



## Board of Commissioners

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216 S. E. 4<sup>th</sup> Street  
Pendleton, OR 97801  
541-278-6204

**Daniel N. Dorran**  
541-278-6201

**John M. Shafer**  
541-278-6203

**Celinda A. Timmons**  
541-278-6202

### **BOARD OF COMMISSIONERS MEETING**

Thursday, February 15, 2024, 1:30pm  
Umatilla County Courthouse, Room 130

- A. Call to Order
- B. Chair's Introductory Comments & Opening Statement
- C. New Business

**COMPREHENSIVE PLAN TEXT AMENDMENT #T-093-23, and ZONE MAP AMENDMENT #Z-323-23: DOUG COX, APPLICANT / RANDY RUPP, OWNER.** The applicant requests to establish a new aggregate site, add the site to the Umatilla County Comprehensive Plan list of Goal 5 protected Large Significant Sites, and apply the Aggregate Resource (AR) Overlay Zone to the entire quarry site. The proposed site is located south of Highway 730 and east of Highway 207, south of the Hat Rock community. The site is identified on assessor's map as Township 5 North, Range 29 East, Section 22, Tax Lot 400. The site is approximately 46.7 acres and is zoned Exclusive Farm Use (EFU). The criteria of approval are found in Oregon Administrative Rule 660-023-0040 – 0050, 660-023-0180 (3), (5) and (7), and Umatilla County Development Code (UCDC) Section 152.487 – 488.

- D. Adjournment

**UMATILLA COUNTY  
BOARD OF COUNTY COMMISSIONERS HEARING – FEBRUARY 15, 2024  
COMPREHENSIVE PLAN TEXT AMENDMENT & ZONING MAP AMENDMENT  
DOUG COX, APPLICANT &  
RANDY RUPP, OWNER  
PACKET CONTENT LIST**

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2.	Notice and 1500-foot Impact Area Map	Page 9
3.	Soil Map	Page 11
4.	Preliminary Findings	Pages 13-74
5.	Proposed Text Amendment	Page 75
6.	Proposed Zoning Map	Page 76
7.	<b>Exhibit A</b> – NV5 Mine Resource Evaluation Report <i>Submitted with application</i>	Pages 77-89
8.	<b>Exhibit B</b> – Budinger & Associates Laboratory Report August 24, 2022 <i>Submitted with application</i>	Pages 91-92
9.	<b>Exhibit C</b> – Carlson Testing, Inc. Laboratory Report January 26, 2023 <i>Submitted with application</i>	Pages 93-95
10.	<b>Exhibit D</b> – Fulcrum Geo Resources Site Plans (Figures 1-3) <i>Received September 13, 2023</i>	Pages 97-100
11.	<b>Exhibit E</b> – Fulcrum Geo Resources, Anticipated Impacts from Blasting August 25, 2023 <i>Submitted with application</i>	Pages 101-108
12.	<b>Exhibit F</b> – Kittelson & Associates Traffic Impact Analysis <i>Submitted with application</i>	Pages 109-193
13.	<b>Exhibit G</b> – Umatilla County Technical Report Map D-44	Page 195
14.	<b>Exhibit H</b> – Offsite Wetland Determination Report WD# 2022-0606 <i>Submitted with application</i>	Pages 197-205
15.	<b>Exhibit I</b> – Offsite Wetland Determination Report WD# 2023-0095 <i>Submitted with application</i>	Pages 207-210
16.	<b>Exhibit J</b> – Fulcrum Geo Resources DOGAMI Operating Permit <i>Submitted with application</i>	Pages 211-233

17.	<b>Exhibit K</b> – <i>November 9, 2023</i> , letter in opposition from Barbara Atwood M.D.	Pages 235-237
18.	<b>Exhibit L</b> – <i>November 9, 2023</i> , letter in opposition from Crystal Atwood	Pages 239-241
19.	<b>Exhibit M</b> – <i>November 9, 2023</i> , letter in opposition from Kyla Langley Latham	Page 243
20.	<b>Exhibit N</b> – <i>November 9, 2023</i> , letter in opposition from Wylie Ranch and Aaron Basford	Pages 245-246
21.	<b>Exhibit O</b> – <i>November 9, 2023</i> , letter in opposition from Jenny Estes	Pages 247-250
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	<i>January 23, 2024</i> , letter in opposition from Darlene Westerling (opponent) and article by SRK Consulting, <i>Helping mines find the real source of nitrates in water</i> (November 28, 2017)	Pages 288-293
33.	<b>Exhibit AA</b> – <i>January 23, 2024</i> , letter in support from Culbert Construction Inc (proponent).	Page 295
34.	<b>Exhibit AB</b> – <i>January 23, 2024</i> , letter in support from Hermiston Plan Center (proponent).	Page 297
35.	<b>Exhibit AC</b> – <i>January 23, 2024</i> , additional information provided by Applicant.	Pages 299-303
	Attachment 1: Technical Memorandum dated February 16, 2023, prepared by Air Sciences, Inc.	Pages 304-306
	Attachment 2: Blast Plan prepared by High Mountain Construction, Inc. Dated January 16, 2024	Pages 307-320
	Attachment 3: Carlson Testing, Inc. Aggregate Qualification Testing dated January 8, 2024	Pages 321-322
	Attachment 4: <i>Phoenix Center Policy Paper Number 53: Quarry Operations and Property Values Revisiting Old and Investigating New Empirical Evidence</i> dated March, 2018, from the Phoenix Center for Advanced Legal and Economic Public Policy Studies	Pages 323-368
	Attachment 5: Updated Mine Plan dated January 17, 2024	Pages 369-373
	Attachment 6: Revised Resource Estimate Report dated January 17, 2024	Pages 374-387
	Attachment 7: Sound Analysis from Coffman Engineers, Inc. dated January 2024	Pages 388-407
	Attachment 8: Email dated December 13, 2023, and Stamped Findings Report from Thomas Lapp, District 12 Permit Specialist, Oregon Department of Transportation	Pages 408-411
	Attachment 9: Proposed Revised Findings and Conclusions prepared by Applicant	Pages 412-477
	Attachment 10: State of Oregon Water Well Supply Report for Well I.D. 49855; UMAT 54508	Page 479

36. **Exhibit AD** – *January 25, 2024*, letter in support from Jim Hatley (proponent) Page 481
37. **Exhibit AE** – *January 30, 2024*, letter in support from Denny Whitsett (proponent) Page 483
38. **Exhibit AF** – *February 5, 2024*, letter in support from Kristy Inman (proponent) Page 485
39. Draft Minutes from November 9, 2023  
Planning Commission hearing



# PLANNING DIVISION

216 SE 4<sup>th</sup> ST, Pendleton, OR 97801, (541) 278-6252

Email: [planning@umatillacounty.gov](mailto:planning@umatillacounty.gov)

COMMUNITY &  
BUSINESS  
DEVELOPMENT

## MEMO

LAND USE  
PLANNING,  
ZONING AND  
PERMITTING

**TO:** Umatilla County Board of Commissioners  
**FROM:** Megan Davchevski, Planning Division Manager  
**DATE:** February 6, 2024

CODE  
ENFORCEMENT

**RE:** February 15, 2024 BCC Hearing  
Comprehensive Plan Text Amendment T-093-23 &  
Zone Map Amendment Z-323-23

SOLID WASTE  
COMMITTEE

SMOKE  
MANAGEMENT

### ***Background Information***

GIS AND MAPPING

The applicant requests to add a portion of Tax Lot 400 on Assessor's Map 5N 29 22 to the Umatilla County list of Large Significant Sites, providing necessary protections under Goal 5 including limiting conflicting uses within the impact area, and applying the Aggregate Resource Overlay Zone to the proposed site. The applicant is requesting approval for occasional blasting, extraction, operation of a rock crusher, scale, office, stockpile areas and an asphalt batch plant. The proposed Goal 5 site is a 46.7-acre portion of TL 400, which is 109.65-acres.

RURAL ADDRESSING

LIAISON, NATURAL  
RESOURCES &  
ENVIRONMENT

PUBLIC TRANSIT

The proposal, if approved, would add this site as a large significant site onto the County's Goal 5 inventory of significant sites. The applicant desires to establish the 46.7-acre Large Significant Site with protections under Goal 5 and to allow mining (including blasting), processing, stockpiling and operation of an asphalt batch plant.

### ***Notice***

Notice of the applicant's request was mailed on October 20, 2023 to nearby property owners and agencies. The applicant requests all conflicting uses to be limited to outside the 1,500-foot impact area. Staff determined this would limit allowed uses for nearby properties. For this reason, the notice boundary was extended from the required 750-feet to also include properties within the 1,500-foot impact area. Notice of the Planning Commission hearing and December 6, 2023 Board of Commissioner hearing was published in the East Oregonian on October 28, 2023. On December 6, 2023 the Board of County Commissioners continued the hearing to February 15, 2023 at 1:30PM per the applicant's request.

### ***Criteria of Approval***

The criteria of approval are found in Oregon Administrative Rule 660-023-0040 – 0050, 660-023-0180 (3), (5) and (7), and Umatilla County Development Code (UCDC) Section 152.487 – 488.

### ***Planning Commission Recommendation***

Based on testimony in the record and findings of fact the Planning Commission recommended denial of the proposed Large Significant Aggregate Site. The Planning

## Staff Memo

BCC Public Hearing – February 15, 2024

Comprehensive Plan Text Amendment #T-093-23 & Zoning Map Amendment # Z-323-23

Commission found that the following criteria were not met:

- OAR 660-023-130 (3)(a) A representative set of samples of aggregate material in the deposit on the site  
The Planning Commission found the applicant provided laboratory results for two aggregate samples and identified only one sample location on the site plan and concluded that one sample could not be representative of the site. The Planning Commission referenced a recent Land Use Board of Appeals (LUBA) decision, Beath & Koopowitz vs. Douglas County. In LUBA No. 2022-060, LUBA concluded that describing the entire Mining Site is not adequate for identifying the location of the aggregate resources. LUBA also concluded that a single sample of gravel is not “representative” of the proposed site, and is not adequate for finding compliance of the rule. LUBA determined that the Administrative rule requires “a set of samples, meaning multiple samples” and that the sample locations must be identified on a map to be found representative.

Following the Planning Commission hearing the applicant provided two additional laboratory results for two additional aggregate samples, together with a map identifying the sample locations. The Umatilla County Board of Commissioners may find that the applicant submitted three aggregate samples which is representative of the site.

- OAR 660-023-130 (5) (b) [Conflicts created by the site]  
The Planning Commission found that there are several conflicts created by the proposed site including but not limited to: dust, noise, shakes from blasting and unhealthy air discharges and odor from the batch plant. These impacts would affect existing dwellings, existing alfalfa crops and livestock. The applicant’s provided geological report speaks largely to the available material quality and quantity for purposes of establishing a large significant Goal 5 site. The report does not evaluate potential noise, dust or blasting impacts to the existing dwellings or farming activities. Further, the applicant does not state the predicted levels of noise, dust, odor or shaking that would impact the existing uses in the impact area.

Following the Planning Commission hearing the applicant provided an air study, noise analysis and blasting plan. The air study and noise analysis do not account for blasting activities.

- OAR 660-023-130 (5) (c) [If conflicts exist, measures to minimize]  
The Planning Commission found that conflicts exist and the applicant did not adequately identify mitigation measures, and relied on the existing basalt canyon and easterly winds to mitigate dust and noise. Opposing testimony of residents in the vicinity provided that winds are frequently westerly and that the canyon would not mitigate noise, rather would direct noise towards the numerous dwellings.

The Umatilla County Board of Commissioners may find that the applicant’s supplied air study found no impacts to nearby residential activities. The air study did not specifically identify potential impacts to agriculture crops. The Umatilla County Board of Commissioners may find that the applicant’s supplied noise analysis provides mitigation measures for minimizing noise impacts, including berms, which may also serve as mitigation for dust impacts.

- UCDC 152.487(A)(2) There is sufficient information supplied by the applicant to show that there exists quantities of aggregate material that would warrant the overlay  
The Planning Commission found the applicant provided laboratory results for two aggregate samples and identified only one sample location on the site plan. The Planning Commission found one sample is not representative of the site to determine quantity and quality.

## Staff Memo

BCC Public Hearing – February 15, 2024

Comprehensive Plan Text Amendment #T-093-23 & Zoning Map Amendment # Z-323-23

The Umatilla County Board of Commissioners may find that the applicant submitted three aggregate samples which is representative of the site, verifying that the quantities of aggregate material exist to warrant the overlay.

- UCDC 152.487(A)(5) The site complies with Oregon Administrative Rules (OAR) 660-023-0180.  
Due to not meeting the approval criteria, the Planning Commission found that the site does not comply with OAR 660-023-0180.

In addition to not satisfying the above criteria of approval, the Planning Commission recommended denial of the Cox Quarry specifically due to:

1. Mitigation measures weren't identified based on shared impacts by the neighbors, including dust, noise, odors and shaking caused by blasting.
2. Hours of operation not clearly defined, nor how the asphalt batch plant would be managed.
3. Proximity to neighbors and effects on those properties.
4. Proposed restrictions on nearby properties were not adequately addressed.
5. Lack of soil samples taken to verify quantity and quality of aggregate.
6. How much topsoil exists and would be taken off the property.
7. Noise impacts were not addressed because of the canyon and wind direction.

Since the Planning Commission found that several criteria of approval were not met by the applicant, the Planning Commission did not evaluate conditions of approval. If the Board of County Commissioners find that the applicant meets the criteria of approval, conditions of approval should be imposed on the application. Conditions of approval are provided at the end of the preliminary findings for consideration.

Additionally, site screening was not evaluated by the Planning Commission. The applicant has provided that a berm will be located along the boundary of a portion of the site, the Board could impose an additional condition of approval requiring a berm to be constructed and maintained around a portion or the entirety of the site's boundary.

The Planning Commission reviewed Exhibits A through T. The Planning Commission's recommendation passed with a vote of 5-1.

### ***Information following Planning Commission Decision***

Following the Planning Commission's recommendation of denial, the applicant requested the Board of County Commissioners to continue the December 6, 2023 hearing to February 15, 2024. Since then, the applicant has submitted additional supplemental information. This information has been added to the record as Exhibit AC.

As noted above, the applicant has provided supplemental information which the Board of County Commissioners may determine satisfy some, all or none of the criteria of approval. The Planning Commission has determined that conflicts exist to existing residences and agricultural operations. The County Commissioners may identify means to mitigate these impacts through impositions of conditions of approval. If conflicts cannot be minimized, the Commissioners should require the applicant to provide an ESEE analysis for consequences of either allowing, limiting, or not allowing mining at the site per OAR 660-023-130 (5)(d).

Utilizing information submitted by the applicant in the noise study and blasting plan, Subsequent Conditions of Approvals #4, #5, #6 and #14 have been added for consideration, should the Board of County Commissioners choose to approve of the PAPA request and authorize mining at the site. The Board may find and conclude that



**Staff Memo**

BCC Public Hearing – February 15, 2024

Comprehensive Plan Text Amendment #T-093-23 & Zoning Map Amendment # Z-323-23

these conditions are adequate for minimizing conflicts, and/or may choose to impose additional conditions of approval.

***Conclusion***

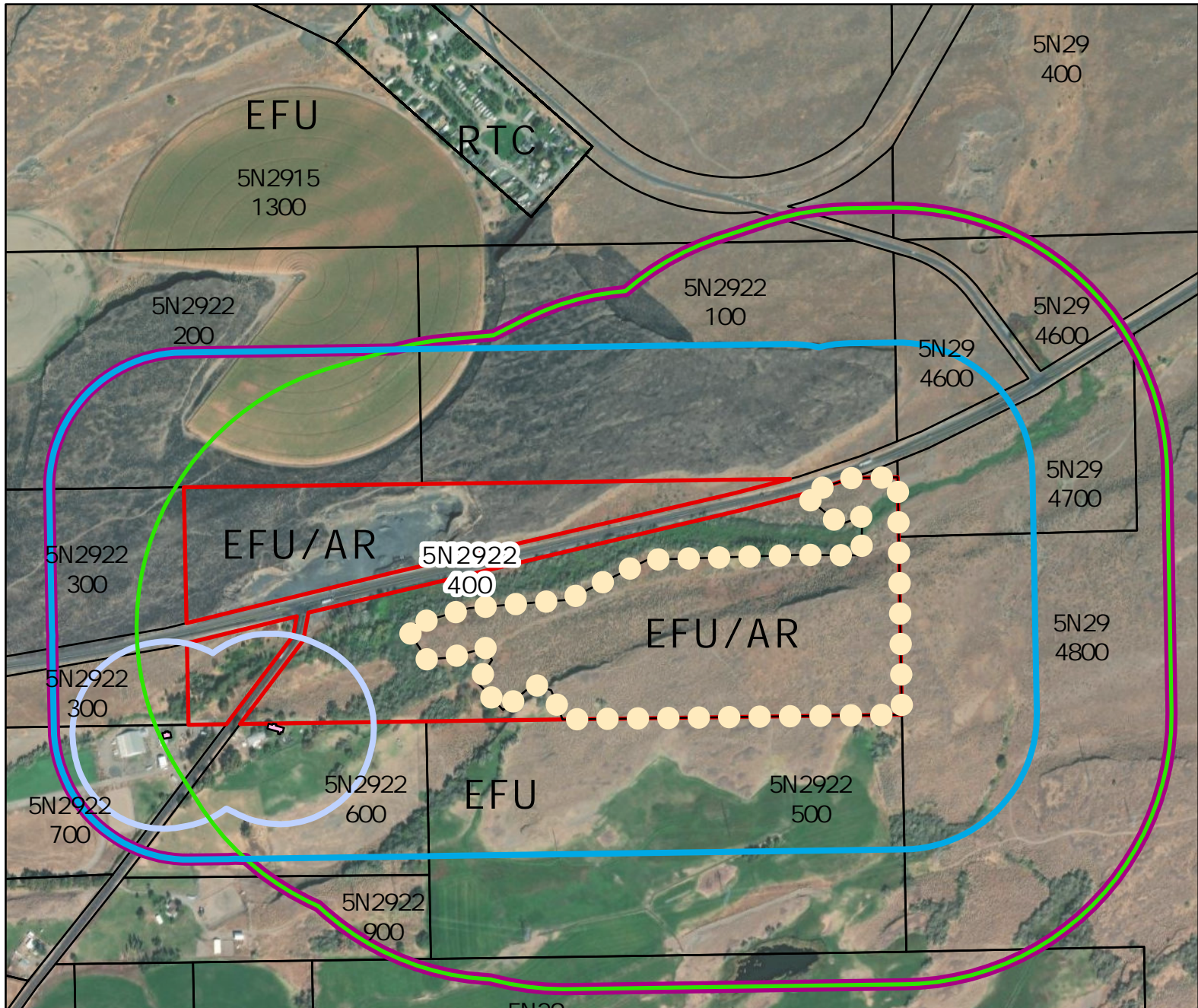
The Board of County Commissioners must also hold a public hearing(s) and decide whether or not to adopt the proposed amendments. The Board may decide to accept and adopt the Planning Commission’s findings and recommendation of denial, or determine new findings with a decision to approve the Post-Acknowledgement Amendment Application (PAPA) and allow mining and associated mining activities (including the asphalt batch plant) at the site.

The Board’s decision is final unless timely appealed to the Land Use Board of Appeals (LUBA).

DOUG COX Z-323-23 & T-093-23  
 1500 FT IMPACT AREA & 500 FT DWELLING BUFFER  
 MAP 5N 29 22, TL 400



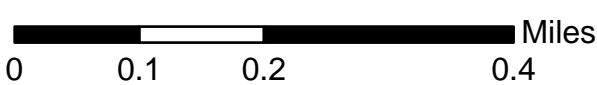
Notified property owners within 1500 ft of subject property (increased from 750 ft due to impact area restrictions requested by applicant)



MAP	Taxlot	OWNER
5N290000	400	OREGON PARKS & RECREATION DEPT
5N291500	1300	LANGLEY JOYCE
5N290000	4800	UMATILLA READY MIX INC
5N292200	100	USA
5N292200	400	RUPP RANDY
5N292200	500	BASFORD AARON J
5N292200	600	WESTERLING DARLENE ANN (TRS)
5N292200	700	STURZA CASIE J & HULL MICHAEL J
5N292200	900	ESTES JUSTIN L & JENNY L

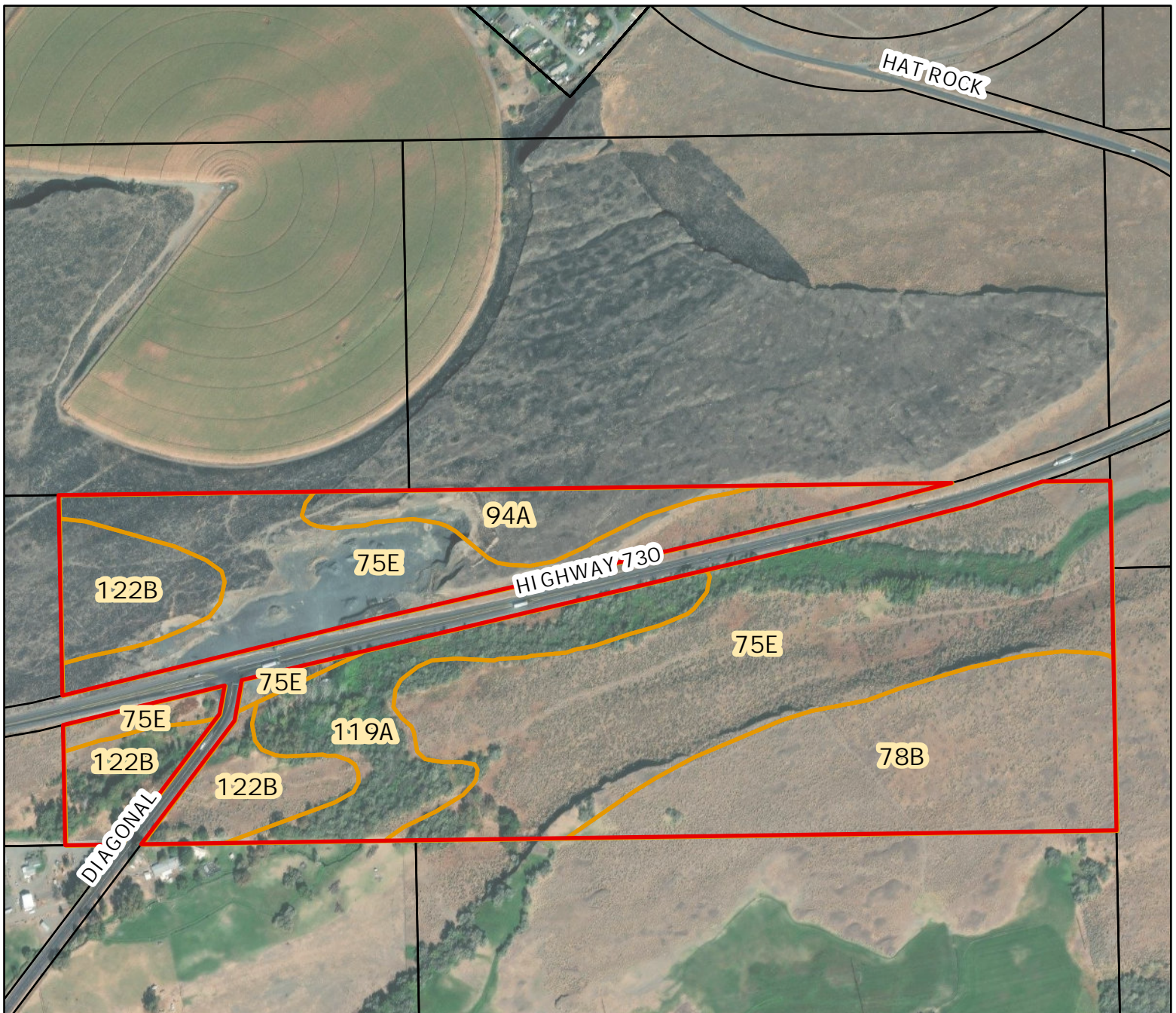
**Legend**

- Property Boundary
- Subject Property
- Dwelling Footprint
- 500 ft Dwelling Buffer
- Zoning Boundary
- Proposed Zone Boundary
- 1500 ft Impact Area from New AR Overlay
- 750 ft Notice Boundary
- Combined 750 ft Notice and 1500 ft Impact Boundary



Map Disclaimer: No warranty is made by Umatilla County as to the accuracy, reliability or completeness of the data. Parcel data should be used for reference purposes only. Created by M. Davchevski, Umatilla County Planning Department Date: 10/19/2023

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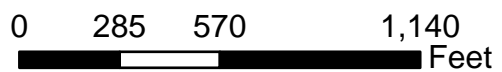


DOUG COX  
SOIL MAP

SOILS		
MAP SYMBOL	IRRIGATED	NON-IRRIGATED
75E	6e	7e
78B	4e	7e
94A	4e	6e
119A	-	6w
122B	4e	7e

Legend

- Property Boundary
- Subject Property
- Soils



Map Disclaimer: No warranty is made by Umatilla County as to the accuracy, reliability or completeness of the data. Parcel data should be used for reference purposes only. Created by M Davchevski, Umatilla County Planning Department Date: 9/21/2023

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**UMATILLA COUNTY BOARD OF COUNTY COMMISSIONERS  
PRELIMINARY FINDINGS AND CONCLUSIONS  
COMPREHENSIVE PLAN TEXT AMENDMENT T-093-23,  
ZONING MAP AMENDMENT #Z-323-23  
MAP 5N 29 22; TAX LOT #400**

1. APPLICANT: Doug Cox, CRP and Hauling, PO Box 131, Hermiston, OR 97838
2. OWNER: Randy Rupp, 176 Kranichwood Street, Richland, WA 99352
3. REQUEST: The request is to add a portion of Tax Lot 400 on Assessor's Map 5N 29 22 to the Umatilla County list of Large Significant Sites, providing necessary protections under Goal 5 including limiting conflicting uses within the impact area, and applying the Aggregate Resource Overlay Zone to the proposed site. The applicant is requesting approval for occasional blasting, extraction, operation of a rock crusher, scale, office, stockpile areas and an asphalt batch plant. The proposed Goal 5 site is a 46.7-acre portion of TL 400, which is 109.65-acres. The goal of this application is to establish the 46.7-acre Large Significant Site with protections under Goal 5 and to allow mining (including blasting), processing, stockpiling and operation of an asphalt batch plant.
4. LOCATION: The subject property is bifurcated by the intersection of Oregon State Highway 730 and State Highway 207. The proposed project area is located south of Highway 730 and east of Highway 207, although the subject property also makes up land north of Highway 730 and west of Highway 207. The subject property is approximately 5 miles east of the City of Umatilla and approximately 5.5 miles north-east of the City of Hermiston.
5. SITUS: The proposed aggregate site does not currently have a situs address.
6. ACREAGE: Tax Lot 400 is assessed as 109.64 acres. The proposed Aggregate Resource Overlay Zone is 46.7 acres.
7. COMP PLAN: The subject property has a Comprehensive Plan designation of North/South Agriculture.
8. ZONING: The subject property is zoned Exclusive Farm Use (EFU). The portion of the subject property north of Highway 730 also has the Aggregate Resource (AR) overlay zone applied.
9. ACCESS: The site has frontage along Highway 730 and Highway 207, and is bisected by both state highways. The applicant has proposed that site access be from Highway 730 and is working with ODOT to obtain approval to relocate the Highway 730 driveway.
10. ROAD TYPE: Both State Highway 207 and 730 are two-lane, paved state highways.

PRELIMINARY FINDINGS AND CONCLUSIONS

Cox Quarry, Text Amendment T-093-23 and Zoning Map Amendment. #Z-323-23

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11. EASEMENTS: There are no access or utility easements on the subject property. The applicant provides that there is a long-term lease agreement with ODOT for exclusive permission for extracting aggregate out of the property’s existing rock quarry north of Highway 730.
12. LAND USE: The subject parcel is bifurcated east to west by State Highway 730. On the north side of the highway is an ODOT quarry which has existed for many years. On the south side of the highway is open space that contains a steep rock bluff on the south half of the parcel. There is a small, remnant part of the parcel that is west of Highway 207 and south of Highway 730. The lower lying ground is used for cattle grazing. No crops are grown on this parcel.
13. ADJACENT USE: An approved ODOT mining operation is located on the subject property, north of Highway 730. A steep rock bluff is directly to the north of the parcel. An irrigated crop circle is located north and north west of the subject property. Adjacent to the west side of the subject property is open space with some vegetation and one dwelling. To the south of the subject property is rangeland and one dwelling. The applicant states that the proposed mining area will be 500 feet or more from the two homesites. To the east is primarily open space with some moderate grazing and another aggregate operation.
14. LAND FORM: Columbia River Plateau
15. SOIL TYPES: The subject property contains predominately Non-High Value soil types. High Value Soils are defined in UCDC 152.003 as Land Capability Class I and II. The soils on the subject property are predominately Class IV.

Soil Name, Unit Number, Description	Land Capability Class	
	Dry	Irrigated
75E: Quincy loamy fine sand, 5 to 25 percent slopes	VIe	VIIe
78B: Quincy-Rock outcrop complex, 1 to 20 percent slopes	IVe	VIIe
94A: Starbuck-Rock outcrop complex, 0 to 5 percent slopes	IVe	VIe
119A: Wanser loamy fine sand, 0 to 3 percent slopes	--	VIw
122B: Winchester sand, 0 to 5 percent slopes	IVe	VIIe
<i>Soil Survey of Umatilla County Area, 1989, NRCS. The suffix on the Land Capability Class designations are defined as “e” – erosion prone, “c” – climate limitations, “s” soil limitations and “w” – water (Survey, page. 172).</i>		

16. BUILDINGS: There are no buildings on the subject property.
17. UTILITIES: The site is not served by utilities.
18. WATER/SEWER: The applicant provides that there are no water rights associated with the subject parcel. Additionally, there is no septic system. The applicant

provides that the property owner has other lands in the vicinity that do have water rights. Applicant states that water for dust control will be procured from a permitted water source.

19. FIRE SERVICE: The property is served by the Umatilla Rural Fire District.
20. IRRIGATION: The property is not located within an irrigation district.
21. FLOODPLAIN: The subject property is NOT in a floodplain.
22. WETLANDS: The subject property contains several wetlands identified on the National Wetlands Inventory. Prior to this application, the applicant submitted a request to Oregon Department of State Lands (DSL) for an off-site wetlands determination. Applicant procured engineering services from NV5 (consulting firm) to develop a mine resource evaluation report. Based on the wetlands indicated in the DSL report, NV5 developed a mine plan to avoid impact to the wetland areas, including observation of undisturbed buffers. The applicant subsequently requested a follow-up offsite determination from DSL using the mine plan from the NV5 report. DSL's updated report is attached, concluding "the proposed project area appears to avoid jurisdictional wetlands or waterways. A Removal Fill Permit is not likely to be required." See attached mine resource report dated January 31, 2023.
23. NOTICES SENT: Notice was sent to the Department of Land Conservation and Development (DLCD) on October 5, 2023. Notice was mailed to neighboring land owners and affected agencies on October 20, 2023. Notice was printed in the October 28, 2023 publication of the East Oregonian.
24. HEARING DATE: A public hearing was held before the Umatilla County Planning Commission in the Justice Center Media Room, 4700 NW Pioneer Place, Pendleton, OR 97838 on **November 9, 2023 at 6:30 PM**.
- A subsequent hearing was scheduled before the Umatilla County Board of County Commissioners on **December 6, 2023 at 9:00 AM**. This hearing was opened and continued to **February 15, 2024 at 1:30 PM**, as requested by the applicant. The hearing will be held in Room 130 at the County Courthouse, 216 SE 4<sup>th</sup> St., Pendleton, OR 97801.
25. AGENCIES: Umatilla County Assessor, Umatilla County Public Works, Oregon Department of Transportation Region 5-Highways Division, Oregon Department of Land Conservation and Development, Department of Environmental Quality, Department of Geology and Mineral Industries, Department of State Lands, Oregon Water Resources Department, CTUIR-Natural Resources, CTUIR-Cultural Resources, Umatilla Rural



Fire District, Pacific Power, Or Fish and Wildlife, US Fish and Wildlife, Bonneville Power Administration and Umatilla County Counsel

26. COMMENTS: Numerous verbal and written comments were received. During the November 9, 2023 Planning Commission Hearing, testimony was provided by the applicant, the applicant's attorney and hired geologist. The applicant's attorney also provided written comment at the hearing (see Exhibit S). Additionally, several project opponents voiced concerns with verbal testimony. Several comments and supporting documents have been added to the project record. The Planning Commission reviewed Exhibits A through T. Exhibits U through AF were submitted for comment following the Planning Commission hearing. These exhibits have been incorporated into the preliminary findings with staff response.

Department of State Lands (DSL) provided a Wetland Land Use Notification response, Exhibit U. The response states that the applicant worked with DSL to adjust the site boundaries to exclude mapped wetlands.

Comments in opposition of the request largely consist of various impacts (dust, noise, blasting affects, pollution and other discharges) to existing dwellings and residents, detrimental health effects, farming activities, natural habitats, including the Goal 5 wetland and wildlife, water sources and land values. Other concerns relate to where water will be sourced from, whether or not the provided aggregate sample was adequate, traffic safety, insufficient evidence and conflicting information and statements within the application. Opponents' concerns and the applicant's response are summarized below. The comprehensive statements are available in the corresponding exhibits and audio file of the November 9, 2023 Planning Commission hearing.

On November 20, 2023 Darlene Westerling provided verbal comments in opposition of the proposed request. Ms. Westerling's verbal concerns are the effects on the water table, wildlife impacts from drinking from the retention pond, air quality (specifically silica in the dust that can blow 35 miles) and noise funneled to her house from the bluff. She added that the applicant's proposed floor of 80-feet will be below her domestic well and will affect her water quality. She did not want to have to sign a non-remonstrance agreement and was concerned about the applicant's conflicting information. Ms. Westerling has also provided several written comments in opposition (Exhibits V, W and Z).

Proponents: Five letters of support of the Doug Cox Quarry have been received: Exhibit AA submitted by Culbert Construction Inc, Exhibit AB submitted by Hermiston Plan Center, Exhibit AD submitted by Jim Hatley, Exhibit AE submitted by Denny Whitsett and Exhibit AF submitted by Kristy Inman. All five letters state there is a need for the rock product, the proposed quarry location is ideally situated, and that Mr. Cox has high standards for quality and integrity.

*Applicant's January 24, 2024 Response (Exhibit AC):* Mining and blasting will not impact the water table utilized by Ms. Westerling's well because, the mine will be maintained above the water table and located at least 1,000 feet from to Ms. Westerling's home site. Mining will focus on the aggregate exposed in the natural bluff and accompanying slope, extracting basalt and sand

resources that lie above an elevation of 420 feet above sea level. Ms. Westering's home site is located at or below an elevation of 420 feet. The well log available for her well from the Oregon Water Resources Department indicates her well was installed in 2002 to a depth of 100 feet with a static water level of 23 feet below ground surface. This water level corresponds to an elevation below 400 feet and at least 20 feet below the proposed mine floor.

Stormwater ponds are a common feature at mine sites and are frequently utilized by wildlife without adverse health effects. The sand and basalt will be relatively free of fines other than that produced by blasting and crushing, and the stormwater pond will be excavated into clean sand with less than 1 percent fines based on laboratory testing, which testing has been submitted into the record by the Applicant.

Based on the Air Quality Inc. report submitted by Applicant, Ms. Westerling's property will not be affected by air pollutants from the mine site. Ms. Westerling has not provided any scientific or technical information to indicate any risk of air pollutants or a violation of any regulation governing emission of air pollutants. Silica dust is ubiquitous in the outdoor environment, particularly in dry areas characterized by agriculture, animal husbandry, and rural resource development. Silica exposure risks are assessed for workers in silica-rich environments such as quartz countertop manufacturers, silica mining operations, and construction sites. Ms. Westerling lives a thousand feet from the mine and will not be exposed to adverse concentrations of respirable silica that do not otherwise exist in the natural, dry, rural environment she currently lives in.

Based on the response from DSL and the site plan that avoids impacts to wetlands, Umatilla County can find that the application does not negatively impact a wetland.

### **Land Values**

**Opponents:** Several opponents raise the issue that their land values and resale values will be affected by the proposed quarry and associated mining activities.

**Applicant:** Applicant provided that there is no evidence in the record to support that nearby land values would decrease. Applicant states that there will probably not be much impact on land values due to the existence of the ODOT quarry.

*Applicant's January 24, 2024 Response (Exhibit AC):* Applicant submits a 2018 Phoenix Center study of the effects of rock quarries on property values and a critique of the study by Patricia Hite raised by project opponents. The 2018 study concludes that there is no statistical evidence that either the anticipation of or the ongoing operation of rock quarries negatively impacts home prices.

**Staff Response:** Although a concern of opponents, an increase or decrease of neighboring land values is not a criterion of approval for establishing a Large Significant Aggregate Resource Site and cannot be used as justification for denial of the request.

### **Dust/Noise/Odor/Other Discharges and Impacts**

**Opponents:** Cody Basford provided oral testimony and asked if an environmental study had been

conducted to analyze the potential effects on the wildlife in the wetland area such as ducks, beavers, deer, rabbits, and fish. Kyla Langley Latham stated that she has not seen activity from the existing ODOT quarry.

Barbara Atwood provided oral testimony before the Planning Commission and noted that the existing Umatilla Ready Mix quarry is 1 ½ miles east of this site and her home. This site creates noise, dust and odors that affect her home and property. Although the applicant states wind is primarily from the west, Ms. Atwood states that even with westerly winds this existing aggregate operation impacts her dwelling to the east. The nearby ODOT quarry occasionally has an asphalt plant which is very smelly and affects people with allergies and asthma. She added that this quarry is not very active, however the few blasts that occur do have an effect on her horses. Ms. Atwood stated that she is a physician and this proposed operation and plant will affect residents' health, and those that are sensitive will be greatly affected. She expressed concerns about the affect on wildlife in the area such as deer and birds. She added that the dust impacts will have an impact on nearby crops; she grows alfalfa and the dust will reduce the quality of her crop, she cannot feed alfalfa or hay covered in dust to her horses. Ms. Atwood also provided written testimony (Exhibit K).

Justin Estes provided oral testimony (written testimony Exhibit P) stating that the predominant winds frequently change, the winds are westerly in the summer however they are easterly other times of the year. His property is currently affected by dust and noise from the Umatilla Ready Mix site, over 1 mile east of his property. He added that his house is located within the canyon and he believes that the noise and dust from blasting and crushing will travel down the canyon towards his house. The canyon could not provide sound mitigation, he currently hears trucks from the canyon. He is also concerned about health risks and lung diseases caused from the quarry's dust.

Other opponents echoed the above concerns and stated that the ODOT quarry is not very active and has maybe been active twice in 18 years.

Applicant: The applicant's response (Exhibit S) states that the existing ODOT quarry north of Highway 730 "has been in place for over 30 years [and] we are not aware of a record or evidence of noise, dust or nuisance complaints about that quarry or mining operation from the surrounding community". The applicant asserts that the natural occurring basalt will provide a natural sound buffer to residences south of the wall, and will have a final benched configuration of up to 80-feet in height. The applicant states that there will always be a vertical barrier due to the existing basalt hillside that continues offsite. Additionally, there will be a top soil berm constructed along the south side of the mining area which will be comprised of organic material, seeded and mulched with native vegetation.

The applicant provided oral testimony stating that the prevailing winds are from the west, so odor from the asphalt batch plant should not be a concern. Blasting will occur a few times a year and will increase the natural barrier. The applicant added that rock crushing will occur after blasting to create stockpiles. The pit will be lower in elevation, this will lower the effects in the impact area. The applicant clarified the hours of operation will be 6am to 3pm for customer pick up and 6am to 7pm for crushing and stockpiling. Blasting and crushing will be done by a

separate contractor whom will be responsible for dust and noise mitigation.

*Applicant's January 24, 2024 Response (Exhibit AC):* Following the Planning Commission hearing, applicant hired Air Sciences, Inc. to study air impacts from the mining and processing. Air Sciences, Inc., whose report is in the record, concluded that emissions from the rock crushing and asphalt plant would not qualify as major sources of pollutants under applicable law and regulations and that the operation will comply with the Oregon Significant Emission Rate values.

Regarding dust, the applicant stated that they will have a water truck on site, additionally the internal roadways will be graveled which will further reduce dust. The applicant stated they will probably have 3 to 5 trucks every half hour coming to the site, the dust will be mitigated by the onsite water truck. However, in Exhibit S the applicant states that one 5,000-gallon truck would be sufficient for a week's time. The applicant stated that runoff would be mitigated. During rebuttal testimony, the applicant asserted that there are regulations regarding dust, noise, other air discharges and odor that the applicant is required to comply with and that they will comply with all DEQ and DOGAMI regulations. The applicant restated that there has not been a history of nuisances or complaints of the ODOT quarry, and that the ODOT quarry has not impacted dwellings, farm operations or livestock. Aerial imagery available from Google Earth indicates the ODOT quarry experienced activity in 2015 and 2017; other site activity may have occurred but was not captured by the episodic aerial records.

The applicant added that there will be a topsoil berm constructed with organic material that is seeded and mulched to help control dust from leaving the site.

The applicant believes that the Occupational Safety and Health Administration Asphalt Fumes article referenced in Ms. Atwood's letter (Exhibit K) which details health concerns and effects from exposure to asphalt fumes is irrelevant. The applicant stated that this article references workers that are exposed to asphalt fumes, not residences at a distance from the working environment.

*Applicant's January 24, 2024 Response (Exhibit AC):* Since the Planning Commission hearing, applicant retained a professional air quality analysis from Air Sciences Inc., who concluded that air emissions from the proposed operation were below the Oregon Administrative Rule established threshold. The report was researched and written by a professional scientist who has the requisite credentials.

**Staff Response:** Opponents raise various concerns regarding air discharges, runoff, dust and the effects that these discharges have nearby residents, agriculture and wildlife. The Applicant's supplied analysis from Air Sciences Inc., found that the proposed project emissions of particulate matter, particulate matter with a diameter of 10 micrometers or less, and fine particulate matter are less than the Oregon Significant Emission Rate values. The analysis also states that the project is expected to comply with all DEQ permit requirements. **The Air Science analysis did not determine emissions for blasting activities.** Additionally, the analysis does not state whether or not these levels of emissions would negatively impact nearby residents, agriculture crops, wildlife, or the Goal 5 wetland.

Umatilla County may or may not find that the applicant has adequately addressed impacts from air discharges, runoff and dust.

Regarding noise impacts, the applicant provided a noise study conducted by Coffman Engineers. This analysis monitored existing sound levels at 9 locations, weather conditions, instruments and timeframes appear to be compliant with Oregon DEQ Sound Measurement Procedures Manual. The analysis found that the neighboring Umatilla Ready-Mix operation to the east was operational (no processing) and was not audible at the sound measurement locations. The sound analysis concluded that proposed activities are expected to exceed baseline measured sound levels by more than 10dBA at Analysis Locations 1 (dwelling owned by Westerling) and 7 (dwelling owned by Basford). Sound increases in excess of 10 dBA are in violation of Oregon DEQ regulations. Sound levels for blasting was not determined. Sound may be mitigated by construction of berms ranging in heights from 20 to 25 feet as shown in the Coffman Engineers Report Figure 7-1. A condition of approval may be imposed requiring the berms to be constructed and maintained, and restricting the hours of operation to after 7am could mitigate noise impacts.

### **Representative Aggregate Sample**

**Opponents:** Opponents questioned whether or not one sample was representative of the entire site. Justin Estes provided oral testimony stating that one aggregate sample could not be used to determine the quantity of sand or basalt on the large site.

**Applicant:** Geologist Erick Staley, representing the applicant, provided oral testimony stating that although only one sample was tested in the lab, he could physically see the basalt onsite and was confident that it met the required quality standards, he believes that his written report supports this statement. Mr. Staley added that more samples were not gathered due to limited access of the site and disturbance to the area.

During rebuttal, the applicant argued that Mr. Staley is an educated expert with a certain level of expertise that should be valid for purposes of determining quantity and quality available at the site. He conducted a site visit and several field tests, including the one aggregate sample, to substantiate his conclusions that the aggregate material on the subject property meets the requirements for establishing a Goal 5 site.

*Applicant's January 24, 2024 Response (Exhibit AC):* Since the Planning Commission hearing, applicant's Geologist Erick Staley revisited the site and collected additional samples. The additional samples were sent to a lab that confirmed the site aggregate material meets the quality and quantity requirements for a Significant Aggregate Resource Site. That laboratory report was submitted into the record by Applicant.

**Staff Response:** Since the November 9<sup>th</sup> Planning Commission hearing, the applicant's geologist collected additional samples from the subject property. The applicant provided an updated site map that shows the second and third sample locations. It is worth noting that all three sample locations are within the identified basalt outcrop, although the applicant proposes to mine other areas not within the identified outcrops.

The Umatilla County Board of Commissioners may or may not determine that three samples are representative of the entire 46.7-acre proposed aggregate site.

### **Traffic**

**Opponents:** Various opponents questioned the safety of the amount of large trucks generated by the proposed site. The state highway currently has a speed limit of 55 miles per hour, however, trucks often go much faster than the speed limit and this will affect the safety of students on school busses, asphalt trucks take much longer to slow to a stop. Opponents state that the traffic impact analysis talked about truck trips, however, it did not have a safety component. Jenny Estes added during her oral testimony that accidents along this stretch of highway are frequent. Opponents also voiced concerns of added traffic on Edwards Road.

**Applicant:** The applicant stated that they have an ODOT highway approach permit to State Highway 730. As a condition of the approach approval, the applicant is required to construct a 6-foot wide asphalt shoulder for a distance of 110-feet along Highway 730. During rebuttal, the applicant clarified that in the Traffic Impact Analysis, the study includes two trips for each truck, but there will not always be that many trucks coming to or from the site. The applicant highlighted that the Traffic Impact Analysis found that daily truck traffic created by the proposed site is equivalent to 15 minutes of the existing truck traffic on Highway 730.

*Applicant's January 24, 2024 Response (Exhibit AC):* Traffic is a legitimate concern and, as noted above, is addressed as part of the transportation standards that apply to a Goal 5 Aggregate application, all of which demonstrate compliance with applicable traffic and transportation standards based on the Traffic Impact Analysis (TIA). Expectations about negative truck impacts are alleviated based on the TIA. In fact, the TIA includes a 20-year growth projection for the highway and even then the traffic from the site is acceptable. ODOT concurred with the recommendations of the TIA and did not require a turn lane but did require a two-lane driveway and a stop sign on the private property.

In response to impacts to Edwards Road, the TIA did not analyze that intersection since it is located more than 2 miles from the subject property. The applicant does not propose using Edwards Road. The County may find that there will be no measurable impacts to Edwards Road. The Traffic Impact Analysis references crash history at the Highway 730/Highway 207 intersection. For the reporting period, 2016-2020 there was one crash at the intersection which was a roll over due to ice. See TIA page 5. The crash rates are based on reports published by ODOT. In the most recent crash rate report, dated August 2023, the Highway 730 and Highway 207 intersection shows a very low crash rate. See 2021 State Highway Crash Rate Tables ([oregon.gov](https://www.oregon.gov))

Neither Highway 730 nor Highway 207 is a designated Safety Corridor. See [https://www.oregon.gov/odot/Data/Documents/Crash\\_Rate\\_Tables\\_2021.pdf](https://www.oregon.gov/odot/Data/Documents/Crash_Rate_Tables_2021.pdf) A safety corridor is a stretch of state highway where fatal and serious injury traffic crash rates are higher than the statewide average for similar types of roadways.

State Highway 730 is also a designated Freight Route which means it is designed and maintained with a focus of insuring large trucks as well as passenger vehicles can operate safely. Highway

207 is a designated Truck Route. Here is a link to the ODOT Freight Highway Map.  
[https://www.oregon.gov/ODOT/Data/Documents/Freight\\_System.pdf](https://www.oregon.gov/ODOT/Data/Documents/Freight_System.pdf)  
(oregon.gov)

One of the primary reasons the applicant and landowner chose this site is the proximity to a state highway and designated Freight Route. This is important for the community because the quarry operation and truck traffic will avoid impacts to residential neighborhoods and local and county roadways.

Together, there is substantial evidence in the record that perceived expectations about excess truck traffic, accident rates and safety are not founded.

**Staff Response:** The applicant's provided Traffic Impact Analysis (TIA) performed by Kittelson and Associates analyzed ODOT crash records for the Highway 207 and 730 intersection from January 1, 2016 through December 31, 2020. According to ODOT's data, in that five-year period there was one crash which resulted in injuries. The TIA concluded that the proposed aggregate mining/asphalt batch plant is not anticipated to result in a significant effect on the surrounding transportation network or require offsite transportation improvements. Based on the TIA, the Planning Commission found that the proposed aggregate operations would have an average daily trip amount equivalent to the existing Highway 730 15-min traffic count. The Planning Commission found that the applicant met or could meet (through conditions of approval) access and road improvements and complies with Statewide Planning Goal 12 Transportation.

### **Blasting**

**Opponents:** Many opponents of the site were concerned about blasting impacts on their dwellings, livestock, and the use of their properties. Concerns were shared regarding the frequency of blasting, the hours of when blasting will occur, if there will be notification, if rock will fly on their property and the effect on the wildlife that inhabit the area.

**Applicant:** The applicant provided oral testimony stating that blasting will occur a few times a year, there will be a pre-notification for blasting and will follow all state, county and federal regulations. The applicant shared that fly rock is dangerous and expensive, and the licensed blaster is required to manage the rock so this does not occur. The blaster will provide a blast notification so livestock could be moved from the area, prior to any blasting. Shaking is mitigated by increasing distance from neighboring properties and through proper blast design. The applicant explained that blasting plans are unique to the contracted blaster and are produced by the licensed blaster. Blasting and crushing will be done by a separate contractor who will be responsible for dust and noise mitigation.

*Applicant's January 24, 2024 Response (Exhibit AC):* Applicant submitted a blast impact report (Exhibit E) ahead of the Planning Commission hearing evaluating the likelihood for onsite blasting to affect offsite residences and other structures. That study concluded blasting conducted in conformance with regulatory standards would not result in ground-borne vibrations damaging offsite structures. Following the Planning Commission hearing, the applicant hired a licensed blaster to provide a draft blasting plan showing how a blast would be designed for the conditions at the site and would prevent offsite migration of damaging ground vibrations, further

supporting the findings of the initial blast impact study. That draft blasting plan was submitted into the record by the Applicant.

The draft blasting plan provides blast designs for two scenarios at the site that would place blasting as close as possible to the nearest residential structure to the southwest: one blast atop the basalt bluff, and the other at the foot of the bluff. As such, these should be considered worst-case scenarios. The blast plan uses methods approved by ODOT and the Federal Highway Administration to determine the blast size, timing, and generated ground-vibrations. Both scenarios resulted in estimated ground vibrations well below required vibration thresholds. Considering the findings of both the blast impact study and the draft blast plan, concerns about blasting impacts to the site vicinity are addressed, are not anticipated, and are otherwise not founded by any professional evaluation in the record.

**Staff Response:** The applicant provided a blast impact report compiled by Fulcrum Resources (Exhibit E). This report did not specifically identify conflicts, or lack thereof, with livestock, nearby residents or wildlife. Applicant's identified mitigation for impacts to livestock is to provide a blast notification and by increasing the blast distance from neighboring properties. However, applicant also states that the blasts will be conducted by contractors and does not offer how applicant will ensure the contractors will provide notification. Mitigation for impacts to wildlife was not shared by the applicant. The applicant's draft blasting plan (Exhibit AC) identifies Blast Scenarios #1 and #2. Blast #1 is estimated to be about 1,350-feet from a structure near Darlene Westerling's home, while Blast #2 is estimated to be about 1,100-feet from this same structure.

Umatilla County may or may not find that the applicant has adequately addressed impacts from blasting activities.

Umatilla County may impose a condition of approval requiring a notification within 24 hours of blasting activities to properties within the 1,500-foot impact area.

### **Water Quality**

**Opponents:** One person spoke at the Planning Commission hearing and raised concerns about nitrate pollution to the groundwater. In each of her letters, Darlene Westerling provided comments about potential negative effects on her domestic well, including how mining can increase nitrogen levels in groundwater through the use of nitrogen-based explosives.

**Applicant:** The Lower Umatilla Basin Groundwater Management Area was designated a groundwater management area in 1990 due to nitrate levels that exceed the federal (10ppm) and state (7 ppm) levels of nitrate in drinking water. The 1990 report, and subsequent reports and research, identified five sources of the nitrate contamination including agricultural operations, confined animal feeding operations (CAFO's), rural residential septic systems, land application of food processing wastewater and the washout lagoon at the Umatilla Army Depot. Neither the original report, which was relied upon as the source report for the State Environmental Quality Commission (EQC) to declare the management area, nor any subsequent studies and reports, identify mining as a source of nitrate in the LUBGWMA.



A sample of several studies is below. Based on this information, county may conclude that there is no evidence that the proposed mining operation will generate nitrate source and the groundwater quality will not be impacted.

Estimation of nitrogen sources nitrogen applied and nitrogen leached into groundwater in the [Lower Umatilla Basin Groundwater Management area \(lubgwma.org\)](http://lubgwma.org)

[Report Template - from HQ \(lubgwma.org\)](http://lubgwma.org)

[Studies and Data – LUBGWMA Committee](http://lubgwma.org)

**Staff Response:** The general vicinity of the project location is within the Lower Umatilla Basin Groundwater Management Area (LUBGWMA). The LUBGWMA affects both Umatilla and Morrow Counties. Historically, mining activities have not been identified as a source of nitrates. In fact, the LUBGWMA's second action plan identifies that six major contributors of nitrate groundwater contaminants to be: irrigated agriculture, confined animal feeding operations land application, pastures, onsite septic systems, land application of food processing wastewater and lawns. However, the opponent was concerned about the blasting operations using nitrogen-based explosives, which could affect her domestic drinking well. The applicant did not share the type of explosives that would be used during blasting activities and if they would be nitrogen-based.

Umatilla County may or may not find that the applicant has adequately addressed impacts to water quality.

The following exhibits have been included in the record:

**Exhibit A** – NV5 Mine Resource Evaluation Report, *Submitted with application*

**Exhibit B** – Budinger & Associates Laboratory Report dated August 24, 2022 *Submitted with application*

**Exhibit C** – Carlson Testing, Inc. Laboratory Report dated January 26, 2023 *Submitted with application*

**Exhibit D** – *September 13, 2023*, Fulcrum Geo Resources Site Plans (Figures 1-3)

**Exhibit E** – Fulcrum Geo Resources, Anticipated Impacts from Blasting, dated August 25, 2023 *Submitted with application*

**Exhibit F** – Kittelson & Associates Traffic Impact Analysis, *Submitted with application*

**Exhibit G** – Umatilla County Technical Report Map D-44

**Exhibit H** – Offsite Wetland Determination Report WD# 2022-0606, *Submitted with application*

**Exhibit I** – Offsite Wetland Determination Report WD# 2023-0095, *Submitted with application*

**Exhibit J** – Fulcrum Geo Resources DOGAMI Operating Permit, *Submitted with application*

**Exhibit K** – *November 9, 2023*, letter in opposition from Barbara Atwood M.D. (opponent).

**Exhibit L** – *November 9, 2023*, letter in opposition from Crystal Atwood (opponent).

**Exhibit M** – *November 9, 2023*, letter in opposition from Kyla Langley Latham (opponent).

**Exhibit N** – *November 9, 2023*, letter in opposition from Wylie Ranch and Aaron Basford (opponents).

**Exhibit O** – *November 9, 2023*, letter in opposition from Jenny Estes (opponent).

**Exhibit P** - *November 9, 2023*, letter in opposition from Justin Estes (opponent).

**Exhibit Q** – *November 9, 2023*, letter from Terra Electric.

**Exhibit R** – *November 9, 2023*, letter in opposition from Joyce Langley (opponent).

**Exhibit S** – *Submitted During Hearing November 9, 2023*, letter to Planning Commission submitted by Jennifer E. Currin (attorney for Applicant).

**Exhibit T**- *Submitted During Hearing November 9, 2023*, project site map presented by Erick Staley (geologist for Applicant).

**Exhibit U** – *November 14, 2023*, Response to Wetland Land Use Notification from Department of State Lands

**Exhibit V** – *November 20, 2023*, letter in opposition from Darlene Westerling (opponent).

**Exhibit W** – *November 27, 2023*, letter in opposition from Darlene Westerling (opponent).

**Exhibit X** – *December 6, 2023*, letter in opposition from Wylie Ranch and Aaron and Cody Basford (opponents).

**Exhibit Y** – *December 14, 2023*, waiver of 150 Day Rule for Planning Review submitted by Doug Cox

**Exhibit Z** – *January 10, 2024*, letter in opposition from Darlene Westerling (opponent).

*January 23, 2024*, letter in opposition from Darlene Westerling (opponent) and article by SRK Consulting, *Helping mines find the real source of nitrates in water* (November 28, 2017)

**Exhibit AA** – *January 23, 2024*, letter in support from Culbert Construction Inc (proponent).

**Exhibit AB** – *January 23, 2024*, letter in support from Hermiston Plan Center (proponent).

**Exhibit AC** – *January 23, 2024*, additional information provided by Applicant.

Attachment 1: Technical Memorandum dated February 16, 2023, prepared by Air Sciences, Inc.

