

IN THE BOARD OF COMMISSIONERS OF THE STATE OF OREGON

FOR THE COUNTY OF YAMHILL

SITTING FOR THE TRANSACTION OF COUNTY BUSINESS

In the Matter of a Comprehensive Plan Amendment)
From Agriculture Forestry Large Holding to)
Quarry; a zone change from EF-80 Exclusive Farm)
Use to MR-2 Mineral Resource, for Tax Lot)
5326-600 and a Portion of an Undesignated Tax Lot)
Totaling Approximately 224.5 acres with 175 acres)
to be mined; a Greenway Permit, PAZ-01-10 and)
and WRG-01-10; Applicant Baker Rock Resources)
Inc.)

ORDINANCE 865

THE BOARD OF COMMISSIONERS OF YAMHILL COUNTY, OREGON (the Board) sat for the transaction of county business on March 31, 2011, Commissioners Mary P. Stern, Leslie Lewis and Kathy George being present.

IT APPEARING TO THE BOARD that, on January 19, 2010, Baker Rock Resources, Inc. (the "applicant") submitted an application to the Department of Planning and Development for an alluvial sand and gravel mining operation on Grand Island, within the Willamette River floodplain; and

IT APPEARING TO THE BOARD, that on May 6, 2010, and June 3, 2010, the Yamhill County Planning Commission held duly noticed public hearings to consider the application. Thereafter, and as relevant to this Ordinance, on July 1, 2010, a quorum of seven Planning Commissioners present recommended, in a six to one vote, that the Board of Commissioners list the site as a significant aggregate resource in the County's Comprehensive Plan Aggregate Inventory; and

IT APPEARING TO THE BOARD that the application was considered by the Board in hearings held on November 10, 2010 and on December 2, 2010; and

IT APPEARING TO THE BOARD that on March 17, 2011, the Board voted two-to-one in favor of accepting the recommendation of the Planning Commission regarding the significance of the resource (Commissioner Stern voting no), and in favor of adopting an Ordinance adding the site to the County's Goal 5 aggregate inventory as a significant aggregate resource; and

IT APPEARING TO THE BOARD that, also on March 17, 2011, the Board approved a motion to continue the ongoing proceedings to complete the Goal 5 process for the subject property, to May 12, 2011, at 10:00 a.m., in Room 32 of the Yamhill

County Courthouse. The record remains closed, and the hearing will recommence at the point of staff recommendation; NOW THEREFORE;

IT IS HEREBY ORDAINED BY THE BOARD AS FOLLOWS:

Section 1. The Comprehensive Plan is hereby amended to add the site described in the attached Exhibit "B" and incorporated by this reference to the Plan's inventory of significant aggregate resources, as indicated by the Comprehensive Plan "Quarry" designation.

Section 2. The findings attached as Exhibit "A" and incorporated by this reference are hereby adopted in support of this ordinance.

DONE at McMinnville, Oregon, this 31st day of March, 2011.

ATTEST

YAMHILL COUNTY BOARD OF COMMISSIONERS

REBEKAH STERN DOLL

County Clerk

By



FORM APPROVED BY:

Rick Sanai
RICK SANAI
County Counsel

Mary P. Stern
Chair MARY P. STERN

Leslie A. Lewis
Commissioner LESLIE LEWIS

Kathy George
Commissioner KATHY GEORGE

ORDINANCE NO. 865 - EXHIBIT A

FINDINGS IN SUPPORT OF APPROVAL

With regard to Planning Docket PAZ-01-10, the Board of Commissioners of Yamhill County finds as follows, based on substantial evidence in the whole record:

1. Background Facts

- Applicant and Owner:** Baker Rock Resources, Inc.
- Tax lot:** Township 5S, Range 3W, Section 26, Tax Lot 600 (TL 5326-600), and a portion of an undesignated lot north of, and adjacent to, Tax Lot 600.
- Site Size:** According to the applicant, ±224.5 acres (referred to in this narrative as the “site” or the “subject property”). County Assessor records indicate that Tax Lot 600 is ±174 acres. The original 1852 U.S. Survey Plat map (recorded in 1860) showed the property line separating U.S. Lots 1, 2 and 3 from lots 4, 5, and 6, as the banks of a navigable river (the main stem Willamette). Since that time, the northern boundary of the site has become a narrow slough, and the original riverbank has meandered north as well. The record establishes that the site is at least 220 acres, of which 175 acres would be mined (if allowed by the County), and the entire ownership would be reclaimed concurrently for fish and wildlife habitat and public recreation uses.
- Site Location:** SE Upper Island Road, on the southern end of Grand Island, approximately 10 miles south of Dayton, Oregon. The site is bordered to the south by SE Upper Island Road, and to the north by an unnamed slough of the Willamette River, which is the outlet for “Sutter” or “Skeeter” Creek.
- Site Zoning:** “Exclusive Farm Use” (EF-80), with Floodplain Overlay Zone; Willamette River Greenway Overlay Zone (fish channel).
- FIRM 4107c 0635D shows that all of the property is located within the 100-year floodplain. The same maps indicate that nearly the entire parcel is within the 100-year floodway. The floodway prohibits the placement of dwellings and structures. The area that is not in the

Exhibit 'A'
ORDINANCE 865
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floodway is approximately 11 acres, and is located adjacent to Upper Island Road at the southern end of the property.

Access:

Access to the site is by Upper Island Road.

On-Site Land Use:

The site is currently in farm use, with no dwellings or farm buildings. In recent years the site has been planted with grass, corn and beans. Portions of the site will continue in commercial agricultural use until mined. Mined areas will be sequentially reclaimed. Once mining is complete, the proposed, perpetual, end use is as fish and wildlife habitat, with a conservation easement allowing public recreation access or (if possible at the time of complete reclamation) as dedicated parkland.

Site Characteristics:

The site is located on the southern end of Grand Island. The site is a cultivated field, and is surrounded by a wooded slough along its northern and northwestern edge, and Upper Island Road along the southwest and southern edge of the property. All of the proposed mining would take place in the existing field, which would continue in farm use as mining progressed. The site is flat to moderately sloping to the north, at an elevation of up to 100 feet above mean sea level.

**Surrounding Planning,
Zoning and Land Use:**

Areas south and southwest of the site, across Upper Island Road, are forested; part of Willamette Mission State Park; and subject to a Park and Recreation Overlay Zone. The park contains a side channel of the Willamette River; is mostly forested; and is used for hunting and passive recreation. The main channel of the Willamette River is to the south of the site and south of the State Park.

To the north, northwest and northeast, across the wooded slough, are cultivated fields that are zoned for exclusive farm use and in large-scale commercial production. The surrounding area is zoned EFU and is used for farming. Within 1,500 feet of the mining area, there are three dwellings that the applicant has been able to identify, all on lands zoned EFU.

Area farms are generally large scale and intensive, of 100 or more acres. Farm uses typically include filberts, sweet corn, raspberries, Marion berries, cherries, beans and

vegetable row crops. Smaller farms (as small as one or eight acres) grow a wide variety of fruits, vegetables, seed and grains, pursue small-scale animal husbandry, community supported agriculture marketing, farm stands, farmers markets, and U-pick. The Marion County side of the river contains farm uses (which include grass seed, bush beans, wheat, sweet corn, hops, red clover and vegetable row crops), and aggregate mining.

Farm soils in the area are generally high-value, are often droughty, and are generally most productive when irrigated. Much of the island is within the floodplain and/or floodway and is subject to frequent inundation due to flood events.

The applicant has an existing, smaller, aggregate site in the vicinity, which holds a conditional use permit for aggregate mining. The applicant has proposed to relinquish the right to mine the existing site if permission is granted to mine Tax Lot 5326.

Utilities: The proposed mining operations do not require domestic water service. Portable toilet facilities will be provided for use by employees.

Fire Protection: Dayton Rural Fire Protection District

Previous Actions: There are no previous land use approvals affecting the subject property on record.

Proposed Use: The proposal is to mine approximately 175 acres of the ± 224.5-acre site (ownership of approximately three acres is contested by a neighboring land owner, an area that the applicant does not propose to mine and which is not being deemed “significant” by the County). High quality aggregate materials—sand and gravel—will be removed from the site over an estimated 30 years. During that period, areas of the site that are not mined will continue to be farmed. Mined areas will be sequentially reclaimed and enhanced for use as wildlife habitat and open space. The only processing proposed to take place on the site is screening and sorting. All other processing will take place off-site, most likely at the applicant’s existing processing facilities in Dayton.

