Parametrix, concurred with SubTerra's determination that no structural improvements were necessary to Tilley Road to accommodate the proposed truck traffic from the mining operation. *Exhibit 8.20, Parametrix letter, dated March 31, 2003.*

¹⁵ At the hearing, there was a witness who expressed concern about the increased truck traffic and the potential safety hazards to runners who run in organized races in the area. The concern was that the truck traffic may meet traffic standards but still interfere with recreational activities. Both the County and the Applicant submitted that the primary use of the roads is for vehicles and not runners.

¹⁶ The latter three proposed mitigation measures were requested by WSDOT. *Exhibit 1, Attachment g, WSDOT December 9, 2002 letter; Exhibit 8.17, WSDOT October 15, 2002 letter.*

66. The County reviewed the July 2002 preliminary site plan and the July 2002 Heffron Transportation TIA and sought an independent consulting opinion of the Applicant's geotechnical report on the condition of Tilley Road. Based on the submitted documents and correspondence from WSDOT, the County accepted the Applicant's proposed mitigation measures and recommended approval of the project subject to conditions, including a condition requiring the Applicant to execute a Haul Road Agreement with the County prior to commencement of mining operations. *Exhibit 1, Attachment g, Thurston County Roads and Transportation Services Memorandum, dated April 2, 2004; Testimony of Arthur Saint.*

Noise Impacts

67. A key concern of area residents opposed to the project was the impact of noise on the rural residential character of the area. Thurston County has adopted Washington State's noise limits, contained in Chapter 173-60 of the Washington Administrative Code (WAC). The state's noise limits are based on the Environmental Designation for Noise Abatement (EDNA) of the source and receiving properties. The EDNA designations fall into three classes: A, B, and C. Mineral extraction activities within residential zones are defined as EDNA Class A activities. Residential properties are defined as EDNA Class A properties. Thurston County ordinances limit daytime (7 a.m. to 10 p.m.) noise levels to 55 dBA and the nighttime (10 p.m. to 7 a.m.) noise levels to 45 decibels (dBA).¹⁷ Daytime noise levels may temporarily exceed 55 dBA as follows: noise may exceed the limit by 5 dBA for no more than 15 minutes per hour, by 10 dBA for no more than 5 minutes per hour, and by 15 dBA for no more than 1.5 minutes per hour. Thus, the maximum hourly noise level is 70 dBA during daytime hours and 60 dBA during the nighttime hours for up 1.5 minutes. Noise limits apply to mining and processing equipment operating within the proposed project site, including trucks within the site. The noise limits do not apply to trucks on public roads, railroad trains, or back up warning beepers. *Exhibit 1, Attachment cc, Appendix F, pages 1-6; TCC17.20.100; WAC 173-60-040.*
68. The Applicant commissioned a sound analysis in which existing on-site sound levels were compared with expected sound levels to result from the proposed mining operations. Sound was measured at five locations in June 2002. Noise Monitor Location 1 was 370 feet east of the project entrance at Tilley Road on the existing paved road. Noise at Location 1 was dominated by traffic noise from Tilley Road. The second monitor location was approximately 30 feet west of the eastern boundary of the Applicant's overall property, 2,150 feet south of the railroad tracks. Noise at Location 2 was characterized by the residential development east of the site and occasional trains. Noise Monitor Location 3 was in Maytown, approximately 133 feet north of Maytown Road and 64 feet east of Shelley Road, adjacent to the railroad tracks. Noise at Location 3 consisted primarily of traffic on Maytown Road and residential noises. Noise monitor Location 4 was in the southern portion of the project site, approximately 3,900 feet east of the west property boundary and 3,00 feet north of McDuff Road, with the road being

¹⁷ For a discussion of noise measurement, see pages 1-5 of the Bruck Richards Chaudiere (BRC) Inc Sound Analysis, dated July 29, 2002. *Exhibit 1, Attachment cc, Appendix F.*

the most significant noise source at this location. Existing noise levels were determined to be as follows:

- Location 1: high 40s to low 50s dBA
- Location 2: low 40s to low 50s dBA, peaking between 4 and 7 PM
- Location 3: high 40s to low 50s dBA
- Location 4: high 30s to low 40s dBA

Noise levels measured in 2002 at all four locations appear comply with the County's noise limits. *Exhibit 1, Attachment cc, Appendix F, BRC Inc. July 2002 Report, pages 1-8; Exhibit 8.25, Figure 1, Maytown Aggregates Measurement & Receiver Locations; Testimony of Ms. Parks.*

69. The Applicant's sound consultant analyzed the anticipated noise from proposed activities for compliance with noise limits at several off-site locations. In 2002, this analysis consisted of five "receiver locations." Receiver Location 1 was at the west property line, north of the existing entrance road, approximately 250 feet south of the railroad tracks. The location was chosen because it corresponds to the typical backyard area of residences between the site entrance road and the railroad. Receiver Location 2 was at the east property line, near Noise Monitor Location 2. Receiver Location 3 was in Maytown, 50 feet north of Maytown Road and 50 feet east of Shelley Road. This location was selected because it was typical of a residential setback from Maytown Road and project-related noises at this location were anticipated to be truck and train traffic. Receiver Location 4 was at the south property line 3,300 feet west of the east boundary and 1,050 feet north of McDuff Road. This location was selected as the worst-case scenario noise exposure location for residences south of the site along McDuff Road. Receiver Location 5 was north of the project site, 1,450 feet north of the railroad tracks and 3,300 feet west of the east property boundary. This location was chosen to provide a baseline noise estimate in case future residential development is proposed in this undeveloped area. Receiver Location 6 was at the northeast corner of the Applicant's overall property, near mining area 1. The location was selected because of its residential zoning designation. Existing noise at this location was measures at the low 40s to low 50s dBA. Receiver Location 7 was on the north property line, directly north of the proposed processing location. Existing noise levels in this residentially zoned location were measured at the high 30s to low 40s dBA. *Exhibit 1, Attachment cc, Appendix F, BRC Inc. July 2002 Report, page 13; Exhibit 8.25, BRC Inc. December 3, 2002 update; Exhibit 8.25, Figure 1, Maytown Aggregates Measurement & Receiver Locations.*
70. In predicting sound levels from all proposed project activities, the Applicant's consultant used a first story receiver elevation of five feet above the ground. Continuous operation of all on-site equipment except for haul trucks was assumed for all phases of operations, to establish a worst-case noise exposure data for surrounding locations. The consultants used the industry standard Environmental Noise Model program. Results, as indicated in Table 6 of the BRC Inc. December 3, 2002 update report, revealed that predicted sound levels from all mining, processing, and associated on-site truck and train activities do not exceed Thurston County's daytime noise limit of 55 dBA at all receiver locations except

for Receiver Location 1, which showed 58 dBA. *Exhibit 1, Attachment cc, Appendix F, BRC Inc. July 2002 Report, pages 13-18; Exhibit 8.25, BRC Inc. December 3, 2002 update, pages 3-4; Testimony of Ms. Parks.*