Attachment 2: Blast Plan prepared by High Mountain Construction, Inc. Dated January 16, 2024

Attachment 3: Carlson Testing, Inc. Aggregate Qualification Testing dated January 8, 2024

Attachment 4: *Phoenix Center Policy Paper Number 53: Quarry Operations and Property Values Revisiting Old and Investigating New Empirical Evidence* dated March, 2018, from the Phoenix Center for Advanced Legal and Economic Public Policy Studies

Attachment 5: Updated Mine Plan dated January 17, 2024

Attachment 6: Revised Resource Estimate Report dated January 17, 2024

Attachment 7: Sound Analysis from Coffman Engineers, Inc. dated January 2024

Attachment 8: Email dated December 13, 2023, and Stamped Findings Report from Thomas Lapp, District 12 Permit Specialist, Oregon Department of Transportation

Attachment 9: Proposed Revised Findings and Conclusions prepared by Applicant

Attachment 10: State of Oregon Water Well Supply Report for Well I.D. 49855; UMAT 54508

**Exhibit AD** – *January 25, 2024*, letter in support from Jim Hatley (proponent).

**Exhibit AE** – *January 30, 2024*, letter in support from Denny Whitsett (proponent).

**Exhibit AF** – *February 5, 2024*, letter in support from Kristy Inman (proponent).

*NOTE: The Umatilla County Development Code has not been updated with the Division 23 Rules for Aggregate. The Oregon Administrative Rules 660-023-0180 to establish a Goal 5 Large Significant Site will be directly applied per OAR 660-023-180 (9).*

**27. GOAL 5 ISSUES: Scenic, Open Space, Historic, Wildlife, and other resources.**

In order to mine aggregate in Umatilla County, a site must either be an active insignificant site, or be listed on the Goal 5 Inventory of the Umatilla County Comprehensive Plan as a significant site. The Umatilla County Comprehensive Plan requires that “any proposed modification to the text or areas of application (maps) of the AR, HAC, CWR or NA Overlay Zones shall be processed as an amendment to this plan.” Therefore, this application constitutes a Post-

Acknowledgement Plan Amendment (PAPA), and is subject to the criteria listed in Oregon Administrative Rules (OAR) 660-023-0030 through 660-023-0050, and OAR 660-023-0180. As a condition of approval for operation, the applicant must acquire a DOGAMI permit and obtain approval of a reclamation plan. Copies of both the DOGAMI permit and reclamation plan must be submitted to County Planning.

**28. STANDARDS OF THE OREGON ADMINISTRATIVE RULES, DIVISION 23 FOR GOAL 5 LARGE SIGNIFICANT SITES** are found in **OAR 660-023-0180 (3), (5), & (7), OAR 660-023-040, and OAR 660-023-050**. The standards for approval are provided in underlined text and the responses are indicated in standard text.

**OAR 660-023-0180 Mineral and Aggregate Resources**

(3) [Large Significant Sites] 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 sodium sulfate soundness, and the estimated amount of material is more than 2,000,000 tons in the Willamette Valley, or 100,000 tons outside the Willamette Valley;

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

(c) The aggregate site is on an inventory of significant aggregate sites in an acknowledged plan on the applicable date of this rule.

(d) Notwithstanding subsections (a) through (c) 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:

(A) 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 the date of this rule; 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 the date of this rule, unless the average width of the aggregate layer within the mining area exceeds:

(i) 60 feet in Washington, Multnomah, Marion, Columbia, and Lane counties;

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

(iii) 17 feet in Linn and Benton counties.

**Applicant Response:** The applicant retained a professional, licensed, geologist, Erick Staley, Principal Engineering Geologist with NV5 (now with Fulcrum GeoResources), to analyze the site and evaluate quality and quantity of the aggregate material, in part, for purposes of determining compliance with this standard. The attached Mine Resource Evaluation Report is also the basis for submitting application to the Oregon Department of Geology and Mineral Industries (DOGAMI) for the required mining operating permit. Based on the January 31, 2023, mining report the site complies with this standard. The proposed quarry area is estimated to

produce 2,060,178 cubic yards of material (4,738,409 tons). Based on laboratory testing of the aggregate quality by air degradation, abrasion, and sodium sulfate soundness tests, the resource will meet ODOT specifications required to find the site "significant" per OAR 660-023-0180(3). In summary, the proposed quarry consisting of 46.7 acres, exceeds both the quantity and quality criteria for a significant aggregate site in accordance with OAR 660-023-0180(3)(a). Note: based upon the survey from Survey One LLC, the total mining area will be larger than originally estimated in the Jan 31 NV5 report. See attached January 31, 2023, Mine Resource Evaluation Report by Erick J. Staley, Certified Engineering Geologist.

*January 24, 2024 Response (Exhibit AC)*

Mr. Staley collected an additional two rock samples from the site in November 2023 and submitted the samples to Carlson Testing, Inc. for quality testing. Carlson Testing's report dated January 8, 2024, reports that the rock samples tested at 11.6% to 12.4% for loss to abrasion, 11.7% to 12.4% for air degradation, and 1.4% to 1.6% for sodium sulfate soundness. The additional rock samples pass all three ODOT test requirements for determining the site to be a significant aggregate resource, confirming the conclusions of the initial resource evaluation.

Mr. Staley also completed test pit explorations to measure the amount of sand overburden over the basalt bedrock across the bluff and found the sand to be an average of 4.3 feet thick in the test pits. Note that this average does not consider areas where no overburden occurs, and bedrock is otherwise naturally exposed. Mr. Staley calculated a more conservative estimate of the resource at the site using the test-pit average overburden of 4.3 feet – versus the 2-foot thickness initially used in the January 2023 estimate. The revision still resulted in a calculated resource quantity more than 9 times the required amount (4,565,160 versus 500,000 tons) for the site to be determined a Goal 5 “significant” site. The revised calculation, additional rock test results, and test pits data are provided by the applicant in a Revised Resource Estimate prepared by Fulcrum GeoResources and dated January 17, 2024.

**County Findings and Conclusions:** The applicant retained the assistance of a licensed geologist with NV5 (now with Fulcrum GeoResources) to analyze the proposed quarry site and evaluate the quality and quantity of the aggregate material. To support the application, applicant submitted a Mine Resource Evaluation report (Exhibit A), dated January 31, 2023 and two laboratory testing results. The first laboratory result is dated August 24, 2022 and was tested by Budinger & Associates (Exhibit B). The second laboratory result is dated January 26, 2023 and was tested by Carlson Testing, Inc (Exhibit C). The Budinger & Associates laboratory test found that the soil sample tested 14% for abrasion (ODOT standard maximum is 35%). The Carlson Testing, Inc. laboratory test found that the soil sample tested 10.1% for abrasion, 1.4% for air degradation (ODOT standard maximum is 30%) and 0.8% for sodium sulfate soundness (ODOT standard maximum is 12%). The proposed mining area is not comprised of Class I, II or unique soils, see attached soil map.

The NV5 geological report used AutoCAD to estimate a gross cut volume of available rock material at the proposed site. NV5 estimated, using this method, that the amount of aggregate materials at the site to be 2,125,679 cubic yards of basalt, or 4,738,409 tons. This is far more than the required 500,000 tons to be deemed a large significant site.

The Revised Resource Estimate prepared by Fulcrum GeoResources (Exhibit AC dated January 17, 2024) was completed following additional sample collection and field visit. Following the additional sampling and field studies, Fulcrum provided an updated resource quantity estimate of 4,565,160 tons of basalt which far exceeds the required 500,000 tons.

Umatilla County finds that the applicant retained a licensed geologist who found through quantitative methods, that the available rock materials onsite are estimated to be about 4,565,160 tons, and has the quantity of rock available to be deemed a large significant site.

Following the November 9, 2024 Planning Commission hearing, the Applicant submitted two additional samples to Carlson Testing, Inc. According to the January 8, 2024 report (Exhibit AC), the samples were collected on November 14, 2023 and testing was completed on December 27, 2023. The first sample, identified as Umatilla #2 on the Carlson Testing Report, tested 12.4% for abrasion, 11.7% for air degradation and 1.6% for sodium sulfate soundness. The second sample, identified as Umatilla #3 on the Carlson Testing Report, tested 11.6% for abrasion, 12.4% for air degradation and 1.4% for sodium sulfate soundness.

In order to be considered a large significant site, the applicant must also demonstrate that a representative set of aggregate samples have been tested for quality, meeting the minimum ODOT standards for degradation, abrasion, and sodium sulfate soundness. Aggregate samples must be representative of the proposed mining area to justify protection and mining activities. The applicant has submitted laboratory results for three rock samples and has provided the sample locations, see Fulcrum Geo Resources Site Plan (Exhibit AC, Attachment 6, Figure 2). Umatilla County finds three rock samples is representative of the entire 46.7-acre site.

Umatilla County finds and concludes that the applicant submitted a representative set of rock samples of the proposed site, that the samples meet ODOT specifications for base rock for air degradation, abrasion, and sodium sulfate soundness, and that the proposed site meets the quantity requirements for establishing a Large Significant Site. This criterion is satisfied.

(5) [Large Significant Sites] For significant mineral and aggregate sites, local governments shall decide whether mining is permitted. For a PAPA application involving an aggregate site determined to be significant under section (3) of this rule, the process for this decision is set out in subsections (a) through (g) of this section. A local government must complete the process within 180 days after receipt of a complete application that is consistent with section (8) of this rule, or by the earliest date after 180 days allowed by local charter.

(a) [Impact Area] The local government shall determine an impact area for the purpose of identifying conflicts with proposed mining and processing activities. The impact area shall be large enough to include uses listed in subsection (b) of this section and shall be limited to 1,500 feet from the boundaries of the mining area, except where factual information indicates significant potential conflicts beyond this distance. For a proposed expansion of an existing aggregate site, the impact area shall be measured from the perimeter of the proposed expansion area rather than the boundaries of the existing aggregate site and shall not include the existing aggregate site.

**Applicant Response:** In order to evaluate impacts and determine a suitable mining area, applicant promulgated GIS mapping services of county Planning Department. Based on the original map, applicant adjusted the mining area boundary to avoid impacts to neighboring dwellings. As a result, there will be only one dwelling within the 1,500-foot impact area around the proposed 46.7 mining site. That dwelling (tax lot 600 of Map 5N 29 22) will be approximately a quarter mile west of the proposed mining area. Other uses within the 1,500-foot impact area include rock bluff, state highway, farm land and grazing land. The mining will generate a small amount of dust which will be limited by DEQ air permit threshold and best management practices such as applying water for dust abatement. There is no other factual information upon which to evaluate further impacts. The county may find that application has sufficiently addressed impacts within the 1,500-foot impact area and will appropriately mitigate any dust or noise within the impact area.

**County Findings and Conclusions:** The PAPA application was submitted to the Planning Division on August 25, 2023. On September 6, 2023, staff provided an email regarding the application's completeness to the applicant and processed the application fee. On September 13, 2023, the applicant provided additional information to supplement the application. The 180<sup>th</sup> day for the County to render a decision is March 4, 2024.

The applicant has proposed a 1,500-foot impact area, measured from the boundaries of the proposed mining site. Uses beyond the 1,500-foot impact area are unlikely to be impacted by the proposed mining activities. Umatilla County finds and concludes that factual information is not present to indicate that there would be significant conflicts beyond the 1,500-foot impact area from the boundaries of the proposed mining area. Therefore, the 1,500-foot impact area is sufficient to include uses listed in (b) below.

(b) [Conflicts created by the site] The local government shall determine existing or approved land uses within the impact area that will be adversely affected by proposed mining operations and shall specify the predicted conflicts. For purposes of this section, "approved land uses" are dwellings allowed by a residential zone on existing platted lots and other uses for which conditional or final approvals have been granted by the local government. For determination of conflicts from proposed mining of a significant aggregate site, the local government shall limit its consideration to the following:

(A) Conflicts due to noise, dust, or other discharges with regard to those existing and approved uses and associated activities (e. g., houses and schools) that are sensitive to such discharges;

**Applicant Response:** This standard requires the *local government* identify existing or approved, land uses within the impact area. Here the applicant provides the following analysis. The parcel is surrounded by lands zoned Exclusive Farm Use (EFU). There is not a *dwelling allowed by a residential zone on existing platted lots* within the 1,500-foot impact area. There is one dwelling within 1,500 on land zoned EFU. Analysis of mitigation for any potential conflict with that dwelling is summarized below. Applicant is not aware of any other existing or approved land uses within the 1,500-foot impact area.

In terms of potential conflicts due to noise, dust or other discharges, this standard requires consideration of potential impact to the single dwelling. The quarry site was moved to the east, approximately a quarter mile, in order to provide a sufficient buffer to the existing home. The tall rock outcropping or escarpment itself provides a significant buffer to prevent or minimize sound and noise impacts to the adjacent home. Additionally, the mining operation will comply with all state dust and noise standards as required of DEQ and DOGAMI. The rock crusher and asphalt batch plant will secure appropriate air quality permits and will operate in compliance with those respective permits.

*September 13<sup>th</sup> Response*

The applicant will retain a licensed mining and blasting professional who will conduct those activities in such a way as to limit any offsite disturbance. Several techniques will be utilized to ensure the impact from the blasting will be absorbed on the subject parcels. This will ensure that impacts to the adjacent dwelling will be non-existent or very minimal. As noted to in the original application, the applicant chose to move the mining area a quarter mile east of the existing home - the purpose of this was to create a buffer or setback in order to shield the existing homesite from blasting and mining. Further, the columnar and basalt outcropping is 30-50 feet in height which creates an existing vertical buffer to protect the existing dwelling from impacts. Given the setback and location for the mining, applicant does not anticipate any off-site impacts in terms of noise or dust. The site plan attached as Figure 2 of the NV5 report shows the rock crusher plant and asphalt batch plant setup area which again, given the vertical and horizontal setback and one quarter mile distance, will create a more than adequate buffer to minimize impacts to the existing dwelling.

*November 9<sup>th</sup> Response (Exhibit S)*

The site currently has a rock wall and steep slope up to 60 feet tall that creates a natural barrier and sound buffer to residences south of the wall. Mining of the basalt resource will maintain this barrier as a highwall excavated to the south with a final, benched configuration up to 80 feet tall. The existing ODOT quarry, on the same tax lot and located on the north side of Highway 730, has been in place for over 30 years. Notably, [the ODOT] quarry has a mined highwall on its north, which serves as a sound barrier for residences to its north, very similar to the proposed mine and properties to the south. The three homes within the 1,500-foot impact area of the proposed CRP Hauling rock quarry are south of the ODOT quarry and are geographically much more exposed to potential impacts from the ODOT quarry (noise, dust) than the proposed CRP Hauling quarry.

Staff raised issue about water use. It is the opinion of experienced rock crusher operators that water use will not be an issue and can be provided from offsite sources. Doug Cox will be hiring a third party to set up and operate the rock crusher. There will be a water truck or- tank on site to provide water for dust suppression. If the operator uses a 5,000-gallon water truck, likely only a single truck per week will be at the site. Different crusher operators use different amounts of water but usually it is a trickle from a hose into one part of the rock crusher. Water for dust control around the site is also not a significant issue given that Doug will put a layer of crushed rock on the short haul route from the operations area to the highway.

*January 24, 2024 Response (Exhibit AC)*



Applicant acknowledges that a second dwelling is located within the 1,500 [foot] impact area, across Highway 207 to the west. See county impact area and vicinity map dated October 2023 (page 6 of December Board Packet). Since the Planning Commission hearing, CRP Hauling hired a qualified air quality expert and a qualified noise expert. Both concluded that the mining, crushing and batch plant will operate within legal limits established by Oregon Department of Environmental Quality. Given the expert evaluation and the buffer design built into the mining and processing operation, County may find that there will not be air or noise impacts to the two dwellings located within the 1,500-foot impact area as well as the dwelling located just outside the 1,500 [foot] impact area.

Testimony provided during the Planning Commission hearing included concerns about noise and dust. However, that testimony was not supported by any credible evidence or professional analysis. Concerns about noise and dust from a rock quarry are common. To alleviate those concerns, applicant provided the professional noise and air quality analysis, both of which concluded by noise and dust and from proposed operations will not violate applicable Oregon law or regulations.

Concerns about blasting have been addressed based on the applicant's employment of a licensed professional driller and blaster who will implement best management practices and will follow an approved blasting plan. The above analysis of blasting addresses this issue.

**County Findings and Conclusions:** The applicant is tasked with identifying both existing and approved land uses within the 1,500-foot impact area. Approved land uses are those that have received land use approval but may not yet be present on the ground. The Planning Division has not granted any conditional or final approvals for properties within the impact area.

Existing uses within the 1,500-foot impact area include two existing dwellings, un-irrigated rangeland, an irrigated crop circle, one Goal 5 ODOT mining site (on the subject property), a 230kV transmission line, and some irrigated pasture/rangeland. The applicant originally acknowledged one dwelling, and states that the proposed mining area was moved to the east approximately a quarter mile to provide a sufficient buffer to the existing home by a 30 to 50-foot-tall rock outcropping to prevent or minimize sound and noise impacts to this dwelling. The second dwelling, not previously acknowledged by the applicant, is directly across Highway 207, thus, the same buffer could potentially also shield this second dwelling. Just outside of the impact area is a third dwelling, the land owners who reside in this dwelling provided testimony in opposition of the proposed quarry and stated that the quarry would have various impacts on their residence.

Elsewhere in the application, the applicant states that blasting of the basalt rock will be required and will occur occasionally, and that noise impacts from blasting will be mitigated with the use of the existing basalt outcropping. Applicant asserts that dust will not be a conflict off-site due to the proposed mining, rock crusher and asphalt batch plant locations generally identified on the applicant's site plan (Exhibit D, Figure 2).

The applicant's provided geological report speaks largely to the available material quality and quantity for purposes of establishing a large significant Goal 5 site. The report does not evaluate

potential noise, dust or blasting impacts to the existing dwellings or farming activities. Further, the applicant does not state the predicted levels of noise, dust or shaking that would impact the existing uses in the impact area. Staff initially recommended the applicant to provide a blasting plan to supplement the application; however, this was not provided until after the Planning Commission Hearing (Exhibit AC, Attachment 2). Applicant provided an analysis of anticipated impacts from blasting from Fulcrum Geo Resources (Exhibit E).

Fulcrum reviewed aerial imagery to identify structures that could be impacted by blasting. Fulcrum states that the blasting activities will be located at least 500-feet away from both Highway 730 and the transmission poles and towers present south of the subject property. The Fulcrum report includes one detailed map (Exhibit D, Figure 2) to support the findings, however, the map does not specifically identify the area subject to blasting. Based on the applicant's information, basalt is on the entire site, covered by sand and gravels thus the entire site could be subject to blasting. The applicant's oral testimony on November 9<sup>th</sup>, along with the visual representation of Exhibit T identified the areas subject to blasting.

Additionally, the applicant states that the natural basalt rock outcrop will act as a buffer to blasting impacts. At the November 9<sup>th</sup> hearing, the applicant testified that as the mining activities continue, basalt walls will increase in height, essentially creating a bowl, and will continue to be a buffer to nearby uses. How blasting effects will be buffered from existing dwellings has not been shared by the applicant. Fulcrum's August 25, 2023 analysis concludes that damage of offsite structures or features from controlled blasting is not anticipated. The Fulcrum analysis states the following:

“Blasting activities should be planned and conducted by appropriately experienced and licensed blasters in accordance with state and local regulations. This should include the use of blast procedures and time-delays that prevent excessive vibrations or other emissions from blasting. Blasting should be monitored using seismographs or similar equipment to collect vibration data and compare the results to regulatory damage thresholds.”

Umatilla County finds that potential conflicts due to noise, dust, or other discharges with regard to those existing and approved uses and associated activities (e.g., houses and commercial uses) that are sensitive to such discharges exist within the 1,500-foot impact area. Through testimony, residents of nearby and adjacent dwellings provided clear impacts to their residences, farm uses and wildlife in the area. Potential impacts from the proposed quarry and associated operations include: dust, noise, blasting effects, health effects from blasting and the asphalt batch plant, air quality, and water runoff. Impacts identified by individual property owners, existing farm operations and dwellings are detailed in written testimony (see list of Exhibits) and available in the audio recording file. The Planning Commission found that the applicant did not adequately address the identified conflicts. The applicant relied on the basalt walls and existing canyon to provide a buffer to noise, dust and blasting impacts. However, opposing testimony argued that the canyon does not adequately mitigate current noise from State Highway 730 or the existing Umatilla Ready Mix site east of this site and that dust frequently travels from the east due to frequent easterly winds. The applicant did not provide supporting documentation to demonstrate that the basalt walls will mitigate dust, noise and blasting impacts.

Umatilla County finds and concludes that the applicant has not identified ways to adequately mitigate noise, dust and other discharges. Additionally, the applicant did not identify best practices for blasting, rather the applicant provided testimony that a licensed blaster will be onsite conducting blasting activities, and the onsite blaster will not necessarily be the same for each blast.

Umatilla County finds that the applicant has identified the use of water for dust abatement in section (F)(c) below.

The Planning Commission found that the applicant has clearly identified the extraction area subject to blasting. However, the applicant did not specify the best management practices that will be used by the licensed blaster. Additionally, the applicant failed to determine the potential blasting effects on livestock and residences in the impact area. Rather, applicant states that impacts are not anticipated, despite opposing testimony stating otherwise. The Planning Commission found and concluded that there are significant conflicts to existing dwellings, farming operations and the existing Goal 5 wetland.

The Umatilla County Planning Commission found that this criterion is **not** met.

(B) Potential conflicts to local roads used for access and egress to the mining site within one mile of the entrance to the mining site unless a greater distance is necessary in order to include the intersection with the nearest arterial identified in the local transportation plan. Conflicts shall be determined based on clear and objective standards regarding sight distances, road capacity, cross section elements, horizontal and vertical alignment, and similar items in the transportation plan and implementing ordinances. Such standards for trucks associated with the mining operation shall be equivalent to standards for other trucks of equivalent size, weight, and capacity that haul other materials;

**Applicant Response:** Applicant coordinated closely with Oregon Department of Transportation in selecting the best location for ingress/egress to the site and the access onto state highway. Based on input from ODOT, an Access Permit application permit has been submitted. The access location will minimize conflicts with traffic and will provide best site clearance. The access and roadway are approximately one-half mile away from the existing dwelling.

*January 24, 2024 Response (Exhibit AC)*

ODOT has approved an Access Permit [to State Highway 730].

**County Findings and Conclusions:** Kittelson & Associates (consultant) was hired by the applicant to conduct a Traffic Impact Analysis (TIA) to support the application for establishing a Large Significant Site. The TIA (Exhibit F) found two operations will comprise separate trips at the proposed site: the mining/rock crushing operation and the asphalt batch plant. The daily trip total for both operations is 356 trips, with approximately 204 of those trips being large trucks and approximately 12 of those trips being employees of the mining operation, see Table 9 below.

PRELIMINARY FINDINGS AND CONCLUSIONS

Cox Quarry, Text Amendment T-093-23 and Zoning Map Amendment. #Z-323-23

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**Table 9. Proposed Site Trips**

Land Use	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Total	In	Out	Total	In	Out
<b>Mining/Rock Crushing</b>							
- Staff <sup>1</sup>	8	0	0	0	4	0	4
- Rock Deliveries <sup>2</sup>	30	6	3	3	0	0	0
- Water Deliveries <sup>2</sup>	4	2	1	1	0	0	0
- Other pick-ups <sup>2</sup>	140	10	5	5	0	0	0
<b>Asphalt Batch Plant</b>							
- Staff <sup>1</sup>	4	0	0	0	2	0	2
- Load Deliveries <sup>2</sup>	30	6	3	3	0	0	0
- Other pick-ups <sup>2</sup>	140	10	5	5	0	0	0
<b>Total</b>	<b>356</b>	<b>34</b>	<b>17</b>	<b>17</b>	<b>6</b>	<b>0</b>	<b>6</b>
<sup>1</sup> Each employee was assumed to generate 2 daily trips (1 in, 1 out). Employees are assumed arrive on site before the AM Peak Hour and were conservatively assumed to leave during the PM Peak Hour. <sup>2</sup> Each delivery and pick-up was assumed to generate 2 trips (1 exit for delivery/1 return from delivery or 1 entrance for pick-up/1 exit for pick-up).							

State Highway 730 is an east-west truck route that connects to Interstates 82 and 84. The applicant’s TIA found the peak 15-minute flow rate for the Highway 207/Highway 730 intersection to be 312 total vehicles, 112 of these vehicles were heavy trucks. Umatilla County finds the applicant’s proposal includes access to a major state highway, the additional daily traffic trips generated from the mining operation are proposed at 356, which overall, will have minimal impact on both Highway 207 and 730. ODOT and County Public Works will have the opportunity to comment on the applicant’s request and may request additional conditions of approval.

Opponents raise concerns regarding safety along the busy highway corridors. The applicant’s TIA analyzed ODOT crash records for the Highway 207 and 730 intersection from January 1, 2016 through December 31, 2020. According to ODOT’s data, in that five-year period there were only two crashes, both resulted in injuries. The TIA concluded that the proposed aggregate mining/asphalt batch plant is not anticipated to result in a significant effect on the surrounding transportation network or require offsite transportation improvements. There is not evidence in the record that the mining operations would increase the crash rate for Highway 207 or Highway 730.

Umatilla County finds the applicant is required to obtain an ODOT Road Approach Permit to State Highway 730. The access shall be constructed to comply with the ODOT requirements. This will be captured as a subsequent condition of approval and may be satisfied by submitting written verification of the ODOT Road Approach Permit approval.

(C) Safety conflicts with existing public airports due to bird attractants, i.e., open water impoundments as specified under OAR chapter 660, division 013;

Umatilla County finds that there are no public airports within the Impact Area. The closest public airport is to the south and more than ten miles away from the site. The proposed quarry will not create safety conflicts with the existing Hermiston Airport.

(D) Conflicts with other Goal 5 resource sites within the impact area that are shown on an acknowledged list of significant resources and for which the requirements of Goal 5 have been completed at the time the PAPA is initiated;

**Applicant Response:** There is one existing Goal 5 resource within the impact area, a significant aggregate resource located on the portion of tax lot 400 that is north of Highway 730. That approximately 25 acres quarry has the Aggregate Resource Overlay Zone designation. While the landowner of the subject property owns all of tax lot 400, including the Goal 5 Aggregate Resource, only the Oregon Department of Transportation is allowed to mine and use the rock material from the existing Goal 5 resource. The ODOT has an exclusive long-term lease that does not provide access for private sector use. Material from the existing rock quarry is for state highway use only and is not available to purchase by private parties. The significant resource has been mined and operated by ODOT for over 30 years. Operation of the proposed new rock quarry will be similar to operation of the existing quarry and by inference means the new use will be compatible with the existing Goal 5 resource. Worth noting is the fact that the ODOT quarry operations have not created conflicts with neighboring properties. Based on this, applicant believes the new rock quarry will not create any negative impacts for the existing Goal 5 aggregate site.

*January 24, 2024 Response (Exhibit AC)*

Applicant acknowledges the existing Goal 5 significant wetland on the subject parcel. In order to minimize any impacts, applicant has designed the mining and operation to avoid impacts to the wetlands. Oregon Department of State Lands evaluated the site. Applicant requested Department of State Lands conduct a Wetland Determination Report. The proposed layout of the mining and processing and the quarry activity is in compliance with the recommendation of the Department of State Lands. As noted above, the applicant consulted with the Department of State Lands who employs professional wetland staff and hydrologists. The applicant has demonstrated that the quarry will operate in compliance with recommendations to DSL staff.

**County Findings and Conclusions:** Umatilla County finds there are two existing Goal 5 resource sites on the subject property, an aggregate resource site north of Highway 730 and a significant wetland encompassing the proposed mining area. The site north of Highway 730 is a large significant Goal 5 aggregate site managed by ODOT. Aggregate pulled from the “Diagonal Road” quarry is used on various ODOT projects. This site was added to the County’s list of significant sites and subsequently approved for mining in 1982. Since this is an existing aggregate site, and is a similar operation to the applicant’s request, there are no known Goal 5 conflicts associated with the existing ODOT aggregate site.

The second Goal 5 site on the subject property is Significant Wetland Drainage Area (Map D-44 in the Umatilla County Technical Report) (Exhibit G) and is classified as a 3C Goal 5 site. Resources designated as 3C require limiting conflicting uses to protect the resource, as opposed to other designations which call for preserving the resource (3A) or allow conflicting uses (3B)<sup>1</sup>. The Goal 5 analysis for this wetland calls for limiting conflicting uses with implementation of a 100-foot setback from wetlands and streams.

The applicant's initial narrative failed to acknowledge this Goal 5 protected drainage area; therefore, staff have provided the following analysis:

The Drainage Area identified on Map D-44 of the Umatilla County Technical Report represents a large area of the Cold Springs Drainage. The acknowledged wetland boundary states that exact boundaries of the drainage may require site inspection. Since the Technical Report's adoption, wetland data and mapping provided by the Department of State Lands (DSL) has become more precise and accurate. DSL provided two off-site wetland determination reports that incorporated National Wetland Inventory (NWI) data with interpretation of available aerial imagery. The December 5, 2022 Wetland Determination Report (WD 2022-0606) (Exhibit H) found there are wetlands present on the subject property, and that a delineation may be required. The March 17, 2023 Wetland Determination Report (WD 2023-0095) (Exhibit I) found that a DSL permit is not required because the proposed mining area was modified to exclude potential wetland and waters impacts. Wetland Determination Reports are utilized by DSL to inform developers of potential state permit requirements. The Wetland Determination Report does not exempt the applicant from County Goal 5 requirements, specifically, setbacks from wetlands and mining<sup>2</sup> activities. Additionally, the Wetland Determination Report does not determine that there are no conflicts with the proposed activity and the Goal 5 wetland, that is up to the local government to determine.

Opponents questioned the potential impacts to this wetland and the wildlife that this wetland supports. Specifically, dust, noise and drainage effects. Opponents requested a study to be conducted to protect the existing wildlife and if they could sustain the wetland following approval of the aggregate site. The applicant argued that wildlife can and do reside near mining activities, but did not provide documentation supporting this claim.

Umatilla County finds the proposed mining area was modified to eliminate potential impacts to wetlands and DSL found no wetland delineation or permitting is required.

Umatilla County finds the Technical Report and Comprehensive Plan provide protection to this Goal 5 wetland, designated as a 3c site, by limiting conflicting uses. The Technical Report states that conflicting uses should be setback a minimum of 100-feet from wetlands and streams. This

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1 The Umatilla County Technical Report was adopted as part of the County's Comprehensive Plan in May 1980 and contains research data which formed the basis of the Comprehensive Plan's Findings and Policies with robust public involvement.

2 Umatilla County Development Code §152.003 defines mining as: "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".

policy has been codified into the Umatilla County Development Code and applies to the applicant's request. Umatilla County finds the Technical Report provides clear guidelines for protecting this resource, and by requiring all mining activities to abide by the 100-foot setback, impacts to the wetland are minimized.

Umatilla County finds in order to protect the Drainage Area, a 100-foot minimum setback from the mapped wetlands to all mining activities is required, this setback will minimize conflicts with the Drainage Area. A subsequent condition of approval is imposed requiring the applicant to submit a detailed site plan demonstrating that all mining activities are setback a minimum of 100-feet from wetlands.

(E) Conflicts with agricultural practices; and

**Applicant Response:** Agricultural practices within the 1,500-foot impact area of the proposed quarry are to the south and east and consist primarily of grazing with some irrigated agriculture farther to the south. The landowner of subject tax lot 400 owns most of the farmland to the south and east; consisting of rangeland that will not be adversely impacted by a quarry operation. The irrigated land farther to the south is set back from the proposed mining area, beyond the 1,500 [foot] impact area and will not be a receptor of noise or dust. The quarry location was refined to include a buffer with adjacent properties which will have the effect of minimizing impacts to adjacent farmland. Farming on adjacent properties consists primarily of grazing but also includes some hay ground. Neither of those farming operations would be sensitive to fugitive dust as would say a vineyard.

*September 13<sup>th</sup> Response*

In addition to the description provided in the original application, applicant provides the following description of existing agricultural practices: There is no farming to the east, west and north of the subject quarry. To the south of the proposed quarry is pasture ground. There are no known possible impacts a mining operation could create for pasture or grazing. Additionally, given the horizontal and vertical setbacks, including the 25-foot setback from the property line and the vertical topography of the mining area, applicant does not anticipate any noise or dust will leave the subject property. The vertical and horizontal setbacks are more than adequate to guarantee noise, vibrations, traffic, chemical weed abatement (if utilized) would not drift off site, therefore assuring no offsite impacts.

*January 24, 2024 Response (Exhibit AC)*

Since the Planning Commission hearing, Applicant further evaluated agriculture practices within the 1,500 [foot] impact area. Dust was the impact identified during the Planning Commission hearing. Since the hearing applicant has provided an air quality study that concludes there will not be negative impacts to adjoining properties and that the quarry and mining operation will comply with applicable air quality standards. The public perception that the quarry will create negative impacts is not supported by evidence.

**County Findings and Conclusions:** Agricultural activities in the impact area include both irrigated and non-irrigated grazing and some irrigated crop land, one pivot is within the 1,500-foot impact area. Other lands zoned EFU are considered open space and do not appear to be

farmed. The applicant did not provide information regarding the type of crop grown in the pivot circle. According to aerial imagery, it appears to be in alfalfa or grass hay production. Although the applicant states that the property owner of the subject property also owns lands to the south and east, and that these properties are rangeland that will not be affected, this is false. Property directly south of the subject property (Tax Lot 500) is owned by Aaron Basford and appears to be irrigated alfalfa/hay production and irrigated grazing land. Property to the east of the subject property is owned by Umatilla Ready Mix, Inc and land within the impact area is predominately open space.

**Grazing Farm Practices:** Most grazing activities within this vicinity refer to cattle grazing. Cattle are placed in a field, often with limited fencing, to roam and consume wild or planted vegetation until ready for human consumption. Many farmers rotate their cattle across various pastures or fields to allow the foraged areas the opportunity to renew. Opponents voiced concerns over the blasting impacts to their livestock, primarily spooking and health effects.

**Alfalfa/Grass Hay Farm Practices:** Typical farming practices for alfalfa or grass hay production include herbicide application, swathing, raking and baling the forage into bales. Once cut, the crop lays on the ground for multiple days until dry enough to be baled. The cycle then starts over, and most irrigated lands in this area can yield four to six harvests a season. Barbara Atwood provided oral testimony stating that the dust generated by the mining activities and the asphalt batch plant will affect her alfalfa crop and other crops in the vicinity. She added that one cannot feed dust-infected hay to horses, and hay that contains dust, especially aggregate dust, drastically reduces the value of the crop. The applicant's air quality did not address potential or actual impacts to agriculture crops.

The applicant claims that the ODOT site on the subject property has been operating without conflicts to nearby agricultural practices for many years, however, testimony provided during the Planning Commission hearing stated that the ODOT site is fairly inactive, and many long-time residents do not recall more than two blasting events, and shared that an asphalt batch plant is rarely onsite. Opposing testimony raised concerns regarding blasting impacts on livestock and horses, and impacts to the existing alfalfa crops.

Umatilla County finds the proposed Goal 5 aggregate site may conflict with nearby agricultural activities or practices.

(F) Other conflicts for which consideration is necessary in order to carry out ordinances that supersede Oregon DOGAMI regulations pursuant to ORS 517.780;

**Applicant Response:** Applicant has prepared and will soon file application with DOGAMI for required mining permit and license. Applicant will comply with any abatement measures recommended by DOGAMI. No other conflicts are known to exist. Based on the above, applicant believes this quarry operation will operate in compliance with this criterion.

**County Findings and Conclusions:** Umatilla County finds that there are no other conflicts for which consideration is necessary in order to carry out ordinances that supersede Oregon DOGAMI regulations. Therefore, this criterion is not applicable.



(c) [If conflicts exist, measures to minimize] The local government shall determine reasonable and practicable measures that would minimize the conflicts identified under subsection (b) of this section. To determine whether proposed measures would minimize conflicts to agricultural practices, the requirements of ORS 215.296 shall be followed rather than the requirements of this section. If reasonable and practicable measures are identified to minimize all identified conflicts, mining shall be allowed at the site and subsection (d) of this section is not applicable. If identified conflicts cannot be minimized, subsection (d) of this section applies.

**Applicant Response:** Based on the location of the quarry and the distance of the mining from adjacent properties, applicant believes that no conflicts exist. Potential impacts to consider include fugitive dust from blasting, mining, and operation of the rock crusher. Again, applicant believes there will not be impacts based largely on the topography and distance or setback from adjoining properties within the 1,500-foot impact area and the air analysis by Air Sciences, Inc. See attached. Applicant and operators will utilize best management practices such as installation of air filters on operating equipment and water to abate dust, to ensure no off-site impacts. With respect to potential impacts from blasting applicant has included a Supplemental Narrative concerning Anticipated Impacts from Blasting, prepared by Erick Staley, Consulting Geologist, that addresses the issue in detail and supports the conclusion that no conflicts will arise from blasting activity.

#### *September 13<sup>th</sup> Response*

As stated in the original applications, applicant and operators will utilize best management practices (BMPs) to ensure no offsite impacts. These BMPs the applicant and operators will use include water for dust abatement and screening of rocks, in addition to compliance with required DEQ Air Contaminant Discharge Permits requirements for operating the equipment. Any potential smoke from diesel equipment will be minimized with appropriate and required mufflers. Water will be provided with a water truck; water for the truck will be procured by applicant and operator from one of many existing, legally permitted sources including but not limited to the city of Hermiston, the city of Umatilla or an industrial water sources. The Oregon Water Resources Department (OWRD) has regulatory authority on all matters related to water rights and water use. That agency regulatory authority applies in this case as well - to ensure the applicant and operators will use water from appropriate sources only. The applicant will comply with OWRD regulations and will only utilize water from appropriate sources. The applicant does not intend to drill a well.

In the September 6, 2023 letter, Planning Division Manager Megan Davchevski the following: *"Applicant states that future potential development opportunities are extremely limited and therefore restrictions on adjacent properties may not be necessary. Applicant continues to state that no conflicts have been identified, and that the county may conclude the limiting uses on adjacent lands is not necessary. However, elsewhere, including the responses to (but not limited to) OAR 660- 023-040(2)(a) and (4), the applicant identifies and requests that new conflicting uses be located outside the 1,500-impact area. Thus, the applicant is requesting to restrict new uses, currently permissible, on other lands. Additionally, the narrative is contradictory by saying that there are no potential conflicts, however, then identifies conflicts that could exist and that*

*should not be allowed within the 1,500-foot impact area of the proposed quarry."*

To clarify, applicant believes there will not be any offsite impacts but suggests that county limit conflicting uses as a precautionary manner. The Findings shared in this section does not discount Findings in another section. Applicant and licensed geologist believe there will not be offsite impacts but as a precautionary matter suggest county adopt language that would limit offsite conflicting uses to protect this significant aggregate resource. Factually, only County has the prerogative to impose or not impose restrictions on adjacent lands. Applicant has presented site plans with vertical and horizontal setbacks to create substantial buffers from all contiguous and adjacent properties and respectfully defers to county to determine if limitations to future uses should be imposed.

*January 24, 2024 Response (Exhibit AC)*

Further, since the Planning Commission hearing the Applicant has submitted additional information into the record in the form of an air quality study, noise study, and a blasting plan from a licensed drilling and blasting company. This additional information, combined with the undisputed testimony and written submissions from Erick Staley, the licensed geologist assisting Applicant, demonstrates that no impacts to agriculture can be expected. Further, out of an abundance of caution, Applicant will engage in all reasonable and practical mitigation measures, including those identified as mitigation measures in the noise study, to ensure that there is not any impact on surrounding agricultural practices. The County can therefore conclude this standard is satisfied and allow mining at the site.

Applicant Rebuttal: Characterizing the Applicant's responses and explanation as being contradictory is inaccurate. With respect to existing uses there are no farm stands in the area, nor is it likely that a farm stand would be proposed on properties within the 1,500-foot impact area based on the fact that farming on those parcels does not include row crops or other common produce found in farm stands. Further proof is that a majority of goods sold at the farm stand must come from the subject property or farm. The non-impact upon dwellings is detailed in Applicant's responses, as well as in the additional documentation submitted since the Planning Commission hearing, namely the air quality report, noise study, and blasting plan. The reason that Applicant is requesting that certain new uses be outside of the 1,500-foot impact area is one of practicality, not as a way to address supposed existing conflicts. Rather, the Applicant believes that the best way to balance the interests of neighboring landowners, against Applicant's rights to operate a quarry if permitted, is to require the 1,500 [foot] setback to avoid the possible risk of a future theoretical conflict if development occurs within 1,500 feet. This balanced approach also benefits the County as it reduces the likelihood of a potential future dispute that would be brought to the County. There is nothing inconsistent with taking precautionary steps to avoid a future issue as the Applicant does here.

**Staff Information:** For context, the quotation provided above from the September 6, 2023 letter was County Planning's response to the applicant's narrative and was provided as guidance for the applicant to submit a more robust application for review. Regrettably, conflicting responses addressing potential impacts appear throughout the application. Conflicting responses in both addressing impacts to the proposed aggregate operation from permissible uses located within the 1,500-foot impact area, and impacts by the proposed aggregate mining operation to uses located

within the surrounding area. Emphasis is added with bold text. Above, applicant states:

“Based on the location of the quarry and the distance of the mining from adjacent properties, **applicant believes that no conflicts exist**. Potential impacts to consider include fugitive dust from blasting, mining, and operation of the rock crusher. Again, applicant believes there will not be impacts based largely on the topography and distance or setback from adjoining properties within the 1,500-foot impact area” and “Applicant and licensed geologist **believe there will not be offsite impacts** but as a precautionary matter suggest county adopt language that would limit offsite conflicting uses to protect this significant aggregate resource”.

Applicant then requests the County to restrict all conflicting uses to outside the 1,500-foot impact area. Under the ESEE analysis, applicant states:

“The applicant requests that Umatilla County determine that future dwelling or residential use and other uses that would place people within the impact area, such as gathering spaces, be limited to area on adjacent parcels that is outside the 1,500- impact area. That limitation would result in limited restriction on adjacent parcels. That is, **other land uses could be permitted but the siting of those uses would need to be placed outside the 1,500-impact area**”. Applicant further states, “Based on the materials submitted with this application, including the ESEE analysis, **the resource site will create little or no conflicts with existing or proposed uses within the 1,500-foot impact area**. County may consider imposing a condition of approval for future land use applications for a conflicting use and **require new development be located outside the 1,500-foot impact area**”.

Applicant did not explain how the proposed quarry operations would not conflict with existing uses (dwellings, farm stands, etc.), nor how these same uses, if proposed, should not be permitted within the impact area. Additionally, the applicant contradicts themselves in numerous statements regarding conflicts. Staff merely asked how the applicant concluded that the proposed quarry will not conflict with existing dwellings and farm uses, and yet the applicant still requested that these same uses be located outside the 1,500-foot impact area. Presumably, the applicant is requesting these new uses to occur outside the 1,500-foot impact area because there are conflicts. It is the applicant’s burden to justify measures to protect existing and proposed uses. It is then County decision makers’ responsibility to determine whether or not the proposed protection measures are adequate, fair and objective. Residents and property owners within the impact area provided testimony regarding the many conflicts that exist.

The applicant is requesting that the aggregate site be protected from various uses (dwellings, farm stands, etc.) by requesting the County to not allow these uses within the 1,500-foot impact area. The applicant later offers that this protection could be obtained by the County requiring a non-remonstrance agreement for new dwellings, farm stands, etc.

**County Findings and Conclusions:** The County has identified potential conflicts with the two existing residential dwellings and an existing Goal 5 Drainage Area (wetland site), located on the subject property.

Umatilla County finds that conflicts with the Goal 5 Drainage Area site can be mitigated with implementation of a minimum setback requirement of 100-feet from the wetlands to all mining activities, as demonstrated in (D) above.

Umatilla County finds that potential conflicts were identified within the 1,500-foot impact area. Blasting, dust and noise have the potential to conflict with the two existing dwellings and existing agriculture operations, thus mitigation measures must be identified and implemented.

Applicant states that water will be applied for dust abatement. Water will be brought onsite with a water truck and procured from a legally permitted source. The Applicant provided oral testimony stating that likely two trucks would be required a week, however did not provide supporting documentation or studies to support that this would be adequate for dust suppression. Applicant's written testimony (Exhibit S) states that one water truck a week is adequate. Applicant has identified potential water sources as the City of Hermiston, City of Umatilla or other industrial water sources. Applicant also states that air filters will be installed on all operating equipment. The Umatilla County Planning Commission found that the applicant did not adequately address dust concerns, nor provide adequate dust mitigation measures. The Umatilla County Planning Commission found and concluded that merely complying with DEQ standards for dust mitigation is not adequate for providing clear and objective mitigation measures.

Umatilla County may find that the following two subsequent conditions of approval mitigate the conflict with dust and are imposed: that the applicant obtain all necessary permits from Oregon Water Resources Department, and that water used for dust abatement at all times, screening be from a permitted source and that air filters be installed on all operating equipment.

The applicant states that the natural basalt outcrop will serve as a barrier between the dwellings and potential conflicts with noise. However, opposing testimony raised concerns that the outcrop would buffer noise, rather it would assist noise in travelling offsite. Noise is governed by the Umatilla County Noise Control Ordinance, Chapter 96 and Oregon Administrative Rule 340-035-0035. Approved blasting activities, with all appropriate permits, are exempt from the noise regulations as stated in §96.04<sup>3</sup> of the Umatilla County Code of Ordinances. While approved blasting activities are exempt in the Noise Control Ordinance, general mining activities must comply with the noise regulations, Oregon Department of Environmental Quality enforces OAR 340-035-0035.

Umatilla County finds a subsequent condition of approval requiring the mining operations to comply with the DEQ Noise Standard provided in OAR 340-035-0035 is imposed.

The identified basalt outcrop begins at the south property line, about 1,500-feet from Highway 207. The outcrop then continues north-east and diminishes several times. Identified mining

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<sup>3</sup> Umatilla County Code of Ordinances §96.04(F) states: *Sound caused by blasting activities when performed under a permit issued by the appropriate governmental authorities and only between the hours of 9:00 a.m. to 4:00 p.m., excluding weekends.*

activities will occur north and north-west of this outcrop. The nearest dwelling is approximately 1,000 feet from the proposed mining area. Maps submitted by the applicant (Exhibit D, Figures 2 and 3) identify the extraction area as being in the entire southeast quarter of the proposed site. Buffers for the south and east site boundaries have not been identified.

The applicant consulted with Fulcrum GeoResources LLC to develop an *Anticipated Impacts from Blasting* report (Exhibit E) the Figure 2 map submitted with this report identify a basalt extraction area subject to blasting, in addition to Figure 2 of Exhibit A and Exhibit T.

Umatilla County finds that the applicant's supplied Fulcrum *Anticipated Impacts from Blasting* report provides guidelines for mitigating potential blasting impacts by properly planning controlled blasts, implementing blast procedures and time-delays to prevent excessive vibrations, other emissions, and by monitoring blasting to collect vibration data. A subsequent condition of approval requiring these procedures and practices could be imposed to mitigate conflicts.

Numerous property owners within the impact area provided testimony (written and oral) detailing specific impacts to their property. The applicant did not provide measures for mitigating these impacts, but instead asserted that the basalt walls and canyon would mitigate any potential impacts, despite opposing testimony stating that this would not mitigate any dust, noise or blasting effects. Opposing testimony detailed that the site and vicinity are within a canyon, and despite another quarry being over a mile to the east, noise, dust and odors travel through the canyon and to their properties.

Umatilla County finds that the applicant's supplied Fulcrum *Anticipated Impacts from Blasting* report does not adequately address blasting impacts to existing dwellings and farm operations.

The Umatilla County Planning Commission found that this criterion is not satisfied.

Following the Planning Commission hearing, the applicant provided a sound analysis conducted by Coffman Engineers (Exhibit AC, Attachment 8). While the sound analysis did not determine sound levels for blasting activities, it did provide a baseline for several sensitive noise receptors (dwellings). The analysis concluded that noise impacts to dwellings from the mining activities could be mitigated by construction of two 20 to 25-foot berms to shield nearby residences, and by limiting the hours of operation to after 7am.

The Umatilla County Board of Commissioners may find that imposition of these two conditions of approval will minimize impacts from noise.

ORS 215.296 applies to conflicts to agriculture and is evaluated below.

ORS 215.296 Standards for approval of certain uses in exclusive farm use zones; violation of standards; complaint; penalties; exceptions to standards.

(1) A use allowed under ORS 215.213 (2) or (11) or 215.283 (2) or (4) may be approved only where the local governing body or its designee finds that the use will not:

Umatilla County finds mining is a use allowed under ORS 215.213(2)(d), and as found above, conflicts to agriculture activities exist.

(a) Force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; or

(b) Significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use.

Umatilla County determined farming practices of the general vicinity for surrounding lands devoted to farm use. There are no surrounding lands devoted to forest use. The existing agricultural uses are grazing and irrigated alfalfa hay crops. Most grazing activities within this vicinity refer to cattle grazing. Cattle are placed in a field, often with limited fencing, to roam and consume wild or planted vegetation until ready for human consumption. Many farmers rotate their cattle across various pastures or fields to allow the foraged areas the opportunity to renew. Opponents voiced concerns over the blasting impacts to their livestock, primarily spooking and health effects.

Alfalfa/Grass Hay Farm Practices: Typical farming practices for alfalfa or grass hay production include herbicide application, swathing, raking and baling the forage into bales. Once cut, the crop lays on the ground for multiple days until dry enough to be baled. The cycle then starts over, and most irrigated lands in this area can yield four to six harvests a season. Barbara Atwood provided oral testimony stating that the dust generated by the mining activities and the asphalt batch plant will affect her alfalfa crop and other crops in the vicinity. She added that one cannot feed dust-infected hay to horses, and hay that contains dust, especially aggregate dust, drastically reduces the value of the crop. The applicant's air quality report did not address potential or actual impacts to agriculture crops.

Umatilla County finds blasting may require cattle ranchers to relocate livestock prior to blasting activities, should notification be given to ranchers. This could increase the cost of raising cattle, however evidence in the record does not suggest this would be a significant increase.

Umatilla County finds dust generated by mining and an asphalt batch plant could significantly reduce the value of an alfalfa crop. If Barbara Atwood is unable to feed her alfalfa to her horses due to dust, she would need to sell the crop at a much lower rate to someone else, and then purchase other hay in order to feed her horses. This could both significantly change her accepted farm practices, as well as significantly decrease her profits for the alfalfa crop.

Umatilla County may find that the 25-foot berms constructed to serve as a noise barrier, may also serve as a buffer to adjacent grazing livestock and may also serve as a barrier for dust, which would minimize the effects on Barbara Atwood's alfalfa crop. Therefore, the proposed mining site would not force a significant change in accepted farm practices on surrounding lands, nor significantly increase the cost of accepted farm practices on surrounding lands devoted to farm or forest use.

Umatilla County may find and conclude that construction of 25-foot berms surrounding the mining site will minimize impacts on adjacent farming operations and satisfies the criteria.

(2) An applicant for a use allowed under ORS 215.213 (2) or (11) or 215.283 (2) or (4) may demonstrate that the standards for approval set forth in subsection (1) of this section will be satisfied through the imposition of conditions. Any conditions so imposed shall be clear and objective.

Umatilla County finds the applicant has not identified conditions of approval for mitigating a significant change in accepted farm practices, nor for mitigating a significant increase in the cost of accepted farming practices on lands devoted to farm or forest use.

Umatilla County may identify and impose conditions of approval to minimize the impacts to accepted farming practices on lands devoted to farm or forest use.

(3) A person engaged in farm or forest practices on lands devoted to farm or forest use may file a complaint with the local governing body or its designee alleging:

(a) That a condition imposed pursuant to subsection (2) of this section has been violated;

(b) That the violation has:

(A) Forced a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; or

(B) Significantly increased the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use; and

(c) That the complainant is adversely affected by the violation.

Umatilla County finds a person engaged in farm or forest practices on lands devoted to farm or forest use may file a complaint with the County regarding any violations of conditions.

(4) Upon receipt of a complaint filed under this section or ORS 215.218, the local governing body or its designee shall:

(a) Forward the complaint to the operator of the use;

(b) Review the complaint in the manner set forth in ORS 215.402 to 215.438; and

(c) Determine whether the allegations made in a complaint filed under this section or ORS 215.218 are true.

(5) Upon a determination that the allegations made in a complaint are true, the local governing body or its designee at a minimum shall notify the violator that a violation has occurred, direct the violator to correct the conditions that led to the violation within a specified time period and warn the violator against the commission of further violations.

(6) If the conditions that led to a violation are not corrected within the time period specified pursuant to subsection (5) of this section, or if there is a determination pursuant to subsection (4) of this section following the receipt of a second complaint that a further violation has occurred, the local governing body or its designee at a minimum shall assess a fine against the violator.

(7) If the conditions that led to a violation are not corrected within 30 days after the imposition of a fine pursuant to subsection (6) of this section, or if there is a determination pursuant to subsection (4) of this section following the receipt of a third or subsequent complaint that a further violation has occurred, the local governing body or its designee shall at a minimum order the suspension of the use until the violator corrects the conditions that led to the violation.

(8) If a use allowed under ORS 215.213 (2) or (11) or 215.283 (2) or (4) is initiated without prior approval pursuant to subsection (1) of this section, the local governing body or its designee at a minimum shall notify the user that prior approval is required, direct the user to apply for

approval within 21 days and warn the user against the commission of further violations. If the user does not apply for approval within 21 days, the local governing body or its designee shall order the suspension of the use until the user applies for and receives approval. If there is a determination pursuant to subsection (4) of this section following the receipt of a complaint that a further violation occurred after approval was granted, the violation shall be deemed a second violation and the local governing body or its designee at a minimum shall assess a fine against the violator.

Umatilla County finds that ORS 215.296 provides clear instructions on reviewing complaints from the mining activities.

(9)(a) The standards set forth in subsection (1) of this section do not apply to farm or forest uses conducted within:

(A) Lots or parcels with a single-family residential dwelling approved under ORS 215.213 (3), 215.284 (1), (2), (3), (4) or (7) or 215.705;

(B) An exception area approved under ORS 197.732; or

(C) An acknowledged urban growth boundary.

(b) A person residing in a single-family residential dwelling which was approved under ORS 215.213 (3), 215.284 (1), (2), (3), (4) or (7) or 215.705, which is within an exception area approved under ORS 197.732 or which is within an acknowledged urban growth boundary may not file a complaint under subsection (3) of this section.

Umatilla County finds that persons residing in residential dwellings approved under ORS 215.213(3), 215.284(1), (2), (3), (4) or (7) or 215.705, within an exception area, or within an urban growth boundary may not file a complaint under subsection (3).

(10) This section does not prevent a local governing body approving a use allowed under ORS 215.213 (2) or (11) or 215.283 (2) or (4) from establishing standards in addition to those set forth in subsection (1) of this section or from imposing conditions to ensure conformance with the additional standards.

Umatilla County finds requiring the applicant to install and maintain 25-foot berms planted with native vegetation will mitigate dust impacts on surrounding agricultural lands.

Umatilla County may identify and impose additional conditions of approval to minimize the impacts to accepted farming practices on lands devoted to farm use.

**(d) [If conflict can't be minimized then conduct an Economic, Social, Environmental, and Energy (ESEE) analysis]** The local government shall determine any significant conflicts identified under the requirements of subsection (c) of this section that cannot be minimized. Based on these conflicts only, local government shall determine the ESEE consequences of either allowing, limiting, or not allowing mining at the site. Local governments shall reach this decision by weighing these ESEE consequences, with consideration of the following:



- (A) The degree of adverse effect on existing land uses within the impact area;
- (B) Reasonable and practicable measures that could be taken to reduce the identified adverse effects; and
- (C) The probable duration of the mining operation and the proposed post-mining use of the site.

**Applicant Response:** The applicant and geologist carefully selected the layout of the quarry to minimize adverse effects of the proposed mining operation on adjacent lands. Applicant does not believe there will be impacts however, applicant will comply with reasonable and appropriate required mitigation if county or other party identifies impacts.

*January 24, 2024 Response (Exhibit AC)*

Since the Planning Commission hearing, applicant provided a credible air study and noise study and a blasting plan, together which demonstrate that impacts will be minimized. The opponents have not furnished any such technical or scientific information that rebuts the conclusions of Applicant's expert reports.