Reclaimed Use: The proposed reclaimed uses are farm uses (creation, restoration and enhancement of wetlands), wildlife habitat, and public recreation to the extent allowed by law. Over

the life of the project, open water areas would be created with slopes approved by DOGAMI, and additional shallow areas, peninsulas and an island, to improve the resulting lake for wildlife habitat and recreation uses. Emergent and shrub wetlands would be planted and maintained with native vegetation, including grasses, shrubs, forest and wetland species. Water and wetland areas would be hydraulically connected to the Willamette by a proposed connection channel. Undisturbed buffer areas would be enhanced over the life of the mine. The applicant proposes, following completion of mining, that the property be protected in perpetuity for fish and wildlife uses and public recreation with a conservation easement, or dedicated for use as public parkland, as allowed by law at the time reclamation is complete.

2. Applicable Law Effective September 1, 1996, the Land Conservation and Development Commission adopted OAR Chapter 660 Division 023, concerning local government review of post-acknowledgement applications for plan amendments and related approvals necessary to utilize Goal 5 mineral and aggregate resources (the “Goal 5 rule”). By its terms and as confirmed by LUBA and the Oregon Court of Appeals, OAR 660-023-0180 supercedes pre-existing local standards for approval of plan amendments and zone changes to allow aggregate mining. The Ordinance supported by these findings is adopted pursuant to the requirements of the Goal 5 rule.

3. Scope of Approval

3.1 Under the Goal 5 rule for aggregate, once the quantity, quality and location of a natural resource listed in the rule is documented with sufficient specificity, a local government must determine whether or not the resource is “significant.”

3.2 The applicant’s request, that the County amend its Comprehensive Plan inventory of significant mineral and aggregate resource sites to list the subject property, is approved by this Ordinance. These findings address the requirements of the Goal 5 rule, as they relate to the significance of the resource. The County will complete the Goal 5 process for this site following resolution, by operation of law or appeal, of the Board of Commissioners’ decision in this case designating the site a significant aggregate resource, for which the County is required to complete the Goal 5 process.

3.3 Decisions on the remainder of the land use approval requests in PAZ-01-10/WRG-01-10 have been postponed, including: a request to amend the site’s Comprehensive Plan designation from AFLH to Quarry; a request for a zone change from Exclusive Farm Use (EF-80) to Mineral Resource (MR-2); and a request for a Willamette River Greenway development permit (to allow seasonal fish passage to the Willamette River). The hearing on these matters has been continued to May 12, 2011, at 10:00 a.m.,

in Room 32 of the Yamhill County Courthouse, McMinnville. The record is closed and the proceedings are at the point of staff recommendations.

3.4 As detailed in these findings, the applicant has demonstrated that the site contains a significant aggregate resource, in compliance with Goal 5 and the Goal 5 Rule for Aggregate, OAR 660-023-0180. The maps, studies and other materials submitted by the applicant, and testimony and evidence received through the hearing process, support the Board's decision and its adoption of these findings. The Board has considered and weighed the evidence, arguments and testimony received by the Planning Commission and the Board in these proceedings, and a majority of the Board has voted to recognize the significance of the identified resource site, and to add the site to the County's Goal 5-aggregate "significance" inventory.

4. Completeness of Application

4.1 On January 19, 2010, the applicant, Baker Rock Resources, filed applications with the Planning Department for a Post-Acknowledgement Comprehensive Plan Amendment, zone change and permission to mine (referred to collectively as a "PAPA") to allow aggregate mining on the subject property. The application was "deemed complete" by Planning Department staff, as of March 15, 2010.

4.2. OAR 660-023-0180(6) states:

"In order to determine whether information in a PAPA submittal concerning an aggregate site is adequate, local government shall follow the requirements of this section rather than OAR 660-23-030(3). An application for a PAPA concerning a significant aggregate site shall be adequate if it includes:

- (a) Information regarding quantity, quality, and location sufficient to determine whether the standards and conditions in section (3) of this rule are satisfied;
- (b) A conceptual site reclamation plan (NOTE: Final approval of reclamation plans resides with DOGAMI rather than local governments, except as provided in ORS 517.780);
- (c) A traffic impact assessment within one mile of the entrance to the mining area pursuant to section (4)(b)(B) of this rule;
- (d) Proposals to minimize any conflicts with existing uses preliminarily identified by the applicant within a 1,500 foot impact area; and
- (e) A site plan indicating the location, hours of operation, and other pertinent information for all proposed mining and associated uses."

The Board finds that the applicant has submitted all of the information required by this section necessary to establish that the resource at the site is a significant aggregate resource.

4.3 Under OAR 660-023-0010(4):

“ ‘Inventory’ is a survey, map, or description of one or more resource sites that is prepared by a local government, state or federal agency, private citizen, or other organization and that includes information about the resource values and features associated with such sites. As a verb, ‘inventory’ means to collect, prepare, compile, or refine information about one or more resource sites. (See resource list.)”

The information submitted in this case was adequate, when submitted, to meet the Goal 5 rule’s application requirements. The extensive hearing process, and lengthy open record period (April, 2010 to January 20, 2011) has resulted in an expanded record and close vetting of the information submitted. The record contains sufficient data, information, and analysis to “determine whether the aggregate resource site is significant enough to merit inclusion in the plan’s inventory of aggregate resources.” (DLCD/ODOT, “Planning for Aggregate,” November, 2001, p. 21 guidance box)

4.4 To the extent the adequacy of the boreholes, number of boreholes, sample or quality testing methodology, quality of observation or analysis has been raised in the proceedings before the Board, the Board finds that the materials, data, testimony and analysis provided by the applicant is adequate to establish the significance of the resource.

5. Quality and Quantity Significance Thresholds

5.1. OAR 660-023-0180(3) establishes standards for determining whether an aggregate resource is “significant” and must be added to the County’s inventory of aggregate resources as a “significant” site. OAR 660-023-0180(3) states:

“(3) An aggregate resource site shall be considered significant if adequate information regarding the quantity, quality, and location of the resource demonstrates that the site meets any one of the criteria in subsections (a) through (c) of this section, except as provided in subsection (d) of this section:

“(a) A representative set of samples of aggregate material in the deposit on the site meets Oregon Department of Transportation (ODOT) specifications for base rock for air degradation, abrasion, and soundness, and the estimated amount of material is more than 2,000,000 tons in the Willamette Valley, or more than 500,000 tons outside the Willamette Valley;”

5.2 The Board finds, based on the studies, test results, analysis and other information provided by the applicant, that the mining area (with proposed setbacks from property lines and preservation of other natural resources on the applicant’s property) contains approximately 23.6 million tons of high quality, water-lain aggregate deposits, which significantly exceeds the 2 million ton minimum quantity required by the Goal 5 rule (almost 12 times the minimum required).

5.3 ODOT specifications for base rock include an abrasion test (AASHTO T96) and a degradation test (ODOT TM208). Although aggregate materials that will be used for asphalt and concrete are also tested for sodium sulfate soundness (AASHTO T104), ODOT does not require such testing for base rock. To meet the aggregate quality requirements of the Goal 5 rule, an applicant must therefore demonstrate that ODOT abrasion and degradation requirements for base rock are met or exceeded.

5.4 To demonstrate resistance to abrasion, the representative set of samples is subjected to the "Los Angeles rattler machine." Materials tested must demonstrate no more than 35% loss in a specified period of time.

5.5 To measure degradation, ODOT requires the use of Oregon Test Method 208. In that test, fine material is produced from the tested material by air jets rubbing particles against each other in water. The ODOT TM208 specification for base rock establishes a limit for degraded material passing the 850µm sieve at not to exceed 30% with a maximum sediment height of 75 mm.

5.6 As noted, ODOT's specifications for base rock do not require that base rock samples meet any standard for sodium sulfate soundness. The AASHTO T104 test used to demonstrate the suitability of aggregate for concrete and asphalt uses saturated solutions of sodium sulfate or magnesium sulfate, in which samples are soaked at an elevated temperature for 16 to 18 hours and dried for two hours. This procedure is repeated several times, with material passing the test if the maximum loss does not exceed 12%.

5.7 The Board finds that a representative set of samples from the subject property has been tested for compliance with ODOT specifications for base rock, and the results included in the application are accepted as representative. Data in the borehole logs is representative of the resource identified at the site, as were the samples collected by the applicant's geologist and tested by Carlson Testing. The samples tested were from locations and in a manner identified, with sufficient specificity, in the application. All of the samples exceeded ODOT's base rock standards for air degradation and abrasion and would be suitable for use as base rock under applicable ODOT specifications. For example, the materials tested for resistance to abrasion (LA Rattler test) had an average percent loss of 17%, easily exceeding the base rock standard, which allows a maximum of 35% loss. The set of samples from the mining area also exceeded the ODOT PCC (Portland Cement Concrete) aggregate standard (30% loss), which is a higher standard than base rock.