71. Noise at Receiver Location 1 would be dominated by truck traffic entering and leaving the site at the Tilley Road entrance, which is near existing residential development. (Truck traffic within the project site is subject to Thurston County's noise limits.) The recommended mitigation for excessive noise levels is either installation of a 15-foot high berm or fence along the north side of the entrance road or relocating the entrance road 450 feet to the south. The Applicant agreed to provide a 15-foot high berm or fence that would extend 1,000 feet east from the site entrance on the north side of the existing road. *Exhibit 1, Attachment cc, Appendix F, BRC Inc. July 2002 Report, page 20; See Figure F8, Proposed Sound Attenuation Features; Testimony of Ms. Parks.* The 130-foot tall hill that would be created from clean imported fill in a 44-acre area in the northwestern portion of the site within the first five years would provide further sound attenuation for properties north and west of the project site, as well as for travelers on Tilley Road SW. *Exhibit 1, Attachment cc, Application Packet, Exhibit C, Review of Mineral Extraction And Special Use Standards, page 9.* The distance from the mining equipment to the nearest off-site use would adequately attenuate any ground vibration below detection limits. *Exhibit 1, Attachment cc, Application Packet, Review of Mineral Extraction and Special Use Standards.*
72. A condition of the MDNS requires project noise levels to comply with WAC 173-60 through quarterly monitoring starting upon commencement of the construction phase. The condition requires monitoring to be done during normal operating conditions and hours by qualified personnel using equipment specified in WAC 173-58 or otherwise approved by the Thurston County Health Department. Quarterly monitoring data must be submitted to Thurston County Development Services and the Health Department for review. Monitoring must continue on a quarterly basis unless Health Department personnel determine a lesser or greater frequency is warranted. If monitoring data show noise levels at the property lines exceeding the daytime or nighttime standards in WAC 173-60, the Applicant may be required to cease operations until acceptable mitigation has been provided or implemented and further monitoring data demonstrates the noise levels have been reduced to levels meeting WAC 173-60. *Exhibit 1, Attachment e, MDNS; Testimony of Mr. Kantas.*
73. While traffic noise on public roads is not subject to Thurston County's noise limits, noise from the project's haul trucks can be evaluated with WSDOT and Federal Highway Administration (FHWA) standards. The project is anticipated to generate 70 truck trips per hour on the roads surrounding the project site during peak production. Traffic sound levels were analyzed at Receiver Locations 1 and 3, which locations were selected as representative of typical noise exposure for residences along the mine's haul route. Predictions of traffic noise levels were developed using the FHWA's model for calculating traffic noise (FHWA-RD-77-108). The FHWA recommends noise abatement for residential receivers subject to sound levels equal to or greater than 67 dBA. Results from noise modeling indicated that sound levels generated at Receiver Location 3 during

a maximum production year are anticipated to be 3 to 5 dBA above the recommended maximum of 67 dBA. However, the Washington State Department of Transportation (WSDOT) has a 10-dBA threshold for substantial increases. Because noise modeling results indicated that the worst-case increase over existing sound levels would be 8 dBA, no mitigation is proposed. *Exhibit 1, Attachment cc, Appendix F, BRC Inc. July 2002 Report, pages 18-20.*

74. Public comment raised the concern that the proposed mitigation measures would not be sufficient to protect adjacent residential uses from the noise of mining equipment. Of special concern was the grinder proposed for use in the concrete and asphalt recycling site. Neighboring landowner William Aldridge requested that the Applicant be required to install masonry sound barrier walls around the proposed recycling area. *Testimony of Mr. Aldridge; Exhibits 4 and 11.* The Applicant's acoustic consultant opined that masonry sound barrier walls would not be warranted according to the results of the sound analysis performed on site, but noted that if future noise monitoring reveals that the project exceeds noise limits, that sound barrier walls could be required as a mitigation measure at that time. *Testimony of Ms. Parks.*

Reclamation Plan

75. Full implementation of the proposed reclamation plan would create approximately 192.7 acres of open water, including the settling and make-up water ponds, 9.7 new acres of wetlands, 25.7 acres of transitional areas between wetlands and upland forests, and 229 acres of upland forest.¹⁸ The eight created lakes, ranging from 4.5 to 48 acres in area, would be developed with sinuous shorelines to allow for the creation of diverse emergent/scrub-shrub wetlands along the shallow shorelines. As each mining segment is completed, gravel processing water laden with silt and sand would be directed to specific areas along the shorelines to develop shallow deltas to provide for emerging aquatic vegetation. Additional topsoil harvested from the overburden in the project site could be added to backfilled fines along the shorelines as necessary to decrease permeability of the lakes' sidewalls. Submerged tree crowns and root wads would be placed along the shorelines to foster development of habitat for invertebrates, amphibians, and fish. Upland slopes, created from the previously stripped and stockpiled overburden, would be vegetated with appropriate native shrubs and trees to mimic a natural upland forest. The 2,500,000 cy of clean fill soil imported would be used to construct a hill up to 130 feet in height with final grades of 3H:1V, mimicking the pre-project topography of the site. The hill would be located in a 44-acre area in the northwestern portion of the site, east of the main project entrance on Tilley Road SW, south of the rail line. The hill would be planted with trees to revert into upland forest. *Exhibit 13, Plan View of Full Mine Development; Exhibit 1, Attachment cc, Appendix G, Reclamation Plan; Exhibit 8.14, SubTerra Report, dated 11/18/05, pages 4-5, including species and planting details; See Exhibit 8.13, Plan View of Full Mine Development; Exhibit 8.13, Typical Wetland Creation Cross Section; Exhibit 1, Attachment cc, Appendix G, Reclamation Plan;*

¹⁸ The acreages of various reclamation elements in Finding 75 supersede those listed in the Environmental Checklist. *Comment of Ms. Moss.*

Testimony of Mr. Bennett; Testimony of Mr. Garrison. The DNR would monitor each reclamation area after completion for one year, to ensure survival of the plantings.