**County Findings and Conclusions:** The Planning Commission found that although all identified potential conflicts could be minimized as described in (c) above, the applicant did not provide adequate supporting information detailing how conflicts would be minimized. Although the applicant has supplied an air study, noise study and blasting plan, as demonstrated throughout this document, these plans do not specifically address blasting impacts raised by the dwelling occupants. Since the burden of proof is on the applicant, Umatilla County finds that if conflicts cannot be minimized, the applicant is required to provide further ESEE analysis as rebuttal to the impacts identified by opposition. Umatilla County will then review the applicant's supplied ESEE analysis.

(e) [Amend Plan] Where mining is allowed, the plan and implementing ordinances shall be amended to allow such mining. Any required measures to minimize conflicts, including special conditions and procedures regulating mining, shall be clear and objective. Additional land use review (e. g., site plan review), if required by the local government, shall not exceed the minimum review necessary to assure compliance with these requirements and shall not provide opportunities to deny mining for reasons unrelated to these requirements, or to attach additional approval requirements, except with regard to mining or processing activities:

- (A) For which the PAPA application does not provide information sufficient to determine clear and objective measures to resolve identified conflicts;
- (B) Not requested in the PAPA application; or
- (C) For which a significant change to the type, location, or duration of the activity shown on the PAPA application is proposed by the operator.

**Applicant Response:** The applicant believes the mining operation will create no or very limited impacts to adjacent lands. Negative externalities are likely limited to truck traffic onto Highway 730. Lands to the north include a steep escarpment which will not be impacted by the quarry operation or truck traffic. Where the applicant/operators will implement best management practices and comply with all permits necessary to ensure management of dust and stormwater discharges, applicant believes further ESEE analysis is not required. If county concludes an

ESEE analysis is warranted, applicant will comply with any Conditions of Approval included as part of the land use permit approval.

**County Findings and Conclusions:** The applicant is requesting mining approval. Umatilla County finds the imposed conditions of approval are clear and objective and satisfy the criteria. Further site plan review will be completed at the time the zoning permit is issued for the mining activities and will not exceed the minimum review necessary to assure compliance with the conditions of approval.

(f) [Post mining uses] Where mining is allowed, the local government shall determine the post-mining use and provide for this use in the comprehensive plan and land use regulations. For significant aggregate sites on Class I, II and Unique farmland, local governments shall adopt plan and land use regulations to limit post-mining use to farm uses under ORS 215.203, uses listed under ORS 215.213(1) or 215.283(1), and fish and wildlife habitat uses, including wetland mitigation banking. Local governments shall coordinate with DOGAMI regarding the regulation and reclamation of mineral and aggregate sites, except where exempt under ORS 517.780.

**Applicant Response:** The mining site is comprised of soil types that are not Class I, II or unique soils. Applicant engaged services of Erick Staley, C.E.G. with NV5. to design and develop a mining and reclamation plan, attached to this application. The mining and reclamation plan is also submitted to DOGAMI for their review and regulation and permitting. Post mining land use will be grazing. Applicant will comply with all post-mining requirements required of DOGAMI including reclamation and restoration of lands for post mining use. The applicant will restore the site to standards imposed by DOGAMI which will also be consistent with post- mining farm uses such as grazing, as identified in ORS 215.283. Applicant understands that Umatilla County will coordinate with DOGAMI as part of county land use review.

**County Findings and Conclusions:** The applicant has identified grazing as a post mining land use, which is an outright use in the EFU zone. Applicant has also submitted a reclamation plan for DOGAMI review and has provided a copy of the submittal in support of the application (Exhibit J). Umatilla County finds the applicant has identified a possible post-mining use that is allowed under ORS 215.283. Umatilla County finds this criterion is satisfied.

(g) [Issuing a zoning permit] Local governments shall allow a currently approved aggregate processing operation at an existing site to process material from a new or expansion site without requiring a reauthorization of the existing processing operation unless limits on such processing were established at the time it was approved by the local government.

**Applicant Response:** Applicant finds this criterion is not applicable as this is a new site.

**County Findings and Conclusions:** The applicant is requesting approval of a new mining site. Umatilla County finds this criterion is not applicable.

(7) [Protecting the site from other uses/conflicts] Except for aggregate resource sites determined to be significant under section (4) of this rule, local governments shall follow the standard ESEE process in [OAR 660-023-0040](#) and [660-023-0050](#) to determine whether to allow,

limit, or prevent new conflicting uses within the impact area of a significant mineral and aggregate site. (This requirement does not apply if, under section (5) of this rule, the local government decides that mining will not be authorized at the site.)

**Applicant Response:** Applicant is proposing a significant aggregate resource under section (4) of this rule. Applicant requests county designate the resource as a significant resource and protect the resource from conflicting uses. Applicant believes that future potential development opportunities are extremely limited and therefore restrictions on adjacent properties may not be necessary. That is, given all adjacent land is zoned EFU, only a limited list of non-farm agricultural uses is permissible by existing local and state law. Development on land to the south and southeast is already restricted due to the presence of high voltage transmission lines and associated easements. Land to the north includes a steep rock bluff which cannot be developed. Land to the west includes State Highway 207 and further west a small remnant of tax lot 400 where future development is not likely given the parcel size and zoning. Land to the east is grazing land that may continue without any restriction.

Where no conflicts have been identified, county may conclude that limiting uses on adjacent lands is not necessary. Given that the quarry will not negatively impact farming uses on adjacent lands county may find that limitations are not necessary. One dwelling is located adjacent to the quarry area but approximately 1,500 feet distance from the quarry.

**County Findings and Conclusions:** The applicant has provided an ESEE analysis. The analysis supports a decision to limit new conflicting uses within the impact area to assure protection of the aggregate site, however the applicant has failed to demonstrate that other criteria of approval are satisfied. The applicant's provided ESEE analysis follows.

#### **660-023-0040 ESEE Decision Process**

(1) Local governments shall develop a program to achieve Goal 5 for all significant resource sites based on an analysis of the economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit a conflicting use. This rule describes four steps to be followed in conducting an ESEE analysis, as set out in detail in sections (2) through (5) of this rule. Local governments are not required to follow these steps sequentially, and some steps anticipate a return to a previous step. However, findings shall demonstrate that requirements under each of the steps have been met, regardless of the sequence followed by the local government. The ESEE analysis need not be lengthy or complex, but should enable reviewers to gain a clear understanding of the conflicts and the consequences to be expected. The steps in the standard ESEE process are as follows:

(a) Identify conflicting uses;

**Applicant Response:** The subject property and other property within 1,500 feet to the west, south, southeast, and east is zoned Exclusive Farm Use (EFU) which allows a variety of farm related uses including dwellings if certain criteria are met. The contiguous parcels currently contain dwellings and would not qualify for additional dwellings. All

existing dwellings are located outside the 1,500-impact area, except for the dwelling located on tax lot 600.

Where tax lot 600 is a small, pre-existing, non-conforming parcel zoned EFU additional dwellings would not be permissible. Other uses on adjacent lands that could be permitted, include a list of uses permitted with standards ORS 215.283(1) and uses permitted conditionally ORS 215.283(2). Those uses require land use review by Umatilla County and if qualified or permitted could be sited on adjacent parcels but outside the 1,500 foot area that could create a conflict with an aggregate operation. Any potential conflict that might arise would be a new use that would permit a place where people are living or working. The parcels are large enough so that future uses could be sited outside the 1,500-impact area.

Land to the north is zoned EFU and contains a large escarpment. All other property within the 1,500-foot impact area is zoned EFU and those lands are primarily range land. Tax lot 600 is contiguous to tax lot 400 and contains a dwelling. That dwelling is located 1,500 feet from the quarry area. Given the parcel size and soil types it is not likely other adjacent parcels in the EFU Zone would qualify to meet the standards for siting a farm dwelling.

**County Findings and Conclusions:** Conflicting uses have been evaluated and provided below. Identified conflicting uses are: winery, farm stand, home occupations, churches, dwellings, schools, parks, playgrounds, community centers, boarding and lodging facilities and various commercial uses related to agriculture. This criterion is satisfied.

(b) Determine the impact area;

**Applicant Response:** The impact area is a 1,500-foot buffer extending from the aggregate site boundary.

**County Findings and Conclusions:** The identified 1,500-foot buffer is sufficient according to the maximum distance allowed by Oregon Revised Statute.

(c) Analyze the ESEE consequences; and

Item (c) is addressed below.

(d) Develop a program to achieve Goal 5.

Item (d) is addressed below.

(2) Identify conflicting uses. Local governments shall identify conflicting uses that exist, or could occur, with regard to significant Goal 5 resource sites. To identify these uses, local governments shall examine land uses allowed outright or conditionally within the zones applied to the resource site and in its impact area. Local governments are not required to consider allowed uses that would be unlikely to occur in the impact area because existing permanent uses occupy the site. The following shall also apply in the identification of conflicting uses:

**Applicant Response:** Applicant concludes that other uses on adjacent land, all of which is zoned EFU, will be limited to farming and natural resource use. The proposed mining will not conflict with natural resource use. Given parcel size, soil type, easements, and the existing high voltage transmission line, non farm development is very unlikely to be permissible under UCDO or state law other than uses already present on adjacent properties. Nonetheless, applicant provides an analysis of potential conflicting uses. Under this provision, applicant identifies conflicting uses that could occur, in proximity to the mining site. The table below includes potential uses that could create conflicts within the 1500-foot impact of the entire parcel even though the proposed mining site is smaller than the parcel area.

Potential conflicting uses found in the Umatilla County Development Code are outlined in the **Table 1**, below. This criterion is satisfied.

**Table 1 - Potential Conflicting Uses**

Potential Conflicting Uses		
Zoning	Code Sections	Potential Conflicting Uses
EFU	152.056 Uses Permitted 152.058 Zoning Permit  152-059 Land Use Decisions or 152.060 Conditional Uses	No conflicting uses identified. Replacement Dwellings, Winery, Farm Stand, Home Occupations. Churches, Dwellings, Schools, Parks, Playgrounds, Community Centers, Hardship Dwellings, Boarding and Lodging Facilities, Various Commercial Uses Related to Agriculture.

**Umatilla County Findings:** The applicant has identified potential conflicting uses within EFU zone and the 1500-foot impact area. Umatilla County finds potential conflicts exist and are evaluated below.

(a) If no uses conflict with a significant resource site, acknowledged policies and land use regulations may be considered sufficient to protect the resource site. The determination that there are no conflicting uses must be based on the applicable zoning rather than ownership of the site. (Therefore, public ownership of a site does not by itself support a conclusion that there are no conflicting uses.)

**Applicant Response:** The uses listed in the table above will be mitigated with existing UCDO setbacks. Applicant finds that any of the potential conflicting uses are highly unlikely given the restrictive EFU Zoning. However, county could adopt a Goal 5 protection program to protect the aggregate resource and require that would include only a single standard - requiring that any new non-farm development be allowed outside the 1,500-impact area. That would both protect the Goal 5 resource and not limit future land uses on adjacent parcels.

**County Findings and Conclusions:** Potential conflicting uses taken from the Umatilla County Development Code that could be adversely affected by mining on the proposed Goal 5 expansion area are identified above. Therefore, this criterion is not applicable.

(b) A local government may determine that one or more significant Goal 5 resource sites are conflicting uses with another significant resource site. The local government shall determine the level of protection for each significant site using the ESEE process and/or the requirements in OAR 660-023-0090 through 660-023-0230 (see OAR 660-023-0020(1)).

**Applicant Response:** There is an existing Goal 5 aggregate resource site directly to the east of the proposed quarry. This Goal 5 site is a large significant aggregate resource. Approval of the proposed quarry would not impact the existing quarry.

Umatilla County may find that the only significant Goal 5 site within the impact area is an existing aggregate operation, which is not identified as a conflicting use since the proposed use being evaluated is also aggregate mining. The ESEE analysis is evaluated below.

**County Findings and Conclusions:** There are two existing Goal 5 sites within the 1,500-foot impact area, both Goal 5 sites are on the subject property. The Goal 5 site north of Highway 730 is a large significant aggregate site and is mined by ODOT. Since this is an existing aggregate site, and is a similar operation to the applicant's request, there are no known conflicts.

The other Goal 5 site is on most of the subject property and is a significant wetland in the Umatilla County Technical Report. This significant wetland is designated as a 3c in the Technical Report, the 3c designation states that the site is significant and warrants protection from conflicting uses. The identified protection in the Technical Report is to limit conflicting uses with a 100-foot setback for structures and sewage disposal systems.

Umatilla County finds one significant Goal 5 site within the impact area is an existing aggregate operation, which is not identified as a conflicting use since the proposed use being evaluated is also aggregate mining. The other Goal 5 site, a significant wetland, has been protected and conflicts with this site are evaluated and can be mitigated under OAR 660-023-0180(3)(c) above. The ESEE analysis is evaluated below.

(3) Determine the impact area. Local governments shall determine an impact area for each significant resource site. The impact area shall be drawn to include only the area in which allowed uses could adversely affect the identified resource. The impact area defines the geographic limits within which to conduct an ESEE analysis for the identified significant resource site.

**Applicant Response:** The impact area for an aggregate site is 1,500 feet, as specified by OAR 660-023-0180(5)(a). Based on the list of potential conflicting uses identified in **Table 1**, above, Umatilla County may conclude that the 1,500-foot impact area is sufficient for conducting the ESEE analysis.

**County Findings and Conclusions:** The 1,500-foot impact area specified in OAR 660-023-0180(5)(a) is adequate for determining impacts for the proposed aggregate site. Umatilla County finds and concludes the 1,500-foot impact area is adequate for conducting the ESEE analysis.

(4) Analyze the ESEE consequences. Local governments shall analyze the ESEE consequences that could result from decisions to allow, limit, or prohibit a conflicting use. The analysis may address each of the identified conflicting uses, or it may address a group of similar conflicting uses. A local government may conduct a single analysis for two or more resource sites that are within the same area or that are similarly situated and subject to the same zoning. The local government may establish a matrix of commonly occurring conflicting uses and apply the matrix to particular resource sites in order to facilitate the analysis. A local government may conduct a single analysis for a site containing more than one significant Goal 5 resource. The ESEE analysis must consider any applicable statewide goal or acknowledged plan requirements, including the requirements of Goal 5. The analyses of the ESEE consequences shall be adopted either as part of the plan or as a land use regulation.

**Applicant Response:** The applicant requests that Umatilla County determine that future dwelling or residential use and other uses that would place people within the impact area, such as gathering spaces, be limited to area on adjacent parcels that is outside the 1,500-impact area. That limitation would result in limited restriction on adjacent parcels. That is, other land uses could be permitted but the siting of those uses would need to be placed outside the 1,500-impact area.

Land uses that have potential to pose a conflict with the quarry include wineries, farm stands, mass gatherings, agri-tourism activities, churches, commercial activities in conjunction with farm use that could encourage gathering, private and public parks, golf courses, community centers, destination resorts, living history museums, residential homes, room and board operations, and schools. Again, those uses could occur on adjacent parcels but be sited outside the 1,500-impact area.

Mining at the quarry located north of Highway 730 has operated in this area without any significant conflicts for more than 30 years.

Table 1 shows uses allowed in the EFU zone within the 1,500-foot impact area. For purposes of the ESEE analysis, these potential conflicting uses can be grouped into two types of similar uses:

- Dwellings (typically includes farm dwellings, non-farm dwellings, lot of record dwellings, replacement dwellings, hardship dwellings, home occupations, room and board operations)
- Public/Private Gathering Spaces (typically includes wineries, churches, community centers, private and public parks and playgrounds, living history museums, golf courses, public or private schools, various commercial uses related to agriculture)

**County Findings and Conclusions:** As shown in Table 1, above, the local government has determined several outright and permitted uses that are allowed by the different zones within the 1,500-foot impact area. For purposes of the ESEE analysis, these potential conflicting uses can be grouped into two types of similar uses:

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- Dwellings (typically includes farm dwellings, non-farm dwellings, lot of record dwellings, replacement dwellings, hardship dwellings, home occupations, room and board operations)
- Public/Private Gathering Spaces (typically includes wineries, churches, community centers, private and public parks and playgrounds, living history museums, golf courses, public or private schools, various commercial uses related to agriculture)

The applicant’s ESSE Analysis follows:

ESEE consequences related to review criteria for dwellings and gathering spaces in the 1,500-foot impact area surrounding the proposed quarry			
	<i>Prohibit dwellings and gathering spaces</i>	<i>Condition the placement of new dwellings and gathering spaces</i>	<i>No change to review standards for dwellings and gathering spaces</i>
Economic Consequences	<p><b>Consequences related to new use on neighboring properties.</b> There may be some negative economic impact to neighboring property owners if new dwellings or gathering places were allowed within 1,500 feet of the quarry boundary. Where the adjacent parcels are large a new dwelling could be permitted but restricted to locate outside the 1,500-impact area.</p> <p><b>Consequences related to not allowing quarry operation.</b> The economic benefit of preserving the applicant's ability to operate the mining site has an economic impact through direct employment and by providing aggregate and asphalt to development in West Umatilla County.</p>	<p><b>Consequences related to new use on neighboring properties.</b> The economic impact to neighboring property owners would be neutral given that new development may occur on the larger parcels, but the specific siting would be limited to area outside the 1,500-impact area.</p>	<p>A 500kV transmission line and towers is located on parcels to the south. Development is not allowed under and adjacent to the transmission line. New development is likely already limited to areas outside of the 1,500 area.</p>
Social Consequences	<p><b>Consequences related to new use on neighboring properties.</b> Restricting the placement of a dwelling to an area outside 1,500 feet of the quarry boundary, would have a negative social consequence. This would be similar if gathering spaces were also prohibited. The social consequences stem from a landowner's desire to have reasonable options and flexibility when making choices about what they can and cannot do on their land.</p>	<p><b>Consequences related to new use on neighboring properties.</b> The social impact to neighboring property owners would be neutral if acceptance of the mining activity were added as a condition of approval for new dwellings and uses related to social gatherings within 1,500 feet of the quarry boundary. Options available to property-owners would not be reduced. Dwellings and gathering spaces that meet county and state standards criteria would be allowed.</p>	<p><b>Consequences related to new use on neighboring properties.</b> The social impact to neighboring property owners would be neutral if new dwellings and social gathering spaces within 1,500 feet of the quarry boundary were allowed under existing county and state review standards.</p> <p><b>Consequences related to loss of quarry.</b> Various development and construction projects in the</p>



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	<p><b>Consequences related to limitation of quarry.</b> Development and other construction and maintenance projects in the region would be delayed or limited if access to the quarry is not allowed.</p>	<p><b>Consequences related to loss of quarry.</b> Various development and construction projects in the region that would utilize the aggregate material in the proposed quarry may have to forgo their development which could impact social activities including those that would benefit recreation and tourism.</p>	<p>region that would be served with aggregate material in the proposed quarry would be delayed or possibly even cancelled.</p>
	<p><i>Prohibit dwellings and gathering spaces</i></p>	<p><i>Condition the placement of new dwellings and gathering spaces</i></p>	<p><i>No change to review standards for dwellings and gathering spaces</i></p>
<p>Environmental Consequences</p>	<p><b>Consequences related to new use on neighboring properties.</b> None identified.</p> <p><b>Consequences related to not allowing quarry operation.</b> Limiting access to this quarry would have a net negative environmental impact as it would increase distance to haul material to new development thus increasing vehicle emissions from truck travel.</p>	<p><b>Consequences related to new use on neighboring properties.</b> Environmental consequence would be negligible given that development from under transmission lines already limits development within the 1,500 setback area.</p> <p><b>Consequences related to loss of quarry.</b> Efficient development practices include obtaining aggregate material from a quarry close to the project site. There will be some environmental benefit from fewer vehicle emissions when truck travel is minimized.</p>	<p><b>Consequences related to new use on neighboring properties.</b> A negative environmental consequence may be increased noise if new dwellings and social gathering spaces were allowed in the impact area.</p> <p><b>Consequences related to loss of quarry.</b> There may be some negative environmental consequence if new uses in the impact area oppose mining activity and pose an obstacle to the use of this site. Efficient development practices include obtaining aggregate material from a quarry close to the project site. Vehicle emissions will increase if trucks must travel further to access material.</p>
	<p><i>Prohibit dwellings and gathering spaces</i></p>	<p><i>Condition the placement of new dwellings and gathering spaces</i></p>	<p><i>No change to review standards for dwellings and gathering spaces</i></p>

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<p>Energy Consequences</p>	<p><b>Consequences related to new use on neighboring properties.</b> None identified.</p> <p><b>Consequences related to loss of quarry access.</b> Consequences related to loss of quarry access. Efficient development practices include obtaining aggregate material from a quarry close to the project site. There will be some negative energy consequences from additional fuel use if truck travel is increased due to loss of access to this quarry.</p>	<p><b>Consequences related to new use on neighboring properties.</b> None identified.</p> <p><b>Consequences related to loss of quarry.</b> Efficient development practices include obtaining aggregate material from a quarry close to the project site. There will be some negative energy consequences from additional fuel use if truck travel is increased due to loss of access to this quarry.</p>	<p><b>Consequences related to new use on neighboring properties.</b> None identified.</p> <p><b>Consequences related to loss of quarry.</b> Efficient development practices include obtaining aggregate material from a quarry close to the project site. There will be some negative energy consequences from additional fuel use if truck travel is increased due to loss of access to this quarry.</p>
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(5) Develop a program to achieve Goal 5. Local governments shall determine whether to allow, limit, or prohibit identified conflicting uses for significant resource sites. This decision shall be based upon and supported by the ESEE analysis. A decision to prohibit or limit conflicting uses protects a resource site. A decision to allow some or all conflicting uses for a particular site may also be consistent with Goal 5, provided it is supported by the ESEE analysis. One of the following determinations shall be reached with regard to conflicting uses for a significant resource site:

(a) A local government may decide that a significant resource site is of such importance compared to the conflicting uses, and the ESEE consequences of allowing the conflicting uses are so detrimental to the resource, that the conflicting uses should be prohibited.

(b) A local government may decide that both the resource site and the conflicting uses are important compared to each other, and, based on the ESEE analysis, the conflicting uses should be allowed in a limited way that protects the resource site to a desired extent.

(c) A local government may decide that the conflicting use should be allowed fully, notwithstanding the possible impacts on the resource site. The ESEE analysis must demonstrate that the conflicting use is of sufficient importance relative to the resource site, and must indicate why measures to protect the resource to some extent should not be provided, as per subsection (b) of this section.

**Applicant Response:** Based on the materials submitted with this application, including the ESEE analysis, the resource site will create little or no conflicts with existing or proposed uses within the 1,500-foot impact area. County may consider imposing a condition of approval for future land use applications for a conflicting use and require new development be located outside the 1,500-foot impact area. County could require a waiver of remonstrance with language stating that the applicant accepts normal mining activity at this significant aggregate site and restricts a landowner's ability to pursue a claim for relief or cause of action alleging injury from the aggregate operation.

*January 24, 2024 Response (Exhibit AC)*

A waiver of non-remonstrance is not a taking subject to compensation as it does not prevent future development nor reduces property value. Instead, a waiver merely requires

a party to agree that, should they choose to develop within the defined 1,500 impact area, they cannot later raise an objection to the operation of the resource site. As a practical matter this waiver is likely to be of little consequence because, given the limitations on development in the area, both practical and regulatory, it is very unlikely that any conflicting uses will be proposed or developed within the impact area. By way of example, a farmstand for selling of produce is extraordinarily unlikely within the 1,500 [foot] impact area given that such a farmstand would be located along Highway 730, which is designated as a truck route and there is no apparent location within the impact area where any such development could even be placed. Further evidence that a farm stand is highly unlikely is based on the fact that EFU-zoned parcels within the 1,500 [foot] impact area do not grow products that are typically sold at farm stands, e.g. produce, flowers, honey, etc. and the minimum siting requirements for a farm stand requires the majority of good sold at a farm stand be grown on the subject farm.

**Staff Response:** Throughout their application, the applicant has identified two actions for achieving Goal 5: requiring a new conflicting use to be sited outside the 1,500-foot impact area, and requiring a non-remonstrance agreement for new conflicting uses. For clarification, requiring new conflicting uses to be located outside the 1,500-foot impact area would be a “taking”, however, requiring a non-remonstrance agreement would not be a “taking”.

**County Findings and Conclusions:** Umatilla County has determined, through the applicant’s ESEE analysis, that the resource site and the conflicting uses (dwellings, wetlands and public/private gathering spaces) are important compared to each other. Applicant is requesting that new conflicting uses be prohibited within the 1,500-foot impact area. However, this could be considered “taking” from property owners of lands within the impact area. Other quarry sites (new and expansions) have requested that new conflicting uses, identified in the ESEE analysis, be allowed with a recorded waiver of remonstrance. The waiver precludes the landowner’s ability to pursue a claim for relief or cause of action against the aggregate operation. Therefore, Umatilla County finds that if the site could be approved, that proposed conflicting uses within the 1,500-foot impact area should be required to sign a waiver of remonstrance for the life of the Cox Quarry and is adequate to achieve Goal 5.

A condition of approval is imposed that any land use application for a proposed conflicting use within the 1,500-foot impact area requires a waiver of remonstrance prior to final approval. The waiver shall include language stating that the applicant accepts normal mining activity at this significant aggregate site and restricts a landowner’s ability to pursue a claim for relief or cause of action alleging injury from the aggregate operation.

Umatilla County finds that the waiver of remonstrance requirement for proposed conflicting uses along with the mitigation measures proposed by the applicant are adequate to minimize conflicts for future uses that potentially locate within the mining impact area. The criterion is satisfied.

**660-023-0050 Programs to Achieve Goal 5**

(1) For each resource site, local governments shall adopt comprehensive plan provisions and land use regulations to implement the decisions made pursuant to [OAR 660-023-0040\(5\)](#). The plan shall describe the degree of protection intended for each significant resource site. The plan and implementing ordinances shall clearly identify those conflicting uses that are allowed and the specific standards or limitations that apply to the allowed uses. A program to achieve Goal 5 may include zoning measures that partially or fully allow conflicting uses (see [OAR 660-023-0040\(5\) \(b\) and \(c\)](#)).

**Applicant Response:** Umatilla County may find that Policy 41 of the Umatilla County Comprehensive Plan may be amended to list the quarry as a significant aggregate resource site.

The Umatilla County Zoning Map may be amended to apply the Aggregate Resource (AR) Overlay Zone to the subject property. In addition, county may apply a 1,500-foot buffer around the AR Overlay Zone which will be shown on the Zoning Map to acknowledge that conflicting uses (dwellings and public/private gathering spaces) may be limited.

Finally, as noted previously, county may require a condition of approval for any land use application that could present a conflict within the 1,500-foot impact area.

**County Findings and Conclusions:** Umatilla County finds that if the request is approved, Policy 41 of the Umatilla County Comprehensive Plan shall be amended to list the Cox Quarry as a significant aggregate resource site.

The Umatilla County Zoning Map will be amended to apply the Aggregate Resource (AR) Overlay Zone to the subject property. In addition, a 1,500-foot buffer around the AR Overlay Zone will be shown on the Zoning Map to acknowledge that conflicting uses (dwellings and public/private gathering spaces) are limited.

As noted previously, a condition of approval is imposed that any land use application for a proposed conflicting use within the 1,500-foot impact area requires a waiver of remonstrance prior to final approval. The purpose of this condition is not to disallow these activities, but to ensure that applicants for these types of uses be made aware of the mining operation and waive their rights to remonstrate against aggregate mining activities allowed by this decision. This would be consistent with current Umatilla County Development Code provisions found at 152.063(D) that are applicable to permitted mining activities. This criterion is met.

(2) When a local government has decided to protect a resource site under [OAR 660-023-0040\(5\)\(b\)](#), implementing measures applied to conflicting uses on the resource site and within its impact area shall contain clear and objective standards. For purposes of this division, a standard shall be considered clear and objective if it meets any one of the following criteria:

(a) It is a fixed numerical standard, such as a height limitation of 35 feet or a setback of 50 feet;

(b) It is a nondiscretionary requirement, such as a requirement that grading not occur beneath the dripline of a protected tree; or

(c) It is a performance standard that describes the outcome to be achieved by the design, siting, construction, or operation of the conflicting use, and specifies the objective criteria to be used in evaluating outcome or performance. Different performance standards may be needed for different resource sites. If performance standards are adopted, the local government shall at the same time adopt a process for their application (such as a conditional use, or design review ordinance provision).

**Applicant Response:** Applicant requests that Umatilla County find it valuable to limit conflicting uses within the 1,500-foot impact area for the life of the quarry in order to achieve Goal 5. Applicant also requests the Umatilla County Zoning Map be amended to apply the Aggregate Resource (AR) Overlay Zone to the 46.7-acre property. In addition, a 1,500-foot buffer around the AR Overlay Zone will be shown on the Zoning Map to acknowledge that conflicting uses (dwellings and public/private gathering spaces) are limited. Finally, applicant requests a condition of approval be imposed on any land use application for a proposed conflicting use within the 1,500-foot impact area requires a waiver of remonstrance prior to final approval.

**County Findings and Conclusions:** Umatilla County finds that proposed conflicting uses within the 1,500-foot impact area are required to sign a waiver of remonstrance to achieve Goal 5. The purpose of this condition is not to disallow these activities, but to ensure that applicants for these types of uses be made aware of the mining operation and also waive their rights to remonstrate against aggregate mining activities allowed by this decision. This is consistent with Umatilla County Development Code provision 152.063(D) which is applicable to the permitted mining activities.

If approved, the Umatilla County Zoning Map will be amended to apply the Aggregate Resource (AR) Overlay Zone to the subject property. In addition, a 1,500-foot buffer around the AR Overlay Zone will be shown on the Zoning Map to acknowledge that conflicting uses (dwellings and public/private gathering spaces) are limited.

Umatilla County finds a condition of approval is imposed that any land use application for a proposed conflicting use within the 1,500-foot impact area requires a waiver of remonstrance prior to final approval. This criterion is satisfied.

(3) In addition to the clear and objective regulations required by section (2) of this rule, except for aggregate resources, local governments may adopt an alternative approval process that includes land use regulations that are not clear and objective (such as a planned unit development ordinance with discretionary performance standards), provided such regulations:

(a) Specify that landowners have the choice of proceeding under either the clear and objective approval process or the alternative regulations; and

(b) Require a level of protection for the resource that meets or exceeds the intended level determined under OAR 660-023-0040(5) and 660-023-0050(1).

Umatilla County finds that this request is related to aggregate resources. Therefore, this criterion is not applicable.

**29. STANDARDS OF THE UMATILLA COUNTY DEVELOPMENT CODE FOR ESTABLISHING AN AR OVERLAY ZONE are found in Sections 152.487 and 152.488.**

The following standards of approval are underlined and the findings are in normal text.

**152.487 CRITERIA FOR ESTABLISHING AN AR OVERLAY ZONE:** Section 152.487 of the Umatilla County Development Code lists required criteria the Planning Commission must consider for establishing an AR Overlay Zone. Criteria are listed and underlined. Evaluation responses are provided in normal text.

(A) At the public hearing the Planning Commission shall determine if the following criteria can be met:

(1) The proposed overlay would be compatible with the Comprehensive Plan;

**Applicant Response:** The Umatilla County Comprehensive Plan and Technical Report apply to this application that seeks to protect the proposed aggregate site under Goal 5 as a significant site. Applicant requests county apply the Aggregate Resource Overlay Zone to the mining site, and to allow mining and processing on the site.

*Comprehensive Plan Finding 38: Extraction of non-renewable aggregate and mineral resources requires ongoing exploration, reclamation, separation from adjacent incompatible land uses and access.*

*Comprehensive Plan Policy 38.*

*(a) The County shall encourage mapping of future agencies sites, ensure their protection from conflicting adjacent land uses, and required reclamation plans.*

*(b) Aggregate and mineral exploration, extraction, and reclamation shall be conducted in conformance with the regulations of the Department of Geology and Mineral Industries.*

*(c) The County Development Ordinance shall include conditional use standards and other provisions to limit or mitigate conflicting uses between aggregate sites and surrounding land uses.*

The applicant is seeking protection of the aggregate site by the application of the Aggregate Resource Overlay Zone and protection from encroaching and conflicting uses by mapping of the buffer area. The applicant hired a certified geologist to evaluate the site and prepare a map of the extraction and reclamation area for the Department of Geology and Mineral Industries. Based on this the application can be found to comply with Comprehensive Plan Policy 38.

*Finding 41: Several aggregate sites were determined to be significant enough to warrant protection from surrounding land uses in order to preserve the resource.*

Umatilla County [may] find that the applicant's request for limitations of conflicting residential and social gathering spaces would be required only in very limited circumstance but that they would be reasonable to provide protection of a significant Goal 5 resource.

The applicant's application and professional geology report demonstrate that the inventory of aggregate material at [the site] meets ODOT quality specifications and exceeds the 500,000 tons minimum. The application complies with quality and quantity standards in OAR 660-023-0180(3).

There are no residences or properties zoned for residential use within 1,000 feet of the proposed overlay.

The mining area will have some natural screening with trees and other vegetation between the mining area and Highway 730. Some of the mining operation may be visible from state Highway 730 but not from other vistas.

Based on the above, the applicant requests that the Comprehensive Plan be updated to include the proposed quarry in order to preserve the resource, in compliance with Finding 41.

**County Findings and Conclusions:** The Umatilla County Comprehensive Plan and Technical Report apply to the applicant's request. The existing ODOT site, also located on the subject property, north of Highway 730 has been added to the Comprehensive Plan Aggregate Resource Large Significant Site inventory indicating that the site is significant and warrants protection. This ODOT aggregate site has also been approved for mining activities. The applicant's request seeks to similarly protect the proposed aggregate site under Goal 5 as a significant site, to apply the Aggregate Resource Overlay Zone to the mining site, and to allow mining and processing (including an asphalt batch plant) on the site.

Comprehensive Plan Findings and Policies are also applicable. Finding 38 states, "Extraction of non-renewable aggregate and mineral resources requires ongoing exploration, reclamation, separation from adjacent incompatible land uses and access." The accompanying policy is also applicable:

- Policy 38. (a) The County shall encourage mapping of future agencies sites, ensure their protection from conflicting adjacent land uses, and required reclamation plans.
- (b) Aggregate and mineral exploration, extraction, and reclamation shall be conducted in conformance with the regulations of the Department of Geology and Mineral Industries.
- (c) The County Development Ordinance shall include conditional use standards and other provisions to limit or mitigate conflicting uses between aggregate sites and surrounding land uses.

The applicant is seeking protection of the aggregate site by the application of the Aggregate Resource Overlay Zone and protection from encroaching and conflicting uses by mapping of the buffer area to best achieve both this Finding and Policy.

Finding 41 is also applicable and states, "Several aggregate sites were determined to be significant enough to warrant protection from surrounding land uses in order to preserve the resource." Based on this application, the applicant requests that the accompanying Policy be updated to list the Cox Quarry.

Umatilla County finds that the applicant's request for application of the AR Overlay zone and limitations of conflicting new residential and social gathering space uses is reasonable under the Goal 5 protection program and appears to be compatible with the Umatilla County Comprehensive Plan. This criterion is met.

(2) There is sufficient information supplied by the applicant to show that there exists quantities of aggregate material that would warrant the overlay;

**Applicant Response January 24, 2024:** After the Planning Commission hearing, Applicant's licensed engineering geologist, Erick Staley conducted additional sampling and testing and provided the additional representative set of samples. See above and attached report from licensed geologist Erick Staley.

**County Findings and Conclusions:** The Umatilla County Planning Commission found that the applicant's PAPA application and laboratory reports demonstrated that the inventory of aggregate material at the Cox Quarry is estimated at 4,565,160 tons which exceeds the minimum 500,000 tons, which warrants the overlay. This criterion is satisfied.

(3) The proposed overlay is located at least 1,000 feet from properties zoned for residential use or designated on the Comprehensive Plan for residential;

Umatilla County finds that there are no properties zoned for residential use within 1,000 feet of the proposed overlay. This criterion is met.

(4) Adequate screening, either natural or man-made, is available for protecting the site from surrounding land uses.

**Applicant Response:** No response.

*January 24, 2024 Response (Exhibit AC)*

As noted above, applicant and geologist carefully selected the subject property and location in part based on the tall basalt wall that provides a natural barrier. Further, applicant has provided professional air and sound analysis to prove the operation will comply with Oregon air quality and noise standards. Additional measures to protect mining on the site do not appear to be necessary. This criterion is met.

**County Findings and Conclusions:** The proposed quarry will be sited south of Highway 730 and east of Highway 207. The proposed mining area will be set back from the two highways, and the existing wetlands and shrubbery will provide some screening. The Planning Commission found and concluded that the applicant did not meet all criteria of approval, thus adequate screening was not addressed. The County Board of Commissioners may find that additional screening is required along the site boundaries and may impose an additional condition of approval.

(5) The site complies with Oregon Administrative Rules (OAR) 660-023-0180.

**Applicant Response:** No response.



*January 24, 2024 Response (Exhibit AC)*

Since the Planning Commission hearing, Applicant provided an air report and noise report, both of which concluded the mining operation will meet the established requirements found in Oregon law. Further, applicant has provided a blasting plan and has agreed to employ a blasting and drilling professional who will operate in compliance with mining and Oregon Occupational Safety and Health Standards. Given that concerns about impacts are focused on perceived, and unsupported, impacts from air and noise and given that applicant has documented that air and noise discharges will be in compliance with Oregon law and standards. Further, to the extent that the conflicts identified by the opponents require mitigation, the construction of a berm, and the limitation on the hours of operation proposed by Applicant will further limit any potential impacts from noise and dust. The site will not conflict with agricultural practices either as the scientific studies, and the construction of the berm will mitigate any potential impact (which impact has not actually been established) to the agricultural practices in the area, namely pasturing of horses, cattle, and the raising of alfalfa. The, County Board of Commissioners may find that the application complies with OAR 660-023-0180.

**County Findings and Conclusions:** The Umatilla County Planning Commission found that several standards found in (OAR) 660-023-0180 were not met by the proposed mining operation, as provided above. The County Board of Commissioners may find that since the Planning Commission hearing, the applicant has or failed to meet all the standards found in OAR 660-023-018. This criterion is pending.

**152.488 MINING REQUIREMENTS:** Section 152.488 of the Umatilla County Development Code lists mining requirements for aggregate sites under the AR Overlay Zone. Criteria are listed and underlined. Evaluation responses are provided in standard text.

(A) All work done in an AR Overlay Zone shall conform to the requirements of DOGAMI or its successor, or the applicable state statutes.

**Applicant Response:** Applicant's geologist has prepared an application to DOGAMI and the application will be submitted concurrently with the land use application. Applicant will comply with all mining and reclamation required by DOGAMI.

**County Findings and Conclusions:** Umatilla County finds and concludes that the applicant shall provide to the Umatilla County Planning Division a copy of the DOGAMI operating permit and, as a condition of approval, will be required to obtain all necessary State Permits before commencing mining activities.

(B) In addition to those requirements, an aggregate operation shall comply with the following standards:

- (1) For each operation conducted in an AR Overlay Zone the applicant shall provide the Planning Department with a copy of the reclamation plan that is to be submitted under the county's reclamation ordinance;

**Applicant Response:** See attached reclamation plan prepared for DOGAMI permits.

**County Findings and Conclusions:** Umatilla County finds that the reclamation plan requirements must meet the standards of DOGAMI and that a copy of the approved reclamation plan is to be submitted to the Planning Division. A subsequent condition of approval is imposed requiring the applicant to submit a copy of the DOGAMI approved reclamation plan to Planning, the condition of approval satisfies the criterion.

- (2) Extraction and sedimentation ponds shall not be allowed within 25 feet of a public road or within 100 feet from a dwelling, unless the extraction is into an area that is above the grade of the road, then extraction may occur to the property line;

**Applicant Response:** The applicant will mine the aggregate resource leaving a 25-foot buffer area around the perimeter of the subject property. There is one home on property adjacent to the proposed mining area, located to the south and west of the mining site. Mining will not be done within 100 feet of the home. There are no other homes within the 1,500-foot impact area. Sedimentation pond will be more than 25 feet from any county roads. See attached mining plan and site plan.

**County Findings and Conclusions:** Umatilla County finds and concludes that the applicant has submitted a site plan demonstrating that extraction and sedimentation ponds are not within 25-feet of a public road or within 100-feet of a dwelling. A subsequent condition of approval imposing that this site plan accompany the final zoning permit satisfies the criterion.

- (3) Processing equipment shall not be operated within 500 feet of an existing dwelling at the time of the application of the Overlay Zone. Dwellings built after an AR Overlay Zone is applied shall not be used when computing this setback.

**Applicant Response:** The nearest dwelling is located to the south and west of the quarry area. Although the property lines abut, the dwelling will be approximately 1,500 feet from the mining area. Additionally, processing equipment will be sited in such a way as to create a further and more physical buffer.

**County Findings and Conclusions:** Umatilla County finds as a condition of approval, the applicant shall provide a site plan demonstrating that processing equipment will be sited to retain the 500-foot setback to the existing dwellings. Umatilla County concludes imposition of this condition of approval satisfies the criterion.

- (4) All access roads shall be arranged in such a manner as to minimize traffic danger and nuisance to surrounding properties and eliminate dust.

**Applicant Response:** The parcel has direct access to Highway 730 and has applied to ODOT to move the access for the purpose of minimizing congestion and conflicts with traffic. A new road on the parcel will be constructed to standard.

**County Findings and Conclusions:** Umatilla County finds that the proposed Cox Quarry site has frontage along both Highway 730 and Highway 207. The applicant has indicated that Highway 730 will be utilized for access. A new access point will need to be approved and

constructed to Highway 730 to support the mining activity. A subsequent condition of approval is imposed that the applicant obtain access permit approval from ODOT to Highway 730. Internal haul roads shall be constructed to minimize traffic danger and nuisance to surrounding properties and eliminate dust. Umatilla County finds and concludes a subsequent condition of approval requiring haul roads to be constructed to minimize traffic danger and nuisance to surrounding properties and eliminate dust satisfies the criterion.

### **30. ANALYSIS OF STATEWIDE PLANNING GOALS 1 THROUGH 14.**

**Goal 1 Citizen Involvement:** *To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.*

**Applicant Response:** Umatilla County's Comprehensive Plan and Umatilla County Development Ordinance includes robust provisions for citizen involvement program, including notice of Planning Commission and Board of Commissioners public hearings and opportunity for persons to participate in the hearings. This combined legislative and quasi-judicial request will be publicly noticed and heard at two public hearings where citizens will be afforded opportunity to participate in person and/or in writing.

**County Finding:** Umatilla County finds that the applicant's request will go through the public hearing process and therefore complies with Statewide Planning Goal 1 (Citizen Involvement).

**Goal 2 Planning:** *To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.*

**Applicant Response:** By following UCDO and ORS notice and hearing requirements this request is in compliance with Goal 2.

**County Finding:** Umatilla County finds that through this amendment process, the applicant's request complies with the County's Comprehensive Plan and Development Code and therefore complies with Statewide Planning Goal 2 (Planning).

**Goal 3 Agricultural Lands:** *To preserve and maintain agricultural lands.*

**January 24, 2024 Amended Applicant Response:** The application and materials demonstrate that the proposed quarry will be compatible with uses allowed in the EFU zone while also allowing mining of a Goal 5 significant site. The only potential impact for agricultural lands is dust, which, as noted above, will not negatively impact farming practices and will comply with Department of Environmental Quality air standards as found in the Air Sciences Inc. Air study. Any minor fugitive dust will be mitigated with water on the rock crusher as well as air filters on equipment. An aggregate operation is consistent with Oregon Revised Statute 215.203, designating the zoning as Exclusive Farm Use (EFU). That is, rock quarries are allowed on land zoned EFU provided the resource is designated as a significant Goal 5 resource which is confirmed above.

Additionally, most quarries in Oregon are located on EFU zoned land and are also surrounded agricultural lands zoned EFU. This further demonstrates that quarries are compatible with agricultural practices. The exception is farm land with vineyards which is not the case here.

No place in Oregon, as is true here, has the proposed quarry use been is contrary to preservation of agricultural lands in the area.

Oregon law and Oregon's Statewide Planning Program does not prioritize Statewide Planning Goals and has developed Administrative Rules with clear and objective standards in order to permit a variety of uses. In this case, the application has complied with OAR 660-023 and the aggregate site is found to be a significant Goal 5 resource. While meeting the Goal 5 standards, County may find that the use is appropriate and can be found to be allowed while balancing impacts to farmland, if any. The applicant has demonstrated that Goal 3 farmland will be protected while allowing the designation and development of a Goal 5 aggregate resource at this location. Statewide Planning Goals 3 and 5 are complimentary at this location.

**County Finding:** Umatilla County may find that construction of a 25-foot berm around the mining site will provide a buffer for noise and dust, which will minimize impacts on nearby farming operations. Umatilla County may find that if mitigation measures are identified to minimize impacts to agricultural lands, the request could be consistent with Statewide Planning Goal 3.

**Goal 4 Forest Lands:** *To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.*

**Applicant Response:** There are no forest lands in this region of the county and no forest lands impacted by this request.

**County Finding:** Umatilla County finds that Statewide Planning Goal 4 (Forest Lands) does not directly apply to the applicant's request.

**Goal 5 Open Spaces, Scenic and Historic Areas, and Natural Resources:** *To protect natural resources and conserve scenic and historic areas and open spaces.*

**Applicant Response:** The application and materials demonstrate the aggregate site is a significant resource and should be protected to allow mining. The existing Goal 5 aggregate site located north of Highway 730 is not available to private sector. The site contains wetlands listed on the National Wetlands Inventory map. A wetland delineation was reviewed by Department of State Lands. The quarry and mining area was configured to avoid impacts to wetlands.

**County Finding:** As demonstrated throughout this document, other Goal 5 resources are present on the subject property: a significant wetland and an ODOT aggregate site. The ODOT site will not be impacted by the proposed quarry site. Impacts to the Goal 5 wetland can be minimized

through implementation of a 100-foot setback to all mining activities. The applicant provided ESEE analysis demonstrates the importance and benefit of establishing the proposed Goal 5 aggregate site. Umatilla County finds and concludes that the applicant's request is to apply Goal 5 protection to the site, the request has been reviewed under the necessary Goal 5 process and does appear to be consistent with Statewide Planning Goal 5 (Open Spaces, Scenic and Historic Areas, and Natural Resources).

**Goal 6 Air, Water and Land Resources Quality:** *To maintain and improve the quality of the air, water and land resources of the state.*

**Applicant Response:** The application and materials demonstrate that proposed mining will or can comply with applicable federal and state environmental standards for air and water quality. Additionally, applicant will utilize best management practices.

**County Finding:** Umatilla County may find that the applicant's request adequately addresses air, water and land resource quality. The applicant stated that they will obtain necessary permits and implement best practices to be consistent with Statewide Planning Goal 6 (Air, Water and Land Resource Quality). The applicant submitted a technical memorandum, prepared by Air Sciences, Inc to demonstrate the proposed level of emissions of the "rock crushing and asphalt plant". Emission levels were identified for rock crushing, screening, truck loading and unloading, conveying and asphalt batch mixing. The memorandum did not include estimated emission levels from blasting activities. Umatilla County may find that the applicant did not address all air quality issues raised by opponents, nor share the proposed best management practices as demonstrated throughout this document.

Umatilla County may find if the applicant were to submit information detailing discharge levels for blasting activities, the request could be compliant with Goal 6.

**Goal 7 Areas Subject to Natural Hazards and Disasters:** *To protect people and property from natural hazards.*

**Applicant Response:** Natural hazards known in this general vicinity include wildfire and flooding. The property is not located in a designated flood zone as designated by the Federal Emergency Management Agency. The property is not subject to flooding. While there is no evidence of wildfire on the property, wildfires are generally known to occur. The subject property is not located in a high-risk wildfire area according to the 2021 Umatilla County Natural Hazard Mitigation Plan (NHMP WF-2). Operation of the quarry would not create additional challenges to wildfire mitigation.

**County Finding:** The subject property is not within the FEMA mapped floodplain, nor is it prone to flooding. Wildfires are generally known to occur along the Highway 730 corridor, however, the property is not located in a high-risk wildfire area in Umatilla County's 2021 Natural Hazard Mitigation Plan. Operation of the quarry would likely not create additional challenges to wildfire mitigation. Umatilla County finds that Statewide Planning Goal 7 (Areas Subject to Natural Hazards and Disasters) does not directly apply to this request.

**Goal 8 Recreation Needs:** *To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.*

**Applicant Response:** The application does not impact recreational opportunities.

**County Finding:** Umatilla County finds that the applicant's request appears to be consistent with Statewide Planning Goal 8 (Recreation Needs) and Goal 8 does not directly apply to this request.

**Goal 9 Economy:** *To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.*

**Applicant Response:** The approval of a new aggregate site will provide economic benefit to the region by increasing the supply of rock and asphalt for new development, repair and construction of roads and other uses. Currently, given the level of development in West Umatilla and North Morrow Counties there is a deficit of aggregate and asphalt. The new quarry will create 3-4 new jobs in the area. Overall, the new quarry will have positive effect on the local and regional economy.

*January 24, 2024 Response (Exhibit AC)*

Applicant further provides that the major industrial development in the travel shed area of the proposed quarry includes data centers which have a very high need for aggregate and asphalt. The subject Goal 5 proposal will foster Goal 9 objectives.

**County Finding:** Umatilla County finds that the applicant's request will provide an economic benefit to the region, as described in the ESEE analysis, and will increase the supply of rock and asphalt for development. Therefore, the request appears to be consistent with Statewide Planning Goal 9 (Economy).

**Goal 10 Housing:** *To provide for the housing needs of citizens of the state.*

**Applicant Response:** Approval of this site would increase supply of aggregate and asphalt used in housing construction such as for roads and infrastructure.

**County Finding:** Umatilla County finds housing is not a direct consideration of this request, however, the requested activities will allow for aggregate to be available for use in the housing and commercial construction business. Thus, the request is consistent with Statewide Planning Goal 10.

**Goal 11 Public Services:** *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.*

**Applicant Response:** The proposed quarry does not have a direct impact on Goal 11 however, it would provide rock and asphalt resources necessary for infrastructure development.

**County Finding:** Umatilla County finds that the applicant's request appears to support Statewide Planning Goal 11 (Public Services).

**Goal 12 Transportation:** *To provide and encourage a safe, convenient and economic transportation system.*

**Applicant Response:** Applicant has submitted an Access Permit application to ODOT to relocate the existing driveway to a location that will minimize congestion and be better suited for vision clearance. Additionally, the relocated access and internal roadway will avoid impacts to wetlands. Traffic from the mining area will vary based on the time of year. At peak applicant estimates 12 trucks per day and two to three employee vehicles. Average Daily Trips will be under the 250 trips identified within the Umatilla County Development Code UCDC 152.019(B)(2)(a) and Transportation System Plan (TSP) as the trigger for requiring a Traffic Impact Study. However, county staff indicated they could not deem the application complete without a traffic impact analysis. Applicant then employed Kittelson and Associates, Inc. to conduct a transportation impact analysis which is attached. The TIA concludes that "the proposed Aggregate Resources Overlay Zone and mining and asphalt operation is not anticipated to result in a significant impact to the transportation network or require offsite mitigation." Kittelson & Associates recommended two conditions which the applicant supports.

- Construct a new site access roadway connection to US 730. A STOP (R1-1) sign should be installed on the northbound approach to US 730 in accordance with ODOT and County standards and the Manual on Uniform Traffic Control Devices (MUTCD) in conjunction with site development.
- To provide and maintain adequate intersection sight distance at the site access road connection to US 730, locate any proposed signage or landscaping appropriately such that the minimum intersection sight distance can be maintained.

Based on the TIA and the above, the application can be found to be in compliance with the county Transportation System Plan, County Development Code 152.019(B) and Goal 12.

**County Finding:** Umatilla County finds as part of this application approval process; the applicant will be required to construct a new access point to serve the proposed mining operation that complies with ODOT requirements. The applicant submitted a Traffic Impact Analysis (Exhibit F) which found that the proposed mining operations will add approximately 356 daily trips on local roads, which overall will have minimal impact on both Highway 207 and Highway 730. The current 15-minute traffic count for the intersection of these two state highways is nearly equivalent to the average daily trips of the mining operation. Therefore, the proposed mining operation is not anticipated to have a significant effect on the local transportation network. Umatilla County finds that the applicant's request appears to support Statewide Planning Goal 12 (Transportation).

**Goal 13 Energy:** *To conserve energy.*

**Applicant Response:** Application does not directly affect energy conservation, however, by approving this new quarry and mining operation truck hauling can be reduced which in turn decreases energy consumption.

**County Finding:** Umatilla County finds that the addition of this site on the Goal 5 Aggregate Resource inventory will reduce the hauling distances of aggregate trucks for projects in the vicinity. Decreasing hauling distances reduces fossil fuel consumption. Therefore, the applicant's request appears to be consistent with Statewide Planning Goal 13 (Energy).

**Goal 14 Urbanization:** *To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.*

**Applicant Response:** The proposed quarry and mining operation is a rural use. Goal 14 does not apply.

**County Finding:** Mining operations are not necessarily an urban land use and are typically located outside of urban areas. Umatilla County finds that Statewide Planning Goal 14 (Urbanization) is not specifically applicable to this request.

## **UMATILLA COUNTY BOARD OF COMMISSIONERS DECISION OPTIONS**

### **PAPA DECISION: DENIED**

**BASED UPON THE FINDINGS OF FACT AND CONCLUSIONS OF LAW, THE REQUEST TO AMEND THE COMPREHENSIVE PLAN TO ADD THIS SIGNIFICANT SITE TO THE COUNTY'S INVENTORY OF SIGNIFICANT SITES AND ESTABLISH AN AGGREGATE RESOURCE OVERLAY TO THE COX SITE IS DENIED.**

### **DECISION TO ALLOW MINING: DENIED**

**BASED UPON THE FINDINGS OF FACT AND CONCLUSIONS OF LAW, THE REQUEST TO ALLOW MINING OF THE COX SITE IS DENIED.**

### **PAPA DECISION: APPROVED**

**BASED UPON THE FINDINGS OF FACT AND CONCLUSIONS OF LAW, THE REQUEST TO AMEND THE COMPREHENSIVE PLAN TO ADD THIS SIGNIFICANT SITE TO THE COUNTY'S INVENTORY OF SIGNIFICANT SITES AND ESTABLISH AN AGGREGATE RESOURCE OVERLAY TO THE COX SITE IS APPROVED.**

### **DECISION TO ALLOW MINING: APPROVED**

**BASED UPON THE FINDINGS OF FACT AND CONCLUSIONS OF LAW, THE REQUEST TO ALLOW MINING OF THE COX SITE IS APPROVED SUBJECT TO THE CONDITIONS LISTED BELOW**



## **MINING ACTIVITIES ARE NOT ALLOWED UNTIL A COUNTY ZONING PERMIT HAS BEEN ISSUED**

Precedent Conditions: The following precedent conditions must be fulfilled prior to final approval of this request:

1. Obtain approval for the Post Acknowledgement Plan Amendment (PAPA) request to list the site as a Large Significant Aggregate Site in the Comprehensive Plan, and apply the Aggregate Resource (AR) Overlay Zone.
2. Pay notice costs as invoiced by the County Planning Division.

Subsequent Conditions: The following subsequent conditions must be fulfilled following final approval of this request:

1. Obtain all other federal and state permits necessary for development. Provide copies of these permit approvals to the Planning Division.
  - a. Obtain an ODOT road approach permit to Highway 730. Provide a copy of the access approval to the Planning Division.
  - b. Obtain all applicable permits for the mining operations from DOGAMI before these activities begin. Applicant will obtain approval from DOGAMI for the reclamation plan and submit a copy of the reclamation plan to the Planning Department.
  - c. Obtain all applicable permits for the mining operation from DEQ (air, noise, and water quality issues) before these activities begin.
2. Submit a blasting plan to the Planning Division explaining how blasting impacts will be mitigated. The plan shall detail pre-blast notification, blast procedures, how the procedures will be implemented, how time-delays will be utilized and implemented, and monitoring procedures including how vibration data will be collected. The blasting plan shall be implemented for all blasting activities for the life of the Cox Quarry.
3. Obtain a Zoning Permit from Umatilla County Planning Division to finalize the approval of mining the aggregate site. The site plan shall include the location of a site obscuring berm and demonstrate that the extraction and sedimentation ponds are not located within 25-feet of a public road or within 100-feet from a dwelling. Processing equipment shall not be located within 500-feet of an existing dwelling. Additionally, all mining activities shall be setback a minimum of 100-feet from wetlands.
4. Construct a 25-foot tall berm around the perimeter of the mining site, the berm shall be planted with native vegetation and maintained throughout the life of the quarry to provide dust and noise suppression.