5.8 Under the Oregon Degradation test (ODOT TM 208), the tested material averaged 16%, with a sediment height of 19.2 mm. This greatly exceeds the base rock and PCC standards, which allow up to 30% and a maximum sediment height of 75 mm. The soundness test (AASHTO T104), although not required for base rock, is required in order to meet the more stringent PCC standard. The material tested had an average loss of 5.4% for the coarse fraction and 6.7% for the fine fraction, easily passing the ODOT 12% maximum standard. Tests for resource quality at the site establish that the resource present at the site easily passes ODOT requirements for base rock, and is also suitable for production of high quality asphalt and concrete.

5.9 The aggregate resources contained within the site exceed the quality and quantity requirements of OAR 660-23-0180(3)(a) and are therefore “significant” under the requirements of the Goal 5 Rule for aggregate. The Board accepts the characterization of the site as presented in the application and as supported by witnesses for the application, included and/or described in the record. The applicant’s characterization of the site is responsive to the standard and demonstrates conformance with this requirement of law.

5.10 “Representative set of samples”

5.10.1 Opponents have claimed that the significance of the site is not based on a “representative set of samples.” The Goal 5 rule requires a demonstration that “a representative set of samples of aggregate material in the deposit on the site” meets ODOT standards for base rock, and “the estimated amount of material is more than 2,000,000 tons.”

5.10.2 A set of samples is not “representative” unless it accurately reflects the resource to be mined, which requires knowledge and understanding of the deposit, and of conventional, alluvial aggregate extraction and production processes.

5.10.3 While mining alluvial aggregate “wet,” the excavator bucket dips into the water and reaches to its maximum efficient removal depth, approximately 20 feet below the water level. During the wet mining process, the banks of the mined cell continue to slough into the pond until the slope meets an angle of repose. In this fashion all of the bank material is effectively composited by action of the backhoe/excavator bucket.

5.10.4 Even while mining “dry,” the operator will blend the sands and gravels into a composite product as the excavator reaches against the face and brings the material down to the pit floor. The excavator will then feed the truck, loader, or in some cases conveyor belt, directly, again with the “composite” product. Sorting eventually takes place when the composited material is processed into various size components (sand, gravel, cobbles and perhaps boulders) for off-site beneficial use.

5.10.5 The Lidstone and Associates report summarized the quality testing that was performed, to establish whether the resource present at the site would meet the ODOT base rock standards. The applicant has indicated that its goal in these proceedings is to secure a local aggregate resource that can be used in numerous applications, including production of asphalt and high-quality concrete and concrete products at existing facilities in Dayton, Newberg, and McMinnville.

5.10.6 The application contains borehole logs and test results establishing that the aggregate available at the site is of high quality. The Goal 5 Resource Evaluation in the application states:

“To determine whether the resource meets the ODOT specifications for soundness and durability, LA collected sand and gravel samples from each borehole completed at the site. LA reviewed the drilling logs and geologic data from each borehole and established representative composite samples from each borehole. Due to the relatively consistent composition of the

sand and gravel resource across the site, LA subsequently submitted samples from four of the boreholes to Carlson Testing, Inc. in Salem who performed the analyses.”

“The tests, for abrasion, soundness and degradation, established that the aggregate resources at the site consistently exceeded the applicable standards for base rock, and also those for Portland concrete cement.”

5.10.7 The Board accepts the expertise and the credibility, experience and knowledge of Lidstone and Associates, Inc. regarding the significance of the resource and rejects contrary analysis submitted by the opponents. There was no evidence submitted that the applicant’s experts or lab were not competent to determine the quality of the resource, or that the data had been “skewed.”

5.10.8 The sampling and testing methodologies used to identify aggregate resources in this case are standard for identifying Willamette Aquifer alluvial sand and gravel deposits. The Goal 5 rule does not dictate ASTM, AASHTO, U.S. Army Corps of Engineers (COE) or any other sampling methodology. These referenced sampling methodologies are not considered an established standard within the aggregate industry, and are not necessary or appropriate for identifying significant aggregate reserves. The applicant’s experts used appropriate methodologies in this case designed to correctly identify a significant aggregate resource under Oregon law.

5.10.9 There is also no legal requirement or industry standard for the number of boreholes. The number of boreholes required is the number necessary for a professional geologist to make observations on location and depth, grain size, roundness, mineralogy, petrology, rock hardness and quality. The geologist must use his or her site observations, review of available literature and professional judgment, to determine where to drill first. The initial drilling provides direct evidence to determine where the next borehole should be completed, and so on. A geologist who has collected enough data to arrive at a conclusion regarding the resource does not continue to drill additional holes, all likely to identify the same resource.

5.10.10 The consulting geologist who completed the site evaluation is an Oregon registered geologist and was on site at all times during exploratory drilling. A Becker Hammer drill rig was used, which is an ideal drill rig for collecting high quality and discrete samples. The consulting geologist reviewed the drilling progress; logged nearly 600 feet of drilling footage; and collected samples from nine locations on five-foot intervals across 174 acres of property. He found that the sand and gravel in the upper ±60 feet of the mining area was similar in composition, quality, age and stratigraphic definition. His sampling and testing strategy reflected his professional judgment. The literature (US Geologic Survey Professional Paper 1424-A by Gannett and Caldwell, 1998) clearly maps the upper 60 feet of the sands, silts and gravels in the mining area as Holocene Epoch floodplain deposits of the Willamette River, and supports the consulting geologist’s field determinations. All of the gravel encountered, from top to bottom, was observed to be the same, well-sorted, hard, Holocene Epoch gravel. None of the gravel encountered was softer, Pleistocene Epoch gravel.

5.10.11 The five samples that were tested were clearly identified as single borehole composites, from boreholes 1, 3, 5, and 9. These samples represent a spatial and vertical distribution of the entire resource. In this case, for all of the reasons stated here, the four composite samples were “representative” of the quality of the deposit.

5.10.12 Based on his professional observation and logs, the consulting geologist determined on a site-specific basis how to composite the material from each hole to prepare a representative sample. The geologist reviewed each set of drill hole samples and made a determination that the four samples tested for quality were representative of the site as a whole. When one reviews the testing results, it is apparent that the quality of the material greatly exceeds ODOT base rock standards, and that none of the gravel in the deposit is of poor quality. The drilling regimen, sample collection and testing methodologies employed by the applicant are appropriate. The set of samples are representative of the aggregate material contained within the subject property (the deposit) and are adequate to support a significance determination.

6. Nonapplicable Subsections Regarding the Significance Threshold

OAR 660-023-0180(3)(b) requires a demonstration that:

“(b) The material meets local government standards establishing a lower threshold for significance than subsection (a) of this section; or

and OAR 660-023-0180(3)(c) would allow a significance determination if:

“(c) The aggregate site was on an inventory of significant sites in an acknowledged plan on the applicable September 1, 1996.”

The Board finds that neither of these subsections applies; Yamhill County has not adopted a lower threshold, and the subject property was not listed as a significant site in the County’s plan as of September 1, 1996, the effective date of the Division 23 Goal 5 rule for aggregate resources. As stated, the significance of the resource has been demonstrated pursuant to OAR 660-023-0180(3)(a), because the quality exceeds ODOT standards for base rock, and because there are more than two million tons of aggregate available at the site.

7. Average Thickness of the Aggregate Layer Within the Mining Area

7.1 OAR 660-023-0180(3)(d) states:

“(d) Notwithstanding subsections (a) and (b) of this section, except for an expansion area of an existing site if the operator of the existing site on March 1, 1996, had an enforceable property interest in the expansion area on that date, an aggregate site is not significant if the criteria in either paragraphs (A) or (B) of this subsection apply:”

The Board finds that the site is not included in this exception, and the following subsections therefore apply:

“(A) [The site is not significant if] More than 35 percent of the proposed mining area consists of soil classified as Class I on Natural Resource and Conservation Service (NRCS) maps on June 11, 2004; or

“(B) More than 35 percent of the proposed mining area consists of soil classified as Class II, or of a combination of Class II and Class I or Unique soil on NRCS maps available on June 11, 2004, unless the average thickness of the aggregate layer within the mining area exceeds:

* * *

(ii) 25 feet in Polk, Yamhill, and Clackamas counties;”

In this case, the site meets the initial significance requirements of the rule because the quantity exceeds two million tons and the quality exceeds ODOT specifications for base rock, as required by OAR 660-023-0180(3)(a).

7.2 Soil Maps and descriptions meeting the requirements of the rule were included in the application. Soils are also discussed in the Lidstone study in Tab 11 (section 2.0 and Figure 2), and in the wetland delineation in Tab 13 (pages 4-5 and Figure A-4).