Testimony of Mr. Garrison. The Applicant submitted the proposed reclamation plan to DNR for review and approval. *Exhibit 1, Attachment cc, Appendix G, Forms SM-6 and SM8-A.* The Applicant has entered into negotiations with WDFW and DNR regarding the possibility of the agencies obtaining some of the Applicant's property after reclamation. *Testimony of Mr. Allen.*

Designation as Mineral Resource Lands of Long Term Significance

76. The designation requires that at least 60% of surrounding parcels must be five acres or greater in area. *TCC 20.30B.030(1)(c).* More than 90% of properties surrounding the project site are five acres in area or larger. *Exhibit 8.12, Parcel Map.*
77. The Thurston County Comprehensive Plan supports designation of mineral lands of long-term significance in locations where prime natural resources exist. Comprehensive Plan goals and policies promote the utilization of mineral resources of long term significance and discourage incompatible uses from being located near existing mining operations. Preferred projects incorporate restoration activities simultaneously with mining operations. Mineral lands designations are discouraged when they would remove prime agricultural land from active farming during production. Best management practices are encouraged to protect surrounding lands and the public health and safety. Mining operations are discouraged when they would alter significant geologic features, such as the Mima Mounds. Mineral lands designation is discouraged in areas dominated by residential uses. Mineral lands policies discourage designation where it is likely that mineral extraction activities would endanger surface and ground water flows and quality. *Thurston County Comprehensive Plan, Natural Resource Lands, Section 3.IV, Mineral Resources; Exhibit 1, Attachment cc, Application Packet, Exhibit C.* County Planning Staff stated that the Applicant's request for mineral lands designation is consistent with the applicable goals and policies of the Comprehensive Plan. *Exhibit 1, page 6; Testimony of Mr. Kantas.*
78. In order to be designated as mineral resource lands of long-term significance, the site must contain non-strategic minerals that are minable, recoverable, and marketable under the technological and market conditions that exist at the time of application or which can be estimated to exist in the next fifty years. *TCC 20.30B.030(1).* SubTerra Inc. determined that the proposed mining area contains approximately 20,600,000 cy of economically extractable gravel. The firm of McLucas and Associates prepared a survey to determine fair market value of the aggregates and determined that the fair market value of the extractable aggregates is approximately \$23,000,000.00. This value does not include the aggregate discovered to underlie the native outwash prairie east of the mining area within the Applicant's overall property; the Applicant does not propose to mine the minerals under the prairie. *Exhibit 1, Attachment cc, Application Packet, Exhibit D, Mineral Resource Lands of Long-Term Commercial Significance Narrative.* According to the analysis of mining geologist Glenda McLucas, the gravel underlying the Applicant's property is of very high quality and its value is enhanced by the ease of access. *Testimony of Ms. McLucas.*

Environmental Review

79. Upon review of the Applicant's submittals and all agency and public comments, the County notified the Applicant by letter dated June 8, 2004 that it was considering issuing an environmental threshold Determination of Significance. *Exhibit 1, Attachment l*. In response to the County's seven enumerated areas of concern, the Applicant significantly modified the project. The Applicant agreed to reduce the quantity of aggregate to be mined from 22,000,000 to 20,600,000 cy. The mine area was reduced from 300 to 284 acres, and the project site was reduced from 587 to 497.3 acres. The outwash prairie buffer was increased from 35 to 100 feet. The four oak woodland areas were excluded from the mine area. The Applicant agreed to continue ground and surface water monitoring to provide increased background information. The sound attenuation berm was extended 1,000 feet to the east along the north side of the entry road. The amount of imported fill was reduced by half, from 5,000,000 to 2,500,000 cy. The location of the proposed manmade hill created of imported fill was moved in relation to Fingers 1 and 2 of Wetland A. Recycling stockpiles were relocated to the north central portion of the site. The area proposed for designation as mineral resource lands of long-term significance was reduced to include only the mine area rather than the entire project site, a reduction from 587 to 284 acres. The Applicant agreed to that the operator would provide a certificate of clean fill from the fill provider. Including and based on these modifications, an alternative conservation plan was created. *Exhibit 1, Attachment cc, Application Packet, September 29, 2005 letter; Comment of Ms. Moss.*
80. In addressing the County's concerns, the Applicant invited involvement from the Black Hills Audubon Society (BHAS)¹⁹, the Capitol land Trust, the Nature Conservancy, the Washington State Department of Fish and Wildlife, the Washington State Department of Natural Resources, and the Applicant's environmental consultants in reaching a workable plan for responsible project development. The participants created a hydrologic and biologic monitoring plan designed to allow the participants to jointly determine whether any observed changes in hydrology or habitat were negative and, if resulting from the mining operation, to provide a list of potential remedial actions. The participants were not satisfied with the plan because it was too complex and was reactive rather than proactive, providing for action only after damage was detectable. *Exhibit 1, Attachment cc, Application Packet cover letter, dated September 29, 2005.*
81. BHAS and the Applicant entered into a Settlement Agreement effective October 5, 2005, resolving the BHAS appeal of the May 4, 2004 MDNS. The Settlement Agreement revokes the previously established "reactive" monitoring plan and creates a conservation fund, to be used by the involved Conservation Organizations which may be used for enhancement, monitoring, and/or restoration of the habitats within the project site or within the watershed. The fund would allow the Conservation Organization to address adverse impacts that arise whether or not they result from the proposed mining operation. Further, the Conservation Organizations would be able to act alone or in conjunction with

¹⁹ BHAS had filed a pending appeal of the May 4, 2004 re-issued MDNS. The May 4, 2004 which was subsequently withdrawn by the County. *Exhibit 1, Attachment j.*

state environmental agencies. The Department of Fish and Wildlife submitted a letter dated November 18, 2005 stating that the Agreement “made this project compatible with [the agency’s] goals for reserving priority habitats” and that the agency’s concerns about the project had been addressed. A similar letter was submitted on the same date by the Capitol Land Trust, complimenting the Applicant on its good faith bargaining to reach an agreement that “will result in the permanent conservation of priority prairie, wetland, and riparian habitat while enabling the project to move forward in a responsible manner.”