5. Implement and adhere to the Applicant's Coffman Engineers Noise Study Section 7, "Noise Mitigation Measures".
6. Provide a pre-blast notification to the area property owners and shall be to those persons as shown on the currently available Umatilla County tax roll for real property located within the 1,500-foot impact area. If notification is within a week in advance of a blast, notification may be by First Class U.S. Mail. If within 24 hours of a blast then notice shall be via email or telephone call so long as the recipient property owner has authorized the same; provided however that notice to area property owners complying with this condition may also be accomplished by leaving written notice at the door of residential property that is within the 1,500-foot notice area. If access to the door is not possible due to locked gates or threatening animals or other legitimate reasons, then notice may be posted on the property or nearby road right of way in the most visible way and place that is reasonable and possible.
7. The applicant and its contractors shall implement best management practices, including obtaining necessary permits to manage dust, stormwater and other discharges.
8. If the site were to lay inactive for a period of greater than one year, a new zoning permit must be obtained.
9. Adhere to DEQ Noise Standard as found in OAR 340-035-0035, *Noise Control Regulations for Industry and Commerce*.
10. Develop internal haul roads in a manner that minimize traffic danger and nuisance to surrounding properties and eliminate dust.
11. If cultural artifacts are observed during ground-disturbing work, that work must cease in the development area until the find is assessed by qualified cultural resource personnel from the State Historic Preservation Office and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). Once qualified cultural resource personnel from SHPO and CTUIR are satisfied, the ground-disturbing work may continue.
12. Contour and revegetate the quarry for agricultural or wildlife habitat purposes during post-mining activities according to the requirements of the DOGAMI application.
13. Any land use application for a proposed conflicting use within the 1,500-foot impact area requires a waiver of remonstrance prior to final approval. The waiver shall include language stating that the applicant accepts normal mining activity at this significant aggregate site and restricts a landowner's ability to pursue a claim for relief or cause of action alleging injury from the aggregate operation.
14. Hours of operation for all mining activities are limited to 7:00am to 7:00pm.

**UMATILLA COUNTY BOARD OF COMMISSIONERS**

Dated the \_\_\_\_\_ day of \_\_\_\_\_, 2024

\_\_\_\_\_  
Celinda A. Timmons, *Commissioner*

\_\_\_\_\_  
John M. Shafer, *Commissioner*

\_\_\_\_\_  
Daniel N. Dorran, *Commissioner*

# Proposed Umatilla County Comprehensive Plan Text Amendment

## DOUG COX QUARRY Comprehensive Plan Text Amendment T-093-23 Zoning Map Amendment #Z-323-23 Township 5N, Range 29E, Section 22, Tax Lot 400

This proposed amendment to the Umatilla County Comprehensive Plan is to add to the Doug Cox Quarry Site to the list of Goal 5 protected, significant resource aggregate sites. The following proposed changes will be made in Chapter 8, Open Space, Scenic and Historic Areas, and Natural Resources:

Note: Proposed changes are in underlined text.

41. Several aggregate sites were determined to be significant enough to warrant protection from surrounding land uses in order to preserve the resource (see Technical Report).

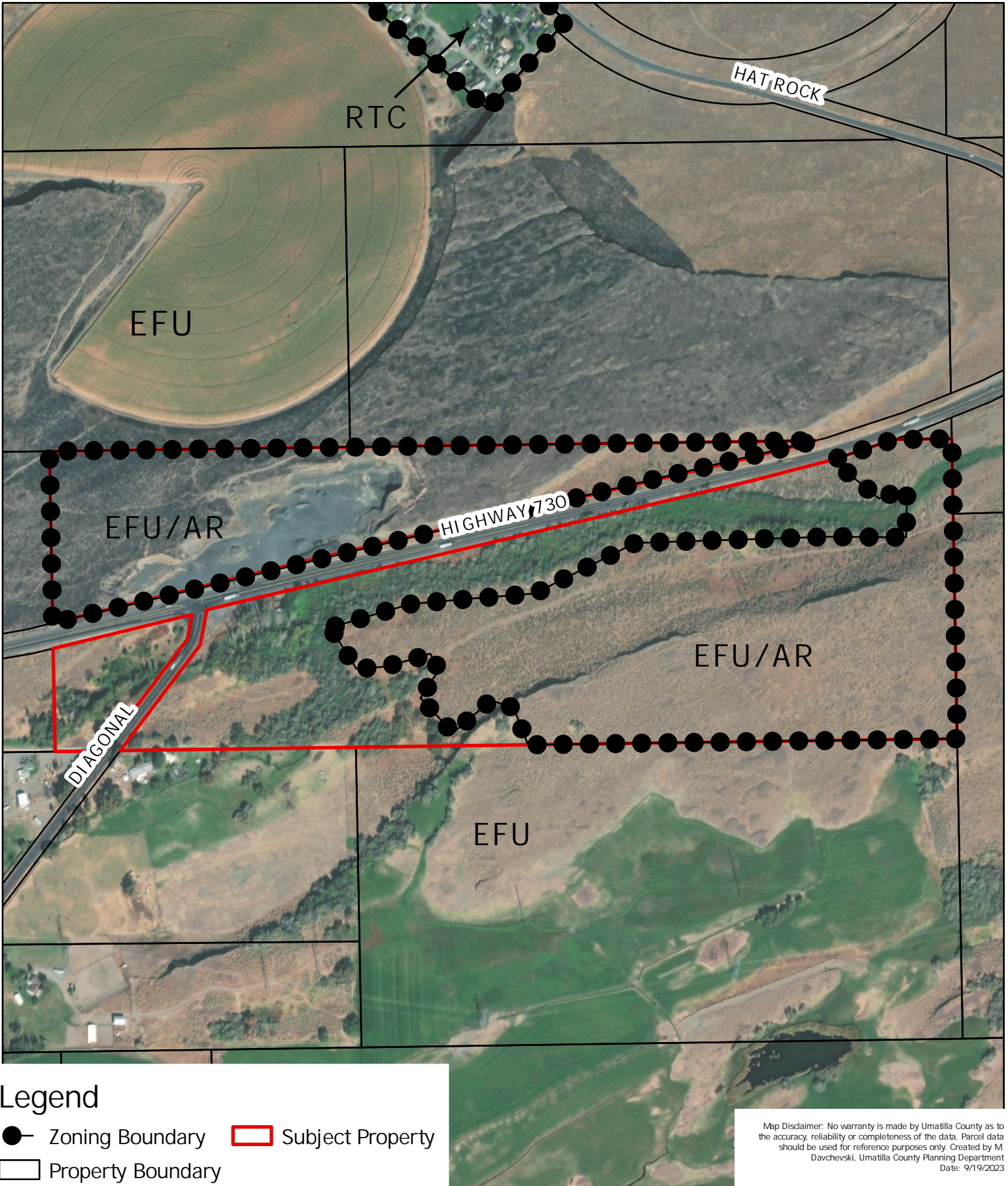
41. In order to protect the aggregate resource, the County shall apply an aggregate resource overlay zone to the following existing sites:

- (1) ODOT quarry, T5N, R35E, Section 35, TL 6200, 5900.
- (2) ODOT quarry, T5N, R29E, Section 22, TL 800 (“Sharp’s Corner”)
- (3) Private, commercial pit, T4N, R38E, Section 27, TL 1100.
- (4) Upper Pit, T4N, R28E, Sections 28, 29, TL 4000.
- (5) ODOT quarry, T3N, R33E, Section 23, TL 100, 600, 700
- (6) Several quarries, T2N, R31E, Section 15, 16, 17, TL 400, 800, 3100. (See Technical report for specific site information).
- (7) ODOT quarry, T3S, R30 1/2, Section 12, 13, TL 503.
- (8) ODOT quarry, T4N, R35, TL 7303.
- (9) Private, commercial pit, T4N, R28E, Sections 30, 31, TL 300, 2200, 2202, 2203.
- (10) ODOT quarry, T1N, R35, Section 34, TL 800, 900, 1000, and T1S, R35, Section 03, TL 100.
- (11) ODOT quarry, T1S, R30, TL 1901.
- (12) ODOT quarry, T2N, R27, TL 2700.
- (13) Private, commercial pit, T4N, R27E, Section 25, TL 900, Section 36, TL 400, 500, 600, 700, 800, 1400, 1500.
- (14) Private, commercial pit, T2N, R32, Section 04, TL 400.
- (15) [Intentionally left blank]
- (16) Private, commercial pit, T5N, R29, Section 22, TL 400

# DOUG COX PROPOSED ZONING MAP

N

0 355 710 1,420 Feet



## Legend

- Zoning Boundary
- Subject Property
- Property Boundary

Map Disclaimer: No warranty is made by Umatilla County as to the accuracy, reliability or completeness of the data. Parcel data should be used for reference purposes only. Created by M. Davchevski, Umatilla County Planning Department. Date: 9/19/2023

RECEIVED

AUG 25 2023

UMATILLA COUNTY  
PLANNING DEPARTMENT

N|V|5

January 31, 2023

CRP & Hauling, LLC  
PO Box 131  
Hermiston, OR 97838

Attention: Doug Cox

**Mine Resource Evaluation Report**  
Proposed Mine Site  
Umatilla County, Oregon  
Project: CRPHauling-1-01

## INTRODUCTION

NV5 is pleased to submit this report to CRP & Hauling, LLC (CRP) summarizing our mine resource evaluation for a proposed mine in the southeast portion of Tax Lot 400, southeast of the intersection of US 730 and Diagonal Boulevard (OR 207) in unincorporated Umatilla County, Oregon. Figure 1 presents a vicinity map of the site. The subject property consists of 74.5 acres. Figure 2 presents an aerial photograph and the existing topography for the subject property. Figure 3 shows the final topography for a potential mine extraction area based on the interpreted geology underlying the site, discussed later in this report. Figure 4 shows cross sections reflecting the existing and final topographies and the estimated resource volume.

CRP intends to develop a surface aggregate mine at the subject property and will be applying for land-use entitlement through a Goal 5 process to rezone the property into Umatilla County's Aggregate Resource overlay. To facilitate this process, the site must be determined to be "significant" in accordance with Oregon Administrative Rules (OAR) Section 660-023-0180. The criteria rely on demonstration of the location, quantity, and quality of aggregate resources. To address these criteria, NV5 conducted a study of the aggregate resource at the property and has prepared this mine resource evaluation report to support a determination of whether the property has "significant" resources in accordance with OAR 660-023-0180(3).

## SCOPE OF SERVICES

Our specific scope of services consisted of the following:

- Reviewed readily available geologic data for the site, including geologic maps, soil maps, and previous laboratory testing of a collected rock sample from the site.
- Conducted surface reconnaissance of the site and vicinity for site conditions, surface geologic exposures, and possible sensitive areas for potential permitting constraints.
- Collected a representative sample from natural bedrock exposures at the site.
- Arranged for aggregate quality testing of the sample with a qualified laboratory including air degradation, abrasion, and soundness testing.
- Developed a potential mined excavation that would maximize the extent of the interpreted resource within the confines of what overseeing agencies would likely permit, created a 3-D geologic model for the site, and calculated an estimated volume of the resource.
- Summarized our findings in this mine resource evaluation report prepared by a registered geologist licensed in Oregon, including the estimated resource volume and tonnage at the site and supporting figures.

## **SITE CONDITIONS**

### ***SURFACE CONDITIONS***

NV5 visited the site on December 13, 2022, to observe site conditions. The site topography consists of a well-defined bluff about 30 to 50 feet tall and running roughly east to west, which separates a flat upland in the southeast site from the gently sloped, lower property to the north, as shown by the topographic contours on Figure 2. Elevations on the site range from 400 to 500 feet above mean sea level (MSL). The upper part of the bluff consists of a discontinuous bedrock escarpment with near-vertical exposures of hard, gray to brownish gray, hackly jointed to narrowly columnar basalt. The exposed basalt ranges from 10 to 20 vertical feet.

The upland south of the basalt escarpment is generally well vegetated by grasses, shrubs, and isolated trees. Basalt is also exposed as isolated, lenticular knobs rising about 5 to 6 feet above the surrounding ground surface and oriented parallel to the escarpment. These bedrock knobs are visible in aerial photos and suggest the soil on top of the upland bedrock is fairly shallow, likely no more than a few feet thick.

Downslope of the exposed basalt, there is a gradually decreasing, well-vegetated slope covered by grasses and brush. An existing access road traverses the area from east to west. We observed exposures of loose, fine- to medium-grained sand with few fines along the gently sloped area.

Farther north is a densely vegetated drainage with abundant trees, bushes, and tall grasses. It is identified as the Cold Springs Wash on maps and runs parallel to US 730 across most of the property except for the easternmost site, where a narrow drainage runs through a pasture. The wash turns south near its western extent to continue off site. The western wash creates an interior division of the property between the main area to the east and a much smaller area to the west (as shown on Figure 2). This wash is apparently wet and green most of the year, based on our on-site observations of standing water and review of historical aerial imagery. At the time of our site visit, the region had experienced several inches of snow followed by rain, which

melted the snow and resulted in significant runoff draining into the wash from the surrounding area. There also was runoff through the pasture east of the wash that flowed off site and collected as standing water in the off-site pasture.

### **Wetlands**

According to the National Wetlands Inventory (NWI), the on-site wash is identified as a freshwater emergent wetland categorized as PEM1C for Palustrine, Emergent, Persistent, and Seasonally Flooded.<sup>1</sup> NWI also maps a small, isolated wetland in the southeast corner of the upland property, also categorized as PEM1C. The Oregon State Department of State Lands (DSL) provided an off-site wetlands determination report that incorporated the NWI data with additional wetland areas based on interpretation of aerial imagery (Attachment A). The mapped wetlands shown on Figures 2 and 3 are based on the information from the DSL report, except for the isolated NWI wetland shown in the southeast corner. Based on our review of historical aerial imagery and the aeriels included in the DSL report, this isolated wetland polygon does not show any difference in vegetation from the surrounding upland nor any historical accumulation of water. Instead, there is an area roughly the same size as the isolated wetland polygon south of the subject property that has consistent green vegetation, trees, and water accumulation in historical aeriels. The NWI does not map this area as an isolated wetland, even though these features are apparent in aerial imagery. We interpret the isolated polygon mapped by NWI as a mapping error of the area located off site, to the south. As such, this polygon is not considered accurate and does not affect the resource interpreted in this report.

### **Topsoil**

We reviewed soil maps available online from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) for the project area.<sup>2</sup> The soils mapped by NRCS within the proposed mine area shown on Figures 2 and 3 consist of Quincy-Rock outcrop complex on the upland and Quincy loamy fine sand between the escarpment and the wetlands. The topsoil thickness described for these units (where topsoil is present) is reported to be 15 inches. A criterion under OAR 660-023-0180(3)(d) requires that a "significant" aggregate resource property cannot have more than 35 percent of the proposed mine area covered by Class 1 or Class 2 soil. NRCS assigns a land capability class to each mapped soil unit to categorize its potential for agricultural use. Neither of the mapped soil units is Class 1 or Class 2 soil.

### **SITE GEOLOGY**

The proposed mine site is on the south side of the Columbia River valley within the Deschutes-Columbia Plateau physiographic province.<sup>3</sup> The regional topography is characterized by relatively broad, flat areas with gently undulating topography interrupted by abrupt bedrock hills, steep bluffs, terraces, and canyons. The uplands and canyons typically expose bedrock of the Columbia River Basalt Group (CRBG). The CRBG consists of dense, hard basalt flows that were

---

<sup>1</sup> U.S. Fish and Wildlife Service, n.d. National Wetlands Inventory web mapping application. Retrieved January 24, 2023, from <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>.

<sup>2</sup> U.S. Department of Agriculture Natural Resources Conservation Service, n.d. Web Soil Survey. Retrieved January 24, 2023, from <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.

<sup>3</sup> Orr, E. L., and Orr, W. N., 1999. *Geology of Oregon*. Iowa: Kendall/Hunt Publishing, 254 pp.



emplaced over vast areas of the Pacific Northwest. The CRBG underlies much of the region, including the site vicinity.<sup>4</sup> Many of the flattened uplands correspond to basalt flow tops truncated by the steeply eroded bedrock exposures.

The CRBG is considered to have significant resource potential for aggregate due to the durability and lateral consistency of the basalt flows. Another portion of Tax Lot 400 north of US 730 is currently mined by the Oregon Department of Transportation (ODOT), which extracts basalt bedrock for roadway aggregate. There is a similar basalt escarpment north of US 730 to the one observed on site. We observed that the exposed basalt is similarly hard and jointed like the on-site basalt.

The Columbia River valley was subjected to multiple glacial-outburst floods from Glacial Lake Missoula (i.e., the Missoula floods) over several glacial cycles, the most recent occurring approximately 15,500 to 13,000 years ago. These turbulent floods resulted from the bursting of glacial ice dams that formed Glacial Lake Missoula, inundating the site vicinity. The flood waters scoured much of the soil and weathered rock from the area and also carved channels and terraces that are still evident today. US 730 occupies an elongate lowland between the two bedrock escarpments discussed above. We interpret the lowland to represent a glacial flood channel between the on-site bluff and the hillside to the north of US 730 (Figure 2). Later, less-turbulent flooding deposited accumulations of sand and gravel as stream bars and hummocky bedload over the scoured basalt surface. We interpret the fine to medium sand observed on site in the gently sloped area as Missoula flood deposits from the later stages of glacial flooding.

## RESOURCE QUANTITY

In accordance with OAR 660-023-0180(3), a potential “significant” aggregate site must demonstrate it has adequate quantity and quality of aggregate resource to deserve listing. Per OAR code, a potential site must have at least 500,000 tons of aggregate resource, and the material must pass certain ODOT quality tests. The following sections describe our estimate of the quantity of basalt aggregate resource potentially available at the site within the confines of what permitting agencies would likely allow for mining.

## MINING LIMITS AND GROSS CUT VOLUME

To estimate the quantity of available rock material at the site, we first developed a three-dimensional model using AutoCAD-Civil3D software to estimate a gross cut volume of material. The limits of the model were determined using the following parameters:

- Topographic data downloaded from Google Earth Pro to characterize the ground surface.
- A 25-foot setback from the property boundary for mine extraction. Extraction activities typically must observe a setback from property boundaries to avoid accidental trespass during mining and allow access around the site perimeter.

---

<sup>4</sup> Madin, I. P., and Geitgey, R. P., 2007. *Preliminary Geologic Map of the Umatilla Basin, Morrow and Umatilla Counties, Oregon*. Department of Geology and Mineral Industries Open-File Report O-07-15, plate 1, scale 1:100,000 (compiled at 1:44,000).

- A 25-foot setback from the wetland areas shown on Figures 2 and 3, for similar reasons.
- A simplified boundary between the interpreted occurrence of basalt bedrock and sand deposits, drawn as a vertical contact. This is more conservative than what would be expected at the site, since the sand should overlie basalt. This should result in a lesser volume of basalt than what may actually underlie the site.
- A final mined floor elevation of 420 feet above MSL. This would allow the mine floor to drain to a stormwater pond or other management system.
- Excavated basalt mine slopes with a net gradient of 1H:1V, which is more conservative than using a simple vertical cut.

The final cut topography resulting from these mining limits is presented on the map on Figure 3 and in the cross sections on Figure 4. The extraction limits include a basalt extraction area and a sand extraction area. The resulting gross cut volume in the basalt extraction area is estimated to be 2,125,679 cubic yards, as summarized in Table 1 and in the table on Figure 4. There is an additional estimated volume of 694,419 cubic yards of sand (see table on Figure 4), but this sand volume is not considered part of the “significant” resource analysis in this report and simply represents additional, potential resource available at the site.

#### **OVERBURDEN REDUCTION**

We reduced the gross cut volume in the basalt extraction area using an assumed average topsoil and overburden thickness of 2 feet. This is based on the vegetative cover and occurrence of bedrock knobs observed on the upland and the soil unit description from NRCS. The total overburden volume was estimated at 65,501 cubic yards in the basalt extraction area. This reduces the gross cut to an in situ resource volume of 2,060,178 cubic yards, as summarized in Table 1.

#### **RESOURCE TONNAGE**

For listing as a “significant” resource, a property in Umatilla County must have at least 500,000 tons of aggregate. To convert the estimated in situ rock volume (cubic yards) of basalt resource to mass (tons), we used a typical density for in-place basalt resource of 2.3 tons per cubic yard. This is on the lower end of published values for basalt density, which range from 2.3 to 2.5 tons per cubic yard.<sup>5,6</sup> Using this density, the resulting tonnage of resource rock would be 4,738,409 tons, as summarized in Table 1.

Our estimate indicates the potential basalt resource in our analysis results in more than nine times the required tonnage to be considered “significant.” This does not include the additional resource that may be present at greater depths than the model mine floor, nor does it include the additional sand resource at the site.

---

<sup>5</sup> GeoSci Developers, 2017. Densities of Igneous Rocks. Retrieved from [https://gog.geosci.xyz/content/physical\\_properties/tables/density\\_igneous\\_rocks.html](https://gog.geosci.xyz/content/physical_properties/tables/density_igneous_rocks.html).

<sup>6</sup> Caterpillar Inc., 2018. *Caterpillar Performance Handbook*. Peoria, Illinois, 2,442 pp.

**Table 1. Resource Quantity Estimate for the Basalt Extraction Area**

<b>Material</b>	<b>Estimated Quantity</b>
Gross Cut Volume	2,125,679 cubic yards
Topsoil Volume	- 65,501 cubic yards
<b>In Situ Rock Volume</b>	<b>2,060,178 cubic yards</b>
<b>Resource Tonnage</b>	<b>4,738,409 tons</b>

**RESOURCE QUALITY**

CRP previously tested the quality of a grab sample from the exposed basalt on site. Laboratory testing was performed by Budinger and Associates of Spokane Valley, Washington. The results are provided in Appendix B. NV5 collected an additional grab sample from the exposed on-site basalt during our reconnaissance. Laboratory testing was performed by Carlson Testing, Inc. of Tigard, Oregon. Test result reports are presented in Appendix B. Quality tests included the following:

- Los Angeles Abrasion (AASHTO T 96): Used to evaluate the abrasion resistance of an aggregate. This test measures the toughness of an aggregate and provides an indication of how readily a crushed aggregate may further break down through transport and handling.
- Oregon Degradation Value (ODOT TM 208): Used to determine the susceptibility of an aggregate to degrade under repeated traffic loading. The test measures the production of fines when particles are abraded in the presence of water by means of air jets.
- Sulfate Soundness (AASHTO T 104): This test determines an aggregate’s resistance to disintegration by weathering and, in particular, freeze-thaw cycles. Salt crystals precipitate in the aggregate pores, which simulate ice-crystal formation.

The test results summarized in Table 2 are compared to standard acceptance criteria for various aggregate products in accordance with the 2021 ODOT Specifications Manual.<sup>7</sup> The test reports indicate that the submitted samples meet the ODOT acceptance criteria for base rock summarized in Table 2. These three tests correspond to the ODOT quality tests required for an aggregate resource to be considered “significant” per OAR 660-023-0180(3). The laboratory testing indicates the on-site aggregate resource meets the quality requirements for listing as “significant.”

---

<sup>7</sup> Oregon Department of Transportation, 2022. *Oregon Standard Specifications for Construction, 2021*. Retrieved from [https://www.oregon.gov/odot/Business/Specs/2021\\_STANDARD\\_SPECIFICATIONS.pdf](https://www.oregon.gov/odot/Business/Specs/2021_STANDARD_SPECIFICATIONS.pdf).

Table 2. Aggregate Quality Requirements and Laboratory Test Results

Quality Test Method	Requirement to Pass per OAR 660-023-0180(3)(a)	Results for Farmington Quarry Aggregate
Abrasion (AASHTO T 96) <sup>1</sup>	Loss not more than 35 percent by weight	10 to 14 percent (pass)
Oregon Air Degradation (ODOT TM 208) <sup>2</sup>	Loss not more than 30 percent by weight	1.4 percent (pass)
Sodium Sulfate Soundness (AASHTO T 104) <sup>3</sup>	Loss not more than 12 percent by weight	0.8 percent (pass)

1. AASHTO T 96, Standard Method of Test for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
2. ODOT Test Method 208-12, Method of Test for Oregon Air Aggregate Degradation
3. AASHTO T 104, Standard Method of Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate

**CONCLUSION**

The results of our study indicate the proposed mine site has basalt resource at the property of sufficient quantity and quality to warrant considering the site as a “significant” aggregate resource in accordance with OAR 660-023-0180(3).

**LIMITATIONS**

We prepared this mine resource evaluation report for use by CRP for the proposed mine project in Umatilla County, Oregon. Our report, conclusions, and interpretations should not be construed as warranty of the subsurface conditions and are not applicable to areas other than the subject site.

Our interpretations of the mining and geologic conditions are based on discussions with the client, review of publicly available information, and exposures of soil and rock at the project area. The accuracy of outside information is beyond our control. If subsurface conditions differing from those described in this report are noted during the course of site development, re-evaluation will be necessary.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices in this area at the time the report was prepared. No warranty or other conditions, express or implied, should be understood.



We appreciate the opportunity to be of service to you. Please call if you have questions concerning this report or if we can provide additional services.

Sincerely,

NV5



Erick J. Staley, C.E.G.  
Principal Engineering Geologist



Expires 06/01/2023

EJS:sn

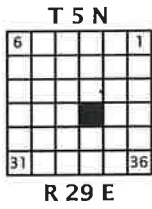
Attachments

One copy submitted

Document ID: CRPHauling-1-01-013123-geolr

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## FIGURES



**SITE COORDINATES:**  
 LATITUDE: 45° 54' 7.5" N  
 LONGITUDE: 119° 10' 1.2" W

**EASTERN OREGON**

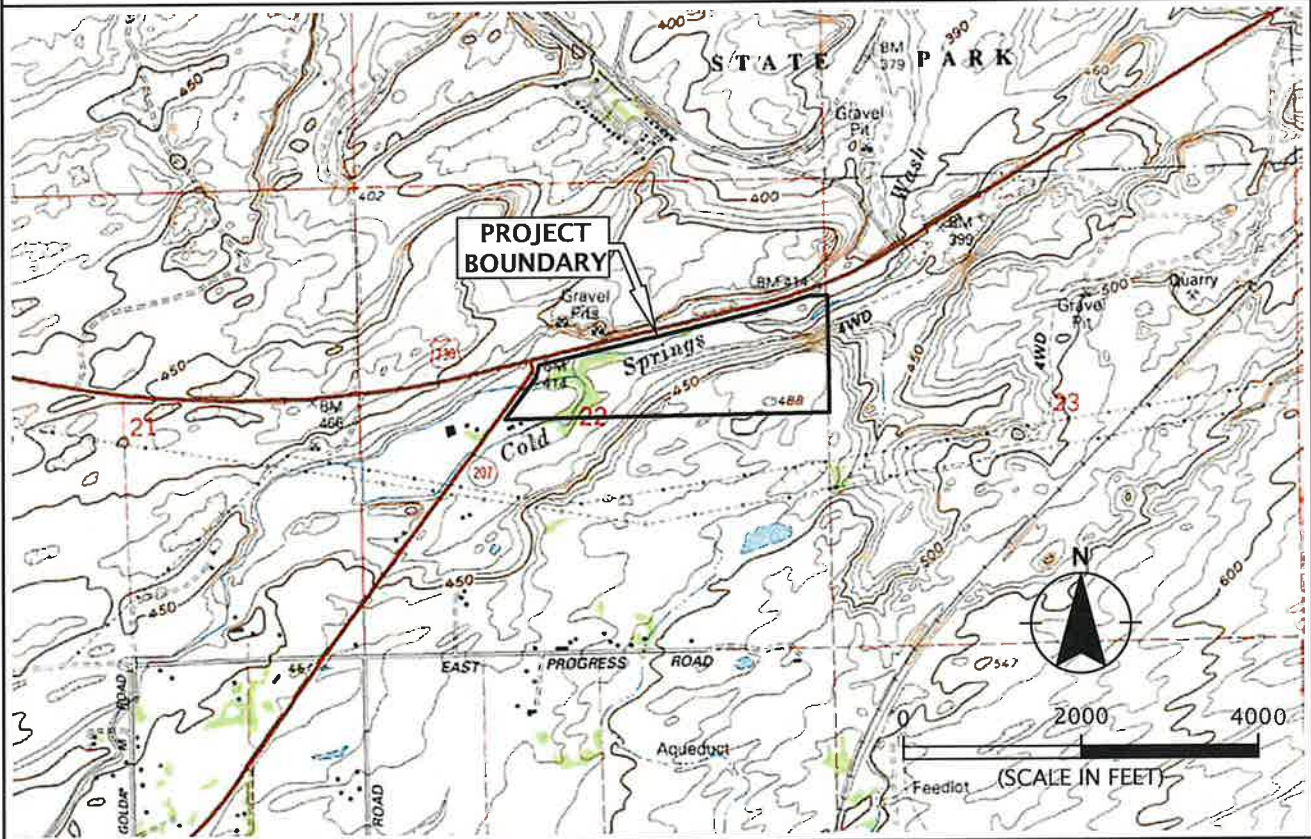


**LEGAL DESCRIPTION**

THE PROPERTY BOUNDARY IS LOCATED IN PORTIONS OF THE FOLLOWING QUARTER-QUARTER SECTIONS:

- SE QUARTER OF THE NE QUARTER OF SECTION 22
- SW QUARTER OF THE NE QUARTER OF SECTION 22
- SE QUARTER OF THE NW QUARTER OF SECTION 22

NOTE: USGS TOPOGRAPHIC QUADRANGLE MAPS REPRODUCED USING MAPTECH TERRAIN NAVIGATOR PRO®.



CRP & HAULING, LLC

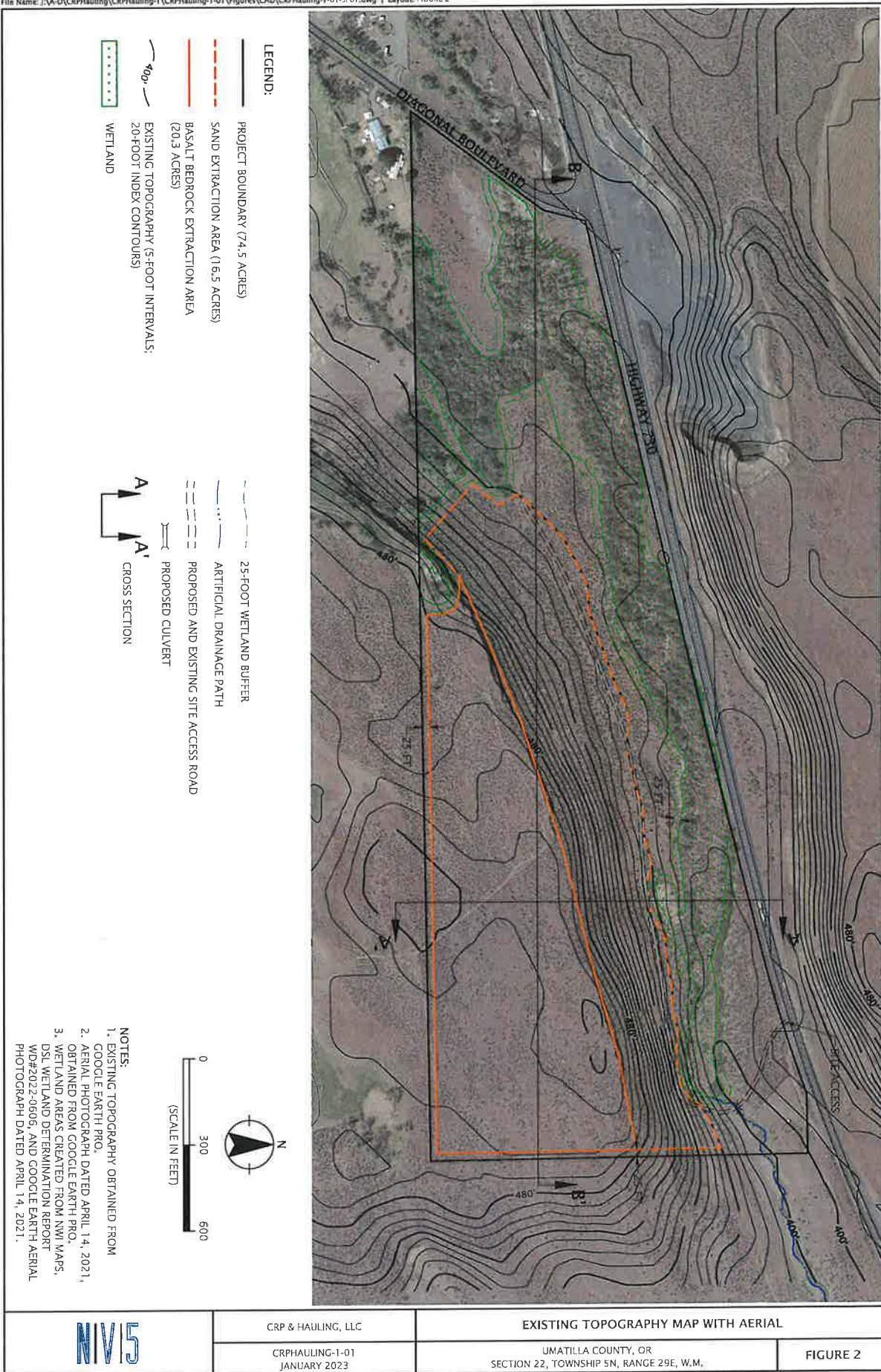
**VICINITY MAP**

CRPHAULING-1-01  
 JANUARY 2023

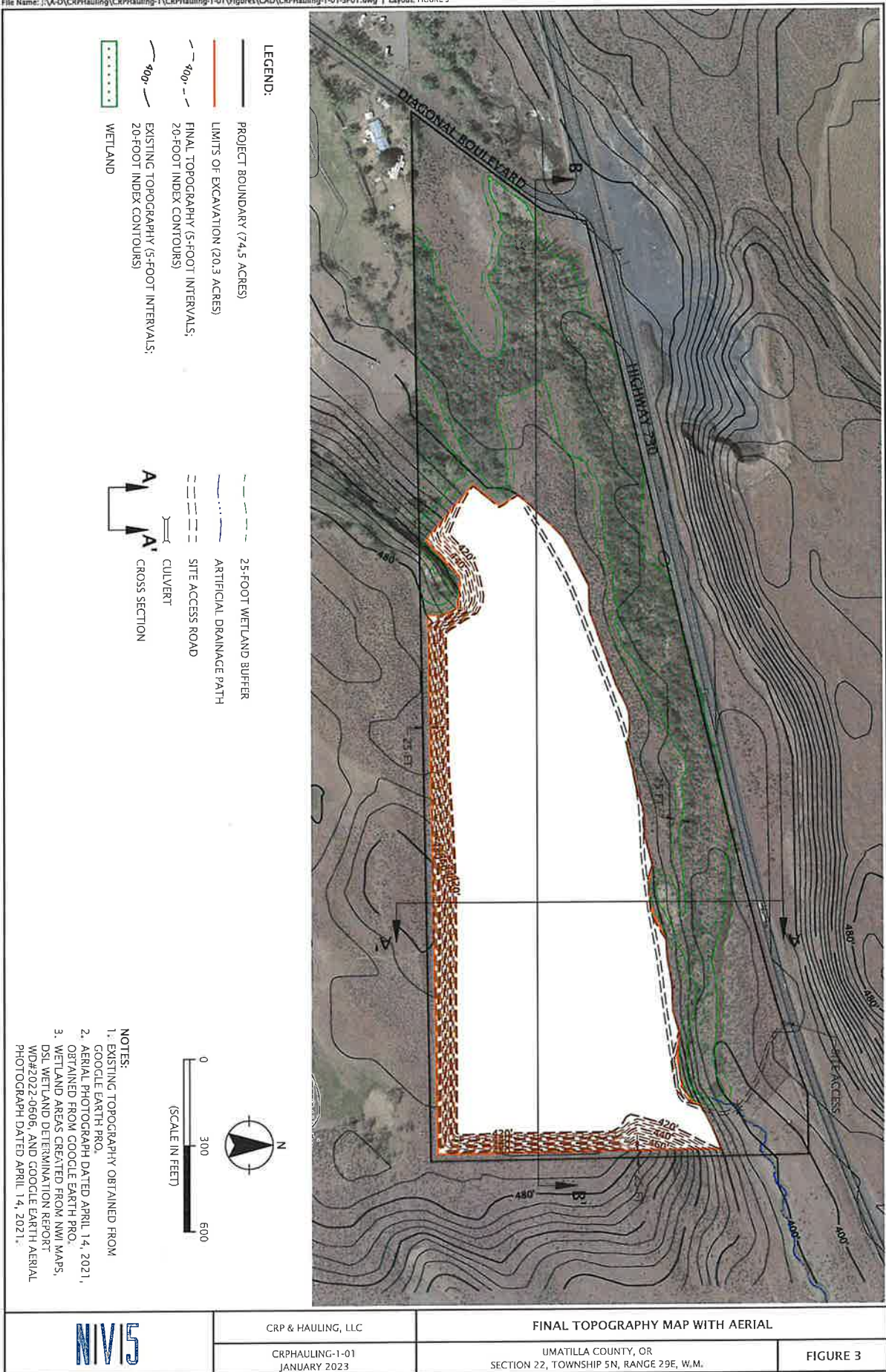
UMATILLA COUNTY, OR  
 SECTION 22, TOWNSHIP 5N, RANGE 29E, W.M.

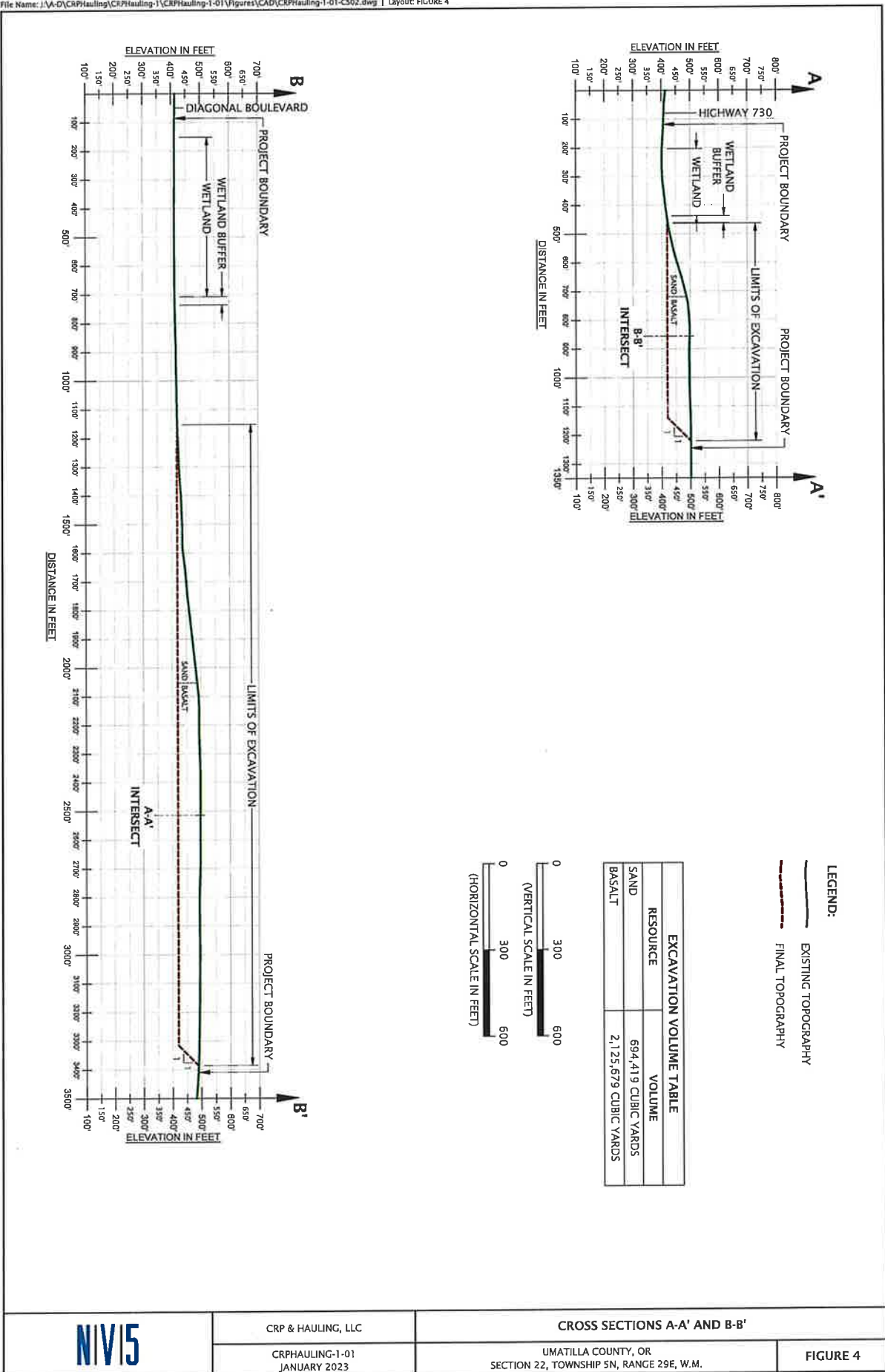
**FIGURE 1**

Printed By: mmiller | Print Date: 1/31/2023 8:46:40 AM  
 File Name: J:\A-D\CRPHAULING\CRPHAULING-1\CRPHAULING-1-01-VM02.dwg | Layout: FIGURE 1









CRP & HAULING, LLC  
 CRPHAULING-1-01  
 JANUARY 2023

CROSS SECTIONS A-A' AND B-B'  
 UMATILLA COUNTY, OR  
 SECTION 22, TOWNSHIP 5N, RANGE 29E, W.M.

FIGURE 4

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PLANNING DEPARTMENT

Geotechnical Engineering  
Environmental Engineering  
Construction Materials Testing  
Subsurface Exploration  
Special Inspection

*Proudly serving the Inland Northwest since 1976*

---

Guy Copenhaver  
Copenhaver Construction  
22393 State Route 2 E  
Creston, WA 99117

August 24, 2022

Project Number L22010

**PROJECT: Copenhaver 2022 Materials**

**SUBJECT: Results of Laboratory Testing  
Report #19**

At your request, we provided laboratory testing services for the subject project. Services were limited to the performance of specific laboratory tests, selected at your discretion.

For this period, our involvement was limited to laboratory testing of **one sample** delivered to our laboratory us on August 18, 2022. Laboratory tests were performed in general accordance with methods listed in the attached *Laboratory Summary* sheets.

If you have questions regarding this report, please call.

Respectfully Submitted,  
Budinger & Associates, Inc.

Terri Ballard  
Laboratory Manager

TJB/lat/Addressee –  
Guy Copenhaver - [guywcopenhaver@gmail.com](mailto:guywcopenhaver@gmail.com)  
[gmcopenhaver@odessaoffice.com](mailto:gmcopenhaver@odessaoffice.com)  
[kanconst@hotmail.com](mailto:kanconst@hotmail.com)  
Jim Derrer – [cci.concrete@hotmail.com](mailto:cci.concrete@hotmail.com)

Attachments:  
Aggregate Laboratory Summary – 1 page

---

1101 N Fancher Road  
Spokane Valley, WA 99212  
Tel: 509-535-8841

9997 Lyle Loop Suite A  
Hayden, Idaho 83835  
Tel: 208-719-9038

[www.budingerinc.com](http://www.budingerinc.com)

1 of 1

**AGGREGATE  
LABORATORY SUMMARY**

LABORATORY NUMBER			22-0911
SAMPLED BY			Client
SAMPLE TYPE			Bulk
DATE RECEIVED			8/18/22
SAMPLE SOURCE			Rupp Quarry
	<u>Units</u>	<u>Test Method</u>	
<b>LA WEAR (Method A)</b>	% loss	AASHTO T-96	14
<b>WA DEGRADATION</b>	D	WSDOT T-113	70

# Carlson Testing, Inc.

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AUG 25 2023

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PLANNING DEPARTMENT

Bend Office (541) 330-9155  
Geotechnical Office (503) 601-8250  
Eugene Office (541) 345-0289  
Salem Office (503) 589-1252  
Tigard Office (503) 684-3460

January 26, 2023  
CTI Job #T2207311  
Lab Log #22-0613

NV5 - Erick Staley  
9450 SW Commerce Cir Ste. 300  
Wilsonville, OR 97070

RE: **GOAL 5 RESOURCES EVALUATION TESTING**  
**NV5 - UMATILLA #1 - LABORATORY TESTING**

As requested, Carlson Testing Inc. has completed LA Abrasion, Oregon Air Degradation, and Soundness of Aggregates tests conducted on a sample of out-crop basalt-bedrock material from the Umatilla #1 site. The sample was collected by your representative on December 13, 2022 from the site and delivered to our Tigard facility on December 15, 2022. Testing was completed on January 24, 2023. ODOT Section 2630.11 and 00745 specifications applied at client's request. Following are the test results:

#### LOS ANGELES ABRASION – AASHTO T96:

Sample Identification	Test Results
Sample Number	1
Nominal Maximum Aggregate Size, inch	1/2"
Grading	B
Revolutions	1000
Percent Loss to Abrasion, %	10.1%
ODOT Section 2630.11 Specification	35.0% Maximum

#### OREGON AIR DEGRADATION (OAD) – ODOT TM 208:

Test Identification	Test Results	ODOT Section 2630.11 Specifications
Sediment Height, inch	0.6	3.0" Maximum
% Passing the #20 Sieve, %	1.4	30.0% Maximum

#### SOUNDNESS IN AGGREGATE USING MAGNESIUM SULFATE (COARSE AGGREGATE) – AASHTO T104:

Sieve Fraction	Weight Before Test, gms	Weight After Test, gms	Weight Loss After 5 Cycles, gms	Percent Loss After 5 Cycles, %
3/4" to 3/8"	1001	995	6	0.6
3/8" to #4	299	296	3	1.0

Average Percent Loss after 5 Cycles: 0.8%


ODOT Section 00745 Specification: 12.0% Maximum

This sample meets specifications and requirements of the Goal 5 Resources evaluation testing.

Our reports pertain to the material tested/inspected only. Information contained herein is not to be reproduced, except in full, without prior authorization from this office. Under all circumstances, the information contained in this report is provided subject to all terms and conditions of CTI's General Conditions in effect at the time this report is prepared. No party other than those to whom CTI has distributed this report shall be entitled to use or rely upon the information contained in this document.

Respectfully submitted,

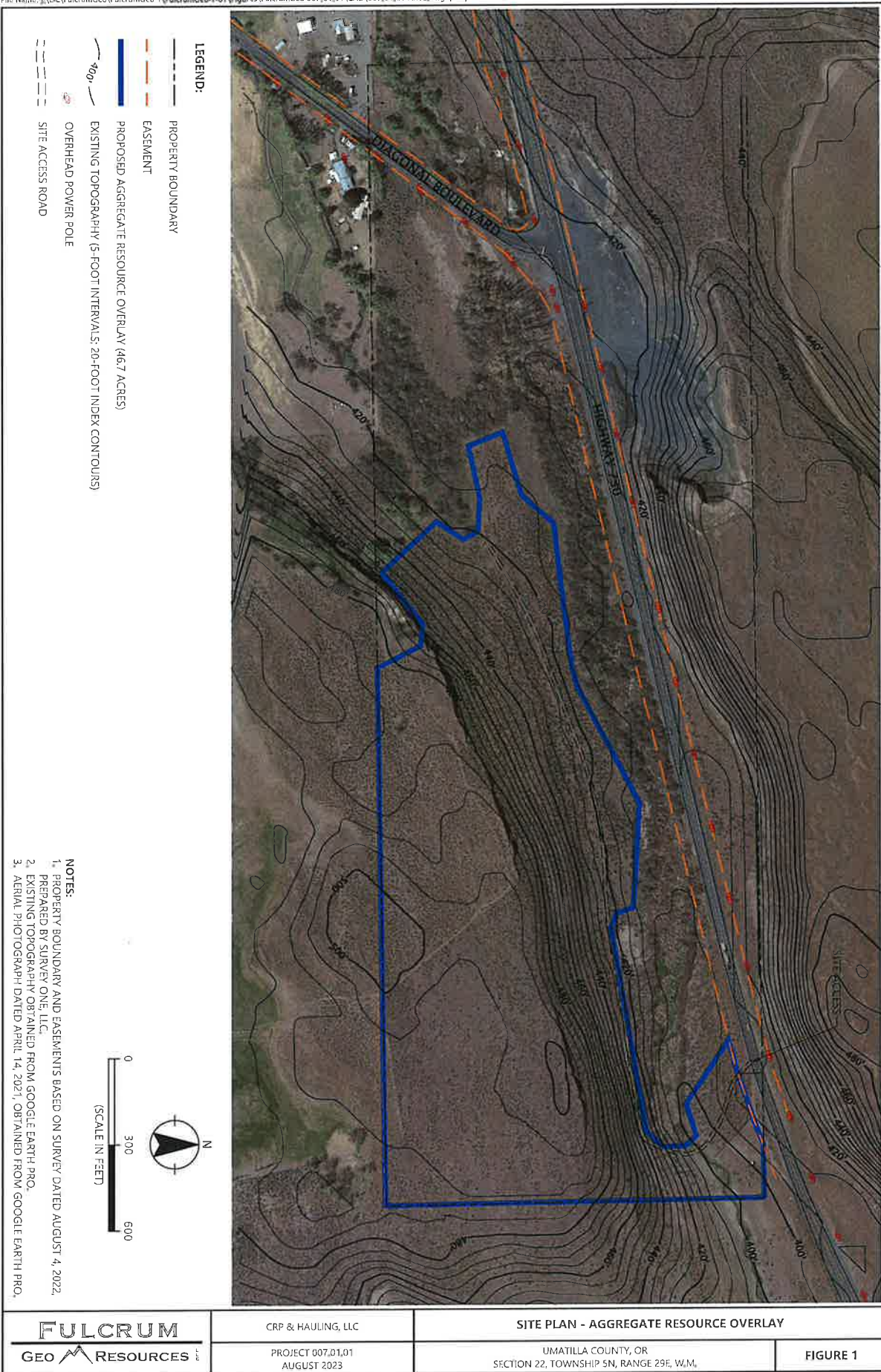
**CARLSON TESTING, INC.**



Jason Bryant  
QA Manager

cb  
cc: NVS - ERICK STALEY

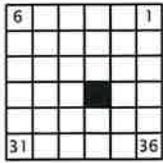
ERICK.STALEY@NV5.COM





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SEP 13 2023

UMATILLA COUNTY PLANNING DEPARTMENT

EASTERN OREGON



**SITE COORDINATES:**

LATITUDE: 45° 54' 7.5" N

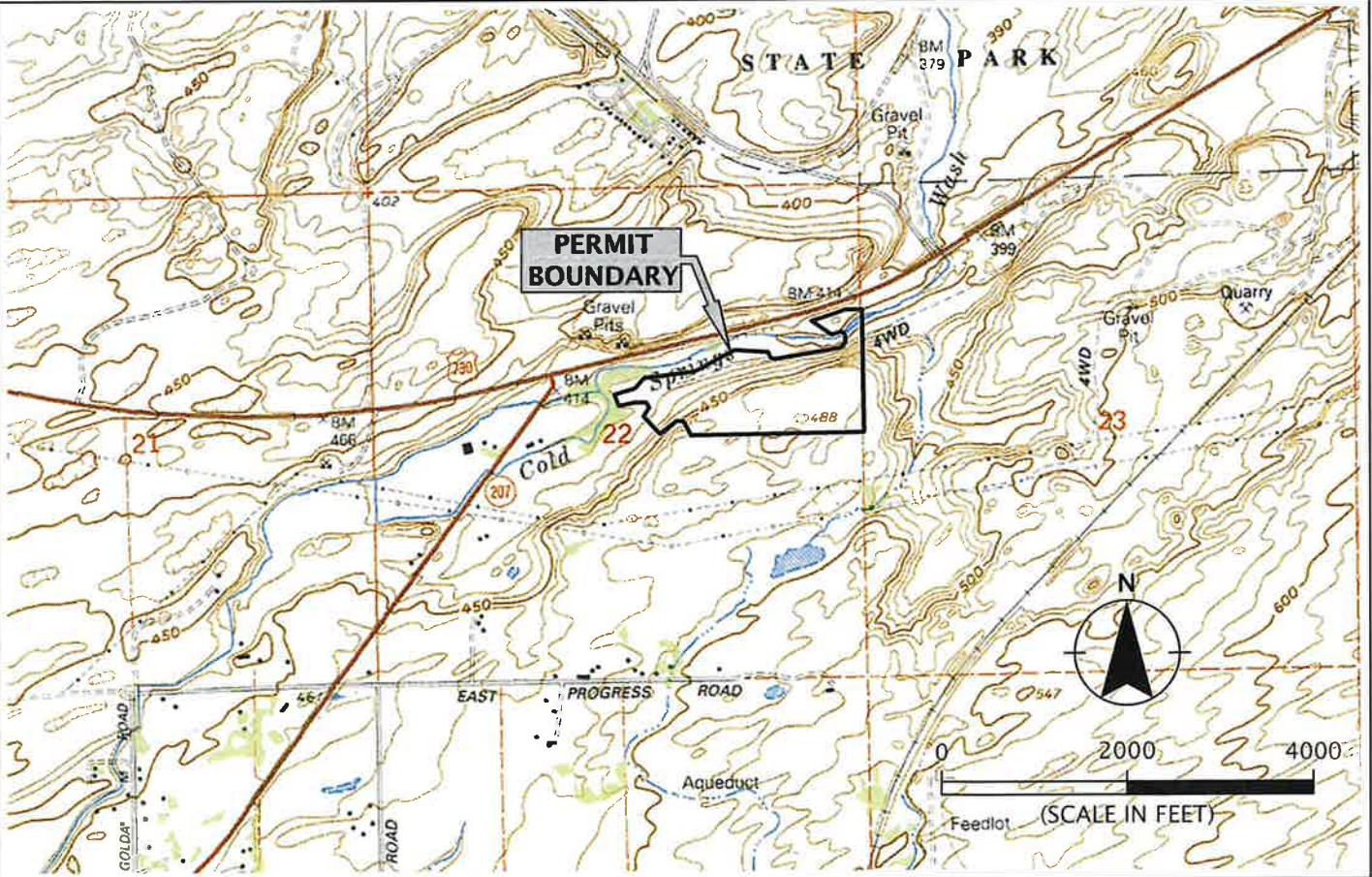
LONGITUDE: 119° 10' 1.2" W

**LEGAL DESCRIPTION**

THE PERMIT BOUNDARY IS LOCATED IN PORTIONS OF THE FOLLOWING QUARTER-QUARTER SECTIONS:

- SE QUARTER OF THE NE QUARTER OF SECTION 22
- SW QUARTER OF THE NE QUARTER OF SECTION 22

NOTE: USGS TOPOGRAPHIC QUADRANGLE MAPS REPRODUCED USING MAPTECH TERRAIN NAVIGATOR PRO®.



**FULCRUM**  
GEO RESOURCES

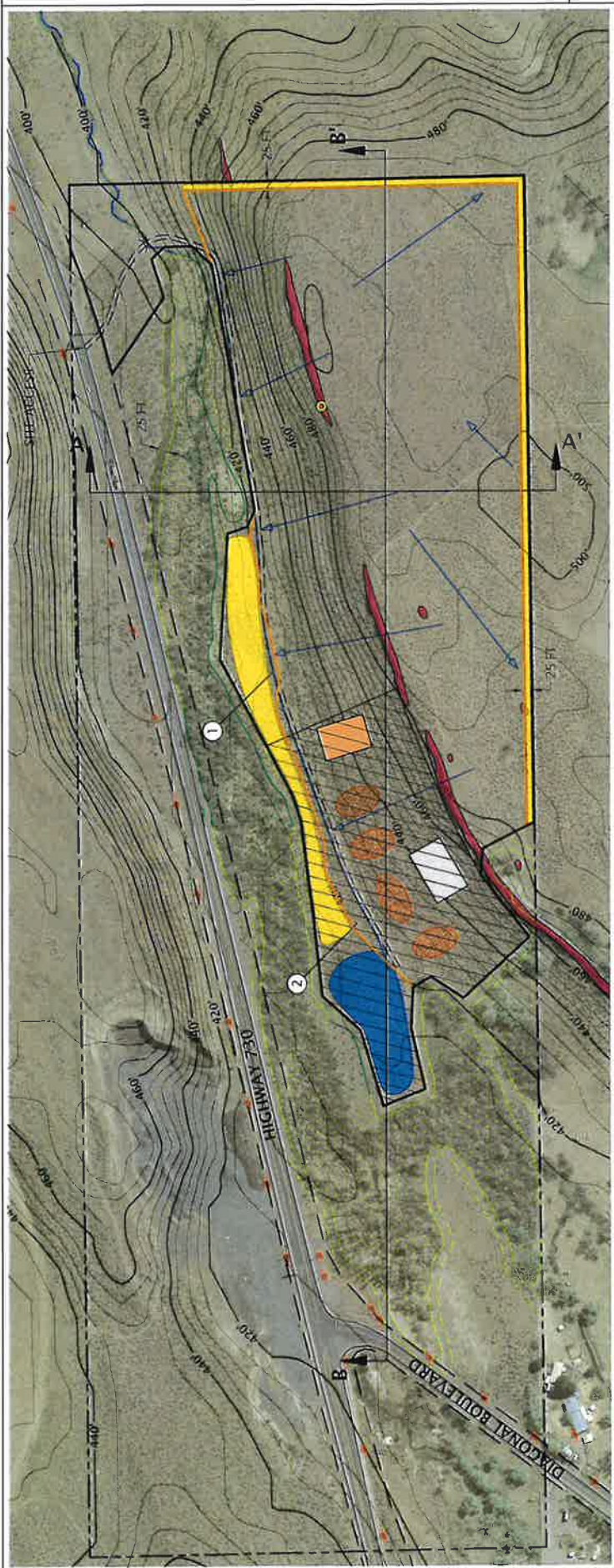
CRP & HAULING, LLC

PROJECT 007.01.01  
SEPTEMBER 2023

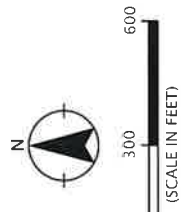
VICINITY MAP

UMATILLA COUNTY, OR  
SECTION 22, TOWNSHIP 5N, RANGE 29E, W.M.