7.3 All of the soils present on the site are Class II. Because more than 35% of the mining area consists of Class II soils, the applicant must demonstrate that the average thickness of the aggregate layer within the mining area exceeds 25 feet.

7.4 The Lidstone and Associates, Inc. “Harney Site Goal 5 Resource Evaluation, Baker Rock Resources” study includes detailed information and analysis establishing that the average width of the aggregate layer on the site is 44 feet. The drill logs and other data in the application and record support the analysis and conclusions of Lidstone and Associates.

7.5 The Lidstone and Associates report, filed as Tab 11 of the application, describes the resource quantity data as follows:

“The borehole data revealed that between 2 and 14.5 feet of subsoil overlies the sand and gravel resource, with an average thickness across the site of five feet. Depth to ground water ranged from 6 feet to 21 feet bgs with an average depth of 14 feet bgs.

“The sand and gravel resource exists in two distinct horizons beneath the subsoil. The upper horizon has a two foot to 10 foot thick fine grained sand unit underlain by 1 to 30 feet of sandy gravel. Across the site, this upper sand and gravel horizon averages 23 feet in thickness.

“The lower horizon ranges from 13 feet thick to as much as 52 feet thick in the central portion of the property, where it appears the depositional channel had deepened considerably. The resource appears to thin to the northwest. The data from borehole HBR-6 indicated that the northwest portion of the property may be an old river bank or other area of slow water movement as evidenced by the increase in silt, decrease in sand and

gravel and considerable quantity of organic material in the cuttings. Across the property, the lower horizon averages 21 feet in thickness.

“Baker Rock has developed a mine plan that allows mining of the total aggregate thickness. The average thickness of the sand and gravel resource in the mine area is 44 feet. The sand and gravel deposits available for mining at the site exceed the Goal 5 Yamhill County average thickness requirement of 25 feet. The mine area encompasses approximately 175 acres. With an average resource thickness of 44 feet, the resource volume is approximately 12.4 million cubic yards (MCY), or 23.6 million tons.

7.6 The average thickness of the mineable, Holocene Epoch sand and gravel deposit at the site is 44 feet, well in excess of Goal 5 requirements. The site is therefore a significant aggregate resource, in compliance with the standards of the Goal 5 rule.

7.7 DLCD Guidance to County Regarding “thickness of the aggregate layer”

7.7.1 By letter dated December 29, 2010, DLCD Natural Resource Specialist Amanda Punton advised County Planning Director Mike Brandt regarding OAR 660-023-0180 (3)(d)(B)(ii). The letter states:

“You have requested guidance from the Department of Land Conservation and Development on the application of Oregon Administrative Rule 660-023-0180(3)(d)(B)(ii) to a situation where there is an intervening layer of non-aggregate material within an aggregate resource. The rule states that an aggregate resource that meets the significance criteria in OAR 660-23-0180 (a) or (b) is not considered significant if:

(B) More than 35 percent of the proposed mining area consists of soil classified as Class II, or a combination of Class II and Class I, or Unique soil, on NRCS maps available on June 11, 2004, unless the average thickness of the aggregate layer within the mining area exceeds:

(ii) 25 feet in Polk, Yamhill, and Clackamas counties

“The department understands that the Land Conservation and Development Commission’s intent with regard to this rule as being that the ‘average thickness of the aggregate layer within the mining area’ is determined by averaging the vertical depth of the aggregate planned to be excavated within the mining area. In other words, the rule does not consider the existence of one or more areas of non-aggregate as relevant to determining the average thickness of the aggregate layer in order to determine significance under OAR 660-23-0180(3)(d)(B)(ii). This question has been reviewed carefully by a number of department staff with experience in this area, including with the Director.

We appreciate the county’s careful attention to this issue. Please contact me * * * if you have further questions.”

The DLCD letter was copied to Director Richard Whitman and three DLCD staff members. The letter confirms the validity of the calculations made by the applicant to establish an average alluvial deposit thickness. The applicant determined the arithmetic average depth of the alluvial sand and gravel identified in the boreholes, measured vertically, from the top of the resource to the bottom. After subtracting the depth of the topsoil and aggregate (as directed by OAR 660-023-0180(1)(1)), the data indicates that the average thickness of the aggregate layer within the mining area is 44 feet, amounting to an estimated 23.6 million tons of aggregate. The estimated quantity of non-aggregate material identified within the deposit does not diminish the estimated quantity of aggregate resources below the two million ton threshold. The estimated thickness of non-aggregate materials within the deposit does not diminish the estimated thickness of “the water-lain deposit of sand, stones, and pebbles of sand-sized fraction or larger” below the 25-foot average thickness threshold.

7.7.2 The applicant’s evidence and analysis are in conformance with the intent of the standard as explained by DLCD staff. The borehole reports indicate that in this case there are “areas” of clay in the deposit. The remainder of the mineable deposit is high quality, relatively clean, well-sorted, Holocene Epoch alluvial sand and gravel, well-exceeding the applicable thresholds. The “areas” of clay diminish the quantity, but in this case, subtracting the overburden and topsoil from the calculation results in a 23.6 million ton deposit, mineable using conventional mining techniques in small (3-9 acre) cells with concurrent and continuous reclamation of the site to fish and wildlife habitat.

7.7.3 As explained by the applicant’s experts, the Willamette River deposited the sand and gravel present at the site over the course of the last ten thousand years. The Holocene Epoch aggregate is well-sorted (the deposits of sand and gravel are cleaner), and harder (i.e. less weathered) than Pleistocene Epoch aggregate. The nine borehole logs demonstrate the lenticular nature of the clay interbeds—they are lenses, and have spatial (vertical and horizontal) variability. Each interbed reflects a period of quiescent deposition by the same river that deposited the coarser deposits of sands and gravels. In contrast, floods of the Pleistocene (1.6 million years ago to 12,000 years ago) were cataclysmic. The flood deposits in that Epoch are less sorted, and by virtue of their age are weathered, and hence softer. The aggregate resource identified within the subject property is the harder, well-sorted, higher quality sand and gravel deposit of the Holocene Epoch.

7.7.4 Opponents have argued that the clay interbed identified at the site is “massive,” and is nine feet thick. The borehole logs show that the arithmetic average of clay layer widths (based on the eight borings that were through the clay layer and identified its width) is closer to seven feet. The thickness of the clay is not uniform. At borehole 9 near the center of the site for example, there are two clay “layers”: one is three feet thick, and the other is one foot thick. The aggregate layer at borehole 9 extended 80 feet below the surface in a deposit (minus the clay) that is 73 feet thick. None of the variable clay areas identified in the deposit prevent mining into the deposit to a depth exceeding 50 feet at the site using conventional methods. While clay is not usually marketable, it is useful in obtaining safe reclamation slopes and as a base for the proposed island, peninsulas and shallow wetland areas of the proposed lake.

7.7.5 The only “massive” low permeability layer identified in the proceedings before the Board is the Willamette Confining Unit, which is located below the aggregate deposit identified by the applicant, and which caps a confined aquifer. The Confining Unit is “massive” enough to confine an aquifer, and to prevent economically viable extraction of the Pleistocene deposit located below it. The “mining area” in this case, if considered vertically, extends into a single, hydraulically connected layer of Holocene sand, gravel, clay and silt. Mining is proposed to take place only in the identified Holocene deposit, and will not extend into or through the Confining Unit, nor into lower, older and softer Pleistocene Epoch deposits.

7.7.6 The Department’s letter emphasizes the importance of the phrase “within the mining area.” The applicant has been required to prove the feasibility of its mine and reclamation plan to the County, and has done so, to the extent necessary for the County to establish the feasibility of mining a 44-foot thick deposit of high quality sand and gravel from the site using conventional mining techniques, with limiting conditions and subject to further state and federal review and approval. The applicant has provided accurate maps and diagrams indicating the mining area, has properly subtracted the “thickness” of topsoil and overburden from the resource thickness calculation, and has indicated the vertical dimension of the mining area with reasonable specificity, through the nine borehole logs and professional geological review.

7.7.7 The Board has applied the Goal 5 rule in this case consistent with the guidance provided by DLCDC through its DLCDC/ODOT publication and letter of December 29, 2010.

7.8 Delta Property Company v. Lane Co. and City of Eugene

7.8.1 The applicant and opponents have submitted arguments regarding the relevance of Delta Property Company v. Lane Co. and City of Eugene (58 Or LUBA 409, 2009 WL 616736 (2009)), to the significance determination in this case. In Delta, Lane County approved an application to mine a 72-acre area contiguous to an existing aggregate mine. Having joint planning authority in the area of the proposed mine, the City of Eugene denied the same application. Under local rules, a body called the “Metropolitan Policy Committee” attempted to reach a consensus for the City and County, but failed. As a result, under local agreements, the county planning director was required to deny the application, and to adopt the City or County’s findings. Arguments were made in Delta that the applicant had improperly mixed older, lower quality (Pleistocene) gravel with newer, higher-quality (Holocene) gravel above a seam.