Exhibit 1, Attachment u, Settlement Agreement, dated October 5, 2005; Exhibit 1, Attachment cc, Application Packet cover letter, dated September 29, 2005; Exhibit 8.4; Exhibit 1, Attachment I, Allison Moss letter, dated September 29, 2005.

Mitigated Determination of Non-Significance

82. Pursuant to the State Environmental Policy Act (SEPA), Thurston County was designated as the lead agency for review of environmental impacts resulting from the proposed development. On October 24, 2005, the County reviewed the revised project (revisions described above in Finding 75) and issued a Mitigated Determination of Non-Significance (MDNS). Although comment letters were filed, no appeals were filed and the MDNS became final on November 7, 2001. *Exhibit 1, Attachment e.*
83. The 32 conditions of MDNS approval require mitigation for the following: compliance with roads and traffic safety standards; protection of the aquifer through a groundwater monitoring plan; recording of the final delineated critical areas maps with the County Auditor; compliance with the BHAS Settlement Agreement; protection of Wetlands A, B, C-2002, and D-2002; exclusion of the four oak woodlands stands from the mine area; protection of critical habitats on the Applicant’s overall ownership, including the native outwash prairie and habitats of the Oregon Spotted Frog, Coho salmon, howellia, and the Olympic Mudminnow, among others; control of noise levels; compliance with the ongoing RI/FS being conducted on the site regarding the cleanup of contaminants left by previous explosives manufacturing operations on-site; control of lighting; compliance with stormwater and erosion control regulations; compliance with air pollution regulations; archeological survey; and, certification of clean fill. *Exhibit 1, Attachment e, MDNS.* County Planning Staff recommended that the MDNS conditions of approval also be made conditions of permit approval, and noted that all conditions “run with the land” and would be binding on the Applicant and any future owner/operator of the project. *Testimony of Mr. Kantas; Exhibit 1, Staff Report, page 19.*
84. Commenting on the proposed MDNS, the Nisqually Tribe submitted an October 23, 2005 letter stating the project site is located within areas traditionally historically used by the tribe. The letter requested archeological investigation and implementation of a plan to protect any artifacts or remains discovered during the course of site development. *Exhibit 8.5.* The Applicant hired Archeological Investigations NW (AINW) to conduct the requested site review. A literature search and two field reconnaissance missions, on November 2 and November 16, 2005, led AINW to conclude that the majority of the project site was considered to have a low probability for archeological resources, with the possible exceptions of two locations where the proposed mining area abuts the historical prairie-forest boundary, a common location for historical American Indian activity.

AINW requested that a systematic archeological survey of those two areas be undertaken prior to ground disturbing activities. *Exhibit 8.6, See Figure 2*. The requested survey was included as an MDNS condition of approval. *Exhibit 1, Attachment e, MDNS*.

County Recommendation

85. The Thurston County Environmental Health Division reviewed the revised proposal, revised SEPA checklist, the hydrogeologic studies, the noise impact studies, and the Hazardous Materials Handling & Spill Response Plan, as well as all comments from other agencies and the public, and determined that, with conditions, the project would not result in significant adverse impacts to public health. Environmental Health Division Staff recommended approval, subject to conditions requiring the following: compliance with the DOE Agreed Order RI/FS clean up operation; approval of a final groundwater monitoring plan; compliance with required noise levels; proper treatment of aggregate wash water; approval of a sewage system permit application; and approval of a drinking water system. *Exhibit 1, Attachment h, John Ward March 26, 2004 memorandum; Testimony of Mr. Ward*.
86. County Development Services Staff recommended approval of the project as modified up to and at the hearing subject to conditions of approval enumerated in the Staff Report (Exhibit 1). *Testimony of Mr. Kantas*. At the hearing, Staff submitted an additional condition of approval, in Exhibit 2, limiting active mining to two areas at one time and requiring reclamation actions to begin immediately upon completion of mining in each area. *Exhibit 2*. The Applicant reviewed and concurred with all recommended conditions of approval, including Exhibit 2. *Testimony of Mr. Allen*.
87. The County received numerous comments from nearby residents, as well as a number of comments from nearby public water system operators, objecting to the proposal. Issues raised included increased truck traffic, impacts to neighboring wells, aquifer contamination, impacts to wetlands, impacts to Beaver Creek and Allen Creek, noise impacts, impacts to oak woodlands, impacts to wildlife habitat, concerns about impact monitoring, changes to the existing rural character of the area, degradation of the native outwash prairie, impacts on endangered species, impacts to property values, and hours of operation. *Exhibit 1, Attachments w, x, and y; Exhibit 3; Exhibit 4; Exhibit 6; Exhibit; Exhibit 8; Testimony of Ms. Greeley; Testimony of Mr. Frank; Testimony of Ms. Frank; Testimony of Mr. Howard; Testimony of Mr. Aldridge; Testimony of Ms. Bush; Testimony of Mr. Evans.*²⁰ The comments received were all included in the County's environmental threshold review of the project. *Testimony of Mr. Kantas*.
88. Notice of the open record hearing was published in *The Olympian*, mailed to all property owners within 2,600 feet of the site, and posted on site on November 11, 2005. *Exhibit 1, Staff Report, page 5; Exhibit 1, Attachment a*.

²⁰ The list of names and exhibits is not exhaustive, but is representative of the comments received.

CONCLUSIONS

Jurisdiction

The Hearing Examiner is granted jurisdiction to hear and decide applications for Special Use Permits for gravel mining pursuant to TCC 20.06.010 and TCC 20.54.015.