FIGURE 1



- LEGEND:**
- PROPERTY BOUNDARY
  - \_\_\_ PERMIT BOUNDARY (46.7 ACRES)
  - - - EASEMENT
  - ▨ LIMITS OF EXTRACTION (38.0 ACRES)
  - ▨ OPERATIONS, PROCESSING, AND STOCKPILING AREA
  - ~ EXISTING TOPOGRAPHY (5-FOOT INTERVALS; 20-FOOT INDEX CONTOURS)
  - ▨ WETLAND
  - ▨ 25-FOOT WETLAND BUFFER
  - ▨ ARTIFICIAL DRAINAGE PATH
  - ▨ EXISTING DRAINAGE PATTERNS
  - ▨ OVERHEAD POWER POLE
  - ▨ BASALT OUTCROP
  - ⊙ SAMPLE LOCATION
  - PROPOSED AND EXISTING SITE ACCESS ROAD
  - ▨ PROPOSED STORMWATER DIVERSION DITCH
  - ▨ PROPOSED PRODUCT STOCKPILE
  - ▨ PROPOSED ROCK CRUSHER
  - ▨ PROPOSED ASPHALT BATCH PLANT
  - ① PROPOSED SCALES LOCATION
  - ② PROPOSED OFFICE LOCATION
  - ▨ PROPOSED TOPSOIL STOCKPILE AREAS
  - ▨ PROPOSED STORMWATER POND
  - A-A' CROSS SECTION

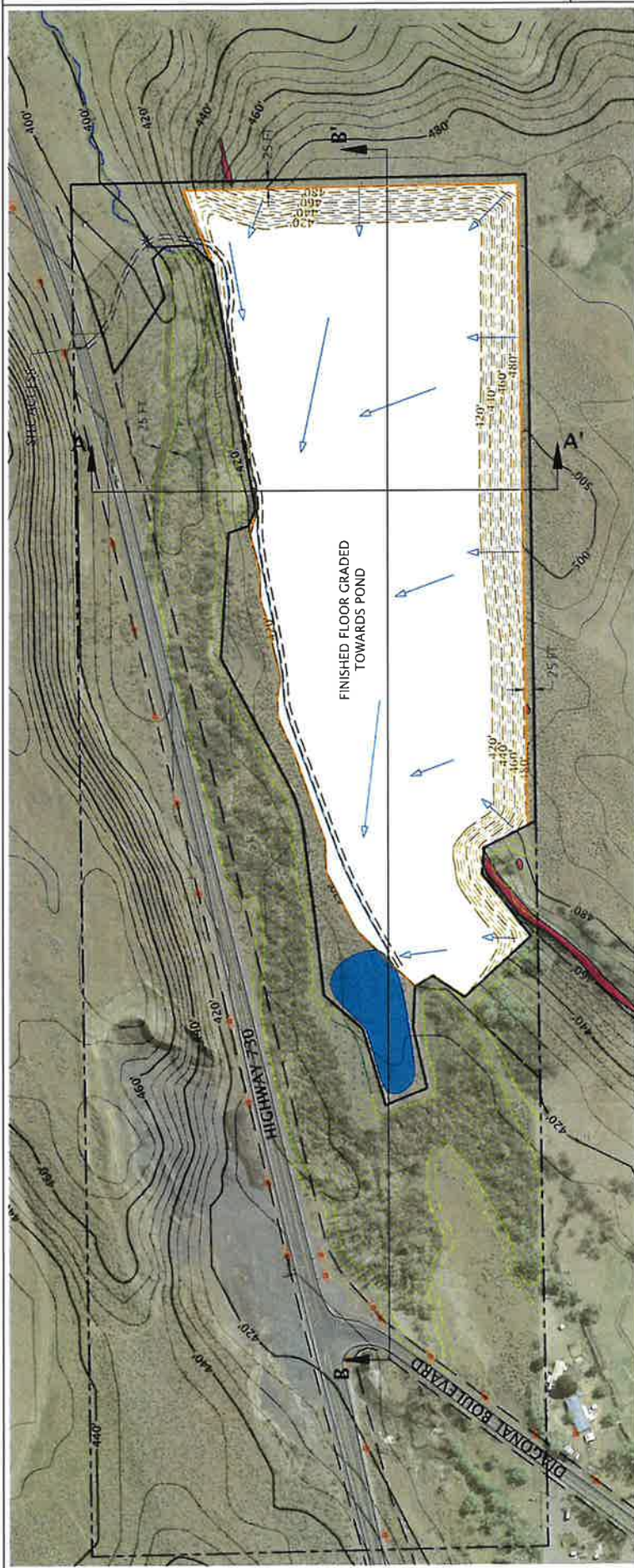


**NOTES:**

1. PROPERTY BOUNDARY AND EASEMENTS BASED ON SURVEY DATED AUGUST 4, 2022, PREPARED BY SURVEY ONE, LLC.
2. EXISTING TOPOGRAPHY OBTAINED FROM GOOGLE EARTH PRO.
3. AERIAL PHOTOGRAPH DATED APRIL 14, 2021, OBTAINED FROM GOOGLE EARTH PRO.
4. WETLAND AREAS CREATED FROM NWI MAPS, OREGON DEPARTMENT OF STATE LAND WETLAND DETERMINATION REPORT WD#2022-0606, AND GOOGLE EARTH AERIAL PHOTO DATED APRIL 14, 2021.

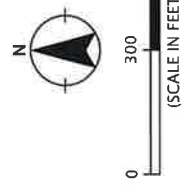
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 SEP 19 2023

UMATILLA COUNTY  
 PLANNING DEPARTMENT



- LEGEND:**
- PROPERTY BOUNDARY
  - PERMIT BOUNDARY (46.7 ACRES)
  - - - EASEMENT
  - LIMITS OF EXCAVATION (38.0 ACRES)
  - - - FINAL TOPOGRAPHY (5-FOOT INTERVALS; 20-FOOT INDEX CONTOURS)
  - - - EXISTING TOPOGRAPHY (5-FOOT INTERVALS; 20-FOOT INDEX CONTOURS)
  - WETLAND
  - 25-FOOT WETLAND BUFFER

- FINAL DRAINAGE PATTERNS
- OVERHEAD POWER POLE
- BASALT OUTCROP
- ARTIFICIAL DRAINAGE PATH
- - - SITE ACCESS ROAD
- STORMWATER DIVERSION DITCH
- CULVERT
- STORMWATER POND
- CROSS SECTION

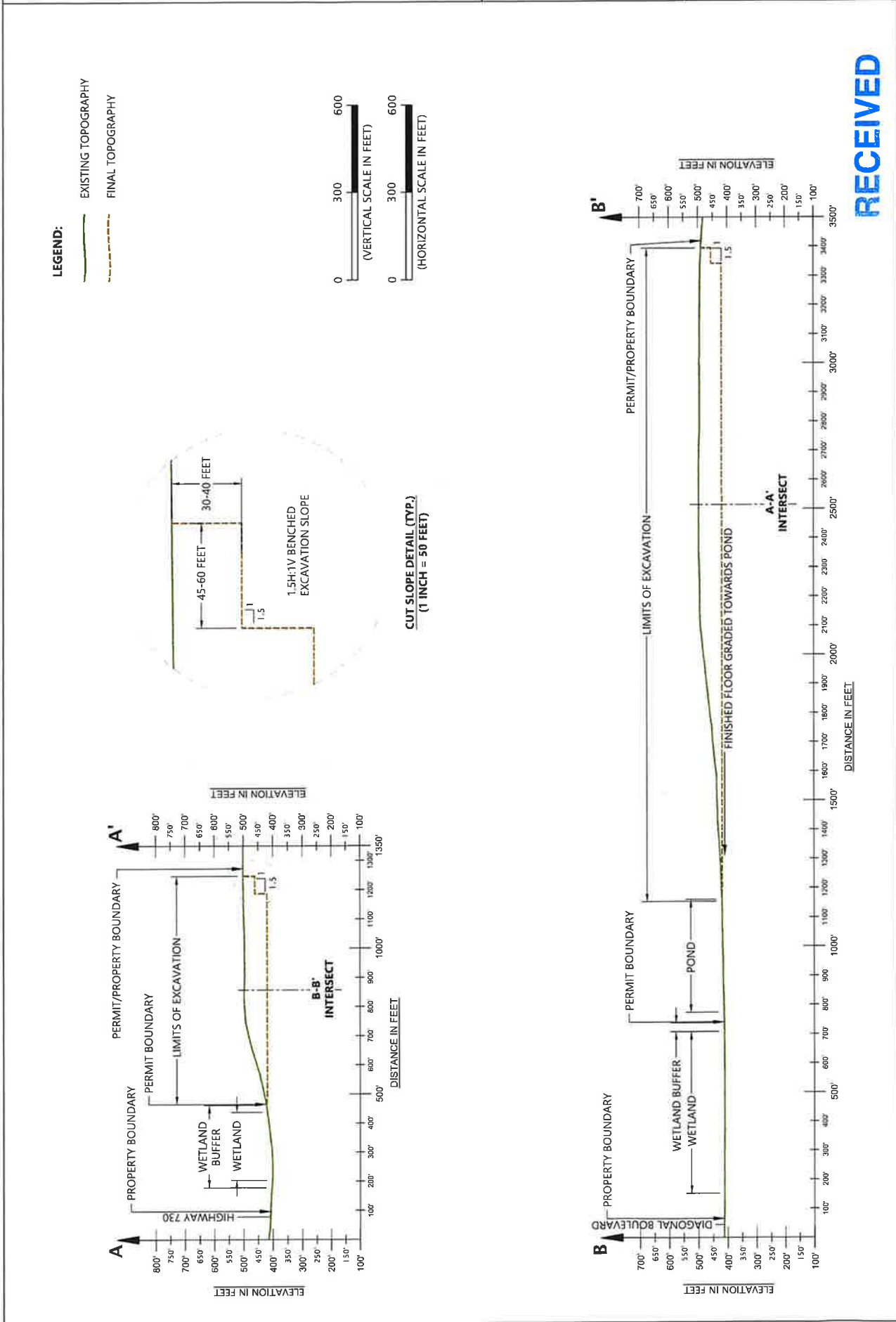


- NOTES:**
1. PROPERTY BOUNDARY AND EASEMENTS BASED ON SURVEY DATED AUGUST 4, 2022, PREPARED BY SURVEY ONE, LLC
  2. EXISTING TOPOGRAPHY OBTAINED FROM GOOGLE EARTH PRO.
  3. AERIAL PHOTOGRAPH DATED APRIL 14, 2021, OBTAINED FROM GOOGLE EARTH PRO.
  4. WETLAND AREAS CREATED FROM NWI MAPS, OREGON DEPARTMENT OF STATE LAND WETLAND DETERMINATION REPORT WD#2022-0606, AND GOOGLE EARTH AERIAL PHOTO DATED APRIL 14, 2021.

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**SEP 13 2023**

UMATILLA COUNTY  
PLANNING DEPARTMENT



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SEP 13 2023  
 UMATILLA COUNTY  
 PLANNING DEPARTMENT

RECEIVED  
AUG 25 2023  
UMATILLA COUNTY  
PLANNING DEPARTMENT

**FULCRUM**  
GEO  RESOURCES   
17600 Pacific Highway, Unit 357  
Marylhurst, Oregon 97036  
503.250.2247

August 25, 2023

Corey, Byler & Rew, LLP  
222 S.E. Dorion Avenue  
Pendleton, Oregon 97801-0218

Attention: Patrick Gregg

**Anticipated Impacts from Blasting**  
Proposed CRP & Hauling Quarry  
Umatilla County, Oregon  
Project: 007.01.01

## INTRODUCTION

On behalf of CRP & Hauling, LLC (CRP), Fulcrum GeoResources LLC (Fulcrum) presents this report discussing anticipated impacts from blasting at the proposed CRP & Hauling Quarry located in unincorporated Umatilla County, Oregon. CRP is in the process of applying to be added to Umatilla County's Aggregate Resource (AR) Overlay. The primary resource comprises bedrock of the Columbia River Basalt Group, consisting of dense, hard basalt that forms a prominent bluff at the site. The slope below the bluff also has a sand deposit overlying the basalt that represents an additional product for aggregate use.

CRP expects to use controlled blasting as part of mine operations to extract the basalt. We understand Umatilla County is concerned of the impacts mine blasting may have on the surrounding area, particularly to structures on neighboring properties and public roadways that border the property. CRP requested that Fulcrum evaluate potential impacts of blasting to the site vicinity.

## BACKGROUND

The project is located in the southeast corner of tax lot 400 in the SW<sup>1</sup>/<sub>4</sub> and SE<sup>1</sup>/<sub>4</sub> of the NE<sup>1</sup>/<sub>4</sub> of Section 22, Township 5 North, Range 29 East, Willamette Meridian (Figure 1). Tax lot 400 covers a much larger area than the proposed mine project boundaries including lands north and west of Diagonal Boulevard and U.S. Route 730. The proposed AR Overlay area, shown on Figure 2, corresponds to the proposed mine permit boundary submitted to the Oregon Department of Geology and Mineral Resources (DOGAMI) for an Operating Permit application and consists of

46.7 acres. The AR Overlay boundary is defined by the south and east property lines and a boundary to the north and west to avoid wetlands and their buffers.

Within the proposed permit boundary are the limits of excavation, shown as an orange line on Figure 2. This is where the basalt and sand resource will be extracted. Blasting to extract basalt is anticipated to occur from the southern limits of excavation to approximately 100 feet north of the bluff visible on Figure 2.

## **SITE VICINITY**

Fulcrum reviewed aerial imagery available on Google Earth Pro to identify features in the site vicinity and distances to the proposed area of blasting. The only structures for human occupancy within 1,500 feet are located west-southwest of the project and appear to be rural residences (Figure 2). One is located approximately 1,100 feet away and the other approximately 1,200 feet away from the westernmost proposed blasting area.

The limits of excavation are located within 300 feet of the south margin of U.S. Route 730 (Figure 2). However, these limits include areas north of the basalt bluff where only sand resource will be extracted. Blasting for basalt extraction will be located at least 500 feet from U.S. Route 730. Blasting will be located much farther from Diagonal Boulevard, at least 1,000 feet to the west.

Electrical utility poles and aerial transmission lines are located north, west, and south of the limits of extraction. There may also be buried utilities along the easements of the public roadways. Individual electrical poles are located along the east side of Diagonal Boulevard and the north side of U.S. Route 730 and are thus located more than 500 feet away from the proposed blasting area. Larger, cross-braced transmission poles and towers are located no closer than about 500 feet south of the project.

## **VIBRATIONS FROM BLASTING**

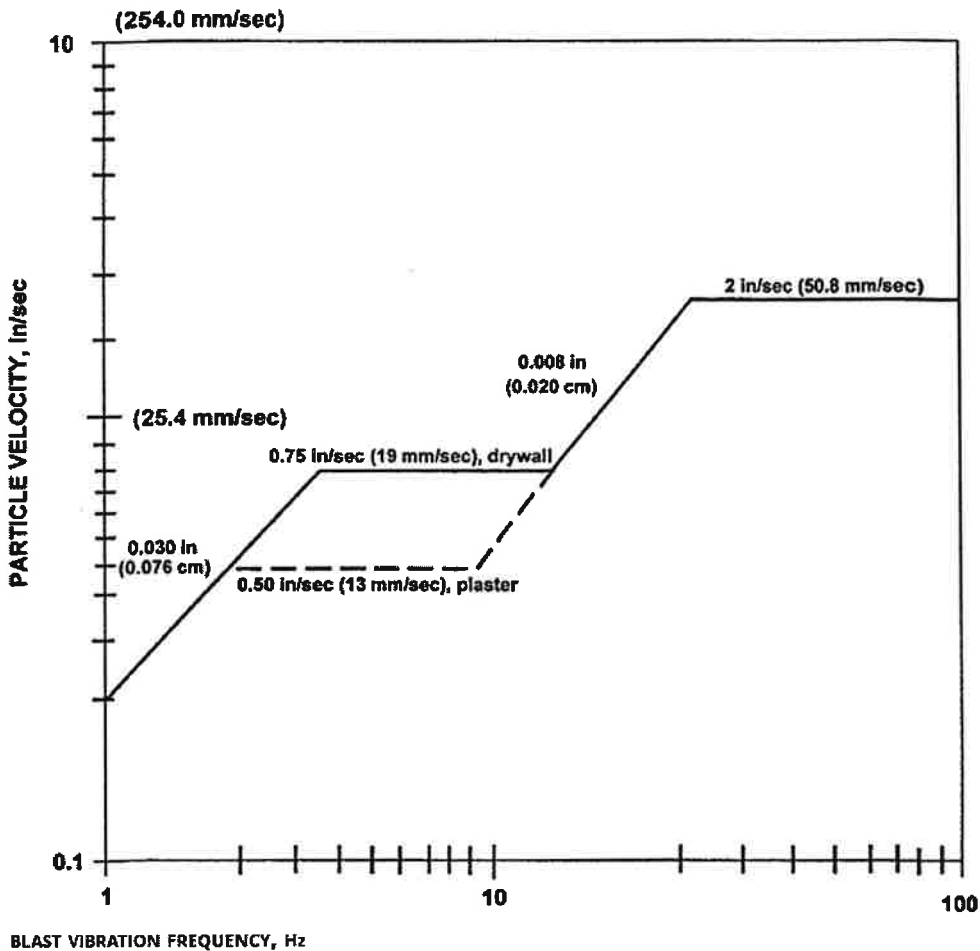
Controlled blasting is a common means used by mine operators to break rock out of its in-situ condition and move it into a manageable area. Only a portion of the blast energy is consumed in breaking up the rock and moving it from the mine highwall. The remaining energy is emitted in waves through the surrounding vicinity. The energy decreases significantly with distance as the waves travel outward from the source into a progressively larger area.

### **VIBRATION THRESHOLDS**

Ground-borne waves emitted by blasting cause oscillatory motion in the rock particles, but the material generally does not have a net displacement – the particles vibrate. Vibrations from blasting are typically characterized using vibration amplitude (the intensity of the vibration in terms of particle displacement, velocity, or acceleration) and frequency (the number of cycles per second, or hertz [Hz]). Particle velocity is typically used to evaluate the potential for damage to structures and subsurface infrastructure. Vibration thresholds for blasting damage consider

the peak particle velocity (PPV), defined as the maximum instantaneous peak of the vibratory motion, expressed in units of inches per second (in/sec).

Vibration monitors (i.e., seismographs) are used to collect data of the particle velocities and vibration frequencies generated by blasting and compare the readings to regulatory vibration thresholds to prevent damage. Blast vibration limits used by many state and municipal regulations are derived from a study conducted by the former United States Bureau of Mines (USBM)<sup>1</sup>. The USBM study involved blasting at mines and monitoring the effects in residential homes. The blasts varied in intensity and distance from the buildings to determine thresholds that would result in different degrees of damage to the homes. The limits resulting from the study were intended to protect residential-type structures from the least amount of observable damage – cosmetic cracking – which can also develop in homes independent of blasting. Typical regulatory limits are summarized in the figure below.



<sup>1</sup> Siskind, D. E., Stagg, M. S., Kopp, J. W., and Dowding, C. H., 1980. Structure Response and Damage Produced by Ground Vibration from Surface Mine Blasting: United States Department of the Interior, Bureau of Mines, Report of Investigations RI-8507.



Because the USBM-derived vibration thresholds were developed for cosmetic damage to residential-type structures, they are generally not applicable to roadways or utility infrastructure like aerial transmission lines or pipelines. USBM conducted another study related to the sensitivity of buried pipelines to ground vibrations from surface mines and determined a vibratory threshold of 5 in/sec to prevent damage to pressurized steel and PVC pipes<sup>2</sup>. This threshold can be referenced for buried utilities along public roadway easements. Engineered features such as utility poles should be more tolerant of vibrations and changes in air pressure than the thresholds used for residential cosmetic damage. These structures are designed to resist wind loads far greater than what a typical mine blast would generate.

### **BLAST MONITORING AND ANTICIPATED BLAST VIBRATIONS**

It is a common requirement for blasters to use seismographs to monitor controlled blasting at mine sites. Fulcrum's principal engineering geologist, Erick Staley, C.E.G., has reviewed blasting data from many quarries and heavy construction projects. A plot of blast vibration data versus distance, shown on Figure 3, includes data collected from three quarries in Yakima, Dallesport, and Hermiston. These quarries extract Columbia River Basalt resource and thus reflect similar subsurface and climatic conditions to the CRP site.

The plot on Figure 3 also shows the attenuation relationship between vibration intensity and distance. For reference, the anticipated vibrations at distances of 500 feet and 1,100 feet from a blast are shown, which have corresponding PPVs of 0.84 in/sec and 0.29 in/sec, respectively. The PPV of 0.29 in/sec at 1,100 feet distance can be used to anticipate vibrations at the nearest residential structure to the site. This is significantly lower than the most conservative vibration threshold of 0.5 in/sec for older homes with lath-and-plaster wall construction and at vibration frequencies less than 10 Hz. From our experience, mine blasts typically produce higher vibration frequencies where higher vibration thresholds up to 2 in/sec should be considered.

The PPV of 0.84 in/sec at 500 feet can be used to anticipate vibrations experienced at the closest portion of U.S. Route 730 to the north and electrical towers to the south. From the prior discussion, a damage threshold of 5 in/sec can be considered for buried utilities. The damage thresholds for electrical poles and towers should be greater than that for cosmetic damage to residential structures, or greater than 2 in/sec. Thus, the anticipated vibrations at 500 feet are below these vibration thresholds. Even the highest readings collected from the three quarries, from blasts larger than would likely be used at the CRP site, are still below damage thresholds.

Moreover, it is worth noting that the Oregon Department of Transportation has an existing quarry in Columbia River Basalt north of and adjacent to U.S. Route 730. This bedrock quarry has operated for years and is located much closer to the highway than the proposed CRP quarry. We are not aware of any damage blasting has caused to the roadway or utility

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<sup>2</sup> Siskind, D. E., Stagg, M. S., Wiegand, J. W., and Schulz, D. L., 1994. Surface Mine Blasting Near Pressurized Transmission Pipelines: United States Department of the Interior, Bureau of Mines, Report of Investigations RI-9523.

infrastructure along the highway. It thus seems likely that blasting at the proposed CRP quarry has a low potential for damaging the highway and utilities.

## CONCLUSIONS AND RECOMMENDATIONS

Based on our review, we do not anticipate offsite structures or features will be damaged by the use of controlled blasting to extract basalt resource from the site. Blasting activities should be planned and conducted by appropriately experienced and licensed blasters in accordance with state and local regulations. This should include the use of blast procedures and time-delays that prevent excessive vibrations or other emissions from blasting. Blasting should be monitored using seismographs or similar equipment to collect vibration data and compare the results to regulatory damage thresholds.

## LIMITATIONS

We have prepared this report for use by CRP & Hauling, LLC to evaluate anticipated blast vibrations for the proposed CRP & Hauling Quarry. The services described in this report were provided consistent with generally accepted professional consulting principles and practices. Our findings, conclusions, and interpretations should not be construed as warranty of the site conditions.

Our interpretations of the mining and geologic conditions are based on information from publicly available sources and our experience in the region and with the mining industry. The accuracy of outside information is beyond our control.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.



If you have questions concerning the information provided, please call.

Sincerely,

Fulcrum GeoResources LLC

A handwritten signature in black ink, appearing to read "Erick J. Staley".

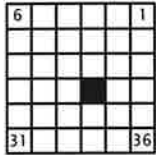
Erick J. Staley, C.E.G.  
Principal Engineering Geologist



Expires 06/01/2024

Document ID: 007.01.01\_2023-08-25 blast rpt.docx  
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T 5 N



R 29 E

**EASTERN OREGON**



**SITE COORDINATES:**

LATITUDE: 45° 54' 7.5" N

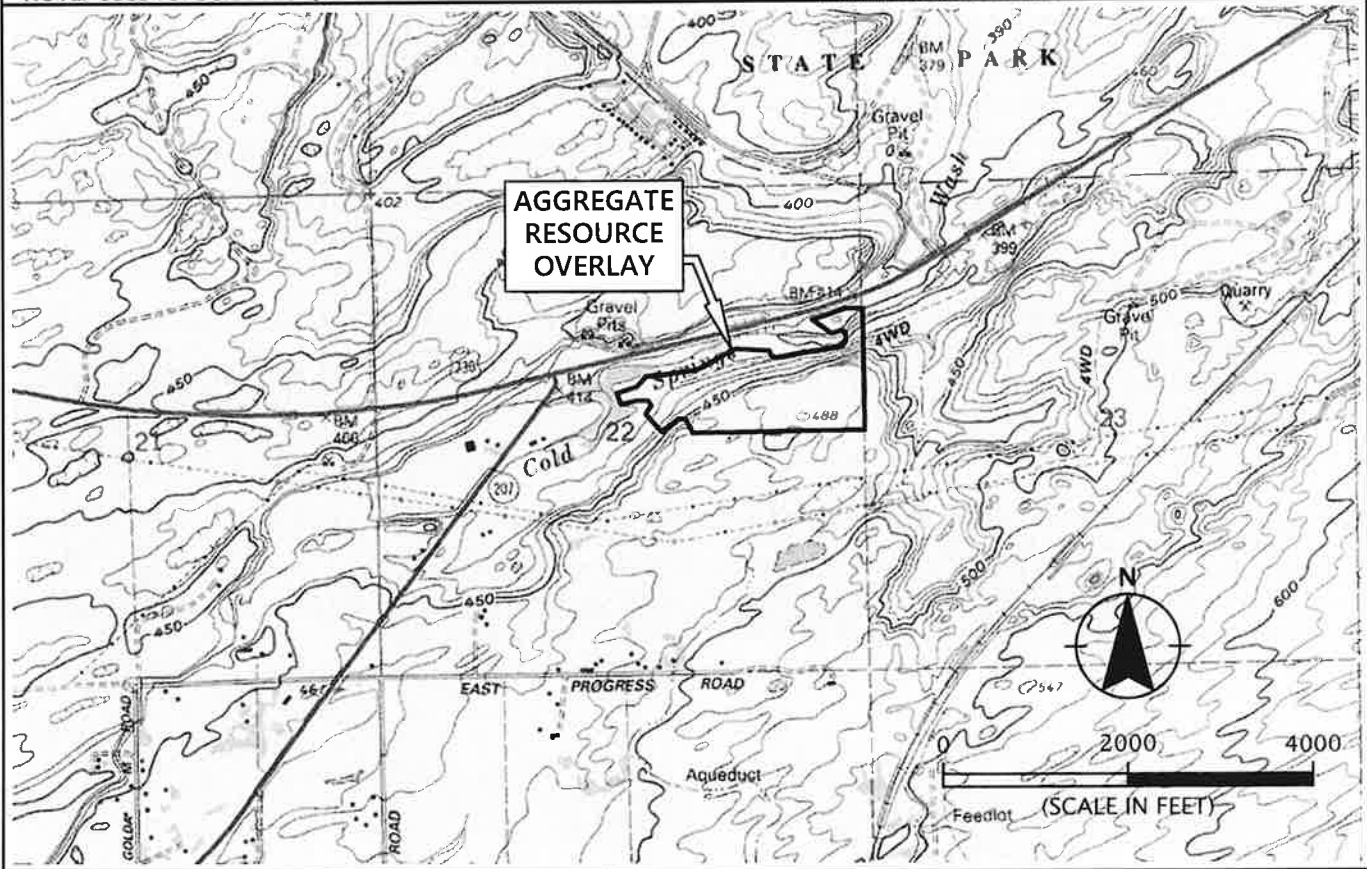
LONGITUDE: 119° 10' 1.2" W

**LEGAL DESCRIPTION**

THE PERMIT BOUNDARY IS LOCATED IN PORTIONS OF THE FOLLOWING QUARTER-QUARTER SECTIONS:

- SE QUARTER OF THE NE QUARTER OF SECTION 22
- SW QUARTER OF THE NE QUARTER OF SECTION 22

NOTE: USGS TOPOGRAPHIC QUADRANGLE MAPS REPRODUCED USING MAPTECH TERRAIN NAVIGATOR PRO®.



<p><b>FULCRUM</b> GEO RESOURCES <small>LLC</small></p>	<p>CRP &amp; HAULING, LLC PROJECT 007.01.01 AUGUST 2023</p>	<p><b>VICINITY MAP</b> UMATILLA COUNTY, OR SECTION 22, TOWNSHIP 5N, RANGE 29E, W.M.</p>	<p><b>FIGURE 1</b></p>
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**SITE PLAN - EXISTING TOPOGRAPHY WITH AERIAL**



- LEGEND:**
- PROPERTY BOUNDARY
  - - - AGGREGATE RESOURCE OVERLAY (46.7 ACRES)
  - - - EASEMENT
  - LIMITS OF EXTRACTION (38.0 ACRES)
  - EXISTING TOPOGRAPHY (5-FOOT INTERVALS; 20-FOOT INDEX CONTOURS)
  - ⊙ OVERHEAD POWER POLE
  - - - PROPOSED AND EXISTING SITE ACCESS ROAD
  - PROPOSED CULVERT
  - ▭ RESIDENTIAL STRUCTURE

**NOTES:**

1. PROPERTY BOUNDARY AND EASEMENTS BASED ON SURVEY DATED AUGUST 4, 2022, PREPARED BY SURVEY ONE, LLC.
2. EXISTING TOPOGRAPHY OBTAINED FROM GOOGLE EARTH PRO.
3. AERIAL PHOTOGRAPH DATED APRIL 14, 2021, OBTAINED FROM GOOGLE EARTH PRO.
4. WETLAND AREAS CREATED FROM NWI MAPS, OREGON DEPARTMENT OF STATE LAND WETLAND DETERMINATION REPORT WD#2022-0606, AND GOOGLE EARTH AERIAL PHOTO DATED APRIL 14, 2021.

# Blast Vibrations from Columbia River Basalt Quarries

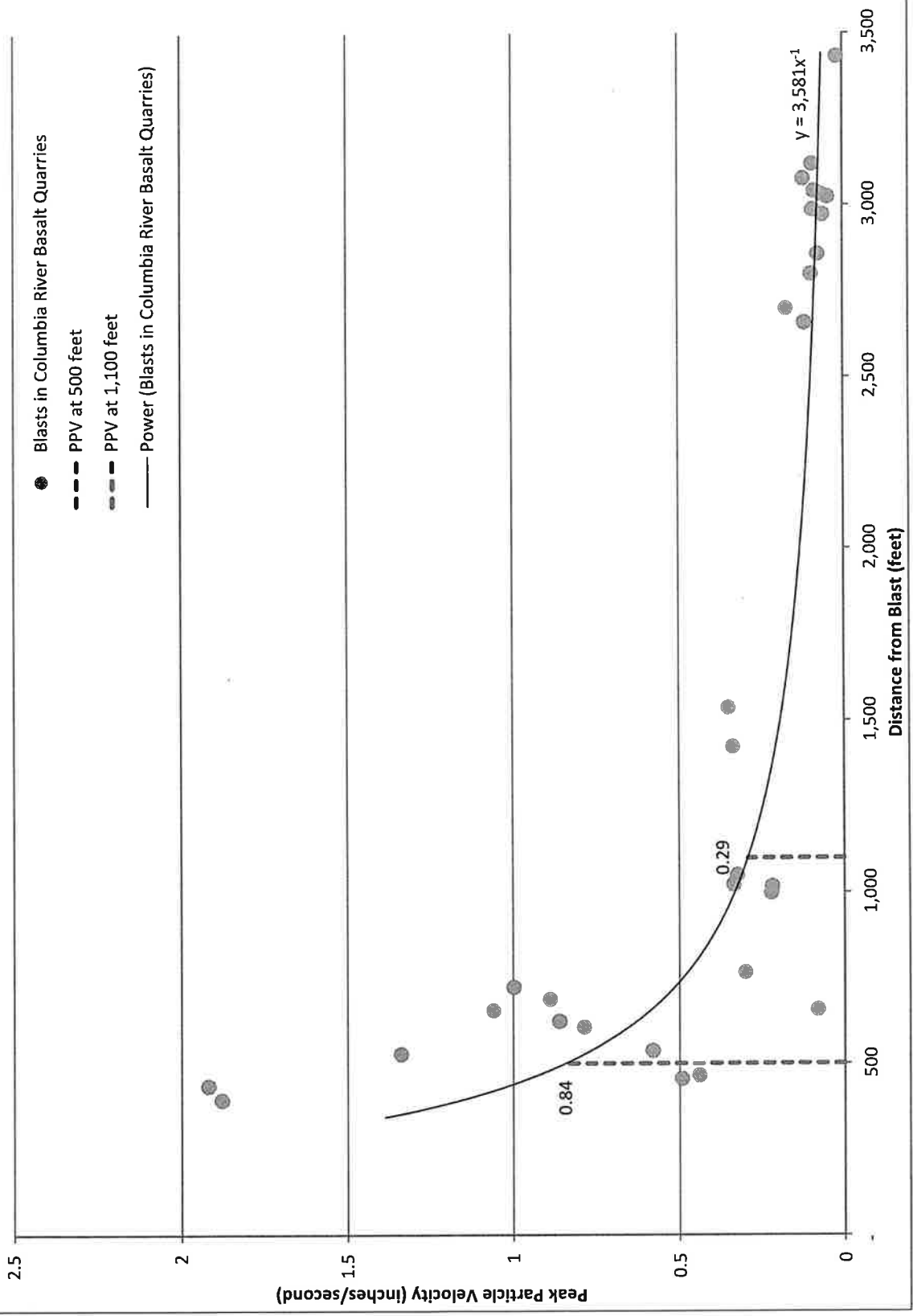


FIGURE 3



851 SW 6th Avenue, Suite 600  
Portland, OR 97204  
P 503.228.5230

RECEIVED

AUG 25 2023

UMATILLA COUNTY  
PLANNING DEPARTMENT

May 22, 2023

Project #: 29134

Robert Waldher and Megan Davchevski  
Umatilla County Department of Land Use Planning  
216 SE 4th Street  
Pendleton, OR 97801

RE: Aggregate Overlay Zone/Asphalt Batch Plant Transportation Assessment

Dear Robert and Megan,

This letter presents a Traffic Impact Analysis supporting a proposed plan map amendment that would add an Aggregate Resource Overlay to approximately 47.6 acres of existing Exclusive Farm Use (EFU) zoned property in Umatilla County.

Based on the results of the transportation analysis outlined in this report, the proposed Aggregate Resource Overlay zone and the subsequent development of a proposed aggregate mining/asphalt batch plant operation is not anticipated to result in a significant effect on the surrounding transportation network or require offsite transportation improvements. Additional details of our analyses are summarized herein.

## PROJECT BACKGROUND

The 47.6-acre property consists of Tax Lot 400 of Map 5N 29 22 (see Figure 1) and is currently zoned Exclusive Farm Use (EFU). In order to support a proposed aggregate mining and asphalt batch plant operation, the owner is requesting that Umatilla County apply the Aggregate Resource Overlay zone to the subject property.

Modifications to existing zoning designations must be shown to meet the applicable criteria in Oregon Administrative Rule 660-012-0060, also known as the Transportation Planning Rule (TPR). Per the TPR, an analysis of whether the zoning overlay has the potential to create a significant effect to a transportation facility must be reviewed. The following report addresses the TPR requirements and the specific transportation-related impacts of a proposed aggregate mining operation.

Figure 1 – Site Vicinity Map and Study Intersections



## STUDY SCOPE & ANALYSIS METHODOLOGY

The proposed land use action is a unique case in that the existing use of the property (agricultural use) already represents a reasonable maximum development scenario under the existing EFU zoning, as the zone typically generates no consistent or measurable peak hour trips. As such, the focus of this analysis is on incremental impacts of the potential allowed uses under the proposed Aggregate Resource Overlay zone.

### STUDY SCOPE

This analysis identifies the transportation-related impacts associated with the application of the Aggregate Resource Overlay zone. The study was prepared in accordance with scoping direction from Umatilla County staff. The study scope and overall study area for this project were selected based on an analysis of current and future traffic volumes at study intersections and discussions with County staff. The analysis addresses the following:

- Existing land use and transportation system conditions within the site vicinity;
- Review of regional traffic growth, seasonal traffic patterns and planned transportation improvements;
- Site trip generation and distribution estimates for reasonable worst-case development scenario for the proposed Aggregate Resource Overlay zone;
- Planning horizon year 2043 traffic operations under existing EFU zoning and proposed Aggregate Resource Overlay zone scenarios;
- Transportation system adequacy to accommodate the proposed reasonable worst case development scenarios for the proposed Aggregate Resource Overlay zone;
- Assessment of overlay zone change compliance with the TPR (OAR Section 660-12-060); and,
- Conclusions and recommendations.

### STUDY INTERSECTIONS

The study intersections were identified in collaboration with County staff and a review of local and regional transportation infrastructure that could potentially be impacted by the overlay zone and subsequent development. Figure 1 illustrates the location of the study intersections that are listed below. For ease of review, each intersection is referenced within this report using a numerical ID.

1. US 730/OR 207
2. US 730/Proposed Site Access

### TRAFFIC ANALYSIS TIME PERIODS

Study intersection operations were analyzed during the weekday morning (intersection peak hour between 7:00-9:00 AM) and evening peak hour (intersection peak hour between 4:00-6:00 PM).

### ANALYSIS METHODOLOGY

The unsignalized and signalized intersection operational analyses presented in this report were prepared following *Highway Capacity Manual 7<sup>th</sup> Edition* (Reference 1) analysis procedures using PTV Vistro software.



## APPLICABLE MOBILITY STANDARDS

Intersection operating targets adopted by the Oregon Department of Transportation (ODOT) and Umatilla County are summarized below.

### ODOT MOBILITY TARGETS

ODOT uses volume-to-capacity (v/c) ratios to assess intersection operations. Table 6 of the *Oregon Highway Plan (OHP)* provides maximum volume-to-capacity ratio mobility targets for all signalized/roundabout and unsignalized intersections located outside the major metropolitan areas. Table 1 summarizes the v/c ratio that will be used to identify the existing and potential future operational issues at the ODOT owned/maintained US 730/OR 207 intersection.

**Table 1 - ODOT Mobility Targets**

Intersection	OHP Mobility Target
US 730/OR 207	0.70
US 730 Proposed Site Access	V/C $\leq$ 0.70 major approach/0.75 minor approach

### UMATILLA COUNTY OPERATING STANDARDS

Umatilla County's standards specify that LOS "E" or better is considered acceptable at unsignalized intersections.

## EXISTING CONDITIONS TRAFFIC ANALYSIS

The existing conditions analysis identifies field conditions and the current operational, traffic control, and geometric characteristics of the roadways and other transportation facilities within the study vicinity. These conditions will be compared with future year conditions later in this report. Kittelson staff visited the study area and inventoried the existing transportation system to identify lane configurations, traffic control devices, bicycle and pedestrian facilities, transit stops, and geometric features at the study intersections in April of 2023.

## SITE CONDITIONS AND ADJACENT LAND USES

The overall site is located on the southeast corner of the US 730/OR 207 intersection, the site frontage continues along the south side of US 730 and the east side of OR 207. The land is currently undeveloped and has historically been used for miscellaneous agricultural purposes. A separate unrelated aggregate mining operation is located opposite the site on the north side of US 730.

### TRANSPORTATION FACILITIES

Table 2 summarizes the attributes of key roadways in the site vicinity. Figure 2 illustrates the existing lane configurations and traffic control devices at the study intersection.

**Table 2 – Existing Transportation Facilities**

Roadway	Jurisdictional Authority	Functional Classification <sup>1</sup>	Number of Auto Lanes	Posted Speed (mph)	Sidewalks Present?	Bike Lanes Present?	On-Street Parking Allowed?
US 730	ODOT	Regional Highway (Freight Route)	2	55	No	No	No
OR 207	ODOT	Regional Highway	2	55	No	No	No

<sup>1</sup>Source: Oregon Highway Plan

## INTERSECTION CRASH HISTORY

ODOT provided crash records for the study intersection and adjacent highway segment for the five-year period from January 1, 2016 through December 31, 2020. Table 3 summarizes the ODOT crash data. As shown in the table, there was one crash at the study intersection and one crash along the US 730 site frontage, both occurring on the same day when ice was present. *Appendix A contains the crash data summary sheets.*

**Table 3 - Reported Crash History (January 1, 2016 - December 31, 2020)**

Study Intersection	Crash Type					Severity			Total
	Rear End	Turning	Angle	Fixed Object	Other	PDO	Injury	Fatal	
US 730/OR 207	0	0	0	0	1 <sup>1</sup>	0	1	0	1
US 730 site frontage	0	0	0	0	1 <sup>2</sup>	0	1	0	1

<sup>1</sup>Non-collision overturn (ice), <sup>2</sup> Non-collision (ice)

# Figure 2 - Existing Lane Configurations & Traffic Control Devices

Generated with **PTV VISTRO**

29134 Umatilla Asphalt Batch Plant

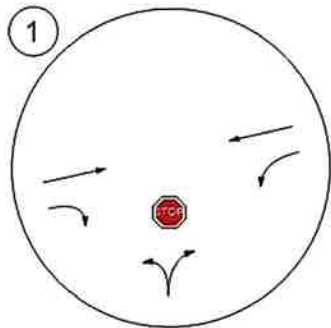
Weekday Peak Hour

Version 2022 (SP 0-2)

Scenario 1: 1 Existing

HCM 7th

## Lane Configuration and Traffic Control



## EXISTING CONDITIONS

Turning movement counts at the study intersection was conducted on a mid-week day in mid-April 2023. *Appendix B contains the intersection turning movement count sheets.*

### SEASONAL ADJUSTMENT

To determine an appropriate seasonal factor, the On-Site ATR method was utilized as outlined in ODOT's *Analysis Procedures Manual (APM)*.

#### On-Site ATR Method

The On-Site ATR Method is used when an Automatic Traffic Recorder (ATR) is within or near the project area. There is one ATR within relatively close proximity of the site. ATR 30-002 is located along US 730 near the US 730/OR 37 intersection approximately 2.5 miles to the east. The ATR was not operational in 2020 and 2021 so data was used from 2015 to 2019 to develop the seasonal adjustment factor. As shown in Table 4, the seasonal factors was calculated as 1.22. This factor was applied to the existing traffic volumes.

**Table 4 - Seasonal Adjustment Calculations for ATRs**

	2019	2018	2017	2016	2015	Average
<b>ATR 30-002</b>						
Count Month (April)	110	104	95	103	102	103
Peak Month	124	126	157	123	129	126

■ ATR 30-002 Season Adjustment Factor = 126%/103% = 1.22

### EXISTING INTERSECTION OPERATIONS

Figure 3 illustrates the seasonally adjusted 2023 existing traffic volumes at the study intersection; Table 5 summarizes the corresponding traffic operations during the weekday AM and PM peak hours (7:40-8:40 AM and 4:00 – 5:00 PM). As shown in Table 5 and detailed in *Appendix C* (which includes the existing conditions operations analysis worksheets), the study intersection operations satisfy applicable ODOT performance targets and County standards during the AM and PM peak hours.

**Table 5 – Existing Traffic Conditions**

Intersection	Critical Approach	Weekday AM Peak Hour			Weekday PM Peak Hour		
		V/C	Approach Delay (sec)	Approach LOS	V/C	Approach Delay (sec)	Approach LOS
US 730/OR 207	NB	0.13	9.9	A	0.14	10.7	B

### Figure 3 - Existing Traffic Conditions, Weekday AM & PM Peak Hours

Generated with **PTV VISTRO**

29134 Umatilla Asphalt Batch Plant

Weekday Peak Hour

Version 2022 (SP 0-2)

Scenario 1: 1 Existing

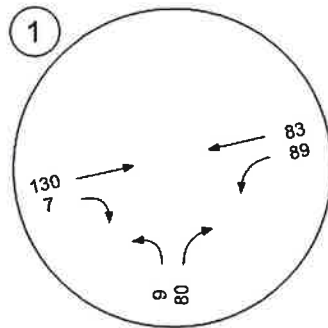
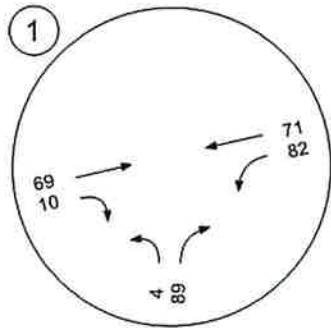
HCM 7th

Traffic Volume - Base Volume



AM Peak Hour

PM Peak Hour



## YEAR 2043 TRAFFIC CONDITIONS

This section of the report contains a detailed assessment of the long-term traffic impacts associated with and without the proposed plan map amendment. More specifically, it evaluates the impacts of an aggregate mining operation which would be allowed under the Aggregate Resource Overlay zone. The analysis of long-term traffic conditions is required by the State's Transportation Planning Rule (TPR, OAR Section 660-12-0060), given that the proposed plan map amendment would require an amendment to an acknowledged land use regulation and may have the potential to significantly affect a transportation facility.

To test for a significant effect and development-related impacts, an analysis of traffic conditions was conducted under the existing EFU land use designation (assuming continued farming use of the site) and the proposed Aggregate Resource Overlay zone (assuming the development of an aggregate mining/asphalt batch plant operation).

Based on the required analysis, the impacts of traffic generated by the potential Aggregate Resource Overlay zone (using the proposed aggregate mining/asphalt batch plant operation as a reasonable worst-case proxy) were examined in the following manner:

- Anticipated future traffic growth patterns were identified for the weekday AM and PM peak hour under the 2043 planning horizon year. This horizon year assumes no overlay zone and is indicative of future conditions with no land use modifications beyond those allowed under the Exclusive Farm Use designation.
- A reasonable worst-case land development scenario (aggregate mining/asphalt batch plant operation) was developed under the proposed Aggregate Resource Overlay zone. Estimates of average daily, weekday AM, and weekday PM peak hour site trips were prepared for the potential Aggregate Resource Overlay zone using the proposed aggregate mining/asphalt batch plant operation.
- A site trip distribution pattern was derived through a review of existing traffic volumes and the site's proximity to the regional and interstate transportation network.
- Weekday AM and PM peak hour site-generated trips from the proposed aggregate mining/asphalt batch plant operations were assigned to the surrounding streets and study intersection.
- Planning horizon year 2043 traffic volumes and operations were analyzed for the weekday AM and PM peak hour under existing background conditions and for the proposed Aggregate Resource Overlay zone designation.

### YEAR 2043 EXISTING ZONING SCENARIO TRAFFIC FORECAST

To achieve a reasonable estimate of existing zoning scenario traffic levels during the 2043 planning horizon year, a 1% per year growth rate was applied to the study intersection traffic volumes. This growth rate was derived through a review of ODOT's Future Year Volume tables and other recent traffic studies performed in the area.

The resulting year 2043 existing zoning scenario traffic volumes forecast for the weekday AM and PM peak hour are illustrated in Figure 4. The volumes shown reflect background traffic levels without any changes to the underlying zoning on the subject site.

# Figure 4 - 2043 Existing Zoning Traffic Conditions, Weekday AM & PM Peak Hours

Generated with **PTV VISTRO**

29134 Umatilla Asphalt Batch Plant

Weekday Peak Hour

Version 2022 (SP 0-2)

Scenario 3: 3 Background 2043

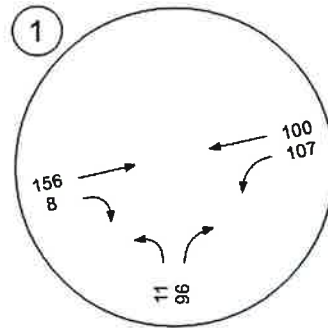
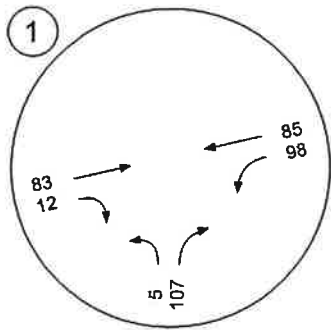
HCM 7th

Traffic Volume - Base Volume



AM Peak Hour

PM Peak Hour



## YEAR 2043 EXISTING ZONING INTERSECTION OPERATIONS

Study intersection operations under the 2043 Existing Zoning Scenario were assessed to understand the base future year operations assuming no changes are made to the site zoning and the land continues to be used for agricultural purposes. Table 6 summarizes the operational analyses for the weekday AM and PM peak hours reflective of anticipated regional and local traffic volume growth. As shown, the study intersection is forecast to continue to operate acceptably during both the weekday AM and PM peak hours. *Appendix D includes the 2043 existing zoning intersection operations analysis worksheets.*

**Table 6 – Year 2043 Existing Zoning Traffic Conditions**

Intersection	Critical Approach	Weekday AM Peak Hour			Weekday PM Peak Hour		
		V/C	Approach Delay (sec)	Approach LOS	V/C	Approach Delay (sec)	Approach LOS
US 730/OR 207	NB	0.16	10.2	B	0.18	11.3	B

## PROPOSED AGGREGATE RESOURCE OVERLAY ZONE

Under the proposed Aggregate Resource Overlay zone, an aggregate mining/asphalt batch plant operation is proposed. This use represents a reasonable worst-case development scenario for the site considering its rural location. Based on discussions with the applicant/owner, anticipated operational features of the proposed aggregate mining/asphalt batch plant operation include:

- A rock mining operation consisting of the following activities:
  - Extraction of aggregate
  - Delivery of aggregate to off-site locations
  - Pick-up of aggregate by customers
- An onsite asphalt batch plant consisting of the following:
  - Production of asphalt using aggregate mined at the site
  - Delivery of asphalt to off-site locations
  - Pick-up of asphalt by customers

In recognition of these unique characteristics and the fact that there are no comparable land uses in the *Trip Generation Manual*, detailed discussions were had with the applicant to identify the trip making potential of such an operation. *Appendix E* contains a detailed breakdown of the mining and asphalt operations and the associated trip making characteristics. Table 7 summarizes the resulting number of new trips that can be expected on a typical weekday and during the weekday AM and PM peak hours.

**Table 7 – Aggregate Mining/Asphalt Batch Plant Trip Generation Estimates**

Land Use	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Total	In	Out	Total	In	Out
Aggregate Mining/ Asphalt Batch Plant	356	34	17	17	6	0	6



## SITE TRIP DISTRIBUTION AND ASSIGNMENT

The site-generated trips from the proposed aggregate mining/asphalt batch plant operation were distributed onto the study area roadway system via an assumed future driveway connection east of the US 730/OR 207 intersection. This access connection was assumed to be a two-lane driveway that would be stop-controlled. The regional distribution was determined via a combination of existing traffic patterns and destinations afforded by the regional transportation facilities within the site vicinity. Figure 5 illustrates the resulting trip distribution pattern and site-generated trip assignment at the study intersections.

## YEAR 2043 OVERLAY ZONE INTERSECTION OPERATIONS

To reflect conditions anticipated under the proposed Aggregate Resource Overlay zone, the weekday AM and PM peak hour site generated traffic volumes shown in Figure 5 were added to the existing zoning traffic volumes shown in Figure 4 to arrive at the cumulative 2043 traffic volumes shown in Figure 6.

Operations of the study intersections under 2043 conditions (with the site converted to an aggregate mining operation) are summarized in Table 8 for the weekday AM and PM peak hours. As shown, all of the study intersections are forecast to continue to operate acceptably during both the weekday AM and PM peak hours. Appendix F includes the 2043 total traffic conditions intersection operations analysis worksheets.

**Table 8 – Year 2043 Aggregate Overlay Zoning Traffic Conditions**

Intersection	Critical Approach	Weekday AM Peak Hour			Weekday PM Peak Hour		
		V/C	Approach Delay (sec)	Approach LOS	V/C	Approach Delay (sec)	Approach LOS
US 730/OR 207	NB	0.17	10.3	B	0.18	11.3	B
US 730/ Proposed Site Access	NB	0.03	11.2	B	0.01	12.0	B

Figure 5 – Estimated Trip Distribution Pattern & Site-Generated Trips, Weekday AM & PM Peak Hours

Generated with **PTV VISTRO**

29134 Umatilla Asphalt Batch Plant

Weekday Peak Hour

Version 2022 (SP 0-2)

Scenario 5: 5 Total 2043

HCM 7th

Traffic Volume - Net New Site Trips



AM Peak Hour

PM Peak Hour

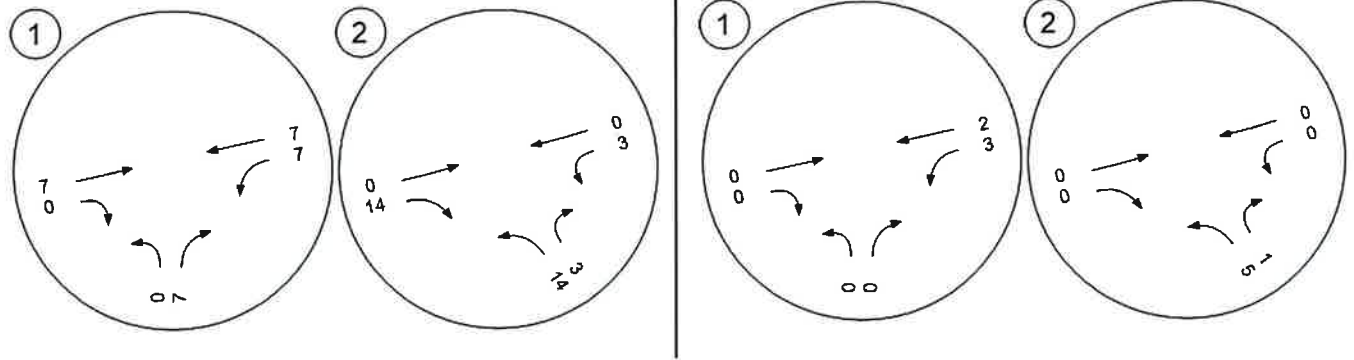


Figure 6 – 2043 Proposed Overlay Zone Traffic Conditions, Weekday AM & PM Peak Hours

Generated with **PTV VISTRO**

29134 Umatilla Asphalt Batch Plant

Weekday Peak Hour

Version 2022 (SP 0-2)

Scenario 5: 5 Total 2043

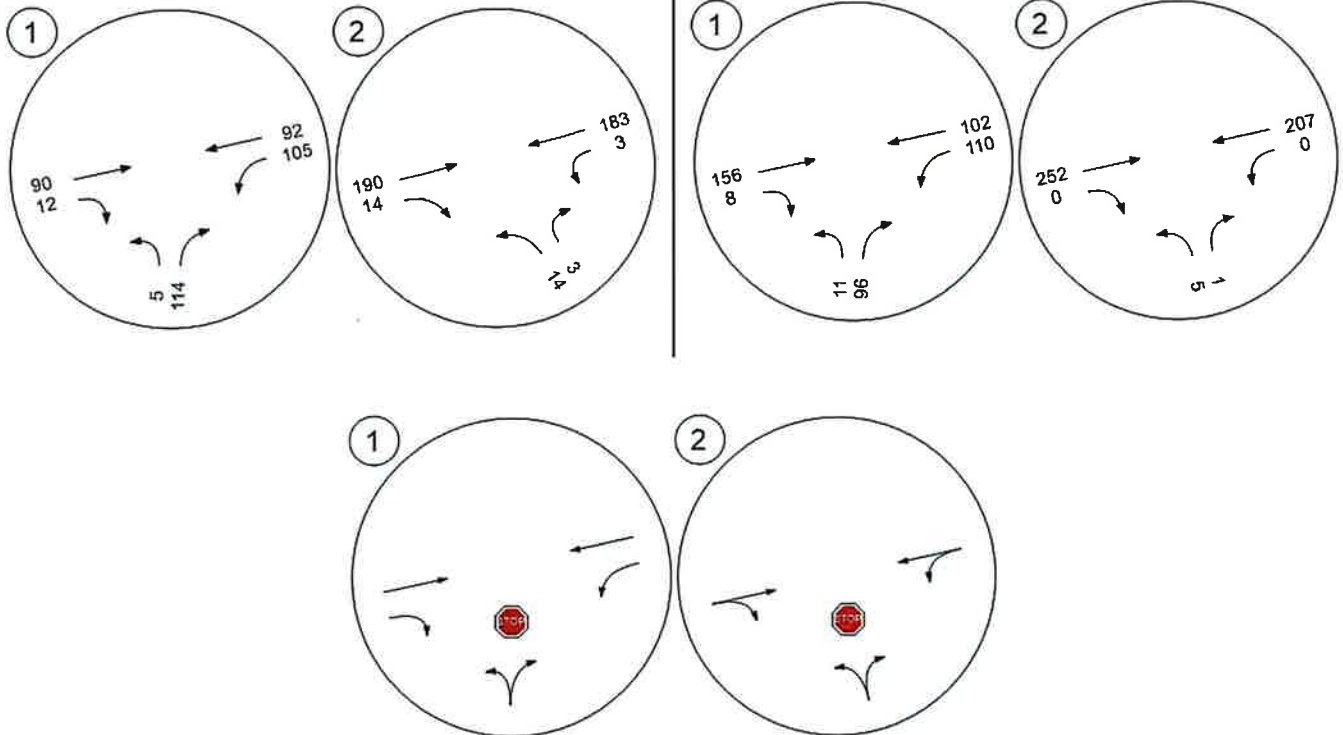
HCM 7th

Traffic Volume - Future Total Volume



AM Peak Hour

PM Peak Hour



## TRANSPORTATION PLANNING RULE COMPLIANCE

This section addresses the Oregon Administrative Rule Section 660-12-0060 of the Oregon Transportation Planning Rule (TPR) requirements for the proposed zone change.