7.8.2 In the case at hand the Board received testimony from an opponent involved in the Delta case, identifying errors in the applicant’s understanding of the facts in Delta. The opponent’s expert indicated that in Delta, there was no clay between the two layers on the site, only in a neighboring mining area.

7.8.3 With this clarification, the Delta case continues to have limited relevance to the Board’s application of the Goal 5 rule in this case. It is the Board’s responsibility to apply its best understanding of what was intended by the rule, to the facts in this case. LUBA’s Delta decision does not support the applicant’s interpretation of the rule: that

because “layer” in the rule is singular, the “layers” identified at the site cannot be added together or “summed,” in calculating “the average thickness of the aggregate layer within the mining area.” In Delta, LUBA stated:

“If the county found that 660-023-0180(3)(d)(B)(i) applies here simply because there are two distinct layers of aggregate and neither of those layers viewed alone is more than 60 feet thick, that interpretation of the rule seems suspect to us.” (p. 417-18)

Even if there were no intervening clay layer, lens, tongue or interbed present in the Delta deposit, two separate layers, of two different deposits, were present at the site in Delta: a Pleistocene layer, and a Holocene layer (“younger alluvium” and “older alluvium”).

7.8.4 In the case before this Board, the applicant presented compelling evidence that the only layer of aggregate proposed for mining at the subject property is the Holocene Epoch layer—a singular geologic deposit accumulated over the course of the last 10,000 years of suitable quantity and quality for aggregate mining. At the subject property, the Holocene Epoch layer is synonymous with the Willamette Aquifer, an unconfined aquifer that is hydraulically connected to the Willamette River. Also at the subject property, the high-quality, Holocene Epoch alluvial sand and gravel layer that the applicant has proposed to extract, is separated from the lower quality Pleistocene Epoch gravels by a layer of clay that separates the unconfined Willamette Aquifer at the site from the confined aquifer below it. With only one type of deposit present in the identified aggregate resource at the site, there is no possibility that a mistake was made by “mixing” of samples from different layers, and no rational basis for treating the same deposit of alluvial sand and gravel as separate layers for purpose of significance thresholds, simply because the alluvial sand and gravel deposit also contains some clay deposits. Nothing in the Delta case detracts from the Board’s interpretation of, and application of, the Goal 5 rule to the facts of this case.

7.9 Additional Support for the Board’s Interpretation of the Goal 5 Rule

7.9.1 The intent of the Goal 5 rule’s layer thickness, base rock specifications, and two million ton requirements, is to strike a balance between farmland protection and the need for local supplies of aggregate. Not all deposits of aggregate located under high-value farmland can be mined under the rule—only if the deposit of sand and gravel at the site is thick enough to justify the change in use. In this case, the change in use is to mining, with concurrent reclamation to use as backwater fish and wildlife habitat. If use of the term “layer” instead of “layers” in the rule was intended to foreclose mining of an identified aggregate deposit with an average thickness of 44 feet, in an area where the threshold is 25 feet, that intent is not evident from the text and context of the rule.

7.9.2 The intent of the phrase, “average thickness of the aggregate layer within the mining area” should not be interpreted to mean that a site that has a deposit of aggregate that averages 25 feet in thickness can be mined (if conflicts are resolved), but one that has a deposit averaging 44 feet thick, cannot. This approach turns the standard

on its head, by preventing the mining industry from mining the least amount of farmland to obtain the greatest yield of sand and gravel.

7.9.3 Interpretation of an administrative rule is a question of law. Local governments are afforded no deference for their interpretations of state administrative rules in land use proceedings. This is also a quasi-judicial proceeding, in which the decision makers seek, as a judge would, to correctly apply standards to the facts presented. The following discussion of the facts and of the text and context of the Goal 5 rule is provided in these findings due to the lack of previous LUBA or Court of Appeals discussion of the significance standards. When the applicant and opponents in a land use proceeding claim that the same clause in an administrative rule has two different meanings, the local decision maker should attempt to resolve those ambiguities in the first instance, using the same well-established interpretive rules a court would use: Portland General Elec. Co. v. Bureau of Labor and Industries, 317 Or 606, 859 P2d 1143 (1993), as modified by statute and State v. Gaines, 46 Or 160, 164-171, 206 P3d 1042 (2009). The general rule is:

“In the construction of a statute, the office of the judge is simply to ascertain and declare what is, in terms or in substance, contained therein, not to insert what has been omitted, or to omit what has been inserted; and where there are several provisions or particulars such construction is, if possible, to be adopted as will give effect to all.” (ORS 174.010)

7.9.4 The Court’s function is to resolve ambiguities in statutes, ordinances and contracts. The same interpretive rules are appropriate at all levels of review. LUBA or a Court would first look to the text and context of the provision itself. Text and context include the words of the standard, and the meaning of those words, as used in the phrases and sentences of the provision itself. First level interpretive review also includes review of the context of the standard, which can include definitions in related rules and statutes. A Court would also review information in the record indicating what the agency whose Commission adopted the rule, believes the rule means. The Land Conservation and Development Commission adopted the rule. The Department of Land Conservation and Development, staff to the Commission, has provided an explanation of the intent of the rule. The Board’s “significance” determination in this case is consistent with the guidance provided by DLCD.

7.9.5 If “layer” in this case is the Holocene layer, and it is one layer, there is no need to adopt the following findings, because the applicant has only proposed to mine Holocene layer aggregate containing some clay. If the phrase “average thickness of the aggregate layer within the mining area” (as presented by the applicant and DLCD) is otherwise ambiguous on its face: (1) the ambiguity is resolved by close reading of the text and context of the rule; and (2) the facts of this case establish that there is only one “layer” being mined.

7.9.6 Assuming ambiguity for the purpose of these findings, if the Court cannot resolve the ambiguity after reviewing text, context, and legislative history offered by the parties, the Court resorts to maxims of general construction, including statutory

and common law rules for interpretation. There is no need to resort to maxims in this case, because the intent of the rule's enactors is reflected in its text and context.

7.9.7 OAR 660-023-0180(1) states:

“(1) For purposes of this rule, the following definitions apply:

(a) ‘Aggregate resources’ are naturally occurring concentrations of stone, rock, sand, gravel, decomposed granite, limestone, pumice, cinders, and other naturally occurring solid materials commonly used in road building or other construction.

* * *

(h) ‘Mining’ is the extraction and processing of mineral or aggregate resources, as defined in ORS 215.298(3) for farmland, and in ORS 517.750 for land other than farmland.

(i) ‘Mining area’ is the area of a site within which mining is permitted or proposed, excluding undisturbed buffer areas or areas on a parcel where mining is not authorized.

* * *

(l) ‘Thickness of the aggregate layer’ means the depth of the water-lain deposit of sand, stones, and pebbles of sand-sized fraction or larger, minus the depth of the topsoil and nonaggregate overburden.”

These terms are subsequently used in the phrase, “average thickness of the aggregate layer within the mining area.” Webster’s Third New International Dictionary (3rd ed. unabridged, 1993) states:

“AVERAGE” is chiefly an arithmetical term to indicate the figure arrived at by finding the sum of a given number of unequal figures and dividing by the number of figures <the *average* of 10 12 14 16 18 and 20 is 15, that is, 90 divided by 6> and is usu. computed as a means of getting a fair general estimate of something comprising a series of unequal but like things (as grades in school courses, depths of snowfall in successive years, weekly sales over a period of weeks).” (p. 150)

A “deposit” is “a natural accumulation.” (Webster’s at 605) The applicant has described the aggregate layer present at the site, in terms of quantity, quality and location, sufficient to demonstrate that the resource exceeds all applicable significance thresholds. Arithmetical averages were presented, which is the most conservative method of establishing an average. The applicant has described the approximate location of both the top and the bottom of the deposit. The identified, high-quality “water-lain deposit of sand, stones, and pebbles of sand-sized fraction or larger” has been located and quantified by the applicant. The depth from ground surface to the resource has been sufficiently described, as have the presence of non-aggregate layers, seams, tongues, and/or interbedding, of generally non-commercial clay/silt materials, within the deposit. The Goal 5 rule does not require or allow the Board, when making a significance

determination, to ignore a portion of a mineable alluvial aggregate deposit solely due to the presence of non-commercial overburden above or within the deposit.