Criteria for SUPT Approval

The Hearing Examiner may approve an application for a Special Use Permit only if the specific standards set forth in TCC 20.54.070 and the following standards set forth in TCC 20.54.040 are satisfied:

General Standards

1. Plans, Regulations, Laws. The proposed use at the specified location shall comply with the Thurston County Comprehensive Plan and all applicable federal, state, regional, and Thurston County laws or plans.
2. Underlying Zoning District. The proposed use shall comply with the general purposes and intent of the applicable zoning district regulations and subarea plans. Open space, lot, setback and bulk requirements shall be no less than that specified for the zoning district in which the proposed use is located unless specifically provided otherwise in this chapter.
3. Location. No application for a special use shall be approved unless a specific finding is made that the proposed special use is appropriate in the location for which it is proposed. This finding shall be based on the following criteria:
 - a. Impact. The proposed use shall not result in substantial or undue adverse effects on adjacent property, neighborhood character, natural environment, traffic conditions, parking, public property or facilities, or other matters affecting the public health, safety and welfare. However, if the proposed use is a public facility or utility deemed to be of overriding public benefit, and if measures are taken and conditions imposed to mitigate adverse effects to the extent reasonably possible, the permit may be granted even though the adverse effects may occur.
 - b. Services. The use will be adequately served by and will not impose an undue burden on any of the improvements, facilities, utilities, or services existing or planned to serve the area.
4. Time Limits.
 - d. Time Limit and Re-Review. Where the approval authority is the hearing examiner, there may be a condition to provide time limits for the use. If it is determined after review that the special use no longer meets the conditions set by the hearing examiner at the time of the initial approval, the use may be terminated, or such standards added as will achieve compliance with the original hearing examiner conditions.

Use Specific Standards

Pursuant to TCC 17.54.070 (21), mineral extraction and associated accessory uses are subject to the following provisions:

a. Accessory Uses

- ii. The following accessory uses are allowed only when expressly permitted in a special use permit issued by the approval authority: washing, sorting or crushing of rock or gravel, asphalt production (batching or drum mixing), concrete batching, storage or use of fuel, oil or other hazardous materials, and equipment maintenance. Limited manufacturing of concrete products from sand and gravel excavated on-site may be allowed by the department as an accessory use to a permitted concrete batching facility; provided, that retail sales of such products are prohibited. All other accessory uses are allowed only when approved after administrative review by the development services and the roads and transportation services departments.
- iii. Accessory units are permitted only in conjunction with an existing mineral extraction operation. Recycling of asphalt or concrete is permitted as an accessory use only in conjunction with a permitted crusher and in accordance with any health department requirements. Temporary asphalt and concrete production may be permitted only to fulfill a contract for one specific public project and for a period not to exceed twelve months or the length of the contract, whichever is shorter. There must be at least twelve months between the end of one temporary use period and the beginning of another on the same site.

Criteria for Approval of Designation of Mineral Resource Lands of Long Term Significance

A mineral extraction site may be designated as resource land of long-term commercial significance if it meets all of the following criteria established in TCC 20.30B.030(1):

- a. The site must contain non-strategic minerals which are minable, recoverable, and marketable under the technologic and economic conditions that exist at the time of application for designation or which can be estimated to exist in the foreseeable future (fifty years).
- b. The following threshold values in 1990-equivalent dollars shall be met or exceeded.
 - i. Construction Materials. Sand, gravel, and pit run rock, capable of being used in construction, that normally receive minimal processing (commonly washing and grading). Minimum value: five million dollars;
- c. At least sixty percent of the area within one thousand feet of the site must have parcels larger than five acres in size, at the time of the application for designation.

- d. No portion of any sand and gravel, coal or basalt extraction site shall be less than five hundred feet in width, to ensure sufficient land area for one-hundred foot setbacks on each site boundary, and three hundred feet of land area for the working site and reclamation.
- e. The mineral extraction site must have a special use permit if required by Chapter 20.54 unless otherwise specified in Section 20.30B.035. Designation approval shall be contingent upon issuance of reclamation permit from the Washington State Department of Natural Resources.
- f. The site must be outside of a public park or preserve.

Conclusions Based On Findings

1. With conditions, the proposed mineral extraction operation would comply with all applicable federal, state, regional, and Thurston County laws or plans.

- a. With conditions, the proposed use would comply with applicable federal and state standards on air and water quality, noise, and reclamation. Environmental review was conducted pursuant to SEPA and an MDNS was issued. The Applicant has filed the ORCAA application regarding air pollution control and the appropriate DNR application for approval of the required reclamation plan. *Findings Nos. 21, 25, 35, 37, 38, 67, 68, 69, 70, 71, 72, 73, 74, 75, 82, and 83.*
- b. With conditions, the proposal would be consistent with the requirements of the Thurston County Critical Areas Ordinance. All critical areas and important habitats within the Applicant's overall property have been excluded from the project site and provided with the buffers required by the CAO. Under the Settlement Agreement in Exhibit 1, Attachment u, the Applicant has contributed money to a fund for Conservation Organizations to conduct their own monitoring and remediation activities for the critical areas and important habitats on-site. *Findings Nos. 34, 35, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 79, 80, and 81.*
- c. The proposed use would be consistent with the Thurston County Comprehensive Plan.
 - i. The proposal is consistent with the Land Use Chapter of the Comprehensive Plan (Chapter 2), which guides development of rural lands.²¹ Small scale farms, forestry, and mining areas, outdoor recreation, scattered residences, and rural residential developments are defined as "priority rural area land uses (Goal 1, Objective A, Policy 1)." New industrial uses in rural areas should be related to or dependent on natural resources of agriculture, aquaculture,

²¹ Goal 1 of Chapter 2 states that "Rural areas should: maintain a balance between human uses and the natural environment; maintain the land and water environments required by natural resource-based economic activities, fish and wildlife habitats, rural lifestyles, outdoor recreation, and other open space; and, develop at low levels of intensity so that demands will not be created for high levels of public services and facilities." *Thurston County Comprehensive Plan, Chapter 2, Land Use, Goal 1, page 2-34.*

timber, and minerals, and requires new rural industrial uses to be functionally and visually compatible with the character of the rural area (Goal 1, Objective A, Policy, page 6).