### TRANSPORTATION PLANNING RULE

OAR Section 660-12-0060 Plan and Land Use Regulation Amendments of the TPR sets forth the criteria for evaluating plan and land use regulation amendments. The criteria establish the determination of significant effect on a transportation system resulting from a land use action; where a significant effect is identified, the criteria establish the means for achieving compliance. The relevant portion of this section of the TPR is reproduced below in italics followed by the response for this project in standard text.

#### ***660-12-0060 Plan and Land Use Regulation Amendments***

*(1) If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:*

*(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);*

**Response: The proposed Aggregate Resource Overlay zone will not require or result in any changes to the functional classification of any transportation facility in the vicinity of the site.**

*(b) Change standards implementing a functional classification system; or*

**Response: The proposed Aggregate Resource Overlay zone will not require changes to the standards that implement the functional classification system.**

*(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection. If a local government is evaluating a performance standard based on projected levels of motor vehicle traffic, then the results must be based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.*

*(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;*

**Response: The proposed Aggregate Resource Overlay zone would result in future traffic volumes that remain consistent with the functional classifications of the roadways in the study area.**

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

**Response: The proposed Aggregate Resource Overlay zone would not degrade operations of the study intersections below adopted performance targets.**

## SITE ACCESS

As noted herein, the study intersections and site access can operate acceptably assuming the development of an aggregate mining/asphalt batch plant operation. To support a specific land use application for the aggregate mining/asphalt batch plant operation, the following section includes a more detailed assessment of the proposed site access to US 730 including turn lane, sight distance, and traffic control needs.

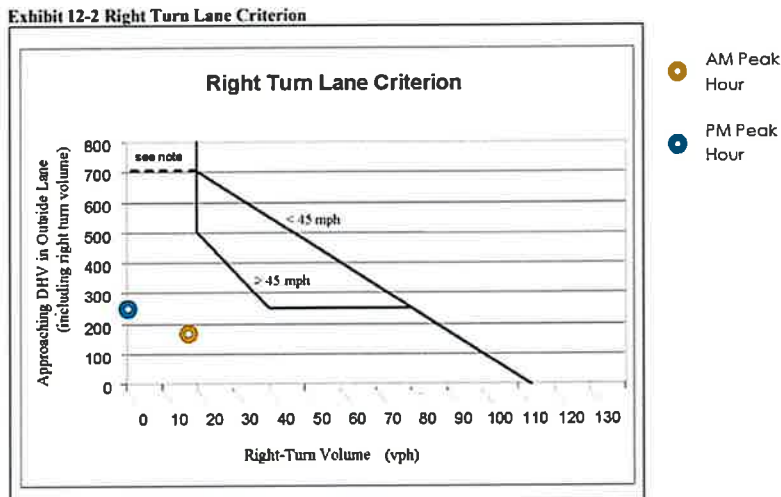
### Turn Lane Assessment

To accommodate future traffic movements to the site access road, the need for left- and right-turn lanes were evaluated for the proposed US 730/Site Access intersection.

#### RIGHT-TURN LANE WARRANT ANALYSIS

The proposed US 730/ Site Access intersection was evaluated to determine if a right-turn lane on the eastbound US 730 approach is appropriate to accommodate future site-generated traffic volumes. The procedures used to determine the need for a right-turn lane were based on ODOT's right-turn lane criterion. Based on this analysis, it was determined that ODOT's volume-based right-turn lane volume criterion at the US 730/ Site Access intersection is not met under the 2043 Total traffic scenarios. Exhibit 1 contains the right-turn lane criterion.

**Exhibit 1 - US 730 Site Access Right-Turn Lane Assessment (Source: Analysis Procedures Manual)**

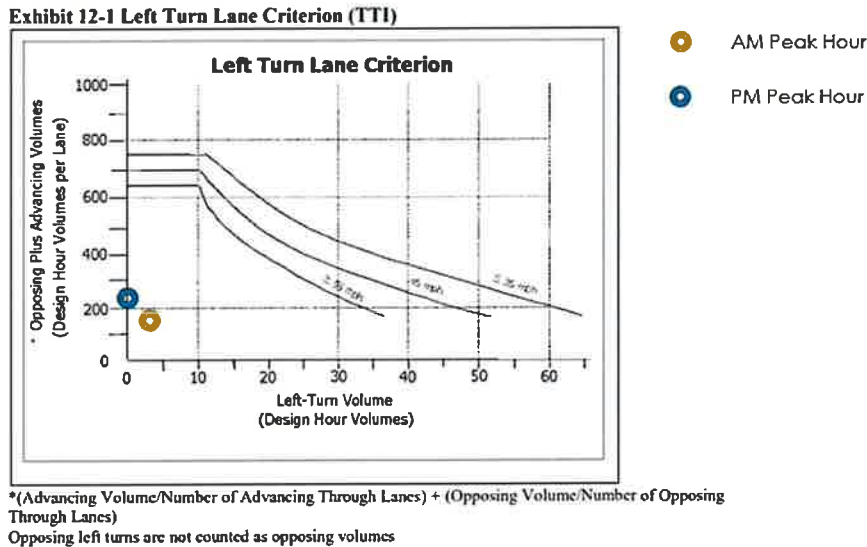


Note: If there is no right turn lane, a shoulder needs to be provided. If this intersection is in a rural area and is a connection to a public street, a right turn lane is needed.

### LEFT-TURN LANE WARRANT ANALYSIS

The proposed US 730/ Site Access intersection was evaluated to determine if a left-turn lane on the westbound US 730 approach is appropriate to accommodate future site-generated traffic volumes. The procedures used to determine the need for a left-turn lane were based on ODOT's left-turn lane criterion. Based on this analysis, it was determined that ODOT's volume-based left-turn lane volume criterion at the US 730/ Site Access intersection is not met under the 2043 Total traffic scenarios. Exhibit 2 contains the left-turn lane criterion.

**Exhibit 2 US 730 Site Access Left-Turn Lane Assessment (Source: Analysis Procedures Manual)**



### Preliminary Intersection Sight Distance

Intersection sight distance (ISD) was evaluated at the proposed site access driveway to US 730. For this assessment, preliminary intersection sight distance measurements were evaluated using the recommended observation reference points<sup>1</sup> outlined in *A Policy on Geometric Design of Highways and Streets*. As noted in *A Policy on Geometric Design of Highways and Streets*, the minimum passenger car intersection sight distance requirement for a 55-mph design speed is 610 feet (left-turn from stop) and 530 feet (right-turn from stop). For combination trucks, the minimum intersection sight distance requirement for a 55-mph design speed is 930 feet (left-turn from stop) and 850 feet (right-turn from stop).

From the approximate location of the proposed site access driveway approach to US 730, there is adequate sight distance (>850 feet) looking to the west and adequate sight distance (>930 feet) looking to the east.

<sup>1</sup> For passenger cars, an eye height of 3.5 feet, an object height of 3.5 feet, and an observation point located 14.5 feet from the edge of the cross-street travel lane. For combination trucks, an eye height of 7.6 feet, an object height of 3.5 feet, and an observation point located 14.5 feet from the edge of the cross-street travel lane.

To provide and maintain adequate intersection sight distance post development, it is recommended that any proposed signage or landscaping be appropriately located such that the minimum intersection sight distance can be maintained.

## Site Access Traffic Control

To accommodate future traffic movements on the site access road, a STOP (R1-1) sign should be installed on the northbound approach to US 730 in accordance with ODOT and County standards and the *Manual on Uniform Traffic Control Devices (MUTCD)* in conjunction with site development.

## CONCLUSIONS

Based on the results of the transportation analysis outlined in this report, the proposed Aggregate Resource Overlay zone and the assumed aggregate mining/asphalt batch plant operation is not anticipated to result in a significant effect on the surrounding transportation network or require offsite mitigation. To support the land use application for an aggregate mining/asphalt batch plant operation, the following is recommended:

- Construct a new site access roadway connection to US 730. A STOP (R1-1) sign should be installed on the northbound approach to US 730 in accordance with ODOT and County standards and the *Manual on Uniform Traffic Control Devices (MUTCD)* in conjunction with site development.
- To provide and maintain adequate intersection sight distance at the site access road connection to US 730, locate any proposed signage or landscaping appropriately such that the minimum intersection sight distance can be maintained.

We trust this traffic impact analysis adequately addresses impacts associated with the proposed Aggregate Resource Overlay Zone and proposed aggregate mining/asphalt batch plant operation. Please contact us if you have any questions or comments regarding the contents of this report or the analyses performed.

Sincerely,

**KITTELSON & ASSOCIATES, INC.**



Matt Hughart, AICP  
Principal Planner



Alec Kauffman  
Analyst



Julia Kuhn, P.E.  
Senior Principal Engineer

## Appendix A Crash Data



Intersectional Crashes at US-730, Columbia River Hwy (#002) & OR-207, Hermiston Hwy (#333)  
 January 1, 2016 through December 31, 2020

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
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YEAR:

TOTAL

FINAL TOTAL

**Disclaimers: Effective 2016, collection of "Property Damage Only" (PDO) crash data elements was reduced for vehicles and participants. Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.**

**A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see [https://www.oregon.gov/ODOT/Data/documents/Crash\\_Data\\_Disclaimers.pdf](https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf).**

Intersectional Crashes at US-730, Columbia River Hwy from Milepoint 191.40 through Milepoint 192.00.  
 January 1, 2016 through December 31, 2020

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION RELATED	INTER-SECTION RELATED ROAD	OFF-ROAD
YEAR: 2017														
NON-COLLISION	0	1	0	1	0	1	0	0	1	1	0	0	0	1
2017 TOTAL	0	1	0	1	0	1	0	0	1	1	0	0	0	1
FINAL TOTAL	0	1	0	1	0	1	0	0	1	1	0	0	0	1

**Disclaimers:** Effective 2016, collection of "Property Damage Only" (PDO) crash data elements was reduced for vehicles and participants. Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see [https://www.oregon.gov/ODOT/Data/documents/Crash\\_Data\\_Disclaimers.pdf](https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf).



ACTION CODE TRANSLATION LIST

ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
000	NONE	NO ACTION OR NON-WARRANTED
001	SKIDDED	SKIDDED
002	ON/OFF V	GETTING ON OR OFF STOPPED OR PARKED VEHICLE
003	LOAD OVR	OVERHANGING LOAD STRUCK ANOTHER VEHICLE, ETC.
006	SLOW DN	SLOWED DOWN
007	AVOIDING	AVOIDING MANEUVER
008	PAR PARK	PARALLEL PARKING
009	ANG PARK	ANGLE PARKING
010	INTERFERE	PASSENGER INTERFERING WITH DRIVER
011	STOPPED	STOPPED IN TRAFFIC NOT WAITING TO MAKE A LEFT TURN
012	STP/L TRN	STOPPED BECAUSE OF LEFT TURN SIGNAL OR WAITING, ETC.
013	STP TURN	STOPPED WHILE EXECUTING A TURN
014	EMR V PKD	EMERGENCY VEHICLE LEGALLY PARKED IN THE ROADWAY
015	GO A/STOP	PROCEED AFTER STOPPING FOR A STOP SIGN/FLASHING RED.
016	TRN A/RED	TURNED ON RED AFTER STOPPING
017	LOSTCTRL	LOST CONTROL OF VEHICLE
018	EXIT DWY	ENTERING STREET OR HIGHWAY FROM ALLEY OR DRIVEWAY
019	ENFR DWY	ENTERING ALLEY OR DRIVEWAY FROM STREET OR HIGHWAY
020	STR ENTR	BEFORE ENTERING ROADWAY, STRUCK PEDESTRIAN, ETC. ON SIDEWALK OR SHOULDER
021	NO DRVR	CAR RAN AWAY - NO DRIVER
022	PREV COL	STRUCK, OR WAS STRUCK BY, VEHICLE OR PEDESTRIAN IN PRIOR COLLISION BEFORE ACC. STABILIZED
023	STALLED	VEHICLE STALLED OR DISABLED
024	DRVR DEAD	DEAD BY UNASSOCIATED CAUSE
025	FATIGUE	FATIGUED, SLEEPY, ASLEEP
026	SUN	DRIVER BLINDED BY SUN
027	HDLIGHTS	DRIVER BLINDED BY HEADLIGHTS
028	ILLNESS	PHYSICALLY ILL
029	THRU MED	VEHICLE CROSSED, PLUNGED OVER, OR THROUGH MEDIAN BARRIER
030	PURSUIT	PURSUEING OR ATTEMPTING TO STOP A VEHICLE
031	PASSING	PASSING SITUATION
032	PKOPFRD	VEHICLE PARKED BEYOND CURB OR SHOULDER
033	CROS MED	VEHICLE CROSSED EARTH OR GRASS MEDIAN
034	X N/SGNL	CROSSING AT INTERSECTION - NO TRAFFIC SIGNAL PRESENT
035	X W/ SGNL	CROSSING AT INTERSECTION - TRAFFIC SIGNAL PRESENT
036	DIAGONAL	CROSSING AT INTERSECTION - DIAGONALLY
037	BTWN INT	CROSSING BETWEEN INTERSECTIONS
038	DISTRCT	DRIVER'S ATTENTION DISTRACTED
039	W/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC
040	A/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC
041	W/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC
042	A/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC
043	PLAYINRD	PLAYING IN STREET OR ROAD
044	PUSH MV	PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER
045	WORK ON	WORKING IN ROADWAY OR ALONG SHOULDER
046	W/ TRAFIC	NON-MOTORIST WALKING, RUNNING, RIDING, ETC. WITH TRAFFIC
047	A/ TRAFIC	NON-MOTORIST WALKING, RUNNING, RIDING, ETC. FACING TRAFFIC
050	LAY ON RD	STANDING OR LYING IN ROADWAY
051	ENT OFFRD	ENTERING / STARTING IN TRAFFIC LANE FROM OFF ROAD
052	MERGING	MERGING

ACTION CODE TRANSLATION LIST

ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
055	SPRAY	BLINDED BY WATER SPRAY
088	OTHER	OTHER ACTION
099	UNK	UNKNOWN ACTION

CAUSE CODE TRANSLATION LIST

CAUSE CODE	SHORT DESCRIPTION	LONG DESCRIPTION
00	NO CODE	NO CAUSE ASSOCIATED AT THIS LEVEL
01	TOO-FAST	NO CAUSE ASSOCIATED AT THIS LEVEL
02	NO-YIELD	TOO FAST FOR CONDITIONS (NOT EXCEED POSTED SPEED)
03	PAS-STOP	DID NOT YIELD RIGHT-OF-WAY
04	DIS SIG	PASSED STOP SIGN OR RED FLASHER
05	LEFT-CTR	DISREGARDED TRAFFIC SIGNAL
06	IMP-OVER	drove LEFT OF CENTER ON TWO-WAY ROAD; STRADDLING IMPROPER OVERTAKING
07	TOO-CLOS	FOLLOWED TOO CLOSELY
08	IMP-TURN	MADE IMPROPER TURN
09	DRINKING	ALCOHOL OR DRUG INVOLVED
10	OTHR-IMP	OTHER IMPROPER DRIVING
11	MECH-DEF	MECHANICAL DEFECT
12	OTHER	OTHER (NOT IMPROPER DRIVING)
13	IMP LN C	IMPROPER CHANGE OF TRAFFIC LANES
14	DIS TCD	DISREGARDED OTHER TRAFFIC CONTROL DEVICE
15	WRNG WAY	WRONG WAY ON ONE-WAY ROAD; WRONG SIDE DIVIDED ROAD
16	FATIGUE	DRIVER DROWSY/FATIGUED/SLEEPY
17	ILLNESS	PHYSICAL ILLNESS
18	IN RDWY	NON-MOTORIST ILLEGALLY IN ROADWAY
19	NT VISBL	NON-MOTORIST NOT VISIBLE; NON-REFLECTIVE CLOTHING
20	IMP PKNG	VEHICLE IMPROPERLY PARKED
21	DEF STER	DEFECTIVE STEERING MECHANISM
22	DEF BRKE	INADEQUATE OR NO BRAKES
24	LOADSHTF	VEHICLE LOST LOAD OR LOAD SHIFTED
25	TIREFAIL	TIRE FAILURE
26	PHANTOM	PHANTOM / NON-CONTACT VEHICLE
27	INATTENT	INATTENTION
28	NM INATT	NON-MOTORIST INATTENTION
29	F AVOID	FAILED TO AVOID VEHICLE AHEAD
30	SPEED	DRIVING IN EXCESS OF POSTED SPEED
31	RACING	SPEED RACING (PER PAR)
32	CARELESS	CARELESS DRIVING (PER PAR)
33	RECKLESS	RECKLESS DRIVING (PER PAR)
34	AGGRESV	AGGRESSIVE DRIVING (PER PAR)
35	RD RAGE	ROAD RAGE (PER PAR)
40	VIEW OBS	VIEW OBSCURED
50	USED MDN	IMPROPER USE OF MEDIAN OR SHOULDER
51	FAIL LN	FAILED TO MAINTAIN LANE
52	OFF RD	RAN OFF ROAD

COLLISION TYPE CODE TRANSLATION LIST

COLL CODE	SHORT DESCRIPTION	LONG DESCRIPTION
6	OTH	MISCELLANEOUS
-	BACK	BACKING
0	PED	PEDESTRIAN
1	ANGL	ANGLE
2	HEAD	HEAD-ON
3	REAR	REAR-END
4	SS-M	SIDESWIPE - MEETING
5	SS-O	SIDESWIPE - OVERTAKING
6	TURN	TURNING MOVEMENT
7	PARK	PARKING MANEUVER
8	NCOL	NON-COLLISION
9	FIX	FIXED OBJECT OR OTHER OBJECT

CRASH TYPE CODE TRANSLATION LIST

CRASH TYPE	SHORT DESCRIPTION	LONG DESCRIPTION
6	OVERTURN	OVERTURNED
0	NON-COLL	OTHER NON-COLLISION
1	OTH RDWY	MOTOR VEHICLE ON OTHER ROADWAY
2	PRKD MV	PARKED MOTOR VEHICLE
3	PED	PEDESTRIAN
4	TRAIN	RAILWAY TRAIN
6	BIKE	PEDALCYCLIST
7	ANIMAL	ANIMAL
8	FIX OBJ	FIXED OBJECT
9	OTH OBJ	OTHER OBJECT
A	ANGL-STP	ENTERING AT ANGLE - ONE VEHICLE STOPPED
B	ANGL-OTH	ENTERING AT ANGLE - ALL OTHERS
C	S-STRGHT	FROM SAME DIRECTION - BOTH GOING STRAIGHT
D	S-ITURN	FROM SAME DIRECTION - ONE TURN, ONE STRAIGHT
E	S-ISTOP	FROM SAME DIRECTION - ONE STOPPED
F	S-OTHER	FROM SAME DIRECTION-ALL OTHERS, INCLUDING PARKING
G	O-STRGHT	FROM OPPOSITE DIRECTION - BOTH GOING STRAIGHT
H	O-1 L-TURN	FROM OPPOSITE DIRECTION-ONE LEFT TURN, ONE STRAIGHT
I	O-1STOP	FROM OPPOSITE DIRECTION - ONE STOPPED
J	O-OTHER	FROM OPPOSITE DIRECTION-ALL OTHERS INCL. PARKING

DRIVER LICENSE CODE TRANSLATION LIST

LIC CODE	SHORT DESC	LONG DESCRIPTION
0	NONE	NOT LICENSED (HAD NEVER BEEN LICENSED)
1	OR-Y	VALID OREGON LICENSE
2	OTH-Y	VALID LICENSE, OTHER STATE OR COUNTRY
3	SUSP	SUSPENDED/REVOKED
4	EXP	EXPIRED
8	N-VAL	OTHER NON-VALID LICENSE
9	UNK	UNKNOWN IF DRIVER WAS LICENSED AT TIME OF CRASH

DRIVER RESIDENCE CODE TRANSLATION LIST

RES CODE	SHORT DESC	LONG DESCRIPTION
1	OR<25	OREGON RESIDENT WITHIN 25 MILE OF HOME
2	OR>25	OREGON RESIDENT 25 OR MORE MILES FROM HOME
3	OR-?	OREGON RESIDENT - UNKNOWN DISTANCE FROM HOME
4	N-RES	NON-RESIDENT
9	UNK	UNKNOWN IF OREGON RESIDENT

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
000	NONE	NO ERROR
001	WIDE TRN	WIDE TURN
002	CUT CORN	CUT CORNER ON TURN
003	FAIL TRN	FAILED TO OBEY MANDATORY TRAFFIC TURN SIGNAL, SIGN OR LANE MARKINGS
004	L IN TRF	LEFT TURN IN FRONT OF ONCOMING TRAFFIC
005	L PROHIB	LEFT TURN WHERE PROHIBITED
006	FRM WRNG	TURNED FROM WRONG LANE
007	TO WRONG	TURNED INTO WRONG LANE
008	ILLEG U	U-TURNED ILLEGALLY
009	IMP STOP	IMPROPERLY STOPPED IN TRAFFIC LANE
010	IMP SIG	IMPROPER SIGNAL OR FAILURE TO SIGNAL
011	IMP BACK	BACKING IMPROPERLY (NOT PARKING)
012	IMP PARK	IMPROPERLY PARKED
013	UNPARK	IMPROPER START LEAVING PARKED POSITION
014	IMP STRT	IMPROPER START FROM STOPPED POSITION
015	IMP LGHT	IMPROPER OR NO LIGHTS (VEHICLE IN TRAFFIC)
016	INATTENT	INATTENTION (FAILURE TO DIM LIGHTS PRIOR TO 4/1/97)
017	UNSF VEH	DRIVING UNSAFE VEHICLE (NO OTHER ERROR APPARENT)
018	OTH PARK	ENTERING/EXITING PARKED POSITION W/ INSUFFICIENT CLEARANCE; OTHER IMPROPER PARKING MANUEVER
019	DIS DRIV	DISREGARDED OTHER DRIVER'S SIGNAL
020	DIS SGNL	DISREGARDED TRAFFIC SIGNAL
021	RAN STOP	DISREGARDED STOP SIGN OR FLASHING RED
022	DIS SGN	DISREGARDED WARNING SIGN, FLARES OR FLASHING AMBER
023	DIS OFCR	DISREGARDED POLICE OFFICER OR FLAGMAN
024	DIS EMER	DISREGARDED SIREN OR WARNING OF EMERGENCY VEHICLE
025	DIS RR	DISREGARDED RR SIGNAL, RR SIGN, OR RR FLAGMAN
026	REAR-END	FAILED TO AVOID STOPPED OR PARKED VEHICLE AHEAD OTHER THAN SCHOOL BUS
027	BIKE ROW	DID NOT HAVE RIGHT-OF-WAY OVER PEDALCYCLIST
028	NO ROW	DID NOT HAVE RIGHT-OF-WAY
029	FED ROW	FAILED TO YIELD RIGHT-OF-WAY TO PEDESTRIAN
030	PAS CURV	PASSING ON A CURVE
031	PAS WRNG	PASSING ON THE WRONG SIDE
032	PAS TANG	PASSING ON STRAIGHT ROAD UNDER UNSAFE CONDITIONS
033	PAS X-WK	PASSED VEHICLE STOPPED AT CROSSWALK FOR PEDESTRIAN
034	PAS INTR	PASSING AT INTERSECTION
035	PAS HILL	PASSING ON CREST OF HILL
036	N/PAS 2N	PASSING IN "NO PASSING" ZONE
037	PAS TRAF	PASSING IN FRONT OF ONCOMING TRAFFIC
038	CUT-IN	CUTTING IN (TWO LANES - TWO WAY ONLY)
039	WRNGSIDE	DRIVING ON WRONG SIDE OF THE ROAD (2-WAY UNDIVIDED ROADWAYS)

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
040	THRU MED	DRIVING THROUGH SAFETY ZONE OR OVER ISLAND
041	F/ST BUS	FAILED TO STOP FOR SCHOOL BUS
042	F/SLO MV	FAILED TO DECREASE SPEED FOR SLOWER MOVING VEHICLE
043	TOO CLOSE	FOLLOWING TOO CLOSELY (MUST BE ON OFFICER'S REPORT)
044	STRDL IN	STRADDLING OR DRIVING ON WRONG LANES
045	IMP CHG	IMPROPER CHANGE OF TRAFFIC LANES
046	WRNG WAY	WRONG WAY ON ONE-WAY ROADWAY; WRONG SIDE DIVIDED ROAD
047	BASCRULE	DRIVING TOO FAST FOR CONDITIONS (NOT EXCEEDING POSTED SPEED)
048	OPN DOOR	OPENED DOOR INTO ADJACENT TRAFFIC LANE
049	IMPEDING	IMPEDING TRAFFIC
050	SPEED	DRIVING IN EXCESS OF POSTED SPEED
051	RECKLESS	RECKLESS DRIVING (PER PAR)
052	CARELESS	CARELESS DRIVING (PER PAR)
053	RACING	SPEED RACING (PER PAR)
054	X N/SGNL	CROSSING AT INTERSECTION, NO TRAFFIC SIGNAL PRESENT
055	X W/SGNL	CROSSING AT INTERSECTION, TRAFFIC SIGNAL PRESENT
056	DIAGONAL	CROSSING AT INTERSECTION - DIAGONALLY
057	BTWN INT	CROSSING BETWEEN INTERSECTIONS
059	W/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC
060	A/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC
061	W/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC
062	A/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC
063	PLAYNRD	PLAYING IN STREET OR ROAD
064	PUSH MV	PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER
065	WRK IN RD	WORKING IN ROADWAY OR ALONG SHOULDER
070	LAY ON RD	STANDING OR LYING IN ROADWAY
071	NM IMP USE	IMPROPER USE OF TRAFFIC LANE BY NON-MOTORIST
073	ELUDING	ELUDING / ATTEMPT TO ELUDE
079	F NEG CURV	FAILED TO NEGOTIATE A CURVE
080	FALL LN	FAILED TO MAINTAIN LANE
081	OFF RD	RAN OFF ROAD
082	NO CLEAR	DRIVER MISJUDGED CLEARANCE
083	OVRSTEER	OVER-CORRECTING
084	NOT USED	CODE NOT IN USE
085	OVRLOAD	OVERLOADING OR IMPROPER LOADING OF VEHICLE WITH CARGO OR PASSENGERS
097	UNA DIS TC	UNABLE TO DETERMINE WHICH DRIVER DISREGARDED TRAFFIC CONTROL DEVICE



EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
001	FEL/JUMP	OCCUPANT FELL, JUMPED OR WAS EJECTED FROM MOVING VEHICLE
002	INTERFER	PASSENGER INTERFERED WITH DRIVER
003	BUG INTF	ANIMAL OR INSECT IN VEHICLE INTERFERED WITH DRIVER
004	INDRCT PED	PEDESTRIAN INDIRECTLY INVOLVED (NOT STRUCK)
005	SUB-PED	"SUB-PED": PEDESTRIAN INVOLVED SUBSEQUENT TO COLLISION, ETC.
006	INDRCT BIK	PEDALCYCLIST INDIRECTLY INVOLVED (NOT STRUCK)
007	HITCHIKR	HITCHHIKER (SOLICITING A RIDE)
008	PSNGR TOW	PASSENGER OR NON-MOTORIST BEING TOWED OR PUSHED ON CONVEYANCE
009	ON/OFF V	GETTING ON/OFF STOPPED/PARKED VEHICLE (OCCUPANTS ONLY; MUST HAVE PHYSICAL CONTACT W/ VEHICLE)
010	SUB OVRN	OVERTURNED AFTER FIRST HARMFUL EVENT
011	MV PUSHD	VEHICLE BEING PUSHED
012	MV TOWED	VEHICLE TOWED OR HAD BEEN TOWING ANOTHER VEHICLE
013	FORCED	VEHICLE FORCED BY IMPACT INTO ANOTHER VEHICLE, PEDALCYCLIST OR PEDESTRIAN
014	SET MOTN	VEHICLE SET IN MOTION BY NON-DRIVER (CHILD RELEASED BRAKES, ETC.)
015	RR ROW	AT OR ON RAILROAD RIGHT-OF-WAY (NOT LIGHT RAIL)
016	LT RL ROW	AT OR ON LIGHT-RAIL RIGHT-OF-WAY
017	RR HIT V	TRAIN STRUCK VEHICLE
018	V HIT RR	VEHICLE STRUCK TRAIN
019	HIT RR CAR	VEHICLE STRUCK RAILROAD CAR ON ROADWAY
020	JACKNIFE	JACKNIFE; TRAILER OR TOWED VEHICLE STRUCK TOWING VEHICLE
021	TRL OVRN	TRAILER OR TOWED VEHICLE OVERTURNED
022	CN BROKE	TRAILER CONNECTION BROKE
023	DETACH TRL	DETACHED TRAILING OBJECT STRUCK OTHER VEHICLE, NON-MOTORIST, OR OBJECT
024	V DOOR OEN	VEHICLE DOOR OPENED INTO ADJACENT TRAFFIC LANE
025	WHEELOFF	WHEEL CAME OFF
026	HOOD UP	HOOD FLEW UP
028	LOAD SHFT	LOST LOAD, LOAD MOVED OR SHIFTED
029	TIREFAIL	TIRE FAILURE
030	PET	PET: CAT, DOG AND SIMILAR
031	LVSTOCK	STOCK: COW, CALF, BULL, STEER, SHEEP, ETC.
032	HORSE	HORSE, MULE, OR DONKEY
033	HRSEERLD	HORSE AND RIDER
034	GAME	WILD ANIMAL, GAME (INCLUDES BIRDS; NOT DEER OR ELK)
035	DEER ELK	DEER OR ELK, WAPEIT
036	ANML VEH	ANIMAL-DRAWN VEHICLE
037	CULVERT	CULVERT, OPEN LOW OR HIGH MANHOLE
038	ATTENUATR	IMPACT ATTENUATOR
039	PK METER	PARKING METER
040	CURB	CURB (ALSO NARROW SIDEWALKS ON BRIDGES)
041	JIGGLE	JIGGLE BAR OR TRAFFIC SNAKE FOR CHANNELLIZATION
042	GDRL END	LEADING EDGE OF GUARDRAIL
043	GUARDRAIL	GUARD RAIL (NOT METAL MEDIAN BARRIER)
044	BARRIER	MEDIAN BARRIER (RAISED OR METAL)
045	WALL	RETAINING WALL OR TUNNEL WALL
046	BR RAIL	BRIDGE RAILING OR PARAPET (ON BRIDGE OR APPROACH)
047	BR ABUTMNT	BRIDGE ABUTMENT (INCLUDED "APPROACH END" THRU 2013)
048	BR COLUMN	BRIDGE PILLAR OR COLUMN
049	BR GIRDR	BRIDGE GIRDER (HORIZONTAL BRIDGE STRUCTURE OVERHEAD)
050	ISLAND	TRAFFIC RAISED ISLAND
051	GORE	GORE
052	POLE UNK	POLE - TYPE UNKNOWN
053	POLE UTL	POLE - POWER OR TELEPHONE
054	ST LIGHT	POLE - STREET LIGHT ONLY
055	TRF SGNL	POLE - TRAFFIC SIGNAL AND PED SIGNAL ONLY
056	SGN BRDG	POLE - SIGN BRIDGE
057	STOPSIGN	STOP OR YIELD SIGN

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
058	OTH SIGN	OTHER SIGN, INCLUDING STREET SIGNS
059	HYDRANT	HYDRANT
060	MARKER	DELINEATOR OR MARKER (REFLECTOR POSTS)
061	MAILBOX	MAILBOX
062	TREE	TREE, STUMP OR SHRUBS
063	VEG OHED	TREE BRANCH OR OTHER VEGETATION OVERHEAD, ETC.
064	WIRE/CBL	WIRE OR CABLE ACROSS OR OVER THE ROAD
065	TEMP SGN	TEMPORARY SIGN OR BARRICADE IN ROAD, ETC.
066	PERM SGN	PERMANENT SIGN OR BARRICADE IN/OFF ROAD
067	SLIDE	SLIDES, FALLEN OR FALLING ROCKS
068	FRGN OBJ	FOREIGN OBSTRUCTION/DEBRIS IN ROAD (NOT GRAVEL)
069	EQP WORK	EQUIPMENT WORKING IN/OFF ROAD
070	OTH EQP	EQUIPMENT WORKING IN OR OFF ROAD (INCLUDES PARKED TRAILER, BOAT)
071	MAIN EQP	WRECKER, STREET SWEEPER, SNOW PLOW OR SANDING EQUIPMENT
072	OTHER WALL	ROCK, BRICK OR OTHER SOLID WALL
073	IRGL FVMT	OTHER BUMP (NOT SPEED BUMP), POTHOLE OR PAVEMENT IRREGULARITY (PER PAR)
074	OVERHD OBJ	OTHER OVERHEAD OBJECT (HIGHWAY SIGN, SIGNAL HEAD, ETC.); NOT BRIDGE
075	CAVE IN	BRIDGE OR ROAD CAVE IN
076	HI WATER	HIGH WATER
077	SNO BANK	SNOW BANK
078	LO-HI EDGE	LOW OR HIGH SHOULDER AT PAVEMENT EDGE
079	DITCH	CUT SLOPE OR DITCH EMBANKMENT
080	OBJ FRM MV	STRUCK BY ROCK OR OTHER OBJECT SET IN MOTION BY OTHER VEHICLE (INCL. LOST LOADS)
081	FLY-OBJ	STRUCK BY ROCK OR OTHER MOVING OR FLYING OBJECT (NOT SET IN MOTION BY VEHICLE)
082	VEH HID	VEHICLE OBSCURED VIEW
083	VEG HID	VEGETATION OBSCURED VIEW
084	BLDG HID	VIEW OBSCURED BY FENCE, SIGN, PHONE BOOTH, ETC.
085	WIND GUST	WIND GUST
086	IMMERSED	VEHICLE IMMERSED IN BODY OF WATER
087	FIRE/EXP	FIRE OR EXPLOSION
088	FENC/BLD	FENCE OR BUILDING, ETC.
089	OTHR CRASH	CRASH RELATED TO ANOTHER SEPARATE CRASH
090	TO 1 SIDE	TWO-WAY TRAFFIC ON DIVIDED ROADWAY ALL ROUTED TO ONE SIDE
091	BUILDING	BUILDING OR OTHER STRUCTURE
092	PHANTOM	OTHER (PHANTOM) NON-CONTACT VEHICLE
093	CELL PHONE	CELL PHONE (ON PAR OR DRIVER IN USE)
094	VIOL GDL	TEENAGE DRIVER IN VIOLATION OF GRADUATED LICENSE PGM
095	GUY WIRE	GUY WIRE
096	BERM	BERM (EARTHEN OR GRAVEL MOUND)
097	GRAVEL	GRAVEL IN ROADWAY
098	ABR EDGE	ABRUPT EDGE
099	CELL WTNSD	CELL PHONE USE WITNESSED BY OTHER PARTICIPANT
100	UNK FIXD	FIXED OBJECT, UNKNOWN TYPE.
101	OTHER OBJ	NON-FIXED OBJECT, OTHER OR UNKNOWN TYPE
102	TEXTING	TEXTING
103	WZ WORKER	WORK ZONE WORKER
104	ON VEHICLE	PASSENGER RIDING ON VEHICLE EXTERIOR
105	PEDAL PSGR	PASSENGER RIDING ON PEDALCYCLE
106	MAN WHLCHR	PEDESTRIAN IN NON-MOTORIZED WHEELCHAIR
107	MTR WHLCHR	PEDESTRIAN IN MOTORIZED WHEELCHAIR
108	OFFICER	LAW ENFORCEMENT / POLICE OFFICER
109	SUB-BIKE	"SUB-BIKE": PEDALCYCLIST INJURED SUBSEQUENT TO COLLISION, ETC.
110	N-MTR	NON-MOTORIST STRUCK VEHICLE
111	S CAR VS V	STREET CAR/TROLLEY (ON RAILS OR OVERHEAD WIRE SYSTEM) STRUCK VEHICLE
112	V S CAR	VEHICLE STRUCK STREET CAR/TROLLEY (ON RAILS OR OVERHEAD WIRE SYSTEM)
113	S CAR ROW	AT OR ON STREET CAR OR TROLLEY RIGHT-OF-WAY

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
114	RR EQUIP	VEHICLE STRUCK RAILROAD EQUIPMENT (NOT TRAIN) ON TRACKS
115	DSTRCT GFS	DISTRACTED BY NAVIGATION SYSTEM OR GFS DEVICE
116	DSTRCT OPH	DISTRACTED BY OTHER ELECTRONIC DEVICE
117	RR GATE	RAIL CROSSING DROP-ARM GATE
118	EXPNSN JNT	EXPANSION JOINT
119	JERSEY BAR	JERSEY BARRIER
120	WIRE BAR	WIRE OR CABLE MEDIAN BARRIER
121	FENCE	FENCE
123	OBJ IN VEH	LOOSE OBJECT IN VEHICLE STRUCK OCCUPANT
124	SLIPPERY	SLIDING OR SWERVING DUE TO WET, ICY, SLIPPERY OR LOOSE SURFACE (NOT GRAVEL)
125	SHLDR	SHOULDER GAVE WAY
126	BOULDER	ROCK(S), BOULDER (NOT GRAVEL; NOT ROCK SLIDE)
127	LAND SLIDE	ROCK SLIDE OR LAND SLIDE
128	CURVE INV	CURVE PRESENT AT CRASH LOCATION
129	HILL INV	VERTICAL GRADE / HILL PRESENT AT CRASH LOCATION
130	CURVE HID	VIEW OBSCURED BY CURVE
131	HILL HID	VIEW OBSCURED BY VERTICAL GRADE / HILL
132	WINDOW HID	VIEW OBSCURED BY VEHICLE WINDOW CONDITIONS
133	SPRAY HID	VIEW OBSCURED BY WATER SPRAY
134	TORRENTIAL	TORRENTIAL RAIN (EXCEPTIONALLY HEAVY RAIN)
135	RAIL OCC	INJURED OCCUPANT OF RAILWAY TRAIN, LIGHT RAIL, STREET CAR OR CABLE CAR

FUNCTIONAL CLASSIFICATION TRANSLATION LIST

FUNC CLASS	DESCRIPTION
01	RURAL PRINCIPAL ARTERIAL - INTERSTATE
02	RURAL PRINCIPAL ARTERIAL - OTHER
06	RURAL MINOR ARTERIAL
07	RURAL MAJOR COLLECTOR
08	RURAL MINOR COLLECTOR
09	RURAL LOCAL
11	URBAN PRINCIPAL ARTERIAL - INTERSTATE
12	URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXP
14	URBAN PRINCIPAL ARTERIAL - OTHER
16	URBAN MINOR ARTERIAL
17	URBAN MAJOR COLLECTOR
18	URBAN MINOR COLLECTOR
19	URBAN LOCAL
78	UNKNOWN RURAL SYSTEM
79	UNKNOWN RURAL NON-SYSTEM
98	UNKNOWN URBAN SYSTEM
99	UNKNOWN URBAN NON-SYSTEM

HIGHWAY COMPONENT TRANSLATION LIST

CODE	DESCRIPTION
0	MAINLINE STATE HIGHWAY
1	COULET
3	FRONTAGE ROAD
6	CONNECTION
8	HIGHWAY - OTHER

INJURY SEVERITY CODE TRANSLATION LIST

SHORT CODE	DESC	LONG DESCRIPTION
1	KILL	FATAL INJURY (K)
2	INJA	SUSPECTED SERIOUS INJURY (A)
3	INJB	SUSPECTED MINOR INJURY (B)
4	INJC	POSSIBLE INJURY (C)
5	PRI	DIED PRIOR TO CRASH
7	NO<5	NO INJURY - 0 TO 4 YEARS OF AGE
9	NONE	NO APPARENT INJURY (O)

LIGHT CONDITION CODE TRANSLATION LIST

SHORT CODE	DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	DAY	DAYLIGHT
2	DLIT	DARKNESS - WITH STREET LIGHTS
3	DARK	DARKNESS - NO STREET LIGHTS
4	DAWN	DAWN (TWILIGHT)
5	DUSK	DUSK (TWILIGHT)

MEDIAN TYPE CODE TRANSLATION LIST

SHORT CODE	DESC	LONG DESCRIPTION
0	NONE	NO MEDIAN
1	RSDMD	SOLID MEDIAN BARRIER
2	DIVMD	EARTH, GRASS OR PAVED MEDIAN

MILEAGE TYPE CODE TRANSLATION LIST

SHORT CODE	DESC	LONG DESCRIPTION
0	REG	REGULAR MILEAGE
T	TEMP	TEMPORARY
Y	SFUR	SFUR
Z	OVLP	OVERLAPPING

MOVEMENT TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	STRGHT	STRAIGHT AHEAD
2	TURN-R	TURNING RIGHT
3	TURN-L	TURNING LEFT
4	U-TURN	MAKING A U-TURN
5	BACK	BACKING
6	STOP	STOPPED IN TRAFFIC
7	ERKD-P	PARKED - PROPERLY
8	ERKD-I	PARKED - IMPROPERLY
9	PARKNG	PARKING MANEUVER

PARTICIPANT TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	OCC	UNKNOWN OCCUPANT TYPE
1	DRVR	DRIVER
2	PSNGR	PASSENGER
3	PED	PEDESTRIAN
4	CONV	PEDESTRIAN USING A PEDESTRIAN CONVEYAL
5	PTOW	PEDESTRIAN TOWING OR TRAILERING AN OB.
6	BIKE	PEDALCYCLIST
7	BTOW	PEDALCYCLIST TOWING OR TRAILERING AN I
8	PRKD	OCCUPANT OF A PARKED MOTOR VEHICLE
9	OTHR	OTHER TYPE OF NON-MOTORIST

TRAFFIC CONTROL DEVICE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
000	NONE	NO CONTROL
001	TRF SIGNAL	TRAFFIC SIGNALS
002	FLASHCN-R	FLASHING BEACON - RED (STOP)
003	FLASHCN-A	FLASHING BEACON - AMBER (SLOW)
004	STOP SIGN	STOP SIGN
005	SLOW SIGN	SLOW SIGN
006	REG-SIGN	REGULATORY SIGN
007	YIELD	YIELD SIGN
008	WARNING	WARNING SIGN
009	CURVE	CURVE SIGN
010	SCHL X-ING	SCHOOL CROSSING SIGN OR SPECIAL SIGNAL
011	OFCKR/FLAG	POLICE OFFICER, FLAGMAN - SCHOOL PATROL
012	BRDG-GATE	BRIDGE GATE - BARRIER
013	TEMP-BARR	TEMPORARY BARRIER
014	NO-PASS-ZN	NO PASSING ZONE
015	ONE-WAY	ONE-WAY STREET
016	CHANNEL	CHANNELIZATION
017	MEDIAN BAR	MEDIAN BARRIER
018	PILOT CAR	PILOT CAR
019	SP PED SIG	SPECIAL PEDESTRIAN SIGNAL
020	X-BUCK	CROSSBUCK
021	THR-GN-SIG	THROUGH GREEN ARROW OR SIGNAL
022	L-GRN-SIG	LEFT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
023	R-GRN-SIG	RIGHT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
024	WIGWAG	WIGWAG OR FLASHING LIGHTS W/O DROP-ARM GATE
025	X-BUCK WRN	CROSSBUCK AND ADVANCE WARNING
026	WW W/ GATE	FLASHING LIGHTS WITH DROP-ARM GATES
027	OVARD SGNL	SUPPLEMENTAL OVERHEAD SIGNAL (RR XING ONLY)
028	SP RR STOP	SPECIAL RR STOP SIGN
029	ILOW GRD X	ILLUMINATED GRADE CROSSING
037	RAMP METER	METERED RAMP
038	RUMBLE STR	RUMBLE STRIP
040	AUTO. FLAG	AUTOMATED FLAGGER ASSISTANCE DEVICE
090	L-TURN REF	LEFT TURN REFUGE (WHEN REFUGE IS INVOLVED)
091	R-TURN ALL	RIGHT TURN AT ALL TIMES SIGN, ETC.
092	EMR SGN/FL	EMERGENCY SIGNS OR FLARES
093	ACCEL LANE	ACCELERATION OR DECELERATION LANES
094	R-TURN PRO	RIGHT TURN PROHIBITED ON RED AFTER STOPPING
095	BUS STPSSN	BUS STOP SIGN AND RED LIGHTS

NON-MOTORIST LOCATION CODE TRANSLATION LIST

CODE	LONG DESCRIPTION
00	AT INTERSECTION - NOT IN ROADWAY
01	AT INTERSECTION - INSIDE CROSSWALK
02	AT INTERSECTION - IN ROADWAY, OUTSIDE CROSSWALK
03	AT INTERSECTION - IN ROADWAY, XWALK AVAIL UNKNWN
04	NOT AT INTERSECTION - IN ROADWAY
05	NOT AT INTERSECTION - ON SHOULDER
06	NOT AT INTERSECTION - ON MEDIAN
07	NOT AT INTERSECTION - WITHIN TRAFFIC RIGHT-OF-WAY
08	NOT AT INTERSECTION - IN BIKE PATH OR PARKING LANE
09	NOT AT INTERSECTION - ON SIDEWALK
10	OUTSIDE TRAFFICWAY BOUNDARIES
13	AT INTERSECTION - IN BIKE LANE
14	NOT AT INTERSECTION - IN BIKE LANE
15	NOT AT INTERSECTION - INSIDE MID-BLOCK CROSSWALK
16	NOT AT INTERSECTION - IN PARKING LANE
18	OTHER, NOT IN ROADWAY
99	UNKNOWN LOCATION

ROAD CHARACTER CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	INTER	INTERSECTION
2	ALLEY	DRIVEWAY OR ALLEY
3	STRGHT	STRAIGHT ROADWAY
4	TRANS	TRANSITION
5	CURVE	CURVE (HORIZONTAL CURVE)
6	OPENAC	OPEN ACCESS OR TURNOUT
7	GRADE	GRADE (VERTICAL CURVE)
8	BRIDGE	BRIDGE STRUCTURE
9	TUNNEL	TUNNEL

099 UNKNOWN UNKNOWN OR NOT DEFINITE

WEATHER CONDITION CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	CLR	CLEAR
2	CLD	CLOUDY
3	RAIN	RAIN
4	SLT	SLEET
5	FOG	FOG
6	SNOW	SNOW
7	DUST	DUST
8	SMOK	SMOKE
9	ASH	ASH

VEHICLE TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
00	PDO	NOT COLLECTED FOR PDO CRASHES
01	PENGR CAR	PASSENGER CAR, PICKUP, LIGHT DELIVERY, ETC.
02	BOBTAIL	TRUCK TRACTOR WITH NO TRAILERS (BOBTAIL)
03	FARM TRCTR	FARM TRACTOR OR SELF-PROPELLED FARM EQUIPMENT
04	SEMI TOW	TRUCK TRACTOR WITH TRAILER/MOBILE HOME IN TOW
05	TRUCK	TRUCK WITH NON-DETACHABLE BED, PANEL, ETC.
06	MOPED	MOPED, MINIBIKE, SEATED MOTOR SCOOTER (REV. 2022)
07	SCHL BUS	SCHOOL BUS (INCLUDES VAN)
08	OTH BUS	OTHER BUS
09	MTRCYCLE	MOTORCYCLE, DIRT BIKE
10	OTHER	OTHER: FORKLIFT, BACKHOE, ETC.
11	MOTRHOME	MOTORHOME
12	TROLLEY	MOTORIZED STREET CAR/TROLLEY (NO RAILS/WIRES)
13	ATV	ATV
14	MTRSCTR	MOTORIZED SCOOTER (STANDING)
15	SNOWMOBILE	SNOWMOBILE
16	MTRZ/EBIKE	MOTORIZED OR ELECTRIC BICYCLE (E-BIKE) (EFF.2022)
17	UTV	UTV SIDE BY SIDE
99	UNKNOWN	UNKNOWN VEHICLE TYPE



VEHICLE OWNERSHIP CODES

Code	Short Description	Long Description
0	N/A	Not collected for PDO Crashes
1	PRVTE	Private
2	GOVMT	Government
3	PUBLIC	Public
4	RENTL	Rental vehicle
5	STOLN	Stolen vehicle
9	UNKN	Unknown ownership



VEHICLE TYPE CODES

Code	Short Description	Long Description
00	PDO	Not collected for PDO Crashes
01	PSNGR CAR	Passenger car, pickup, light delivery, etc.
02	BOBTAIL	Truck tractor with no trailers (bobtail)
03	FARM TRCTR	Farm tractor or self-propelled farm equipment
04	SEMI TOW	Truck Tractor with trailer/mobile home in tow
05	TRUCK	Truck with non-detachable bed, panel, etc.
06	MOPED	Moped, minibike, seated motor scooter (rev. 2022)
07	SCHL BUS	School bus (includes van)
08	OTH BUS	Other bus
09	MTRCYCLE	Motorcycle, dirt bike
10	OTHER	Other: forklift, backhoe, etc.
11	MOTRHOME	Motorhome
12	TROLLEY	Motorized Street Car/Trolley (no rails/wires)
13	ATV	ATV
14	MTRSCTR	Motorized scooter (standing)
15	SNOWMOBILE	Snowmobile
16	MTRZEBIKE	Motorized or Electric bicycle (E-bike) (eff.2022)
17	UTV	UTV Side by Side
99	UNKNOWN	Unknown vehicle type

CAUSE CODES

Code	Short Description	Medium Description	Long Description	Code Termination Date
00	NO CODE	NO CODE APPLICABLE	No cause associated at this level	
01	TOO-FAST	TOO FAST FOR COND	Too fast for conditions (not exceed posted speed)	
02	NO-YIELD	FAILED YIELD ROW	Did not yield right-of-way	
03	PAS-STOP	PASSED STOP SIGN	Passed stop sign or red flasher	
04	DIS SIG	DISREGRD TRAF SIGNAL	Disregarded traffic signal	
05	LEFT-CTR	LEFT OF CTR/STRADDLE	Drove left of center on two-way road; straddling	
06	IMP-OVER	IMPROPER PASSING	Improper overtaking	
07	TOO-CLOS	FOLLOW TOO CLOSE	Followed too closely	
08	IMP-TURN	IMPROPER TURN	Made improper turn	
09	DRINKING	ALC OR DRUGS	Alcohol or Drug Involved	12/31/2002
10	OTHR-IMP	OTHER DRIVE ERR	Other improper driving	
11	MECH-DEF	MECH DEFECT	Mechanical defect	
12	OTHER	OTHER	Other (not improper driving)	
13	IMP LN C	IMP LANE CHANGE	Improper change of traffic lanes	
14	DIS TCD	DISRG OTHR TCD	Disregarded other traffic control device	
15	WRNG WAY	WRONG WAY / 1-WAY RD	Wrong way on one-way road; wrong side divided road	
16	FATIGUE	DRIVER FATIGUED	Driver drowsy/fatigued/sleepy	
17	ILLNESS	PHYSICAL ILLNESS	Physical illness	
18	IN RDWY	ILLEGALLY IN RDWY	Non-motorist illegally in roadway	
19	NT VISBL	NOT VISIBLE	Non-motorist not visible; non-reflective clothing	
20	IMP PKNG	IMPROPER PARKING	Vehicle improperly parked	
21	DEF STER	DEFECTIVE STEERING	Defective steering mechanism	
22	DEF BRKE	DEFECTIVE BRAKES	Inadequate or no brakes	
24	LOADSHFT	LOAD SHIFTED	Vehicle lost load or load shifted	
25	TIREFAIL	TIRE FAILURE	Tire Failure	
26	PHANTOM	PHANTOM VEHICLE	Phantom / Non-contact Vehicle	
27	INATTENT	INATTENTION	Inattention	
28	NM INATT	NON-MTRST INATTENT	Non-Motorist Inattention	
29	F AVOID	FAIL AVOID VEH AHEAD	Failed to avoid vehicle ahead	
30	SPEED	EXCED POSTED SPEED	Driving in excess of posted speed	
31	RACING	SPEED RACING	Speed Racing (per PAR)	
32	CARELESS	CARELESS DRIVING	Careless Driving (per PAR)	
33	RECKLESS	RECKLESS DRIVING	Reckless Driving (per PAR)	
34	AGGRESV	AGGRESSIVE DRIVING	Aggressive Driving (per PAR)	
35	RD RAGE	ROAD RAGE	Road Rage (per PAR)	
40	VIEW OBS	VIEW OBSCURED	View obscured	
50	USED MDN	IMP USE MEDIAN/SHLDR	Improper use of median or shoulder	12/31/2015
51	FAIL LN	F MAINT LANE	Failed to maintain lane	12/31/2015
52	OFF RD	RAN OFF RD	Ran off road	

ERR CODES

Code	Short Description	Medium Description	Long Description
000	NONE	NO ERROR	No error
001	WIDE TRN	WIDE TURN	Wide turn
002	CUT CORN	CUT CORNER	Cut corner on turn
003	FAIL TRN	F OBEY TRN	Failed to obey mandatory traffic turn signal, sign or lane markings
004	L IN TRF	LTRN FMT TRAF	Left turn in front of oncoming traffic
005	L PROHIB	LTRN PROHIB	Left turn where prohibited
006	FRM WRNG	T FRM WRNG LN	Turned from wrong lane
007	TO WRONG	T TO WRONG LN	Turned into wrong lane
008	ILLEG U	ILLEG U-TURN	U-turned illegally
009	IMP STOP	IMP STOP	Improperly stopped in traffic lane
010	IMP SIG	IMP/FAIL SIG	Improper signal or failure to signal
011	IMP BACK	IMP BACKING	Backing improperly (not parking)
012	IMP PARK	IMP PARKED	Improperly parked
013	UNPARK	IMP STRT PARK	Improper start leaving parked position
014	IMP STRT	IMP STRT STOP	Improper start from stopped position
015	IMP LGHT	IMP/NO LIGHTS	Improper or no lights (vehicle in traffic)
016	INATTENT	INATTENTION	Inattention (Failure to Dim Lights prior to 4/1/97)
017	UNSAFE VEH	DR UNSAFE VEH	Driving unsafe vehicle (no other error apparent)
018	OTH PARK	PRK MAN NCLR	Entering/exiting parked position w/ insufficient clearance; other improper parking maneuver
019	DIS DRIV	DISRG DR SIG	Disregarded other driver's signal
020	DIS SGNL	DISRG TRF SIG	Disregarded traffic signal
021	RAN STOP	DISRG STP SGN	Disregarded stop sign or flashing red
022	DIS SGN	DISRG WRN SGN	Disregarded warning sign, flares or flashing amber
023	DIS OFCR	DISRG POL/FLG	Disregarded police officer or flagman
024	DIS EMER	DISRG SIR/EMR	Disregarded siren or warning of emergency vehicle
025	DIS RR	DISRG RR SIG	Disregarded RR signal, RR sign, or RR flagman
026	REAR-END	F AVOID STP V	Failed to avoid stopped or parked vehicle ahead other than school bus
027	BIKE ROW	FYLD ROW BIK	Did not have right-of-way over pedalcyclist
028	NO ROW	NO R-O-W	Did not have right-of-way
029	PED ROW	FYLD ROW PED	Failed to yield right-of-way to pedestrian
030	PAS CURV	PASS ON CURVE	Passing on a curve
031	PAS WRNG	PASS WRNG SID	Passing on the wrong side
032	PAS TANG	PASS TANGENT	Passing on straight road under unsafe conditions
033	PAS X-WK	PASS STP4PED	Passed vehicle stopped at crosswalk for pedestrian
034	PAS INTR	PASS AT INTER	Passing at intersection
035	PAS HILL	PASS ON HILL	Passing on crest of hill
036	N/PAS ZN	PASS N/PASSNG	Passing in "No Passing" zone
037	PAS TRAF	PASS ONC TRAF	Passing in front of oncoming traffic
038	CUT-IN	CUTTING IN	Cutting in (two lanes - two way only)
039	WRNGSIDE	DR WRONG SIDE	Driving on wrong side of the road (2-way undivided roadways)
040	THRU MED	DR THRU MEDN	Driving through safety zone or over island
041	F/ST BUS	F/STP SCHLBUS	Failed to stop for school bus
042	F/SLO MV	F/SLO SLO VEH	Failed to decrease speed for slower moving vehicle
043	TOO CLOSE	FOLLOW TO CLOS	Following too closely (must be on officer's report)
044	STRDL LN	STRD/DR WRNG	Straddling or driving on wrong lanes
045	IMP CHG	IMP LANE CHG	Improper change of traffic lanes