7.9.9 The rule does not require or allow the County to exclude a portion of the aggregate layer from the calculation of thickness—it requires the exclusion of “topsoil and nonaggregate overburden” from that calculation. In accordance with the requirements of the rule, the applicant described and subtracted “the depth of the topsoil and nonaggregate overburden” from its calculation of the average depth of the water-lain deposit.” In doing so, the applicant correctly applied the equation in the Goal 5 rule (“depth of the water-lain deposit” minus “depth of topsoil and nonaggregate overburden”) in its conclusion that the site contains an estimated quantity of 23.6 million tons of water-lain aggregate, and that the average thickness of the aggregate layer within the mining area exceeds 25 feet.

7.9.10 The phrase “within the mining area” also contains a defined term. OAR 660-023-0180(i) states:

“ ‘Mining area’ is the area of a site within which mining is permitted or proposed, excluding undisturbed buffer areas or areas on a parcel where mining is not authorized.”

The applicant submitted numerous plans, diagrams and descriptions to establish the location of the mining area. The plans indicate a 175-acre mining area, which the applicant has proposed to excavate to a depth of approximately 50 feet, which is a depth well above the approximate location of the confining layer. The confining layer is not high quality Holocene Epoch sand and gravel, and no mining is proposed into, or below, that layer. Substantial evidence has been submitted by the applicant and others to establish that, in this case, “the average thickness of the aggregate layer within the mining area exceeds * * * 25 feet * * *,” and that the aggregate layer within the mining area is (on average) 44 feet thick, based on representative, reliable data and professional review and analysis.

7.9.11 The text and context of the Goal 5 rule includes statutory definitions of terms used in the rule. The definitions of “mining” in ORS 215.298(3) and ORS 517.750 (referenced in the Goal 5 rule as quoted above) differ in ways that are only marginally relevant to this discussion. Those references suggest that ORS 517.750 definitions are relevant to establishing the intent of ORS 215.298 and the meaning of related terms used in the Goal 5 rule.

7.9.12 ORS 517.750 defines “surface mining” for the purpose of establishing the point at which the land owner must file a reclamation plan and post a bond, with DOGAMI, to cover the cost of reclamation. It establishes that if a person removes “overburden” and removes “more than 5,000 cubic yards of minerals” or affects “at least one acre of land * * * within a period of 12 consecutive calendar months,” that person must obtain a permit from, and post a bond with, DOGAMI.

7.9.13 As relevant here, ORS 517.750(14)(b) excludes from the definition of “surface mining:”

“excavations of sand, gravel, clay, rock or other similar materials conducted by the landowner or tenant for the primary purpose of construction, reconstruction, or maintenance of access roads and excavation or grading operations conducted in the process of farming or cemetery operations, on-site road construction or other on-site construction, or nonsurface impacts of underground mines * * *.”

ORS 215.298(1) requires that, in county EFU zones, “a [conditional] land use permit is required for mining more than 1,000 cubic yards of material or excavation preparatory to mining of a surface area of more than one acre. * * *” Subsection (3) of ORS 215.298 states:

“For purposes of ORS 215.213(2) and 215.283(2) and this section, ‘mining’ includes all or any part of the process of mining by the removal of overburden and the extraction of natural mineral deposits thereby exposed by any method including open-pit mining operations, auger mining operations, processing, surface impacts of underground mining, production of surface mining refuse and the construction of adjacent or off-site borrow pits except those constructed for use as access roads.

“ ‘Mining’ does not include excavations of sand, gravel, clay, rock or other similar materials conducted by a landowner or tenant on the landowner or tenant’s property for the primary purpose of reconstruction or maintenance of access roads and excavation or grading operations conducted in the process of farming or cemetery operations, on-site road construction or other on-site construction or nonsurface impacts of underground mines.” (emphasis added)

There are no significant differences between the exclusion from “surface mining” for DOGAMI purposes and the exclusion from “mining” for conditional land use approval purposes in EFU zones. The connection between these two sections establishes a textual and/or contextual basis for using other definitions in ORS 517.750 to help establish the meaning of words used in the Goal 5 rule for aggregate. ORS 215.298, ORS 517.750 and the Goal 5 rule for aggregate all use the term “overburden,” but only ORS 517.570 defines it:

“(9) ‘Overburden’ means the soil, rock and similar materials that lie above natural deposits of minerals.”

(For comparison, “overburden” is defined by Webster’s as “consolidated or unconsolidated material overlying a deposit of useful geologic materials.” Webster’s Third New International Dictionary (unabridged ed., 1993) p. 1606.) Applying the definition here, overburden is any material in the mineable deposit that is not sand and gravel, and is situated, located, or found, above natural deposits of mineable sand and gravel.

7.9.14 The above definitions describe what the legislature likely meant when using the term “overburden” in DOGAMI statutes, and what LCDC likely meant when using the term in its rule. The “aggregate layer” includes the entire thickness of the

aggregate deposit on the site, minus any materials located in the identified deposit that are not “minerals,” which are defined in ORS 517.750 to include the “stone, sand [or] gravel” “excavated for commercial, industrial or construction use from natural deposits situated within or upon lands in this state.” All of the overburden at the site, even the clay overburden within the deposit, is located above identified sand and gravel deposits within the mining area. The overburden above the top 23 feet of the deposit, and the additional overburden within the mineable deposit, is all located above Holocene Epoch alluvial sand and gravel extending, on average, 55 feet below the surface. The Goal 5 rule does not require or compel the County to refuse to acknowledge the presence of a significant aggregate resource at the site, far exceeding applicable threshold standards, solely because the deposit contains clay interbeds.

7.9.15 ORS 215.298, referenced in the Goal 5 rule, uses the phrase “removal of overburden and extraction of natural mineral deposits.” The Goal 5 rule states that the “thickness of the aggregate layer” is “the depth of the water-lain deposit of sand, stones, and pebbles of sand-sized fraction or larger, minus the depth of the topsoil and nonaggregate overburden.” In the Goal 5 rule, “nonaggregate overburden” does not include “topsoil,” but both types of material are excluded from the “thickness” calculation. It is not reasonable to treat the overburden encountered above the deposit near ground surface as “overburden,” and to not treat subsequently encountered layers, tongues or interbedding of clay or silt as “overburden.” In this case, the text of the Goal 5 rule, and context including identical terms defined in ORS 517.750, establish that the “thickness of the aggregate layer” includes the entire depth of mineable aggregate within the mining area, minus the overburden, regardless of whether the overburden is found in one, or more than one location, where it must be removed in order to obtain quality sand and gravel located below it. The facts of this case present compelling support for this interpretation because all of the commercially valuable sand and gravel was: (1) deposited during the same geologic Epoch, and owing to the same geologic forces; (2) all of the identified resource is of the same quality; and (3) all of the identified resource is mineable using common and well-established methods (partial wet mining, and partial dewatering with on-site reintroduction of groundwater into the same unconfined aquifer).

7.9.16 It should also be noted that the rule does not require proof of a consistent thickness of aggregate on the site—it requires establishment of an “average thickness” that exceeds the threshold. The applicant is not required to prove that there are no layers, seams, tongues or inter-beds of overburden in the deposit. The rule does not prohibit the applicant or the County from ‘counting’ all mineable aggregate deposits on the site in establishing the average thickness of the deposit. The County is only prohibited from counting identified ‘thicknesses’ of topsoil and non-aggregate overburden, as aggregate. The opponents’ interpretation of the “thickness of the aggregate layer” as not allowing the counting or acknowledgement by the County of roughly one-half of the resource available on the site, is rejected.

7.10 Additional Findings Supporting Conclusion that Only One “Layer” is Being Mined

7.10.1 The applicant’s narrative states:

“The Lidstone study at Tab 11 contains information and analysis establishing that the average width of the aggregate layer on the site is 44 feet. The map showing where boreholes were placed is Figure 3 of Tab 11. The drill logs are contained in Appendix B. Geological analysis of the data collected indicates that there are two distinct layers of sand and gravel on the site, separated by a layer of clay. The upper layer averages 23 feet in thickness, and the lower layer averages 21 feet in thickness. Both layers are easily mineable using available technologies. The upper layer will be mined ‘wet,’ and the operating cell will be temporarily dewatered to mine the lower layer of aggregate.”

As relevant to this decision, during the hearing process, witnesses for the opponents argued that the resource is not significant; that a seam of clay in the aggregate layer prevents the County from considering lower-horizon aggregate in calculating the “average thickness of the aggregate layer;” and that the “set of samples of aggregate material in the deposit on the site” relied upon by the applicant to describe the quality and quantity of the resource present, were not “representative.”