- ii. The proposal is consistent with the Natural Resource Lands Chapter of the Comprehensive Plan (Chapter 3).²² Mineral resources policies provide that mineral extraction industries should be allowed to locate where prime mineral resource deposits exist (Goal 7, Objective A, Policy 1). Mineral extraction uses should not do the following: adversely impact adjacent land uses or public health and safety (Goal 7, Objective A, Policy 7); alter significant geologic features such as mima mounds (Goal 7, Objective A, Policy 8); or negatively affect surface and groundwater flows and quality (Goal 7, Objective A, Policy 10). Restoration of mineral extraction sites should occur as the site is mined to blend with adjacent landscape and contours and should be restored for appropriate future use (Goal 7, Objective A, Policy 4).
- iii. Chapter 5: Transportation The proposal is consistent with the Transportation Chapter of the Comprehensive Plan. Development in the County is encouraged to continue and enhance freight rail transportation (Goal 5, Objective B, Policy 1) and to mitigate roadway hazards (Goal 3, Objective A).
- iv. Chapter 9: Natural Environment The proposal is consistent with the Natural Environment Chapter of the Comprehensive Plan, which includes the following policies: protecting wildlife habitat for important species and protecting unique and rare habitats (Goal 1, Objective B, Policy 4); ensuring that land uses that produce air pollutants and odors comply with adopted air quality standards for the region (Goal 1, Objective C, Policy 1); providing for the peace and quiet of residential neighborhoods through the use of screens, open space, or other buffers and noise standards (Goal 1, Objective C, Policy 2); ensuring that facilities that store, process or use hazardous materials use best management practices for the protection of ground and surface waters and be periodically monitored for compliance (Goal 1, Objective E, Policy 8); recognizing the hydrologic continuity between ground and surface water (Goal 2, Objective A, Policy 3); protecting groundwater aquifers, fish and wildlife habitat, and recreational functions of streams (Goal 2, Objective B, Policy 1); protecting streams from adverse impacts of activities occurring adjacent to their waters or within their watersheds by avoiding degradation of water quality (Goal 2, Objective C, Policy 1); and maintaining the quality and quantity of runoff entering wetlands and streams, ensuring that stormwater

²² The Comprehensive Plan describes the major deposits of sand and gravel that underlie Thurston County as the County's "geologic heritage" and states that the significance of the deposits is doubled by their proximity to major population areas and construction projects that use sand and gravel. states that, "Mineral resource lands of long-term commercial significance should be allowed to be used by extraction industries, with minimal harm to the environment." *Thurston County Comprehensive Plan, Chapter 2, Natural Resource Lands Chapter, Goal 7, page 3-28.*

systems are adequately maintained, and preventing on and off-site erosion and sedimentation (Goal 2, Objective F, Policies 3, 4 & 6).

- v. The Hearing Examiner has determined that the proposed mineral extraction plan and request for designation as mineral lands of long-term commercial significance applications would be consistent with the applicable goals and policies of the Comprehensive Plan. *Findings Nos. 2, 3, 8, 9, 10, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 76, 77, and 78.*

- 2. **The Application complies with the intent and development standards of the underlying RRI and RRR 1/5 zoning districts.** Mineral extraction is allowed in both the RRR 1/5 and RRI zoning districts with SUPT approval. Asphalt recycling is an allowed accessory use to mineral extraction. *Findings Nos. 8, 9, and 10.*

- 3. **As conditioned, the mineral extraction operation and proposed accessory uses would be appropriate in the proposed location.**

- A. **Conditions of approval would ensure that the proposed use does not result in substantial or undue adverse effects on the rural character of the area, the natural environment, or traffic conditions.** Although the proposal could have impacts on surrounding properties, the natural environment, and/or traffic conditions, such impacts would not be “substantial” or “undue” according to the evidence that was submitted. The neighborhood character historically has included industrial uses (e.g., the previous explosives manufacturing facilities) and railroad traffic, and the site is only 2.5 miles from I5. Mining activities would be set back between 100 and 1,000 feet from all property boundaries. A 15-foot tall berm would be constructed at the site entrance extending 1,000 feet east along the north side of the existing internal road to provide visual and acoustic buffering to the residential uses near the site entrance. The noise generated by increased truck traffic would not exceed state guidelines and would represent only a moderate increase over existing conditions. Conditions of approval would ensure that the project complies with state air quality standards. As conditioned, the finally reclaimed project would be rural in character, providing commercial forestry opportunities and lakes for recreational uses and wildlife habitat. *Findings Nos. 2, 3, 4, 5, 6, 11, 12, 13, 14, 15, 16, 17, 21, 71, 73, and 75.*

Although the amount of truck traffic would increase, the increase would fall within acceptable LOS standards. Tilley Road SW has been determined to have capacity to serve the anticipated amount of heavy truck traffic for the life of the mine without structural improvements. The Applicant would construct road widening improvements at the intersections of Tilley Road SW with the main site entrance and Tilley Road SW and Maytown Road, to ensure adequate lane width for truck safety. The Applicant would construct a northbound right turn lane at the intersection of Maytown Road and the southbound I5 ramps. Conditions of approval would ensure that wheel washing and load covering practices are

utilized to reduce the spillage of quarry materials into County roadways. *Findings Nos. 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, and 66.*

All on-site critical areas, important habitats, and associated buffers have been excluded from the project site, including Oregon White Oak stands that are too small to be jurisdictional. The project site was designed to provide a 100-foot buffer to the native outwash prairie in the eastern portion of the Applicant's property. Credible scientific evidence in the record supported that the proposed mining activities would not impact the native outwash prairie or the protected species that are believed to possibly live within it, including Golden Paintbrush, White-Top Aster, and six species of protected butterflies. Credible scientific evidence also showed that the proposed mining operation would not have significant adverse impacts on the three protected species known or believed to inhabit portions of Wetland A within the Applicant's property (the Oregon Spotted Frog, the Olympic mudminnow, and the aquatic plant Howellia) from impacts to the groundwater discharge that feeds Wetland A. The Settlement Agreement entered into between the Applicant and BHAS provides a fund to be utilized by the Conservation Organizations to monitor the on-site critical areas and important habitats for potential adverse impacts to habitats and protected species. The Conservation Organizations are empowered by the Agreement to take rehabilitative action on their own or in concert with state or federal agencies that have expertise in environmental protection, whether impacts are caused by the mining operation or any other factor. *Findings Nos. 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53 79, 80, and 81.*