ERR CODES

Code	Short Description	Medium Description	Long Description
046	WRNG WAY	WRNG WW/1 WAY	Wrong way on one-way roadway; wrong side divided road
047	BASCRULE	V BASIC RULE	Driving too fast for conditions (not exceeding posted speed)
048	OPN DOOR	OPN DOOR TRAF	Opened door into adjacent traffic lane
049	IMPEDING	IMPEDING TRAF	Impeding Traffic
050	SPEED	SPEED	Driving in excess of posted speed
051	RECKLESS	RECKLESS DRVNG	Reckless driving (per PAR)
052	CARELESS	CARELESS DRVNG	Careless driving (per PAR)
053	RACING	RACING	Speed Racing (per PAR)
054	X N/SGNL	X-INT NO SGNL	Crossing at intersection, no traffic signal present
055	X W/SGNL	X-INT W/ SGNL	Crossing at intersection, traffic signal present
056	DIAGONAL	X-INT DIAGNL	Crossing at intersection - diagonally
057	BTWN INT	X-BTWN INTER	Crossing between intersections
059	W/TRAF-S	W SHLD W/TRAF	Walking, running, riding, etc., on shoulder WITH traffic
060	A/TRAF-S	W SHLD A/TRAF	Walking, running, riding, etc., on shoulder FACING traffic
061	W/TRAF-P	W PAVE W/TRAF	Walking, running, riding, etc., on pavement WITH traffic
062	A/TRAF-P	W PAVE A/TRAF	Walking, running, riding, etc., on pavement FACING traffic
063	PLAYINRD	PLAY IN RDWY	Playing in street or road
064	PUSH MV	PUSH MV IN RD	Pushing or working on vehicle in road or on shoulder
065	WORK IN RD	WORK IN RD	Working in roadway or along shoulder
070	LAY ON RD	LYING IN RD	Standing or lying in roadway
071	NM IMP USE	N-M IMP USE	Improper use of traffic lane by non-motorist
073	ELUDING	ELUDING	Eluding / Attempt to elude
079	F NEG CURV	FAIL NEG CURV	Failed to negotiate a curve
080	FAIL LN	F MAINT LANE	Failed to maintain lane
081	OFF RD	RAN OFF RD	Ran off road
082	NO CLEAR	MISJUDGE CLR	Driver misjudged clearance
083	OVRSTEER	OVRSTEER	Over-correcting
084	NOT USED	NOT USED	Code not in use
085	OVRLOAD	OVRLOAD	Overloading or improper loading of vehicle with cargo or passengers
087	UNA DIS TC	UNA DISRG TCD	Unable to determine which driver disregarded traffic control device

## EVENT CODES

Code	Short Description	Medium Description	Long Description
001	FEL/JUMP	FELL/JUMPED MV	Occupant fell, jumped or was ejected from moving vehicle
002	INTERFER	PSNGR INTERFERED	Passenger interfered with driver
003	BUG INTF	ANML INTERFERED	Animal or insect in vehicle interfered with driver
004	INDRCT PED	PED INDRCTLY INVLV	Pedestrian indirectly involved (not struck)
005	SUB-PED	SUBSEQUENT PED	"Sub-Ped": pedestrian injured subsequent to collision, etc.
006	INDRCT BIK	BIKE INDRCTLY INVLV	Pedalcyclist indirectly involved (not struck)
007	HITCHIKR	HITCHHIKER	Hitchhiker (soliciting a ride)
008	PSNGR TOW	PSNGR TOWED	Passenger or non-motorist being towed or pushed on conveyance
009	ON/OFF V	ON/OFF STOP VEH	Getting on/off stopped/parked vehicle (occupants only; must have physical contact w/ vehicle)
010	SUB OTRN	SUBSEQ OVERTURN	Overtaken after first harmful event
011	MV PUSHD	VEH BEING PUSHED	Vehicle being pushed
012	MV TOWED	VEH TOWED/TOWING	Vehicle towed or had been towing another vehicle
013	FORCED	FORCED BY IMPACT	Vehicle forced by impact into another vehicle, pedalcyclist or pedestrian
014	SET MOTN	MV SET IN MOTION	Vehicle set in motion by non-driver (child released brakes, etc.)
015	RR ROW	RAILROAD ROW	At or on railroad right-of-way (not Light Rail)
016	LT RL ROW	LIGHT RAIL ROW	At or on Light-Rail right-of-way
017	RR HIT V	TRAIN HIT VEH	Train struck vehicle
018	V HIT RR	VEH HIT TRAIN	Vehicle struck train
019	HIT RR CAR	VEH HIT RR CAR	Vehicle struck railroad car on roadway
020	JACKNIFE	JACKKNIFE	Jackknife, trailer or towed vehicle struck towing vehicle
021	TRL OTRN	TRAILER O'TURN	Trailer or towed vehicle overturned
022	CN BROKE	TRLR CONN BROKE	Trailer connection broke
023	DETACH TRL	DETCHD TRLR STRKNG	Detached trailing object struck other vehicle, non-motorist, or object
024	V DOOR OPN	V DOOR OPN IN TRAF	Vehicle door opened into adjacent traffic lane
025	WHEEL OFF	WHEEL CAME OFF	Wheel came off
026	HOOD UP	HOOD FLEW UP	Hood flew up
028	LOAD SHIFT	LOAD SHIFTED	Lost load, load moved or shifted
029	TIRE FAIL	TIRE FAILURE	Tire failure
030	PET	PET	Pet: cat, dog and similar
031	LVSTOCK	LIVESTOCK	Stock: cow, calf, bull, steer, sheep, etc.
032	HORSE	HORSE	Horse, mule, or donkey
033	HRSE&RID	HORSE & RIDER	Horse and rider
034	GAME	GAME NO DEER/ELK	Wild animal, game (includes birds; not deer or elk)
035	DEER ELK	DEER OR ELK	Deer or elk, wapiti
036	ANML VEH	ANIMAL-DRAWN VEH	Animal-drawn vehicle
037	CULVERT	CULVERT/MANHOLE	Culvert, open low or high manhole
038	ATENUATN	IMPACT CUSHION	Impact attenuator
039	PK METER	PARKING METER	Parking meter
040	CURB	CURB	Curb (also narrow sidewalks on bridges)
041	JIGGLE	JIGGLE BAR NAMED	Jiggle bar or traffic snake for channelization

EVENT CODES

Code	Short Description	Medium Description	Long Description
042	GDRL END	GUARDRAIL END	Leading edge of guardrail
043	GARDRAIL	GUARDRAIL	Guard rail (not metal median barrier)
044	BARRIER	MEDIAN BARRIER	Median barrier (raised or metal)
045	WALL	WALL	Retaining wall or tunnel wall
046	BR RAIL	BRIDGE RAIL	Bridge railing or parapet (on bridge or approach)
047	BR ABUTMNT	BRIDGE ABUTMENT	Bridge abutment (included "approach end" thru 2013)
048	BR COLMIN	BRIDGE COLUMN	Bridge pillar or column
049	BR GIRDR	BRIDGE GIRDER	Bridge girder (horizontal bridge structure overhead)
050	ISLAND	TRAFFIC ISLAND	Traffic raised island
051	GORE	GORE	Gore
052	POLE UNK	POLE-UNKNOWN	Pole - type unknown
053	POLE UTL	POLE-UTILITY	Pole - power or telephone
054	ST LIGHT	POLE-ST LIGHT	Pole - street light only
055	TRF SGNL	POLE-TRAF SIGNAL	Pole - traffic signal and ped signal only
056	SGN BRDG	POLE-SIGN BRIDGE	Pole - sign bridge
057	STOPSIGN	STOPYIELD SIGN	Stop or yield sign
058	OTH SIGN	OTHER SIGN	Other sign, including street signs
059	HYDRANT	HYDRANT	Hydrant
060	MARKER	DELINEATOR	Delineator or marker (reflector posts)
061	MAILBOX	MAILBOX	Mailbox
062	TREE	TREE/STUMP	Tree, stump or shrubs
063	VEG OHED	VEGTN OVER RDWY	Tree branch or other vegetation overhead, etc.
064	WIRE/CBL	CABLE ACROSS RD	Wire or cable across or over the road
065	TEMP SGN	TEMP SIGN/BARR	Temporary sign or barricade in road, etc.
066	PERM SGN	PERM SIGN/BARR	Permanent sign or barricade in/off road
067	SLIDE	SLIDE/ROCKS	Slides, fallen or falling rocks
068	FRGN OBJ	FOREIGN OBJECT	Foreign obstruction/debris in road (not gravel)
069	EQP WORK	EQUIP WORKING	Equipment working in/off road
070	OTH EQP	OTHER EQUIPMENT	Other equipment in or off road (includes parked trailer, boat)
071	MAIN EQP	MAINTNCE EQUIP	Wrecker, street sweeper, snow plow or sanding equipment
072	OTHER WALL	OTHER WALL	Rock, brick or other solid wall
073	IRRLGL PVMNT	IRREGULAR PAVEMENT	Other bump (not speed bump), pothole or pavement irregularity (per PAR)
074	OVERHD OBJ	OTHER OVERHEAD OBJ	Other overhead object (highway sign, signal head, etc.); not bridge
075	CAVE IN	CAVE IN	Bridge or road cave in
076	HI WATER	HIGH WATER	High Water
077	SNO BANK	SNOW BANK	Snow Bank
078	LO-HI EDGE	LOW-HIGH PVMNT EDGE	Low or high shoulder at pavement edge
079	DITCH	CUT SLOPE/DITCH	Cut slope or ditch embankment
080	OBJ FRM MV	OBJ FRM OTHR VEH	Struck by rock or other object set in motion by other vehicle (incl. lost loads)
081	FLY-OBJ	OTHER MOVING OBJ	Struck by rock or other moving or flying object (not set in motion by vehicle)
082	VEH HID	VEH OBSCURE VIEW	Vehicle obscured view
083	VEG HID	VEG OBSCURE VIEW	Vegetation obscured view
084	BLDG HID	BLD OBSCURE VIEW	View obscured by fence, sign, phone booth, etc.

EVENT CODES

Code	Short Description	Medium Description	Long Description
085	WIND GUST	WIND GUST	Wind Gust
086	IMMERSED	IMMERSION	Vehicle immersed in body of water
087	FIRE/EXP	FIRE/EXPLOSION	Fire or explosion
088	FENC/BLD	FENCE/BUILDING	Fence or building, etc.
089	OTHR CRASH	REFER OTHR CRASH	Crash related to another separate crash
090	TO 1 SIDE	TWO WAY ONE SIDE	Two-way traffic on divided roadway all routed to one side
091	BUILDING	BUILDING	Building or other structure
092	PHANTOM	PHANTOM VEH	Other (phantom) non-contact vehicle
093	CELL PHONE	CELL PHONE PER PAR	Cell phone (on PAR or driver in use)
094	VIOL GDL	VIOL GRAD DR LIC	Teenage driver in violation of graduated license pgm
095	GUY WIRE	GUY WIRE	Guy wire
096	BERM	BERM	Berm (earthen or gravel mound)
097	GRAVEL	GRAVEL IN RDWY	Gravel in roadway
098	ABR EDGE	ABRUPT EDGE	Abrupt edge
099	CELL WTNSD	CELL PHONE WITNESSED	Cell phone use witnessed by other participant
100	UNK FIXD	UNK FIX OBJ	Fixed object, unknown type.
101	OTHR OBJ	OTHER OBJ NOT FIXED	Non-fixed object, other or unknown type
102	TEXTING	TEXTING	Texting
103	WZ WORKER	WZ WORKER	Work Zone Worker
104	ON VEHICLE	RIDE ON VEH EXTERIOR	Passenger riding on vehicle exterior
105	PEDAL PSGR	PSNGR ON PEDALCYCLE	Passenger riding on pedalcycle
106	MAN WHLCHR	NONMOTOR WHEELCHAIR	Pedestrian in non-motorized wheelchair
107	MTR WHLCHR	MOTORIZED WHEELCHAIR	Pedestrian in motorized wheelchair
108	OFFICER	POLICE OFFICER	Law Enforcement / Police Officer
109	SUB-BIKE	SUBSEQUENT BICYCLIST	"Sub-Bike": pedalcyclist injured subsequent to collision, etc.
110	N-MTR	NM STR VEH	Non-motorist struck vehicle
111	S CAR VS V	ST CAR STRUCK VEH	Street Car/Trolley (on rails or overhead wire system) struck vehicle
112	V VS S CAR	VEH STRUCK ST CAR	Vehicle struck Street Car/Trolley (on rails or overhead wire system)
113	S CAR ROW	STREET CAR ROW	At or on street car or trolley right-of-way
114	RR EQUIP	VEH STRUCK RR EQUIP	Vehicle struck railroad equipment (not train) on tracks
115	DSTRCT GPS	DISTRCT GPS DEVICE	Distracted by navigation system or GPS device
116	DSTRCT OTH	DISTRCT OTHR DEVICE	Distracted by other electronic device
117	RR GATE	RR DROP-ARM GATE	Rail crossing drop-arm gate
118	EXPNSN JNT	EXPANSION JOINT	Expansion joint
119	JERSEY BAR	JERSEY BARRIER	Jersey barrier
120	WIRE BAR	WIRE BARRIER	Wire or cable median barrier
121	FENCE	FENCE	Fence
123	OBJ IN VEH	LOOSE OBJ IN VEHICLE	Loose object in vehicle struck occupant
124	SLIPPERY	SLIPPERY SURFACE	Sliding or swerving due to wet, icy, slippery or loose surface (not gravel)
125	SHLDR	SHLDR GAVE	Shoulder gave way
126	BOULDER	ROCKS / BOULDER	Rock(s), boulder (not gravel, not rock slide)
127	LAND SLIDE	ROCK OR LAND SLIDE	Rock slide or land slide
128	CURVE INV	CURVE PRESENT	Curve present at crash location

EVENT CODES

Code	Short Description	Medium Description	Long Description
129	HILL INV	HILL PRESENT	Vertical grade / hill present at crash location
130	CURVE HID	CURVE OBSCURED VIEW	View obscured by curve
131	HILL HID	HILL OBSCURED VIEW	View obscured by vertical grade / hill
132	WINDOW HID	WINDOW VIEW OBSCURED	View obscured by vehicle window conditions
133	SPRAY HID	SPRAY OBSCURED VIEW	View obscured by water spray
134	TORRENTIAL	TORRENTIAL RAIN	Torrential Rain (exceptionally heavy rain)
135	RAIL OCC	RAIL/CABLE CAR OCC	Injured occupant of railway train, light rail, street car or cable car

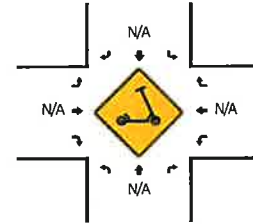
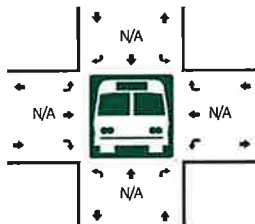
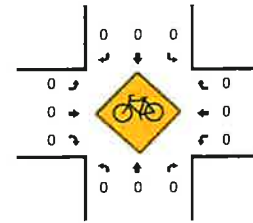
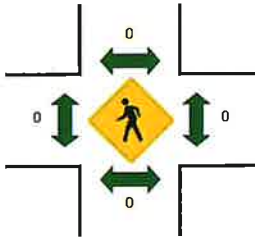
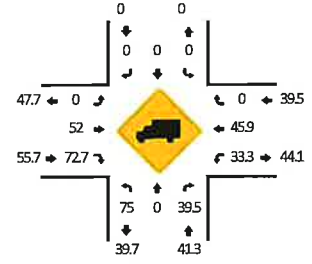
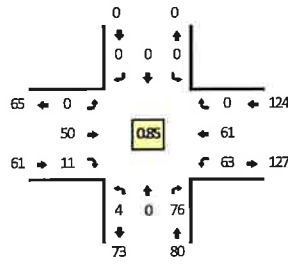


Appendix B Traffic Count Summary  
Worksheets

LOCATION: OR 207 -- US 730  
CITY/STATE: Umatilla, OR

QC JOB #: 16172201  
DATE: Wed, Apr 19 2023

Peak-Hour: 7:25 AM – 8:25 AM  
Peak 15-Min: 7:40 AM – 7:55 AM



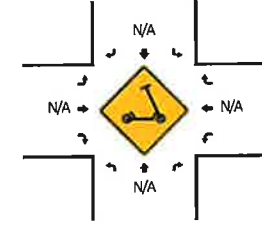
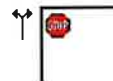
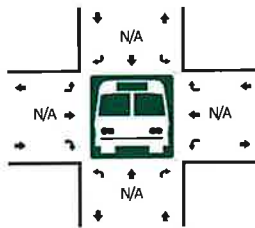
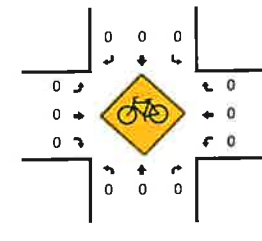
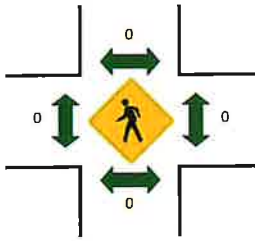
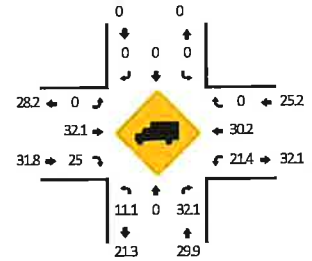
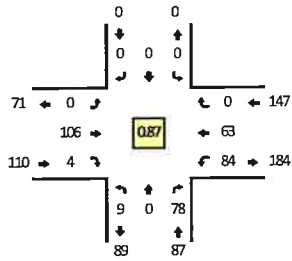
5-Min Count Period Beginning At	OR 207 (Northbound)				OR 207 (Southbound)				US 730 (Eastbound)				US 730 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	5	0	0	0	0	0	0	4	0	0	5	8	0	0	22	
7:05 AM	1	0	5	0	0	0	0	0	0	9	1	0	3	3	0	0	22	
7:10 AM	0	0	1	0	0	0	0	0	0	2	0	0	4	4	0	0	11	
7:15 AM	2	0	5	0	0	0	0	0	0	4	0	0	6	9	0	0	26	
7:20 AM	0	0	6	1	0	0	0	0	0	3	1	0	4	2	0	0	17	
7:25 AM	0	0	8	0	0	0	0	0	0	3	0	0	3	11	0	0	25	
7:30 AM	3	0	6	0	0	0	0	0	0	5	2	0	5	1	0	0	22	
7:35 AM	0	0	1	0	0	0	0	0	0	4	1	0	6	3	0	0	15	
7:40 AM	0	0	8	0	0	0	0	0	0	4	0	0	10	5	0	0	27	
7:45 AM	1	0	6	0	0	0	0	0	0	8	1	0	5	5	0	0	26	
7:50 AM	0	0	5	0	0	0	0	0	0	6	1	0	6	6	0	1	25	
7:55 AM	0	0	4	0	0	0	0	0	0	1	1	0	6	3	0	0	15	253
8:00 AM	0	0	9	0	0	0	0	0	0	3	1	0	4	6	0	0	23	254
8:05 AM	0	0	4	0	0	0	0	0	0	6	0	0	1	3	0	0	14	246
8:10 AM	0	0	9	0	0	0	0	0	0	3	2	0	3	5	0	0	22	257
8:15 AM	0	0	11	0	0	0	0	0	0	2	2	0	6	7	0	0	28	259
8:20 AM	0	0	5	0	0	0	0	0	0	5	0	0	7	6	0	0	23	265
8:25 AM	0	0	3	0	0	0	0	0	0	5	0	0	2	5	0	0	15	255
8:30 AM	0	0	3	0	0	0	0	0	0	5	0	0	8	4	0	0	20	253
8:35 AM	2	0	6	0	0	0	0	0	0	8	0	0	8	3	0	0	27	265
8:40 AM	1	0	5	0	0	0	0	0	0	1	0	0	6	4	0	0	17	255
8:45 AM	0	0	2	0	0	0	0	0	0	5	0	0	4	6	0	0	17	246
8:50 AM	0	0	5	0	0	0	0	0	0	4	0	0	7	8	0	0	24	245
8:55 AM	2	0	5	0	0	0	0	0	0	9	0	0	6	9	0	0	31	261
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	0	76	0	0	0	0	0	0	72	8	0	84	64	0	4	312	
Heavy Trucks	0	0	40	0	0	0	0	0	0	28	4	0	16	24	0	0	112	
Buses																		
Pedestrians	0	0			0	0			0	0			0	0			0	
Bicycles	0	0			0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: OR 207 -- US 730  
 CITY/STATE: Umatilla, OR

QC JOB #: 16172202  
 DATE: Wed, Apr 19 2023

Peak-Hour: 4:30 PM – 5:30 PM  
 Peak 15-Min: 4:35 PM – 4:50 PM



5-Min Count Period Beginning At	OR 207 (Northbound)				OR 207 (Southbound)				US 730 (Eastbound)				US 730 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	0	7	0	0	0	0	0	0	7	0	0	2	6	0	0	25	
4:05 PM	0	0	1	0	0	0	0	0	0	12	1	0	8	6	0	0	28	
4:10 PM	1	0	7	0	0	0	0	0	0	4	0	0	4	6	0	0	22	
4:15 PM	1	0	6	0	0	0	0	0	0	8	2	0	10	8	0	0	35	
4:20 PM	0	0	3	0	0	0	0	0	0	7	0	0	2	3	0	0	15	
4:25 PM	0	0	7	0	0	0	0	0	0	5	0	0	6	6	0	0	24	
4:30 PM	0	0	2	0	0	0	0	0	0	13	0	0	4	10	0	0	29	
4:35 PM	0	0	5	0	0	0	0	0	0	17	1	0	10	6	0	0	39	
4:40 PM	0	0	7	0	0	0	0	0	0	4	1	0	8	0	0	0	20	
4:45 PM	1	0	7	0	0	0	0	0	0	13	1	0	10	8	0	0	40	
4:50 PM	1	0	3	0	0	0	0	0	0	11	0	0	3	5	0	0	23	
4:55 PM	0	0	10	0	0	0	0	0	0	5	0	0	6	4	0	0	25	325
5:00 PM	1	0	8	0	0	0	0	0	0	5	0	0	3	2	0	0	19	319
5:05 PM	0	0	8	1	0	0	0	0	0	5	1	0	7	4	0	0	26	317
5:10 PM	2	0	6	0	0	0	0	0	0	8	0	0	10	4	0	0	30	325
5:15 PM	0	0	7	0	0	0	0	0	0	9	0	0	13	4	0	0	33	323
5:20 PM	1	0	10	0	0	0	0	0	0	7	0	0	2	7	0	0	27	335
5:25 PM	2	0	5	0	0	0	0	0	0	9	0	0	8	9	0	0	33	344
5:30 PM	0	0	4	0	0	0	0	0	0	3	0	0	11	9	0	0	27	342
5:35 PM	0	0	7	0	0	0	0	0	0	7	1	0	6	4	0	0	25	328
5:40 PM	0	0	3	0	0	0	0	0	0	8	1	0	6	3	0	0	21	329
5:45 PM	0	0	8	0	0	0	0	0	0	6	0	0	9	7	0	0	30	319
5:50 PM	2	0	3	0	0	0	0	0	0	5	0	0	4	7	0	0	21	317
5:55 PM	1	0	8	0	0	0	0	0	0	7	0	0	5	6	0	0	27	319
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	0	76	0	0	0	0	0	0	136	12	0	112	56	0	0	396	
Heavy Trucks	4	0	44	0	0	0	0	0	0	40	4	0	24	16	0	0	132	
Buses																	0	
Pedestrians																	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scooters																	0	

Comments:



Appendix C Existing Traffic Operations  
Worksheets

**Intersection Level Of Service Report**  
**Intersection 1: OR 207 / US 730**

Control Type: Two-way stop  
Analysis Method: HCM 7th Edition  
Analysis Period: 15 minutes

Delay (sec / veh): 13.0  
Level Of Service: B  
Volume to Capacity (v/c): 0.010

**Intersection Setup**

Name	OR 207		US 730		US 730	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	T		lr		rl	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	175.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	OR 207		US 730		US 730	
Base Volume Input [veh/h]	4	89	69	10	82	71
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	67.00	41.00	57.00	75.00	36.00	48.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	89	69	10	82	71
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	26	20	3	24	21
Total Analysis Volume [veh/h]	5	105	81	12	96	84
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

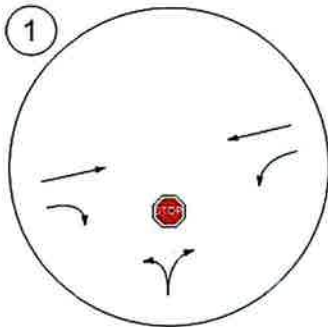
**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.12	0.00	0.00	0.07	0.00
d_M, Delay for Movement [s/veh]	12.96	9.71	0.00	0.00	7.96	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.00	0.00	0.24	0.00
95th-Percentile Queue Length [ft/ln]	11.09	11.09	0.00	0.00	5.91	0.00
d_A, Approach Delay [s/veh]	9.86		0.00		4.24	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.83					
Intersection LOS	B					

Study Intersections

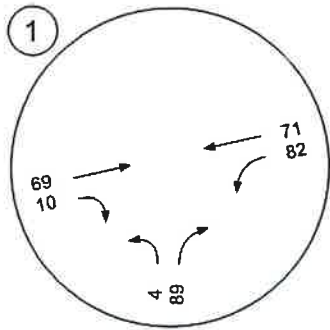


Lane Configuration and Traffic Control





Traffic Volume - Base Volume



**Intersection Level Of Service Report**  
**Intersection 1: OR 207 / US 730**

Control Type: Two-way stop  
Analysis Method: HCM 7th Edition  
Analysis Period: 15 minutes

Delay (sec / veh): 13.7  
Level Of Service: B  
Volume to Capacity (v/c): 0.024

**Intersection Setup**

Name	OR 207		US 730		US 730	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	←→		↑↗		↖↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	175.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	OR 207		US 730		US 730	
Base Volume Input [veh/h]	9	80	130	7	89	83
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	29.00	38.00	37.00	50.00	36.00	32.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	80	130	7	89	83
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	24	40	2	27	25
Total Analysis Volume [veh/h]	11	98	159	9	109	101
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

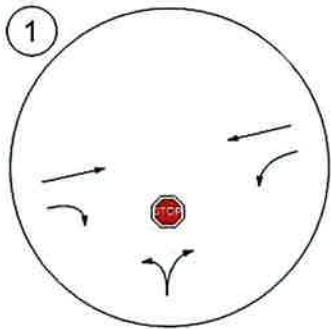
**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.12	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	13.73	10.33	0.00	0.00	8.22	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.51	0.51	0.00	0.00	0.29	0.00
95th-Percentile Queue Length [ft/ln]	12.80	12.80	0.00	0.00	7.29	0.00
d_A, Approach Delay [s/veh]	10.67		0.00		4.27	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.23					
Intersection LOS	B					

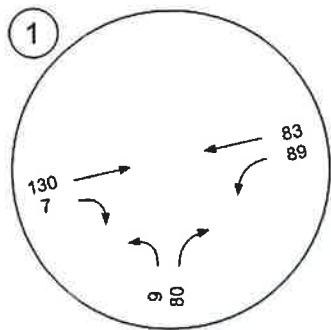
Study Intersections



Lane Configuration and Traffic Control



Traffic Volume - Base Volume



Appendix D Existing Zoning 2043 Traffic  
Operations Worksheets

**Intersection Level Of Service Report**  
**Intersection 1: OR 207 / US 730**

Control Type: Two-way stop  
Analysis Method: HCM 7th Edition  
Analysis Period: 15 minutes

Delay (sec / veh): 14.1  
Level Of Service: B  
Volume to Capacity (v/c): 0.014

**Intersection Setup**

Name	OR 207		US 730		US 730	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	←→		↑↔		↔↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	175.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	OR 207		US 730		US 730	
Base Volume Input [veh/h]	5	107	83	12	98	85
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	67.00	41.00	57.00	75.00	36.00	48.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	107	83	12	98	85
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	31	24	4	29	25
Total Analysis Volume [veh/h]	6	126	98	14	115	100
Pedestrian Volume [ped/h]	0		0		0	



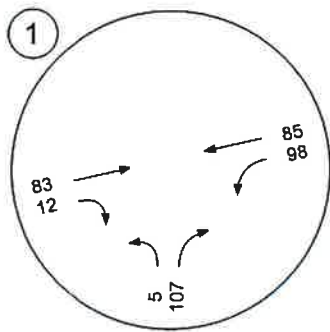
**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.15	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	14.09	10.01	0.00	0.00	8.06	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.57	0.57	0.00	0.00	0.29	0.00
95th-Percentile Queue Length [ft/ln]	14.20	14.20	0.00	0.00	7.32	0.00
d_A, Approach Delay [s/veh]	10.20		0.00		4.31	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.95					
Intersection LOS	B					

Traffic Volume - Base Volume



**Intersection Level Of Service Report**  
**Intersection 1: OR 207 / US 730**

Control Type: Two-way stop  
Analysis Method: HCM 7th Edition  
Analysis Period: 15 minutes

Delay (sec / veh): 15.4  
Level Of Service: C  
Volume to Capacity (v/c): 0.033

**Intersection Setup**

Name	OR 207		US 730		US 730	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	←→		↑↔		↔↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	175.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	OR 207		US 730		US 730	
Base Volume Input [veh/h]	11	96	156	8	107	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	29.00	38.00	37.00	50.00	36.00	32.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	96	156	8	107	100
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	29	48	2	33	30
Total Analysis Volume [veh/h]	13	117	190	10	130	122
Pedestrian Volume [ped/h]	0		0		0	

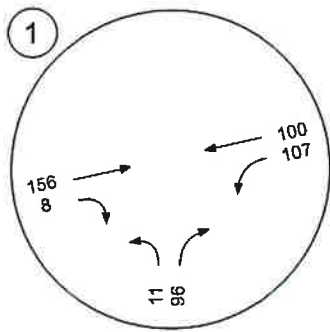
**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.15	0.00	0.00	0.11	0.00
d_M, Delay for Movement [s/veh]	15.37	10.86	0.00	0.00	8.39	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.68	0.68	0.00	0.00	0.37	0.00
95th-Percentile Queue Length [ft/ln]	16.93	16.93	0.00	0.00	9.15	0.00
d_A, Approach Delay [s/veh]	11.31		0.00		4.33	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.40					
Intersection LOS	C					

Traffic Volume - Base Volume



## Appendix E Trip Generation Estimates

## FUTURE SITE TRIP GENERATION ASSUMPTIONS

Based on discussions with the applicant, the following two sources will comprise the daily trips.

### MINING/ROCK CRUSHING OPERATION:

- Approximate Hours of Operation
  - 6:00 AM to 3:30 PM (4 staff)
- Delivery of aggregate to offsite locations from 6:00 AM to 3:30 PM
- Approximately 182 daily trips consisting of the following:
  - 8 Staff Trips (4 entering at the start of the day and 4 exiting at the end of the day)
  - 30 rock deliveries per day (15 entering, 15 exiting)
  - 2 water deliveries per day (2 entering, 2 exiting)
  - 140 loads picked up at the site by others (70 entering, 70 exiting)

### ASPHALT BATCH PLANT:

- Approximate Hours of Operation
  - 6:00 AM to 3:30 PM (2 staff)
- Delivery of aggregate to offsite locations from 6:00 AM to 3:30 PM
- Approximately 174 daily trips consisting of the following:
  - 4 Staff Trips (2 entering at the start of the day and 2 exiting at the end of the day)
  - 30 Asphalt deliveries per day (15 entering, 15 exiting)
  - 140 loads picked up at the site by others (70 entering, 70 exiting)

Based on these details, the following table estimates the total number of net new trips that can be expected on a typical weekday.

**Table 9. Proposed Site Trips**

Land Use	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Total	In	Out	Total	In	Out
<b>Mining/Rock Crushing</b>							
- Staff <sup>1</sup>	8	0	0	0	4	0	4
- Rock Deliveries <sup>2</sup>	30	6	3	3	0	0	0
- Water Deliveries <sup>2</sup>	4	2	1	1	0	0	0
- Other pick-ups <sup>2</sup>	140	10	5	5	0	0	0
<b>Asphalt Batch Plant</b>							
- Staff <sup>1</sup>	4	0	0	0	2	0	2
- Load Deliveries <sup>2</sup>	30	6	3	3	0	0	0
- Other pick-ups <sup>2</sup>	140	10	5	5	0	0	0
<b>Total</b>	<b>356</b>	<b>34</b>	<b>17</b>	<b>17</b>	<b>6</b>	<b>0</b>	<b>6</b>
<p><sup>1</sup> Each employee was assumed to generate 2 daily trips (1 in, 1 out). Employees are assumed arrive on site before the AM Peak Hour and were conservatively assumed to leave during the PM Peak Hour.</p> <p><sup>2</sup> Each delivery and pick-up was assumed to generate 2 trips (1 exit for delivery/1 return from delivery or 1 entrance for pick-up/1 exit for pick-up).</p>							



Appendix F Aggregate Resource Overlay  
Zone 2043 Traffic Operations  
Worksheets

**Intersection Level Of Service Report**  
**Intersection 1: OR 207 / US 730**

Control Type: Two-way stop  
Analysis Method: HCM 7th Edition  
Analysis Period: 15 minutes

Delay (sec / veh): 14.7  
Level Of Service: B  
Volume to Capacity (v/c): 0.015

**Intersection Setup**

Name	OR 207		US 730		US 730	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	←→		↑↔		↔↑	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	175.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	OR 207		US 730		US 730	
Base Volume Input [veh/h]	5	107	83	12	98	85
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	67.00	41.00	57.00	75.00	36.00	48.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	7	7	0	7	7
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	114	90	12	105	92
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	34	26	4	31	27
Total Analysis Volume [veh/h]	6	134	106	14	124	108
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.16	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	14.66	10.14	0.00	0.00	8.11	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.62	0.62	0.00	0.00	0.32	0.00
95th-Percentile Queue Length [ft/ln]	15.45	15.45	0.00	0.00	8.02	0.00
d_A, Approach Delay [s/veh]	10.33		0.00		4.33	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.98					
Intersection LOS	B					

**Intersection Level Of Service Report**  
**Intersection 2: US 730 / Site Access A**

Control Type: Two-way stop  
Analysis Method: HCM 7th Edition  
Analysis Period: 15 minutes

Delay (sec / veh): 11.6  
Level Of Service: B  
Volume to Capacity (v/c): 0.028

**Intersection Setup**

Name	Site Access A		US 730		US 730	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	←→		↑		↓	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Site Access A		US 730		US 730	
Base Volume Input [veh/h]	0	0	190	0	0	183
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	49.00	0.00	0.00	42.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	14	3	0	14	3	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	3	190	14	3	183
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	56	4	1	54
Total Analysis Volume [veh/h]	16	4	224	16	4	215
Pedestrian Volume [ped/h]	0		0		0	

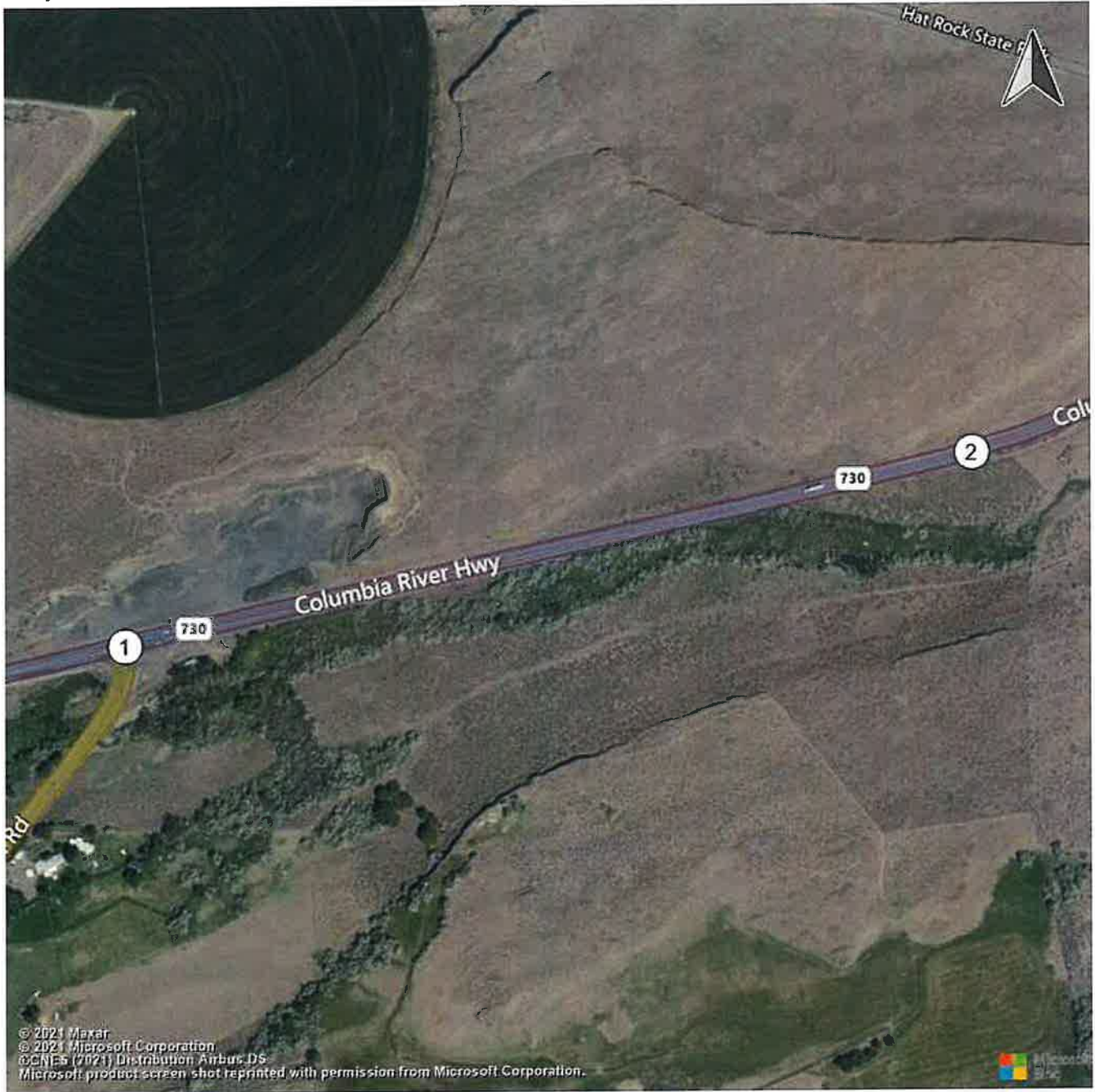
**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

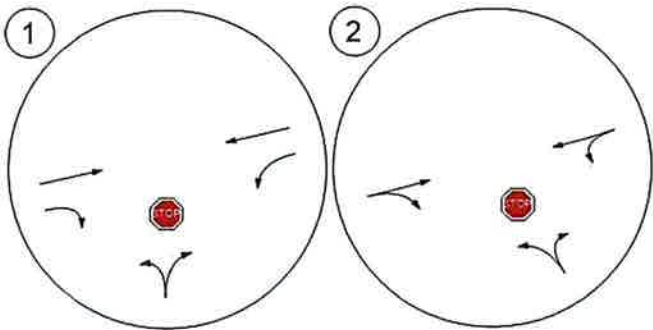
**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.58	9.64	0.00	0.00	7.69	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	2.58	2.58	0.00	0.00	0.17	0.17
d_A, Approach Delay [s/veh]	11.19		0.00		0.14	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.53					
Intersection LOS	B					

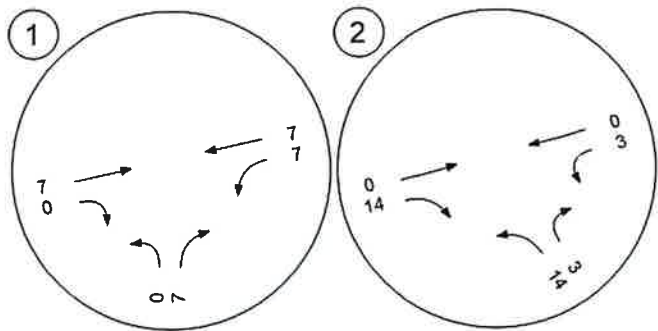
Study Intersections



Lane Configuration and Traffic Control

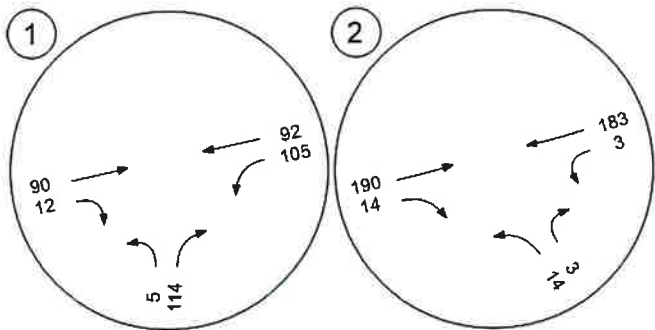


Traffic Volume - Net New Site Trips





Traffic Volume - Future Total Volume



**Intersection Level Of Service Report**  
**Intersection 1: OR 207 / US 730**

Control Type: Two-way stop  
Analysis Method: HCM 7th Edition  
Analysis Period: 15 minutes

Delay (sec / veh): 15.5  
Level Of Service: C  
Volume to Capacity (v/c): 0.034

**Intersection Setup**

Name	OR 207		US 730		US 730	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	↔		↵↶		↵↷	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	150.00	175.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	55.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	OR 207		US 730		US 730	
Base Volume Input [veh/h]	11	96	156	8	107	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	29.00	38.00	37.00	50.00	36.00	32.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	3	2
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	96	156	8	110	102
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	29	48	2	34	31
Total Analysis Volume [veh/h]	13	117	190	10	134	124
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.15	0.00	0.00	0.11	0.00
d_M, Delay for Movement [s/veh]	15.54	10.87	0.00	0.00	8.40	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.68	0.68	0.00	0.00	0.38	0.00
95th-Percentile Queue Length [ft/ln]	17.00	17.00	0.00	0.00	9.46	0.00
d_A, Approach Delay [s/veh]	11.33		0.00		4.36	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.42					
Intersection LOS	C					

**Intersection Level Of Service Report**  
**Intersection 2: US 730 / Site Access A**

Control Type: Two-way stop  
Analysis Method: HCM 7th Edition  
Analysis Period: 15 minutes

Delay (sec / veh): 12.4  
Level Of Service: B  
Volume to Capacity (v/c): 0.012

**Intersection Setup**

Name	Site Access A		US 730		US 730	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	T		T		T	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		55.00		55.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Site Access A		US 730		US 730	
Base Volume Input [veh/h]	0	0	252	0	0	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	38.00	0.00	0.00	34.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	5	1	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	252	0	0	207
Peak Hour Factor	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	77	0	0	63
Total Analysis Volume [veh/h]	6	1	307	0	0	252
Pedestrian Volume [ped/h]	0		0		0	

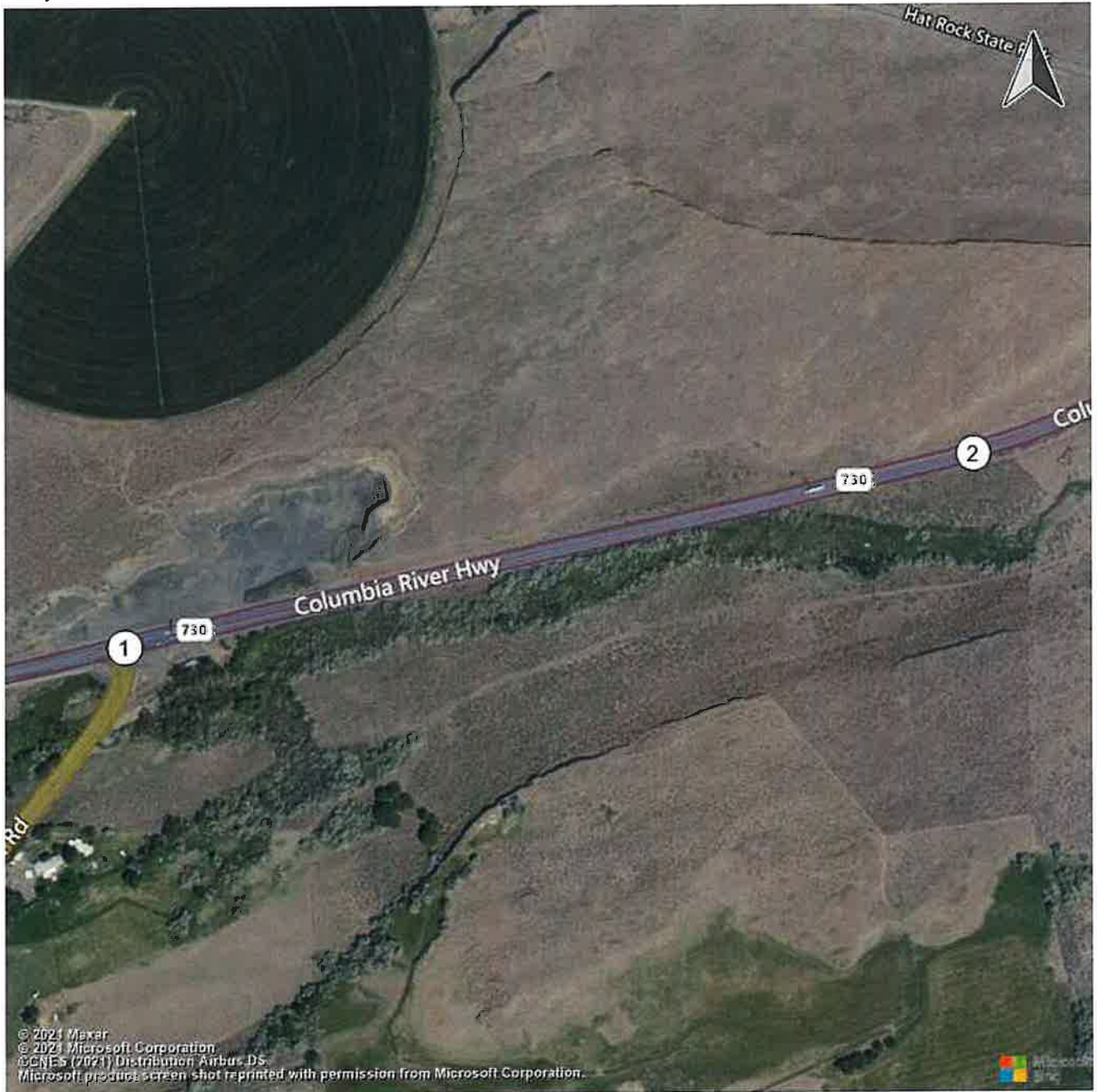
**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

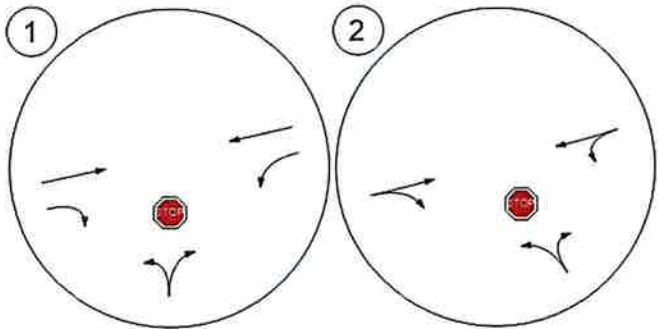
**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.39	9.98	0.00	0.00	7.85	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.03	1.03	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.04		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	B					

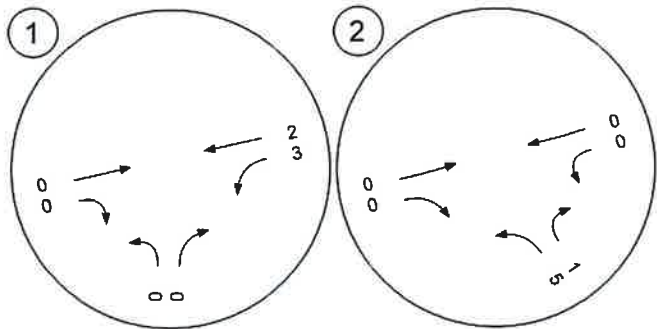
Study Intersections



Lane Configuration and Traffic Control

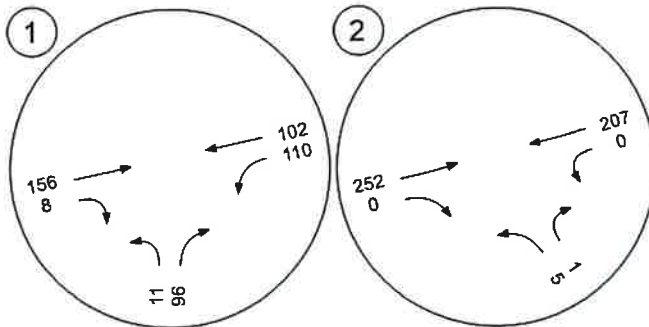


Traffic Volume - Net New Site Trips





Traffic Volume - Future Total Volume



# EXHIBIT MAP

A SURVEY OF SECTION 22, T5N, R29E, W. 1/4, TO FIND THE BOUNDARY LINES OF THE RUPP TRACT, BEING LOCATED IN THE SOUTH 1/2 OF THE NORTHEAST 1/4 OF SECTION 22, TOWNSHIP 5 NORTH, RANGE 29 EAST, WILLAMETTE MERIDIAN, UMATILLA COUNTY, OREGON.



SCALE 1"=500'



BASIS OF BEARING  
BEARING BASE -- NAD83 ORNSPC GRID BEARINGS

## LEGEND

- FOUND BRASS CAP SECTION CORNER, OR AS NOTED.
- X CALCULATED POINT - NOTHING FOUND OR SET.
- XXIXR#) RECORD AND REFERENCE TO SURVEY
- PROPERTY LINE
- EXISTING FENCES, WHERE TIED
- STATE HIGHWAYS ARE AN APPROXIMATION FROM GOOGLE IMAGES

## SURVEYOR'S NARRATIVE:

THIS SURVEY WAS PERFORMED AT THE REQUEST OF DOUG COX, DEVELOPER, TO LOCATE THE PROPERTY BOUNDARIES OF THE RUPP TRACT, BEING LOCATED IN THE SOUTH 1/2 OF THE NORTHEAST 1/4 OF SECTION 22, TOWNSHIP 5 NORTH, RANGE 29 EAST, W. 1/4, UMATILLA COUNTY, OREGON. I WAS ABLE TO LOCATE ALL OF THE NECESSARY SECTIONAL CORNERS TO DELINEATE THE LINES OF OWNERSHIP IN THE AREA NEEDED. I HOLD NAD83 ORNSPC COORDINATE DATUM, AND SHOW GRID BEARINGS AND DISTANCES, AS PER COUNTY SURVEY 23-012-C. THIS SURVEY WAS PERFORMED USING A CARLSON BRK7 RTK GPS SYSTEM, STANDARD ERROR FOR THE RTK SYSTEM IS 8.0MM + 1 PPM X BASELINE MEASURED, IN MILLIMETERS. I FIND NOTHING OUT OF THE ORDINARY ON THIS SURVEY.

ROBERT D. ENGLISH

REGISTERED PROFESSIONAL LAND SURVEYOR

ROBERT D. ENGLISH  
REGISTERED PROFESSIONAL LAND SURVEYOR  
ROBERT D. ENGLISH  
STATE # 41463

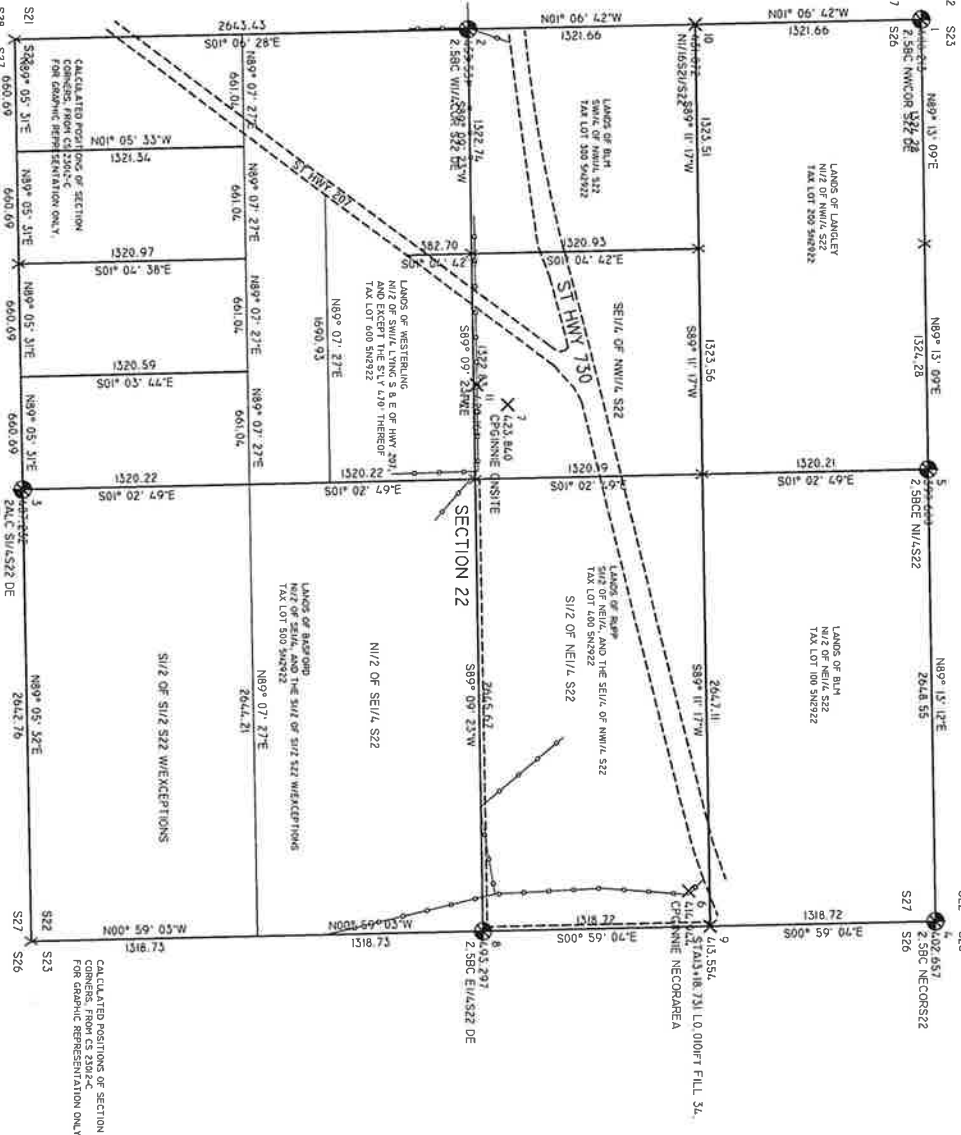
RENEWAL DATE: 12/31/23

EXHIBIT MAP FOR:  
CRP & HALLING, LLC,  
PO BOX 151  
HERMISTON, OR 97801

DATE:	DWN BY:	EXHIBIT MAP FOR:
04/27/23	RDE	CRP & HALLING, LLC,
SCALE:	CHK BY:	PO BOX 151
1"-20'	RDE	HERMISTON, OR 97801
JOB NO.	REV DATE:	SURVEY ONE, LLC
2022-041	XXX/XX/XX	P.O. BOX 382
DWG NO.		PENDLETON OR, 97801
SINECO 730P1.DWG		PHS:1-276-2055 FAX:341-276-3480

## REFERENCES:

- (R1) ASSESSOR'S MAP 5N2922, 5N29D, 5N29
- (R2) UMATILLA COUNTY SURVEY RECORDS FOR ALL SECTION CORNERS
- (R3) UMATILLA COUNTY SURVEY 23-012-C, PRIMM FOR UMATILLA COUNTY, 2023.
- (O1) WARRANTY DEED, DOC. NO. 2016-6510388, LEWIS & CLARK COLLEGE TO RUPP, 2016, 5N2922 T1400, N1/2 NE1/4, S22, SE1/4 NW1/4, S22.
- (O2) BARGAIN & SALE DEED, DOC. NO. 1998-3310191, BASFORD TO BASFORD, 1998, 5N2922 T1500, N1/2 SE1/4, S1/2 S1/2 W/EXCEPTIONS.
- (O3) QUIT CLAIM DEED, DOC. NO. 2015-6270076, WESTERLING TO WESTERLING, 2015, 5N2922 T1600, N1/2 SW1/4, SBE OF HWY 207.
- (O4) BARGAIN & SALE DEED, DOC. NO. 2020-7005150, WESTERLING TO STURZA, 2020, 5N2922 T1700, N1/2 S1/2 W/EXCEPTIONS, SEE CS931407-B.
- (O5) STAUJORDI WARRANTY DEED, DOC. NO. 2017-2662036, PETERSON TO UMATILLA RENT-HIX, INC., 2017, 5N29 T1500, N1/2 S1/2 W/EXCEPTIONS.
- (O6) CORRECTION WARRANTY DEED, REEL 94, PAGE 349, ROGERS TO CONDON/HALLING, 1980, 5N2922 T1200, N1/2 NW1/4 S22.