7.10.2 By letter to the Board dated December 28, 2010, and a second letter to the Board dated January 27, 2011, the applicant’s engineering, geology and water resource consultants addressed these concerns. These findings regarding “the average thickness of the aggregate layer” are based on data and analysis in the original application, oral testimony by Christopher Lidstone, the December 28, 2010 letter from Lidstone and Associates, Inc. and other evidence in the record.

7.10.3 Nine boreholes were drilled, to a depth of up to 90 feet. Those boreholes went through topsoil and overburden, and into a layer of high-quality, Holocene Epoch sand and gravel, deposited by the modern Willamette River after the last ice age concluded. In every borehole, the drill encountered the same, hard, well-sorted Holocene sands and gravels, with areas of clay. The average depth of the deposit was 55 feet. In general, within the mining area, the sand and gravel resource exists in two horizons- an upper zone and a lower zone, separated by a lenticular bed of silt/clay. The clay interbed is lenticular, in that it varies in width and depth throughout the site. The average resource thickness is 44 feet, but as one might expect on a fluvial depositional site, all beds are variable in thickness and position. The intervening silt/clay interbed is also variable in thickness, continuity and presence throughout the site. Such layers of this type are common and expected, in alluvial seams and pockets, in Willamette River aggregate deposits. All of the sand and gravel identified in the boreholes is the same Holocene sand and gravel, of the same quality and with the same characteristics, above and below the Holocene river-deposited silt/clay lens.

7.10.4 Below the well-identified, easily-extractable, economically-mineable, deposit of high-quality alluvial sand and gravel at the site, is the Willamette Confining Unit. This stratum separates the high quality Holocene gravels from the lower quality (softened due to age) Pleistocene gravels below it (2.5 million to 12,000 years ago). The Confining Unit was not penetrated in any borehole, nor did the applicant’s consultants attempt to penetrate it. Below the Confining Unit are Pleistocene Epoch

sands and gravels, which were deposited by glacial-age streams. These Pleistocene gravels are not high-quality alluvial sand and gravel, and Baker Rock is not seeking to mine the Pleistocene deposit located, at the site, below the Willamette Confining Unit.

7.10.5 The USGS has identified the top of the Willamette Confining Unit at depths ranging from 40 to 60 feet across Grand Island. The Holocene Alluvium, the stratigraphic unit that Baker Rock proposes to mine at the subject property, overlies the Willamette Silt Unit (hydrogeologically, the “Willamette Confining Unit”) and according to the USGS has an average Holocene resource thickness of 50 to 60 feet. This definition is consistent with that employed by the applicant’s experts and is confirmed by the drilling program and review of water well logs in the area. No information submitted by any opponent overturned these professional conclusions. The average aggregate width within the mining area is 44 feet and the material that makes up this width is part of the same geologic unit, which consists of the Holocene floodplain sand and gravel deposits of the Willamette Aquifer.

7.10.6 As emphasized in these findings: the identified deposits of clay within the sand and gravel deposit within the mining area are not homogeneous in thickness or position. The clay appears to be absent from many of the surrounding well logs and, according to the applicant’s experts, is likely absent at various locations within the mining area. In geological terms, the seam split is a lens, lenticle or tongue and is a depositional feature that is present on a local basis within portions of the floodplain. Where present, it reflects a period of quiescent deposition. The clay lens, lenticle or tongue identified at the site does not serve as a hydrologic boundary, and does not separate the gravels immediately encountered below ground surface at the site from those identified to an average depth greater than 50 feet.

7.10.7 These findings summarize the factual evidence accepted by the Board, supporting the Board’s findings and conclusions that the 175-acre “mining area” identified by the applicant extends to an average depth exceeding 50 feet and that, after excluding topsoil and overburden, the mining area contains an aggregate deposit with an average thickness of 44 feet, all in a single, Holocene Epoch-deposited “layer.”

7.11 Objections to the Inclusion of Sand When Calculating the Average Thickness of the Aggregate Layer Within the Mining Area

7.11.1 Opponents objected to the applicant’s inclusion of “sand” in its quantification of the available tonnage and thickness of the aggregate resources present within the mining area.

7.11.2 Sand is an important component of concrete. Even if no sand is included in the quantity calculation, the drill logs and other testimony and evidence submitted by the applicant support a conclusion that the quantity of material in the deposit meeting base rock standards exceeds two million tons.

7.11.3 The Goal 5 rule defines “aggregate resources” as including sand, as does the definition of “thickness of the aggregate layer.” No reasonable basis has been presented to the Board for concluding that the subject aggregate resource site is not significant because it contains sand, which is an “aggregate resource” and part of the

“aggregate layer” under the rule. Substantial evidence in the record as a whole supports the Board’s conclusion that a representative set of samples of aggregate material in the deposit on the site meets ODOT base rock specifications and that the estimated amount of material is more than 2,000,000 tons. The presence of sand in the deposit does not reduce the calculated average thickness of the aggregate layer in this case.

8. Goal Findings. The following findings address the consistency of the proposed Comprehensive Plan amendment with the Statewide Planning Goals.

8.1 Goal 1--Citizen Involvement. Goal 1 directs local governments to adopt and administer programs to assure citizen involvement in all phases of the planning process. The notice of hearing and all other elements of the hearings process before the Planning Commission and Board of Commissioners complied with applicable law and provided full opportunity for citizen involvement. The applicant also met with neighbors of the site. Numerous hearings were held, also demonstrating compliance with this goal.

8.2 Goal 2--Land Use Planning (Coordination and Factual Base). Goal 2 requires that the County coordinate its land use decisions with the plans of other affected governmental units. Affected governmental units are those local governments, state and federal agencies and special districts that have programs, land ownerships, or responsibilities within the area affected. The County, all state agencies, and many federal resource agencies, have long-established coordination programs to facilitate review of land- and resource-use proposals, including mining.

The County provided notice of the proposal to the Dayton Fire Department; Division of State Lands; County Public Works; Yamhill Soil and Water Conservation District; Oregon Department of Land Conservation and Development; Oregon Department of Geology and Mineral Industries; Oregon Department of Fish and Wildlife; Oregon Department of Agriculture; Oregon Water Resources Department; Oregon Parks Department; Marion County and others and posted the application on-line. All comments received from affected governmental units were addressed through the County application and hearing process. By following established procedures in reviewing this application, the County is in conformance with Goal 2.

Goal 2 also requires that the County establish a factual basis for its decisions. A factual basis for the decision has been established through the course of the application and review process and was supplemented through the hearing process. The County’s decision is supported by substantial evidence.

8.3 Goal 3--Agricultural Lands. Goal 3 directs local governments to preserve and maintain agricultural land. Goal 5 requires that the County inventory and protect aggregate resources. Once a significant resource is identified, even if it is located under agricultural land, the County is required to resolve conflicts identified by rule and if mining is allowed, to establish a “Program to Achieve Goal 5” for the site. Wetlands and wildlife habitat are allowed uses in EFU zones. In this case, identifying an aggregate resource as significant, without allowing mining, does not implicate Goal 3. Conflicts between use of the site as a mining site and neighboring agricultural uses will be addressed in the second part of the County’s bifurcated decision process in this case.

8.4 Goal 4--Forest Lands. Goal 4 directs local governments to “conserve forest lands.” The site is plan designated “Agriculture Forestry Large Holding” and zone designated for Exclusive Farm Use. The extraction area is an open agricultural field. Commercial forestry uses are not taking place on the site and are not proposed. Forested areas of the site will be maintained and improved by the applicant as riparian fringe wildlife habitat; for recreational uses; and as a buffer between proposed uses and both neighboring residences and the Willamette River. Identification by the County of a significant aggregate deposit at the site does not implicate Goal 4.

8.5 Goal 5--Open Spaces, Scenic and Historic Areas and Natural Resources. Goal 5 is “To conserve open space and protect natural and scenic resources.” The list of resources to be protected under Goal 5 includes aggregate resources. This approval is being granted in conformance with Goal 5 and the Goal 5 administrative rule. The relationship of this proposal to other Goal 5 resources is described in the record. Designating the site as significant is being done pursuant to Goal 5 and the Goal 5 rule, and does not impact other Goal 5 resources in the area. The decision to add the site to the County’s inventory of significant aggregate resources is in conformance with Goal 5.

8.6 Goal 6--Air, Water and Land Resources Quality. Under Goal 6, local governments must ensure that land uses do not threaten to violate, or violate, state or federal environmental quality standards. This decision does not implicate Goal 6, because this decision does not allow mining of the site—it merely acknowledges that the site is a significant Goal 5 resource pursuant to State law.

8.7 Goal 7--Areas Subject to Natural Disasters and Hazards. Goal 7 directs local governments to protect life and property from natural disasters and hazards. The subject property is within the floodway of the Willamette River. The applicant has submitted detailed studies by geologists and other specialists in hydraulic engineering and fluvial geomorphology. The applicant’s hydraulic analysis, as it relates to applicable standards, will be addressed at a subsequent time, based on testimony and evidence currently in the record. This decision, to recognize the site as a significant aggregate resource, does not implicate Goal 7.