Credible scientific evidence showed that the proposed mining operations would not have significant adverse impacts on water quality or quantity for surrounding domestic wells. The proposed mining operations and accessory uses are activities that have the potential to impact the aquifer that feeds surrounding domestic wells through several means: groundwater loss to evaporation from the new lake surfaces; alteration in water levels caused by the lake effect on groundwater flows both up and downgradient of the proposed pit lakes; temporary drawdown in the water level within the aquifer; temperature changes in the groundwater caused by exposure of the lake water to the surface; and increased turbidity caused by either excavation below the water table or by the proposed gravel washing operation. All domestic wells in the vicinity of the project site are set back a minimum of 1,000 feet from the proposed pit lakes. The record contains credible evidence that the groundwater loss to evaporation would be off-set by increased recharge from the pit lakes. The Applicant's groundwater consultant credibly submitted that the overall impact to water quantity in the aquifer would be approximately three feet, which would not noticeably impact the water supply for surrounding properties. Conditions of MDNS and permit approval establish a groundwater monitoring plan designed to protect surrounding supply wells from impacts. The groundwater monitoring plan would provide adequate protection to surrounding domestic wells through the following means: a) establishing baseline data in a survey of all supply wells surrounding the project; b) requiring 17 groundwater

monitoring stations throughout the site, with quarterly data reporting for the NPDES wells; c) monitoring station data analysis and reporting to the County by a hydrologist licensed in the state of Washington at least once every two years; d) publication of groundwater monitoring data; e) a plan to reduce the permeability of the pit lakes through augmentation with fines to control groundwater recharge as needed; and f) re-inventory of surrounding supply wells once every five years. A condition of approval will ensure that in the event that adverse impacts to any surrounding wells are discovered, the Applicant would be obligated to remedy the impacts. Conditions of approval ensure that if adverse impacts to groundwater supplies are discovered, the County has the authority to require the Applicant to cease all mining operations until the impacts are addressed. The SUPT would be subject to review public hearings every five years. *Findings Nos. 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, and 38.*

B. As conditioned, the mineral extraction operation would be adequately served by and would not impose an undue burden on any of the improvements, facilities, utilities, or services existing or planned to serve the area. The project site is served by electricity and has water and septic service. Conditions of approval would ensure that the water and septic service on-site are designed and operated in compliance with County and state standards. No utility extensions are proposed. With conditions, the project would not result in significant adverse impacts to County or state transportation facilities. *Findings Nos. 6, 25, 54, 55, 56 57, 58, 59, 60, 61, 62, 63, 64, 65, and 66.*

- 4. Conditions of approval would ensure that the mineral extraction operation is limited in duration and undergoes periodic review for compliance with conditions of approval.** A condition of approval would ensure that the life of the SUPT is reviewed once every five years in an open record public hearing.
- 5. With conditions, the mineral extraction operations would comply with the use specific standards of TCC 20.54.070(21).** As conditioned, the proposed mineral extraction operations would comply with the use-specific standards set forth in TCC 20.54.070. The proposed washing, crushing, and sorting of gravel, and the recycling of asphalt and concrete, are allowed as accessory uses to a permitted mineral extraction operation. Conditions of approval would ensure that the required copies of any reports or records are made available to the County upon request, including a record of the source of any asphalt, concrete, or soils imported from off-site and stored on-site and that the SUPT is reviewed every five years at an open record public hearing. *Findings Nos. 10, 18, 19, 20, and 21.*
- 6. With conditions, the proposed mining operations and reclamation project would comply with the requirements of the Mineral Extraction Code, TCC Chapter 17.20.**
 - a. The Applicant has an approved spill prevention plan on file with the County. *Finding No. 16.*

- b. No hazardous materials or fuel would be stored or disposed of on-site. All equipment would be fueled from mobile fueling trucks. Refueling operations would occur on a concrete pad furnished with appropriate spill containment design, in compliance with the approved spill prevention plan. *Finding No. 16.*
- c. The storm drainage system would comply with the Drainage Design and Erosion Control Manual. *Findings Nos. 36, 27, and 38.*
- d. All process water, including all gravel wash water, would be routed to settling ponds lined with sand and fines to prevent sedimentation of the ground water. The Applicant would implement a groundwater monitoring plan that includes: establishing baseline water quality for up- and downgradient wells with the potential to be affected; establishing monitoring wells at 17 stations in and around the project site to monitor changes in water quantity and quality; publication of monitoring results. TCC 17.20.080 requires the Applicant to remedy any diminishment of water quality below state standards. *Findings Nos. 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, and 38.*
- e. Tilley Road SW is adequate to support the projected traffic from the mine for the 20-year mine life. The Applicant would be required to maintain Tilley Road SW pursuant to a Haul Road Agreement. The existing industrial access road provides adequate road width and sight distance for stopping and turning. Per the request of WSDOT, the Applicant would construct northbound right turn lanes at the southbound I5 ramps at Maytown Road. The County has approved the Applicant's plan to prevent quarry materials from entering the County right-of-way. The Applicant submitted a TIA that was reviewed and approved by the County Roads and Transportation Services Department with recommended conditions of permit approval. In addition, conditions of MDNS approval require the Applicant to construct road widening improvements at the Tilley Road – Maytown Road intersection. *Findings Nos. 54, 55, 56 57, 58, 59, 60, 61, 62, 63, 64, 65, and 66.*
- f. Emissions from the facility would comply with state standards. The Applicant is applying for ORCAA preliminary construction approval. *Findings No. 21.*
- g. Noise generated by the facility is expected to satisfy state and County standards. A condition of MDNS approval requires the Applicant (and subsequent operators) to monitor noise impacts on surrounding uses at least quarterly after commencement of the mining activity, during normal operating conditions and periods, and until or unless the Health Department determines that such monitoring is not necessary. A schedule for noise monitoring that considers the peak production seasons and anticipated production increases over the next 20 years is required as part of this permit. *Findings Nos. 67, 68, 69, 70, 71, 72, 73, and 74.*
- h. The hours of operation would comply with TCC 17.20.115. *Finding No. 14.*

- i. Access to the site would be fenced to control access and prevent illegal dumping. *Finding No. 54.*
- j. Proposed lighting would be appropriately down-shielded to prevent glare. *Finding No. 14.*
- k. The Applicant has submitted the proposed reclamation plat to DNR for approval. DNR must approve any activity allowed pursuant to the SUPT. *Finding No. 75.*
- l. Pursuant to TCC 17.20.150, the Applicant/Operator must submit completed registration forms to the County on an annual basis.
- m. Pursuant to TCC 17.20.160, the Applicant/Operator must submit to County inspection of the site prior to commencing mining activities.
- n. Pursuant to TCC 17.20.170, the Applicant/Operator must comply with the escape of load materials and vehicle cleaning requirements.
- o. TCC 17.20.180 is addressed under “i” above.
- p. Pursuant to TCC 17.20.190, appropriate contact information must be posted for the purpose of allowing the public to submit complaints or violations.
- q. Hydrogeologic studies were submitted establishing baseline groundwater information. No domestic supply wells exist within 1,000 feet of the proposed mine areas. *Findings Nos. 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35.*
- r. The MDNS issued for the proposal contains groundwater monitoring requirements. Condition No. 6 requires both water quality and water quantity monitoring to be conducted on a quarterly basis. *Findings Nos. 82 and 83.*
- s. Adequate hydrologic information was submitted to address the well separation requirement of TCC 17.20.220. No off-site domestic wells are within 1,000 feet of the proposed mining areas. *Finding No. 22 and 35.*
- t. The mining area boundaries are setback more than 100 feet from all property boundaries. *Finding No. 11.*
- u. The Applicant agreed to provide a 15-foot tall sound attenuation buffer along the north property line at the site entrance to protect abutting residential development. Due to the location of the proposed mining areas within the Applicant’s larger overall property, no additional landscaping or screening is necessary. *Finding No. 71.*
- v. Pursuant to TCC 17.20.250, stockpiles cannot exceed 100 feet in height as measured from ground level before excavation, and must be set back twice the height of the

stockpile from the edge of the nearest property boundary as measured from the center of the stockpile.

- w. The location of the project site within the Applicant's overall property would adequately protect off-site uses from vibration disturbances caused by mining operations. *Finding No. 71.*
- x. The Applicant proposes adequate off-street parking for all employees and visitors. *Finding No. 14.*
- y. Pursuant to TCC 17.20.280, noncompliance with the provisions of the mineral extraction code may result in civil penalties.

7. **The criteria for designation as mineral resource lands of long-term commercial significance are satisfied.** The privately owned site contains non-strategic, minable construction materials that are recoverable with current technologies and marketable in the current market. The sand and gravel to be mined are worth in excess of five million dollars. Ninety-nine percent of parcels surrounding the project site are greater than five acres in area. The mining areas range from approximately 2,500 to 9,000 feet in width, exceeding the minimum width of 500 feet. *Findings Nos. 76, 77, and 78.*

DECISION

Based upon the preceding Findings and Conclusions, the request for approval of a Special Use Permit to mine approximately 20.6 million cy of sand and gravel from a mine area totaling approximately 284 acres within a 497.3-acre project site is **GRANTED**, subject to the conditions below. The requested accessory uses (gravel washing, crushing, and sorting; asphalt and concrete recycling; and the import of 2,500,000 cy of clean fill) are **GRANTED**. The request to designate the 284-acre mine area as mineral resource lands of long-term commercial significance is also **GRANTED**.

NOTE: These conditions of approval run with the land and apply to the Applicant and its successors and assigns.

- A. The Applicant/Operator shall comply with all conditions of the Mitigated Determination of Non-Significance dated October 24, 2005 (identified above as Exhibit 1, Attachment e).
- B. The operation of the facilities on the site shall comply with all requirements of the Thurston County Mineral Extraction Code Chapter 17.20.
- C. The Special Use Permit shall be reviewed by the Thurston County Hearing Examiner each five years after the effective date of the permit to determine whether the conditions of approval have been complied with or should be amended. The Operator is responsible to ensure that such review has been completed within the five-year time period.

- D. The Applicant/Operator shall comply with all conditions of ORCAA Order of Approval for Notice of Construction 01NOC116 and any other applicable ORCAA regulations.
- E. The Applicant/Operator shall comply with all local, state, and federal permits and regulations.
- F. The Applicant/Operator shall obtain a solid waste handling permit from Thurston County Health Department prior to the recycling of asphalt and concrete.
- G. The Applicant/Operator shall submit a copy of the Washington State Department of Natural Resources approved reclamation plan to Thurston County Development Services prior to any mining activity.
- H. The floor of each excavation area shall be designed and maintained in such a manner that stormwater drainage will flow to the sedimentation pond and will be retained on-site. No stormwater runoff shall be allowed to flow off-site.
- I. For protection of surface and ground water, all turbid process water and all stormwater shall be retained within the sedimentation pond shown on the site plan.
- J. All equipment used on the site shall be equipped with mufflers and be properly maintained to limit noise consistent with local and state standards.
- K. Consistent with federal standards and regulations, all loaders and dozers shall be equipped with ambient-sensitive back-up alarms to reduce noise impacts on nearby residentially zoned properties and uses.
- L. The Operator of the mining facility shall visibly post its name, address, and phone number, or the name, address, and phone number of a designated person whom the public can contact to report complaints or violations. (TCC 17.20.190)
- M. The Operator shall employ reasonable site access control measures, such as locked gates, to prevent illegal dumping of solid waste. (TCC 17.20.180)
- N. All vehicles leaving the site shall comply with RCW 46.61.655 (escape of load materials and cleaning of vehicles). (TCC 17.20.170)
- O. All truck wheels shall be washed before trucks leave the site and the Operator shall regularly maintain the access road to prevent airborne dust, congestion, air pollution, and safety hazards.
- P. Any developed roadway shall conform to the 1999 Thurston County Road Standards and development guidelines.
- Q. The stormwater management system shall conform to the 1994 Thurston County Drainage Design & Erosion Control Manual.

- R. Any utility work within the Thurston County Right of Way shall conform to the 1999 Thurston County Road Standards and Chapter 13.56 Thurston County Code.
- S. Any grading and site work shall conform to Appendix 33 of the 1997 Uniform Building Code and 1994 Drainage Design & Erosion Control Manual.
- T. All development on the site shall be in substantial compliance with the final approved site plan. Any expansion or alteration of this use will require approval of a new or amended Special Use Permit. The Development Services Department will determine if any proposed amendment is substantial enough to require Hearing Examiner approval.
- U. Active mining shall be limited to a series of two mining areas at one time. Upon completion of mineral extraction from each mining area, that mining area shall be reclaimed. Reclamation may occur simultaneously with mining in subsequent mining areas so long as active mining is occurring in no more than two mining areas at one time.
- V. Data from on-site groundwater monitoring stations shall be provided to the owners of the private wells that are subject to the baseline domestic well inventory required by MDNS condition of approval number 6 at the same time as that data is provided to the County.
- W. Copies of any reports or records submitted to federal, state, or regional officials or agencies shall be made available to the County upon request, including a record of the source of any asphalt, concrete, or soils imported from off-site and stored on-site.

DECIDED this 16^h day of December 2005.

DRISCOLL & HUNTER
Thurston County Hearing Examiners
By:

James M. Driscoll