8.8 Goal 8--Recreational Needs. Goal 8 directs local governments to plan for the recreational needs of its citizens. The proposed reclaimed use of the site is for creation and enhancement of wetlands and fish and wildlife habitat, in a manner that also allows public recreational use. The applicant is proposing to dedicate the reclaimed site as parkland (to the extent allowed by law) at the time of full reclamation, and/or to record a conservation easement allowing public recreational use of the site consistent with its use as wildlife habitat and wetlands. This decision, to recognize the site as a significant aggregate resource, does not implicate Goal 8.

8.9 Goal 9--Economic Development. Goal 9 directs local governments to provide adequate opportunities for continued economic growth in Oregon. The focus of Goal 9 is on commercial and industrial development, primarily in urban areas. The applicant has indicated that the mining operation at the site will provide jobs in Yamhill County and raw materials essential for the construction of businesses, homes and infrastructure,

promoting Goal 9. No local government Goal 9 inventories are negatively impacted by this decision, to deem the site a significant aggregate resource.

8.10 Goal 10—Housing. Goal 10 is to provide for the housing needs of citizens of the state. No housing is proposed, nor will this proposal remove potential urbanizable land that could be used for housing from any inventory. Goal 10 is not relevant to this decision.

8.11 Goal 11--Public Facilities and Services. Goal 11 is “To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.” Deeming the site “significant” will not negatively impact any identified public facilities or services. Identification of significant aggregate resources (like high-quality sand and gravel suitable for concrete and asphalt production) potentially leads to the “timely, orderly and efficient arrangement” of public and private infrastructure necessary to serve the public.

8.12 Goal 12—Transportation. Goal 12 directs local governments “to provide and encourage a safe, convenient and economic transportation system.” Aggregate resources can affect the local transportation system, and are also needed to maintain such a system. To ensure compliance with Goal 12, the Transportation Planning Rule and local plans, the applicant submitted a traffic impact analysis. The applicant’s analysis, and additional information regarding local roads and the Lambert Slough Bridge presented during the hearing process, will be considered for compliance with Goal 12 and the Goal 12 rule at the time the County completes the Goal 5 process for the site. Goal 12 is not implicated by this decision to list the site in the County’s Comprehensive Plan aggregate inventory as a significant resource.

8.13 Goal 13--Energy Conservation. Goal 13 declares that “land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles.” Continued local production of aggregate will conserve significant amounts of energy otherwise necessary to import similar resources from distant sites. Goal 13 is not otherwise implicated by the County’s decision to acknowledge the existence of a significant aggregate deposit.

8.14 Goal 15--Willamette River Greenway. Goal 15 is:

“To protect, conserve, enhance and maintain the natural, scenic, historical, agricultural, economic and recreational qualities of lands along the Willamette River as the Willamette River Greenway.”

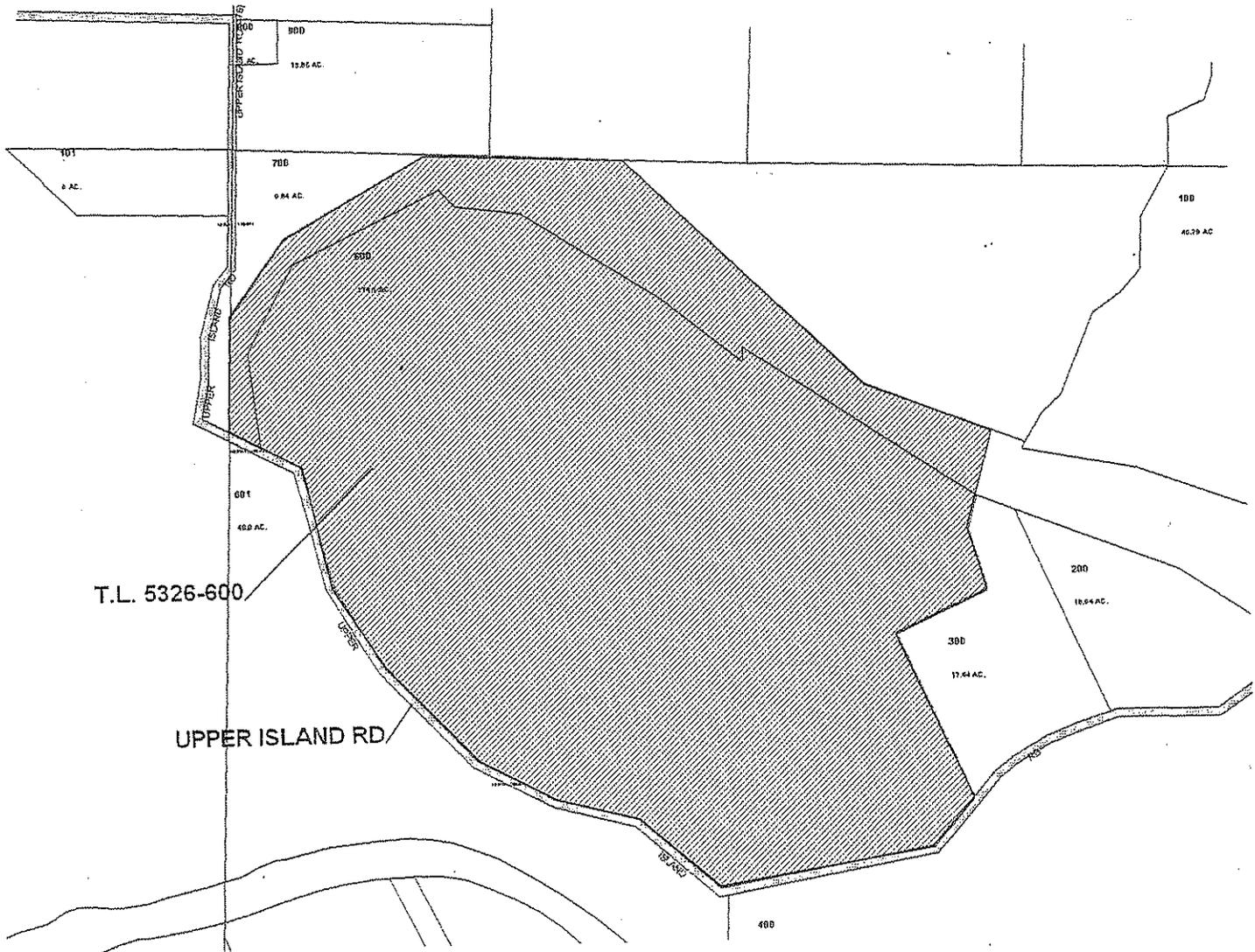
The County implements this goal through imposition of Willamette River Greenway Overlay zoning and development permitting. An insubstantial portion of the site may be affected by mining, and the fish passage channel would cross through the Greenway. Consideration of Goal 15 will be assured through County review of applicant-submitted detailed findings and information demonstrating compliance with all applicable Overlay standards. Compliance with Overlay standards has been delayed pending final approval (without further appeal) of the County’s decision regarding the significance of the resource.

8.15 Remaining Goals. None of the remaining Statewide Land Use Planning Goals, including Goal 14—Urbanization and Coastal Goals 16-19, are relevant to this Ordinance.

8. **Conclusion.** Having accepted and weighed all of the evidence submitted into the record, the Board concludes that all applicable “significance” standards and thresholds have been met, and adoption of an Ordinance adding the site to the County’s Comprehensive Plan Goal 5 inventory as a significant aggregate resource, is justified.

END

EXHIBIT MAP FOR ORDINANCE NO. 865
ADOPTED BY THE YAMHILL COUNTY BOARD OF COMMISSIONERS
MARCH 31, 2011
DOCKET PAZ-01-10/WRG-01-10,
APPROVAL OF A COMPREHENSIVE PLAN AMENDMENT FROM
AGRICULTURE/FORESTRY LARGE HOLDING (AFLH) TO QUARRY (Q)



APPROXIMATE SCALE - 1 INCH = 800 FEET

CHANGE APPLIES TO THE ABOVE PORTION OF TAX LOT 5326-600 AND A PORTION OF AN UNDESIGNATED LOT NORTH OF AND ADJACENT TO TAX LOT 5326-600, AS IDENTIFIED ABOVE. ACTUAL SIGNIFICANCE BOUNDARY IS TO CENTERLINE OF UPPER GRAND ISLAND ROAD (see Tab 17 of Application)

Exhibit "B"
ORDINANCE 865
B.O. 11-173