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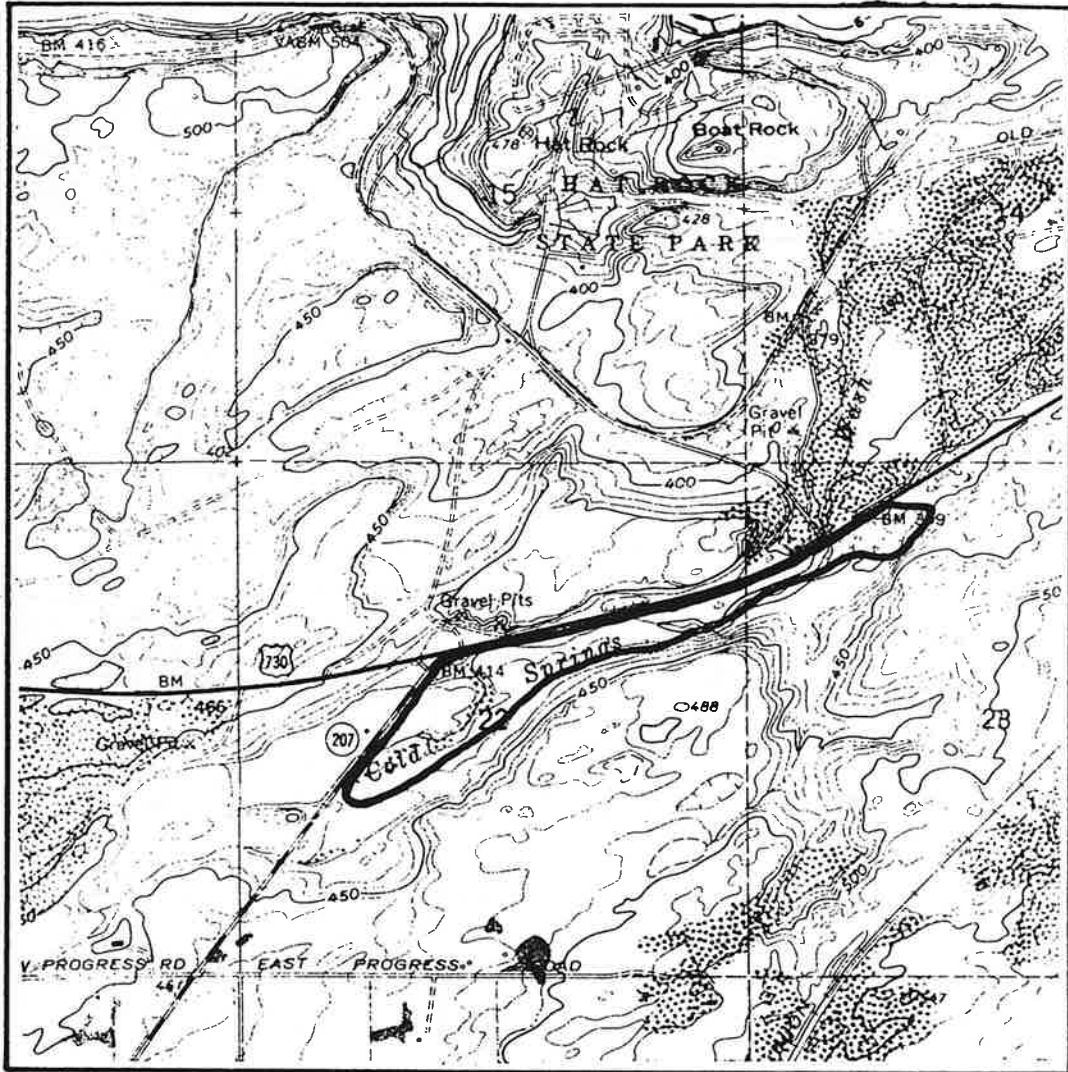
INVENTORY

SIGNIFICANT WETLANDS

MAP: D-44

AREA: Drainage Area

T/R: T5N R29 EWM; Section 22



**Wetland Area**  (Exact boundaries may require site inspection)

**Map Source: U.S.G.S.**

**Plan Designation:** Agricultural

**Zoning Designation:** Exclusive Farm Use; Special Agriculture

**Possible Land Use Conflicts:** Some farming activities (draining wetlands; feedlots, lack of soil conservation practices).

**Goal 5 Analysis:** 3C; Limit Conflicting Uses

**Management Program:** Plan and zoning limit conflicting uses; 100 foot setback from wetlands and streams required for structures and sewage disposal installations.

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AUG 25 2023

UMATILLA COUNTY  
PLANNING DEPARTMENTOFFSITE WETLAND DETERMINATION REPORT  
OREGON DEPARTMENT OF STATE LANDS

WD#: 2022-0606

951 SW Simpson Ave, Suite 104, Bend OR 97702 (541) 388-6112

At your request, an offsite wetland determination has been conducted on the property described below.

County: Umatilla

City: 5.3 mi E of McNary, 5.7 mi NE of Hermiston

Other Name &amp; Address: Tamra Mabbott, TM Consulting, 80379 Zimmer Lane, Hermiston, OR 97838

Township: 5N

Range: 29E

Section: 22

Q/Q: N/A

Tax Lot(s): 400 (portion)

Project Name: New rock quarry

Site Address/Location: SE of the Hwy 730 &amp; Hwy 207 intersection, Hermiston, OR 97838

- The National Wetlands Inventory & National Hydrography Dataset show a wetland/waterway on the property.
- The county soil survey shows hydric (wet) soils on the property. Hydric soils indicate that there may be wetlands.
- It is unlikely that there are jurisdictional wetlands or waterways on the property based upon a review of wetlands maps, the county soil survey and other information. An onsite investigation by a qualified professional is the only way to be certain that there are no wetlands.
- There are wetlands and waterways on the property that are subject to the state Removal-Fill Law.
- A state permit is required for  $\geq 50$  cubic yards of fill, removal, or ground alteration in the wetlands or waterways.
- A state permit may be required for any amount of fill, removal, or other ground alteration in the Essential Salmonid Habitat and hydrologically associated wetlands.
- A state permit may be required for any amount of fill, removal, or other ground alteration in a compensatory wetland mitigation site.
- A state permit will be required for the project if there are 50 cubic yards or more of ground disturbance proposed within jurisdictional wetlands or waters.
- The proposed parcel division may create a lot that is largely wetland and thus create future development problems.
- A wetland determination or delineation may be needed prior to site development (if the proposed quarry area does not change). The wetland delineation report should be submitted to the Department of State Lands for review and approval.
- A permit may be required by the Army Corps of Engineers: (503) 808-4373

**Note: This report is for the state Removal-Fill Law only. City or County permits may be required for the proposed activity.**

Comments: Based on review of the submitted site plan, it appears that there are four locations where the proposed quarry area could impact potential wetlands (see attached WIW Aerials). These potential wetland areas seem to extend beyond National Wetlands Inventory and hydric soil mapping, based on desktop review of aerial and Lidar imagery.

It is recommended that the applicant either revise their proposed quarry area to avoid these potentially jurisdictional features or hire a qualified wetland consultant to prepare a wetland delineation report for the site. This report, once reviewed and approved by DSL, will inform the extent of wetlands and waterways on-site, as well as which features are jurisdictional to the state Removal-Fill Law.

Determination by: J. Salgado Date: 12 / 05 / 2022

This jurisdictional determination is valid for five years from the above date, unless new information necessitates a revision. Circumstances under which the Department may change a determination and procedures for renewal of an expired determination are found in OAR 141-090-0045 (available on our web site or upon request). The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months from the above date.

**This is a preliminary jurisdictional determination and is advisory only.**

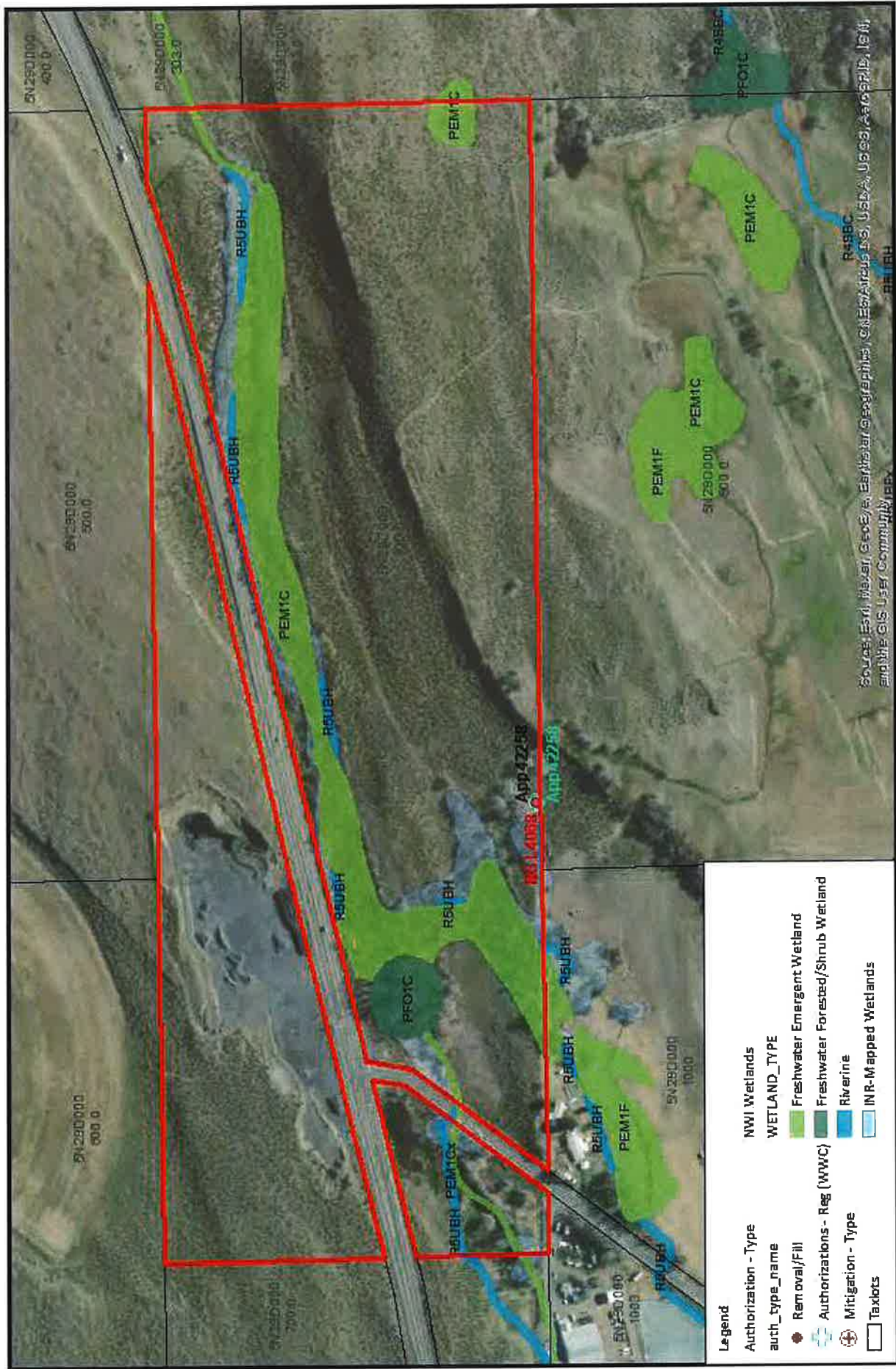
Copy To:  Other Email: tamra.mabbott@gmail.com  Enclosures: NwiAerial, HydroSoilsAerial, WIW Aerials

Umatilla County Planning Department

**FOR OFFICE USE ONLY**

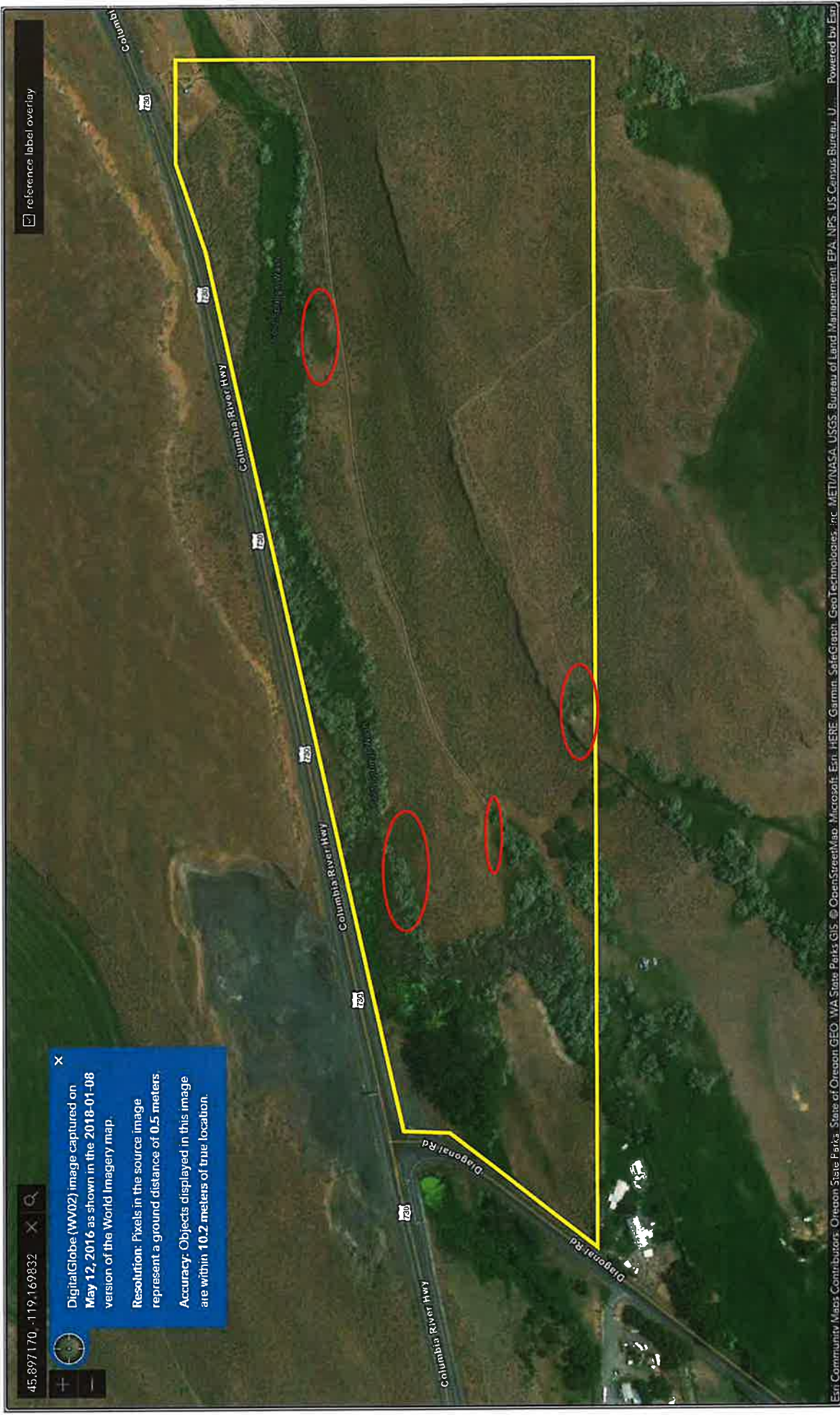
Entire Lot(s) Checked? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Waters Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Maybe	Request Received: 10 / 31 / 2022		
LWI Area: <u>N/A</u>	LWI Code: <u>N/A</u>	Latitude: <u>45.901617</u>	Longitude: <u>-119.168630</u>	
Has Wetlands? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Unk	ESH? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	Wild & Scenic? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	State Scenic? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	Coast Zone? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Unk
Adjacent Waterbody: <u>PEM, PFO, Cold Springs Wash</u>	Related DSL File #: <u>APP42258 / WD2008-0503 Adjacent</u>			

# WD2022-0606 NwiAerial









45.897170, -119.169832



X  
DigitalGlobe (WW02) image captured on  
May 12, 2016 as shown in the 2018-01-08  
version of the World Imagery map.  
Resolution: Pixels in the source image  
represent a ground distance of 0.5 meters.  
Accuracy: Objects displayed in this image  
are within 10.2 meters of true location.

reference label overlay

Esri, Community Maps Contributors, Oregon State Parks, State of Oregon GEO, WA State Parks GIS, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SwireGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, U... Powered by Esri





45.897170, -119.149832

USDA FSA (NAIP) image captured on Jul 6, 2014 as shown in the 2015-07-08 version of the World Imagery map.  
**Resolution:** Pixels in the source image represent a ground distance of 1 meters.  
**Accuracy:** Objects displayed in this image are within 6 meters of true location.

reference label overlay

Esri Community, West Contributor, Oregon State Parks, State of Oregon GEO, WA State Parks GIS, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SpireGraph, GeoTechnologies, Inc, METNASC, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, U... Powered by Esri





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AUG 25 2023

UMATILLA COUNTY  
PLANNING DEPARTMENT

## OFFSITE WETLAND DETERMINATION REPORT

OREGON DEPARTMENT OF STATE LANDS

WD#: 2023-0095

951 SW Simpson Ave, Suite 104, Bend OR 97702 (541) 388-6112

At your request, an offsite wetland determination has been conducted on the property described below.

County: Umatilla

City: 5.3 mi E of McNary, 5.7 mi NE of Hermiston

Other Name &amp; Address: Doug Cox, CRP &amp; Hauling, LLC, PO Box 131, Hermiston, OR 97838

Township: 5N

Range: 29E

Section: 22

Q/Q: N/A

Tax Lot(s): 400 (portion)

Project Name: Revised plan for rock quarry/mine

Site Address/Location: SE of the Hwy 730 &amp; Hwy 207 intersection, Hermiston, OR 97838

- The National Wetlands Inventory & National Hydrography Dataset show a wetland/waterway on the property.
- The county soil survey shows hydric (wet) soils on the property. Hydric soils indicate that there may be wetlands.
- It is unlikely that there are jurisdictional wetlands or waterways on the property based upon a review of wetlands maps, the county soil survey and other information. An onsite investigation by a qualified professional is the only way to be certain that there are no wetlands.
- There are wetlands or waterways on the property that are subject to the state Removal-Fill Law.
- A state permit is required for  $\geq 50$  cubic yards of fill, removal, or ground alteration in the wetlands or waterways.
- A state permit may be required for any amount of fill, removal, or other ground alteration in the Essential Salmonid Habitat and hydrologically associated wetlands.
- A state permit may be required for any amount of fill, removal, or other ground alteration in a compensatory wetland mitigation site.
- A state permit does not appear to be required for the project because the site plan was modified to exclude potential wetland and waters impacts following DSL's WD2022-0606 response.
- The proposed parcel division may create a lot that is largely wetland and thus create future development problems.
- A wetland determination or delineation is needed prior to site development; the wetland delineation report should be submitted to the Department of State Lands for review and approval.
- A permit may be required by the Army Corps of Engineers: (503) 808-4373

**Note: This report is for the state Removal-Fill Law only. City or County permits may be required for the proposed activity.**

Comments: This response is for the proposed project area only (extraction areas, stormwater pond, and stockpile areas), as shown on the 1/25/2023 site plan. DSL does **not** concur with the wetland boundaries on the site plan; they have not been verified by a wetland professional or submitted to DSL for review & approval as a wetland delineation report.

That said, the proposed project area appears to avoid impacts to jurisdictional wetlands or waterways. A state Removal-Fill permit is not likely required for this activity.

If 50 cy or more of ground disturbance occurs to jurisdictional wetlands or waterways, DOGAMI may notify DSL of a potential Removal/Fill violation. Best management practices should be implemented to avoid impacts to these wetlands and minimize sedimentation & erosion in Cold Springs Wash.

Determination by: J. Salgado Date: 03 / 17 / 2023

This jurisdictional determination is valid for five years from the above date, unless new information necessitates a revision. Circumstances under which the Department may change a determination and procedures for renewal of an expired determination are found in OAR 141-090-0045 (available on our web site or upon request). The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months from the above date.

**This is a preliminary jurisdictional determination and is advisory only.**

Copy To:  Other Email: [wdcx51393@gmail.com](mailto:wdcx51393@gmail.com)  Enclosures: NwiAerial, HydroSoilsLidar

Umatilla County Planning Department

[tamra.mabbott@gmail.com](mailto:tamra.mabbott@gmail.com)

[erick.staley@nv5.com](mailto:erick.staley@nv5.com)

WD20230095 AgencyDecision.doc

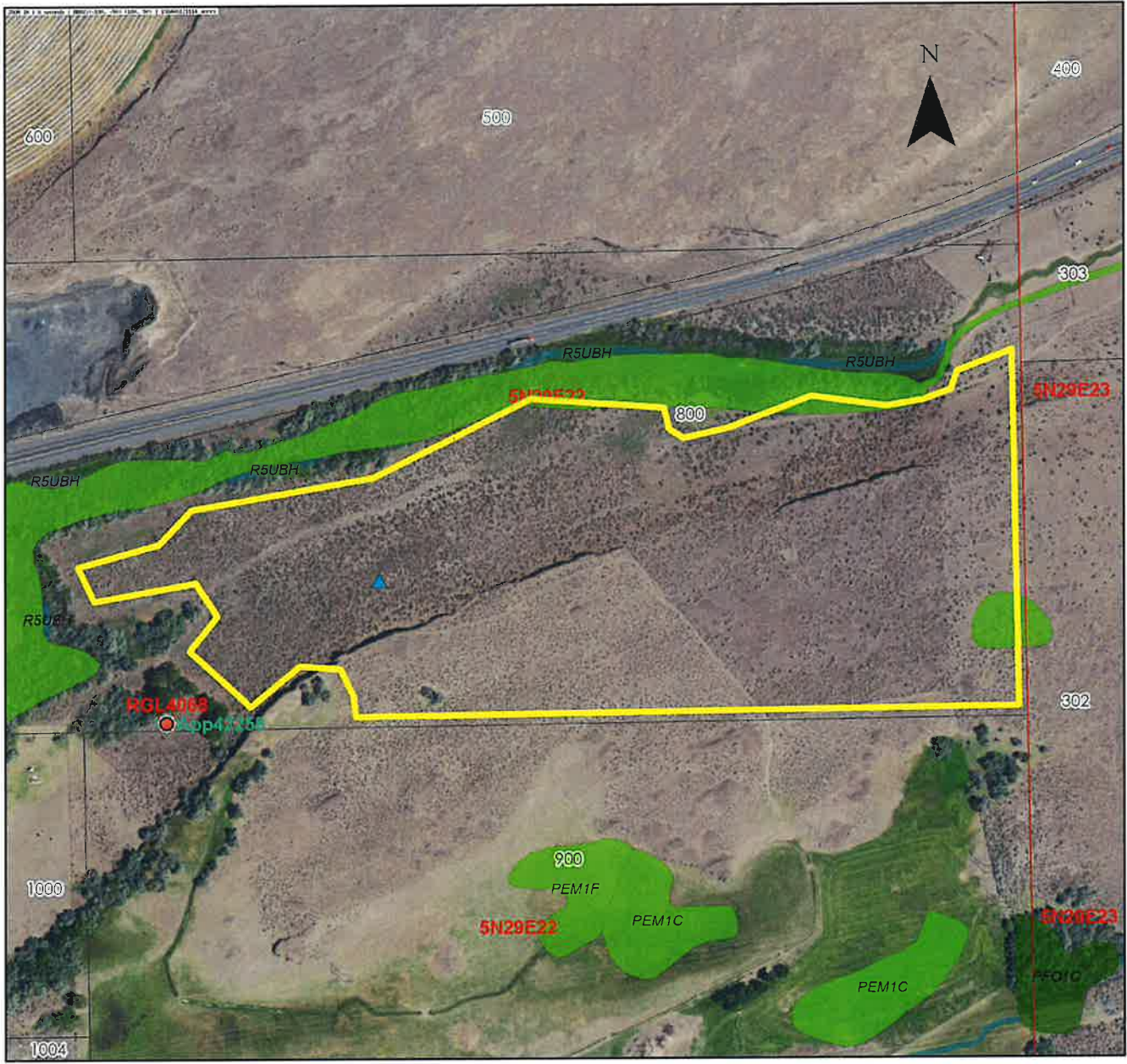
<http://www.oregonstatelands.us/>



**FOR OFFICE USE ONLY**

Entire Lot(s) Checked? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Waters Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Maybe	Request Received: 02 / 24 / 2023		
LWI Area: <u>N/A</u>	LWI Code: <u>N/A</u>	Latitude: <u>45.901916</u>	Longitude: <u>-119.167643</u>	
Has Wetlands? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Unk	ESH? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	Wild & Scenic? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	State Scenic? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	Coast Zone? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Unk
Adjacent Waterbody: <u>PEM, PFO, Cold Springs Wash</u>	Related DSL File #: <u>WD2022-0606 Same Site, APP42258 / WD2008-0503 Adjacent</u>			

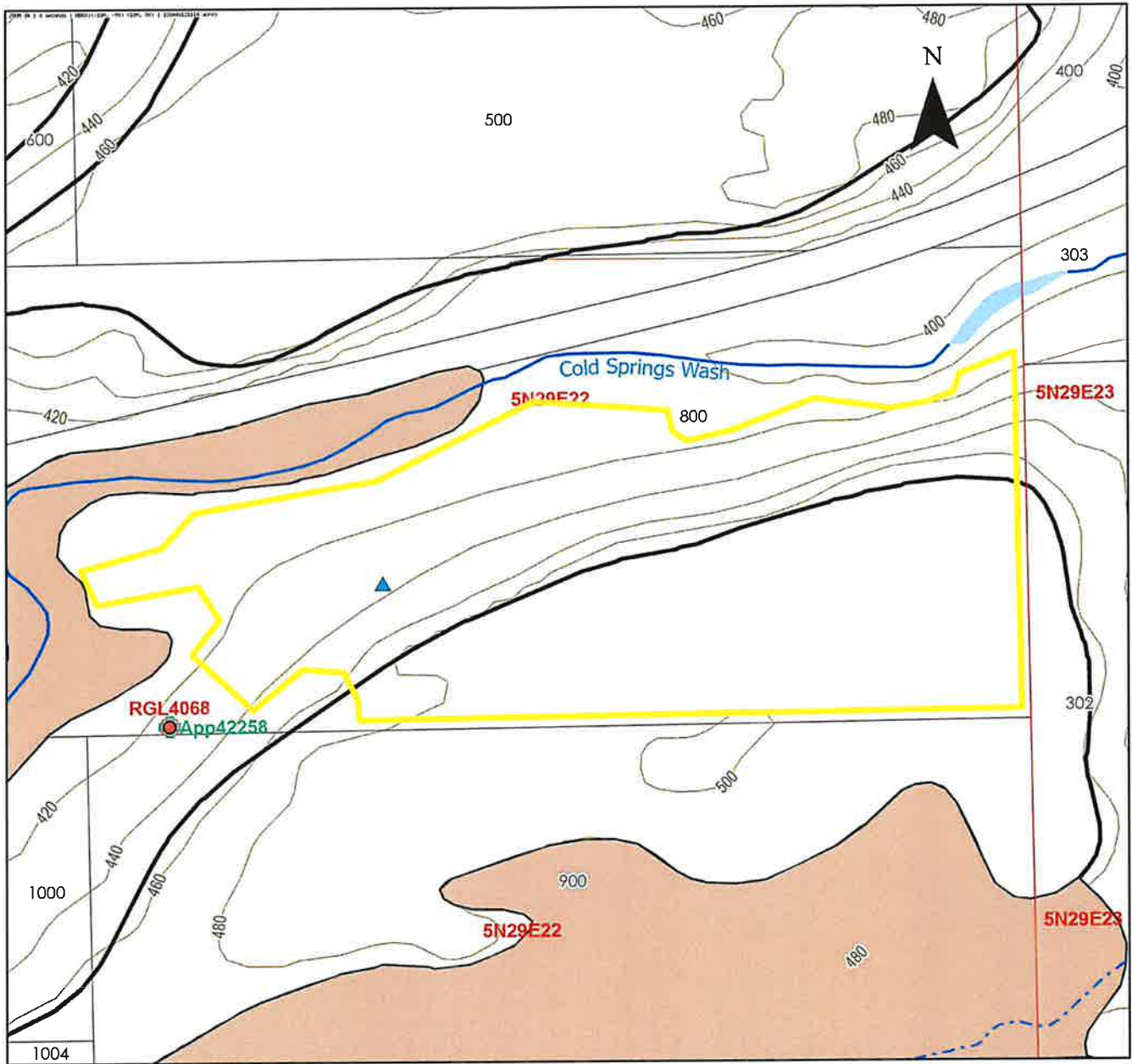
# WD2023-0095 NwiAerial



## Legend

- |  |  |   |  |
|--|--|---|--|
| <ul style="list-style-type: none"> <li><span style="border: 1px solid black; display: inline-block; width: 20px; height: 10px; margin-right: 5px;"></span> Sections</li> <li><span style="border: 2px solid yellow; display: inline-block; width: 20px; height: 10px; margin-right: 5px;"></span> City Limits</li> <li><span style="border-bottom: 2px dashed green; display: inline-block; width: 20px; margin-right: 5px;"></span> UGB</li> <li><span style="color: green; font-size: 20px; margin-right: 5px;">+</span> Authorizations - Reg (WWC)</li> <li><span style="color: orange; font-size: 20px; margin-right: 5px;">★</span> Enforcements</li> </ul> | <ul style="list-style-type: none"> <li><span style="color: red; font-size: 20px; margin-right: 5px;">⊕</span> Mitigation - Type</li> <li><span style="color: red; font-size: 20px; margin-right: 5px;">Ⓜ</span> Wetland Delineations</li> <li><span style="color: blue; font-size: 20px; margin-right: 5px;">▲</span> Wetland Determinations</li> <li><span style="color: red; font-size: 20px; margin-right: 5px;">⊙</span> Determinations by Consultant</li> <li><span style="color: blue; font-size: 20px; margin-right: 5px;">💧</span> Wetland Land Use Notices</li> </ul> | <h3>SWI NWI Wetlands</h3> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: #004d40; margin-right: 5px;"></span> Estuarine and Marine Deepwater</li> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: #80cbc4; margin-right: 5px;"></span> Estuarine and Marine Wetland</li> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: #4db6ac; margin-right: 5px;"></span> Freshwater Emergent Wetland</li> </ul> | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: #2e7d32; margin-right: 5px;"></span> Freshwater Forested/Shrub Wetland</li> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: #42a5f5; margin-right: 5px;"></span> Freshwater Pond</li> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: #002060; margin-right: 5px;"></span> Lake</li> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: #0070c0; margin-right: 5px;"></span> Riverine</li> </ul> |
|--|--|---|--|

# WD2023-0095 HydroSoilsLidar



## Legend

- |                            |                              |                                   |
|----------------------------|------------------------------|-----------------------------------|
| Sections                   | Mitigation - Type            | Wetland Land Use Notices          |
| City Limits                | Wetland Delineations         | DSL Compensatory Mitigation Sites |
| UGB                        | Wetland Determinations       | ESH                               |
| Authorizations - Reg (WWC) | Determinations by Consultant |                                   |
| Enforcements               |                              |                                   |

**RECEIVED**  
AUG 25 2023  
UMATILLA COUNTY  
PLANNING DEPARTMENT

**FULCRUM**  
GEO  RESOURCES LLC  
17600 Pacific Highway, Unit 357  
Marylhurst, Oregon 97036  
503.250.2247

July 17, 2023

Oregon Department of Geology and Mineral Industries  
Mineral Land Regulation and Reclamation Program  
229 Broadalbin Street SW  
Albany, OR 97321-2246

**Operating Permit Application  
Additional Narrative**  
Proposed CRP & Hauling Quarry  
Umatilla County, Oregon  
Project: 007.01.01

## **INTRODUCTION**

On behalf of CRP & Hauling, LLC (CRP), Fulcrum GeoResources LLC (Fulcrum) is pleased to present this narrative to the Oregon Department of Geology and Mineral Industries (DOGAMI) for the proposed CRP & Hauling Quarry located in unincorporated Umatilla County, Oregon. CRP is applying for an Operating Permit (OP) and requested Fulcrum prepare the application package. Most of the project details are explained on the OP application form and mine plan maps. This narrative is intended to accompany the application and provide additional information.

In addition to this narrative, the application package includes the following:

- OP Application Form
- Proof of land ownership (Trio)
- Permit Boundary Survey Map
- Mine plan maps and figures including
  - Figure 1 – Vicinity Map
  - Figure 2 – Site Plan – Existing Topography with Aerial
  - Figure 3 – Reclamation Plan – Final Topography with Aerial
  - Figure 4 – Cross Sections A-A' and B-B'
- Offsite Wetland Determination Report prepared by Oregon Department of State Lands, dated December 5, 2022
- Offsite Wetland Determination Report prepared by Oregon Department of State Lands, dated March 17, 2023

## BACKGROUND

The project is located in the southeast corner of tax lot 400 in the SW¼ and SE¼ of the NE¼ of Section 22, Township 5 North, Range 29 East, Willamette Meridian. The landowner is Randy Rupp. CRP has leased the property to operate a surface aggregate mine, conditional upon all approvals being met. Tax lot 400 covers a much larger area than the proposed mine project boundaries including lands north and west of Diagonal Boulevard and U.S. Route 730.

CRP is in the process of applying to be added to Umatilla County's Aggregate Resource (AR) Overlay, which would allow mining as a permitted use at the site. Review of the DOGAMI OP application is intended to run contemporaneously with the Umatilla County AR Overlay approval process. The proposed AR Overlay area consists of the portion of tax lot 400 enclosed by the easements off of Diagonal Boulevard and U.S. Route 730 and the south and east property boundaries, consisting of 74.0 acres. The proposed OP boundary is shown on the mine plan maps and consists of 46.7 acres. The OP boundary is defined by the south and east property lines and a boundary to the north and west intended to avoid interpreted wetlands and their buffers. The wetlands are further discussed below.

## WETLANDS

Wetlands presented on the mine plan maps are located along the Cold Springs Wash and represent a combination of areas mapped in the National Wetlands Inventory (NWI)<sup>1</sup> and areas of potential wetlands noted by the Oregon Department of State Lands (DSL). CRP submitted an initial request for an offsite wetland determination to DSL in October 2022. DSL provided their initial determination, dated December 5, 2022, and noted four areas near the NWI-mapped wetlands that are potentially jurisdictional features. DSL recommended that CRP either revise the project to avoid all potential wetlands or conduct a wetlands delineation.

The project plans were revised to avoid the potentially jurisdictional features as well as a 25-foot buffer from the wetland features, as shown on the mine plan maps submitted with this application (Figures 2 and 3). The revised plans were submitted to DSL for a follow-up offsite wetland determination. DSL reviewed the revised mine plan and provided a determination report, dated March 17, 2023. DSL explained that while the agency could not concur with the mapped wetlands, as they have not been officially delineated, the revised project appears to avoid jurisdictional wetlands and waterways, and a state permit does not appear to be required.

The only anticipated impact from the project to these features is the placement of a culvert for the access road across a segment of the Cold Springs Wash east of the mapped wetlands. This crossing will require less than 50 cubic yards of fill and will not impede seasonal water flow along the wash. As such, a state removal/fill permit will not be needed.

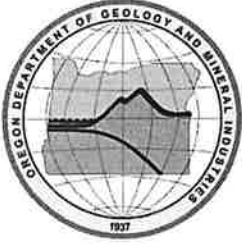
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<sup>1</sup> <https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper>

## DEED EXCEPTIONS

The trio (property profile, property map, and deed with legal description) included with the OP application lists many exceptions under Exhibit B, consisting mostly of reservations and easements. The deed transferring ownership of the subject property to the current landowner (Randy Rupp) included 17 separate tracts. The tract relevant to the proposed CRP & Hauling Quarry is Tract 4. Fulcrum and the applicant's land-use attorney reviewed the listed exceptions recovered from property records by AmeriTitle, who prepared the trio. Based on review of the available records, the listed exceptions either are for tracts other than Tract 4, are not relevant to the project area, or consist of public-roadway and utility easements along Diagonal Boulevard and U.S. Route 730. None of those easements are located in the proposed OP boundary.

Document ID: 007.01.01\_2023-07-17 OP narr.docx  
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Oregon Department of Geology and Mineral Industries  
Mineral Land Regulation and Reclamation Program  
229 Broadalbin Street SW  
Albany, OR 97321-2246  
(541) 967-2039  
Fax (541) 967-2075

# Operating Permit Application Form Division 30 & Division 35\*

\*DOGAMI may require additional information for Division 35 applications.

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#### CONFIDENTIALITY NOTICE

Any production records, mineral assessments and trade secrets submitted by a mine operator or landowner to the State Department of Geology and Mineral Industries shall be confidential. [1999 c.492 §10 (enacted in lieu of ORS 517.900)]

Page 1 of 16

**Primary Point of Contact**

To ensure effective communications and timely processing, a Primary Point of Contact (PPC) is recommended for this application. The PPC should be a representative of the applicant with signature authority or a designated agent. Documentation of signature authority and/or designated agent is required for all applicants registered to do business in the state of Oregon. DOGAMI specific Designated Agent and Signature Authority forms are available on our website.

Section 1: Contact Information			
<b>1a. Applicant / Proposed Permittee</b>			
Name of Applicant: <b>CRP &amp; Hauling, LLC</b>			
Mailing Address: <b>PO Box 131</b>	City: <b>Hermiston</b>	State: <b>OR</b>	Zip: <b>97838</b>
Telephone: <b>541-571-5118</b>	Fax:	Email: <b>wdcox51393@gmail.com</b>	
Preferred method of contact <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Email			
<b>1b. Primary Contact for the Application</b>			
Name: <b>Doug Cox</b>			
Mailing Address: <b>PO Box 131</b>	City: <b>Hermiston</b>	State: <b>OR</b>	Zip: <b>97838</b>
Telephone: <b>541-571-5118</b>	Fax:	Email: <b>wdcox51393@gmail.com</b>	
Preferred method of contact <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Email			
<b>1c. Application Prepared By</b>			
Name: <b>Erick Staley, Fulcrum GeoResources LLC</b>			
Mailing Address: <b>17600 Pacific Hwy, Unit 357</b>	City: <b>Marylhurst</b>	State: <b>OR</b>	Zip: <b>97036</b>
Telephone: <b>503-250-2247</b>	Fax:	Email: <b>erick@fulcrumgeo.com</b>	
Preferred method of contact <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Email			
<b>1d. Operator Information</b>			
Name: <b>same as Applicant</b>			
Mailing Address:	City:	State:	Zip:
Telephone:	Fax:	Email:	
<b>1e. Contact Person for Field Visits</b>			
Name: <b>Doug Cox</b>	Preferred method of contact <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Email		
Telephone: <b>541-571-5118</b>	Fax:	Email: <b>wdcox51393@gmail.com</b>	
<b>1f. Landowner Information</b>			
Name of Landowner (1): <b>Randy Rupp</b>			
Mailing Address: <b>176 Kranichwood St</b>	City: <b>Richland</b>	State: <b>WA</b>	Zip: <b>99352</b>
Telephone: <b>509-628-7516</b>	Fax:	Email:	
Name of Landowner (2):			
Mailing Address:	City:	State:	Zip:
Telephone:	Fax:	Email:	
<b>1g. Mineral Estate Owner Information – If Split Estate</b>			
Name of Mineral Estate Owner (1):			
Mailing Address:	City:	State:	Zip:
Telephone:	Fax:	Email:	
Name of Mineral Estate Owner (2):			
Mailing Address:	City:	State:	Zip:
Telephone:	Fax:	Email:	



<b>Section 2: Project Description</b>			
<b>2a. Location Information</b>			
Address and/or highway and milepost of surface mine: <b>Located southeast of intersection between US 730 and Diagonal Blvd (OR 207); entrance at Milepost 191.9.</b>			
Distance from the nearest named community: <b>6 mile(s) from northeast of Hermiston, OR</b>			
Directions to site (from the nearest town or major intersection): <b>Drive 6 miles northeast from Hermiston on Diagonal Blvd, turn right at intersection with US 730. Drive 0.5 miles east on US 730 to site entrance, turn right onto site.</b>			
<b>Legal Description:</b>			
County: <u><b>Umatilla</b></u>			
Township: <u><b>5N</b></u>	Range: <u><b>29E</b></u>	Section: <u><b>22</b></u>	Tax Lot(s): <u><b>400 (portion)</b></u>
Township: _____	Range: _____	Section: _____	Tax Lot(s): _____
Township: _____	Range: _____	Section: _____	Tax Lot(s): _____
Township: _____	Range: _____	Section: _____	Tax Lot(s): _____
Latitude/Longitude: <b>45.901195° / -119.164285°</b>			
<b>Site Name: CRP &amp; Hauling Quarry</b>			
Does this site have a current DOGAMI Operating Permit, Exploration Permit, Exclusion Certificate, or Grant of Limited Exemption, or has it been permitted in the past?			<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
If yes: Specify DOGAMI ID# _____			
Is there an approved Limited Exemption Closure Plan on file with DOGAMI?			<input type="checkbox"/> yes <input checked="" type="checkbox"/> no

<b>2b. Application Type</b>
Please indicate the purpose of this application: <input checked="" type="checkbox"/> New Operating Permit – skip to 2c. <input type="checkbox"/> Amendment to a current Operating Permit If you are applying for an Amendment to a current Operating Permit, please describe in detail the intended modifications:  The Proposed Operating and Reclamation Plans in this Amendment will (check one): <input type="checkbox"/> Replace the existing approved plan(s) on file with DOGAMI and apply to the entirety of the site upon completion of this Amendment. <input type="checkbox"/> Pertain only to the Amendment area and are in addition to the existing approved plan(s) on file with DOGAMI.

<b>2c. Third Party Permits and Approvals</b>
Do you know of any state, federal or local government permits or approvals that will be required for this mining operation? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
If yes: Please list any state, federal or local government permits or approvals and describe the status:
<b>Umatilla County - Addition of Aggregate Resource Overlay - applied/pending</b>
<b>Oregon Department of Transportation Approach Permit - applied/pending</b>
<b>Oregon Department of Environmental Quality Air Permit - prior to processing, will be procured by crushing subcontractor for their portable crusher</b>

\*Note: DOGAMI can only issue an Operating Permit if all required state, federal, and local government approvals have been obtained, otherwise a Provisional Operating Permit will be issued. POP's are not applicable to Operating Permit Amendment applications.

**2d. Permit Acreage and Boundaries**

Specify the approximate total number of acres to be covered under the Operating Permit **46.7** acres

Does the proposed permitted acreage coincide with the area approved by the local land use jurisdiction?  yes  no

**If no:** Explain: **Permit area is fully located within the AR overlay proposal under review by Umatilla County.**

Have the boundaries of the proposed permit area been marked on the ground with temporary or permanent boundary markers?  yes  no

**If yes:** Describe boundary markers: **Boundary corners marked with pink stakes during permit boundary survey. Additional markers will be placed after approval of permit application and before site preparation for mining.**

What is the total number of acres to be affected by mining related activities in the 12 months following permit issuance (include excavation, processing, stockpiling and land clearing)? **12** acres

**2e. Site Conditions**

General Topography in the vicinity of the permit area (check all that apply):

mountains  hills/buttes  valleys  plains  badlands

floodplain  other: \_\_\_\_\_  other: \_\_\_\_\_

Site Specific Topography (describe the topography within the permit area): **Site topography consists of a well-defined bluff up to 50 feet tall and running roughly east to west, which separates a flat upland in the southeast site from the gently sloped, lower property to the north.**

Current Land Use(s) for all tax lots or parcels within the permit area (check all that apply):

range/open space  forestry  industrial  wildlife/wetland  recreation

residential  commercial  agriculture  other: \_\_\_\_\_  other: \_\_\_\_\_

Structures, Facilities & Surface Disturbances:

none  residential  farm/ranch

industrial/commercial  roads  overhead power lines or facilities

underground utilities (e.g. electrical, fiber optic, water, sewer, etc.)  oil/gas structures or pipelines  other: \_\_\_\_\_

Additional Description (optional):

Vegetation (general description of the dominant grasses, forbs, shrubs and trees located within the permit area):

**Site vegetation consists of dry-climate grasses with shrubs and isolated trees.**

Listed sensitive, threatened or endangered fish and/or wildlife species (within the permit area and nearby water ways):

**None are known; no critical habitat mapped in the site vicinity by USFWS, NMFS, and ODFW.**

Surface Water Features within or near the permit area (includes features that may contain water at any time, including seasonal and stormwater runoff):

none  river \_\_\_\_\_  stream/creek **Cold Springs Wash**  spring

lake/pond  irrigation ditch/canal  ephemeral drainage  wetlands\*

**\*The DOGAMI Wetland Supplemental Form may be required to be submitted with this application package.**

**2f. Surrounding Area Conditions**

Land Use(s) within 1,500 feet of the permit area (check all that apply):

range/open space  forestry  industrial  wildlife/wetland  recreation

residential  commercial  agriculture  other: \_\_\_\_\_  other: \_\_\_\_\_

Structures, Facilities & Surface Disturbances within 1,500 feet of the permit area (check all that apply):			
<input type="checkbox"/> none	<input checked="" type="checkbox"/> residential	<input type="checkbox"/> farm	
<input checked="" type="checkbox"/> industrial/commercial	<input checked="" type="checkbox"/> roads	<input checked="" type="checkbox"/> overhead power lines or facilities	
<input checked="" type="checkbox"/> underground utilities (e.g. electrical, fiber optic, water, sewer, etc.)	<input type="checkbox"/> oil/gas structures or pipelines	<input type="checkbox"/> other: _____	
What is the distance to the nearest structure not owned by the permittee? <u>~1,100</u> feet			
Surface Water Features within 1,500 feet of the permit area (check all that apply):			
<input type="checkbox"/> none	<input type="checkbox"/> river _____	<input checked="" type="checkbox"/> stream/creek <b>Cold Springs Wash</b>	<input type="checkbox"/> spring
<input type="checkbox"/> lake/pond	<input type="checkbox"/> irrigation ditch/canal	<input checked="" type="checkbox"/> ephemeral drainage	<input checked="" type="checkbox"/> wetlands*
<b>*The DOGAMI Wetland Supplemental Form may be required to be submitted with this application package.</b>			

## Section 3: Proposed Operating Plan

### 3a. Development Plans & Equipment

What type of surface mine will be developed?

<input type="checkbox"/> single bench	<input type="checkbox"/> multiple bench	<input checked="" type="checkbox"/> sidehill cut	<input type="checkbox"/> hilltop removal
<input type="checkbox"/> open pit	<input type="checkbox"/> pond excavation	<input type="checkbox"/> other: _____	<input type="checkbox"/> other: _____

What is the primary commodity? (Select One)

<input checked="" type="checkbox"/> lava	<input type="checkbox"/> decomposed granite	<input type="checkbox"/> pumice	<input type="checkbox"/> topsoil
<input type="checkbox"/> borrow/fill	<input type="checkbox"/> diatomaceous earth	<input type="checkbox"/> sand and gravel	<input type="checkbox"/> bentonite
<input type="checkbox"/> cinder	<input type="checkbox"/> dredge tailings	<input type="checkbox"/> shale	<input type="checkbox"/> other: _____

What is the primary use? (Select One)

<input type="checkbox"/> asphalt aggregate	<input type="checkbox"/> concrete aggregate	<input type="checkbox"/> landscaping materials	<input type="checkbox"/> other: _____
<input checked="" type="checkbox"/> base rock aggregate	<input type="checkbox"/> construction fill	<input type="checkbox"/> rip rap	

What is the general deposit type?

<input checked="" type="checkbox"/> bedrock	<input type="checkbox"/> river/floodplain (alluvial)*	<input type="checkbox"/> river channel terrace
<input type="checkbox"/> talus	<input type="checkbox"/> other: _____	<input type="checkbox"/> unknown

**\*The DOGAMI Floodplain Supplemental Form may be required to be submitted with this application package.**

Check all mining methods and on-site activities that apply:

<input checked="" type="checkbox"/> drilling and blasting	<input checked="" type="checkbox"/> ripping and loading	<input checked="" type="checkbox"/> crushing	<input type="checkbox"/> washing	<input checked="" type="checkbox"/> screening
<input checked="" type="checkbox"/> shovel/loader/scrapper	<input type="checkbox"/> material recycling	<input checked="" type="checkbox"/> stockpiling	<input type="checkbox"/> other: _____	<input type="checkbox"/> other: _____

Equipment to be used for mining and processing includes (check all that apply):

<input checked="" type="checkbox"/> loaders	<input checked="" type="checkbox"/> dozers	<input checked="" type="checkbox"/> excavators	<input checked="" type="checkbox"/> trucks	<input checked="" type="checkbox"/> screeners
<input checked="" type="checkbox"/> crushers	<input checked="" type="checkbox"/> drilling equipment	<input type="checkbox"/> other: _____	<input type="checkbox"/> other: _____	

Date to begin mining activities: **shortly after approval**      Expected duration (in years): **20-40**

### 3b. Water Management

Indicate the proposed use(s) of water (check all that apply):

<input type="checkbox"/> wash plant	<input type="checkbox"/> asphalt plant	<input type="checkbox"/> concrete batch plant
<input checked="" type="checkbox"/> dust control	<input type="checkbox"/> crusher	<input type="checkbox"/> other: _____

**Note: A DEQ permit will be required for process water generated and stored on site.**

**If applicable:** Is the water source within 300 feet of the permit area?       yes     no

**If yes:** Identify the source of water to be used and show its location on a map:

<input type="checkbox"/> irrigation ditch	<input type="checkbox"/> pond	<input type="checkbox"/> pit	<input type="checkbox"/> groundwater well	<input type="checkbox"/> other: _____
---	-------------------------------	------------------------------	---	---------------------------------------

**Note: A water right may be required by the Oregon Water Resource Department.**

Will water be stored on site?       yes     no

**If yes:** What will the water be stored in?

<input type="checkbox"/> detention/retention pond	<input type="checkbox"/> lined detention/retention pond	<input checked="" type="checkbox"/> water storage tank
<input type="checkbox"/> other: _____		

What is the approximate depth that groundwater is first encountered? **~405 ft above mean sea level; ~10-15** feet below ground surface

What source or method was used to determine depth to groundwater? **max water level in nearby wetland areas**

Have monitoring wells been constructed on site or are monitoring wells proposed?       yes     no

**If yes: A DOGAMI Groundwater Supplemental Form must be submitted with this application.**

Will excavation operations be conducted below groundwater level?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
Will dewatering be conducted at this site?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If yes: A DOGAMI Groundwater Supplemental Form must be submitted with this application and a DEQ Permit may be required.</b>	
Has a DEQ water quality permit been obtained for the site?	
<b>If yes: DEQ Permit #</b>	

<b>3c. Designated Setbacks</b>	
Will surface mining operations require crossing external property lines?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
What will be the minimum undisturbed property line setback for:	
Excavation operations: <u>25</u> feet wide	
Processing operations: <u>&gt; 25</u> feet wide	
Stockpiling operations: <u>&gt; 25</u> feet wide	
If proposing disturbances within the setbacks (such as visual berms or roads), explain: <b>Perimeter berms composed of stored topsoil will be located in the setback around the south and east extraction area.</b>	
Specify the minimum undisturbed setback(s) between mining operations and:	
Overhead utilities (poles or towers): _____ feet wide	
Underground utilities (e.g. electrical, fiber optic, water, sewer, etc.): _____ feet wide	
Right-of-Way/Easement Road: _____ feet wide	
Other: _____ feet wide	
<input checked="" type="checkbox"/> not applicable (none of the above-listed items are present within the proposed permit area)	
Are setbacks shown on the attached map(s)?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no: Explain:</b>	
Have setbacks been marked on the ground with permanent or temporary boundary markers?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If no: Explain: Markers will be placed after approval of permit application and before mining operations commence.</b>	

<b>3d. Designated Buffers</b>	
Does a naturally vegetated area (buffer) exist along a river, stream or natural drainage?	<input type="checkbox"/> not applicable <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no or not applicable, skip to 3e.</b>	
What are the minimum undisturbed buffers for the following:	
River (Ordinary High Water Line): _____ feet wide	
Stream (Ordinary High Water Line): _____ feet wide	
Natural drainage: _____ feet wide	
Riparian Vegetation: <u>25</u> feet wide	
Have the undisturbed buffers been marked on the ground with permanent or temporary boundary markers?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
Have conservation/protection buffers been established?	<input type="checkbox"/> not applicable <input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If yes: check all that apply:</b>	
<input type="checkbox"/> unstable slopes <input type="checkbox"/> wildlife habitat <input type="checkbox"/> water quality <input type="checkbox"/> other: _____	
Describe the nature and configuration of the conservation buffer(s):	
<b>Wetland buffers are located outside of the permit boundary.</b>	

3e. Visual Screening	
Does a natural landform or vegetative screen currently exist?	
Along the <b>permit</b> boundary	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Within the <b>permit</b> boundary	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Along the <b>property</b> boundary	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Within the <b>property</b> boundary	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes to any of the above:</b> Describe: <b>The quarry will consist of a side-hill cut into a basalt bluff and will be accessed from the north. Viewers from the south and most of the east perimeter will not see the quarry. Additional visual screening will be provided by perimeter berms. The wetland/treed areas north and west of the permit area have trees and other vegetation and will remain to screen the site from the north and west.</b>	
Will a berm be constructed along the permit boundaries to develop a visual screen?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes:</b> The average height of the constructed screen/berm will be <u>5</u> feet tall and <u>10-20</u> feet wide.	
Will a vegetative screen be established along the permit boundaries to develop a visual screen?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If yes:</b> If planting trees, what is the estimated height at maturity? _____ feet tall	
Please describe (include species and planting densities):	
Will a fence be installed along the permit boundary for safety or visual screening?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Will the screening/fencing/berm be maintained for the life of the surface mine?	<input type="checkbox"/> not applicable <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	

3f. Vegetation	
Will vegetation be removed sequentially from areas to be mined to prevent unnecessary erosion?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	
Will small trees and other transplantable vegetation be salvaged for use in revegetating other phases?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
Wood and other organic debris will be (check all that apply):	
<input type="checkbox"/> recycled	<input checked="" type="checkbox"/> removed from site
<input checked="" type="checkbox"/> chipped	<input checked="" type="checkbox"/> burned
<input type="checkbox"/> piled and composted on site for growth medium or mulch	<input type="checkbox"/> buried
<input type="checkbox"/> other: _____	<input type="checkbox"/> other: _____
<b>Note: A DEQ permit is generally required for burial of debris and may be required for burning.</b>	
Will coarse wood (logs, stumps) and other large debris be salvaged for fish and wildlife habitat?	<input type="checkbox"/> not applicable <input type="checkbox"/> yes <input checked="" type="checkbox"/> no

3g. Soil and Overburden Salvage and Stabilization	
Identify and characterize the type(s) of soil present within the site area per NRCS Web Soil Survey:	
<b>Soils mapped by NRCS within the proposed mine area consist of Quincy-Rock outcrop complex on the upland and Quincy loamy fine sand between the bluff and the wetland areas. The topsoil thickness described for these units (where topsoil is present) is reported to be 15 inches.</b>	
Will growth medium and overburden materials be salvaged?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>Explain: Growth medium will be stripped incrementally ahead of mining and stored in perimeter berms and stockpiles. Overburden will be minimal - thin to absent over bedrock, and sand will be sold as a product.</b>	
Will growth medium and overburden materials be segregated and stored separately during stripping operations?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>Explain proposed stripping, handling, and storage of growth medium and overburden materials: Growth medium (e.g. topsoil) will be stripped using dozers and placed in nearby berms or loaded and hauled to designated piles for future reclamation of the site. Overburden sand will be sold as product. If any sand is not sold, it will be separately stockpiled near the source area and be incorporated into reclamation and spread as a subsoil prior to placing topsoil.</b>	

<b>For the areas to be stripped:</b>	
Thickness of growth medium averages <b>ranges 0 to 15 in.; average ~8 in.</b> <input checked="" type="checkbox"/> inches <input type="checkbox"/> feet	
Thickness of overburden averages <b>minimal; sand will be sold as product</b> <input type="checkbox"/> inches <input type="checkbox"/> feet	
Depth to bedrock is approximately <b>ranges 0 to 24 in.</b> <input checked="" type="checkbox"/> inches <input type="checkbox"/> feet (below ground surface).	
Total volume of growth medium available within the permit area is <b>~40,000</b> cubic yards.	
Total volume of stored growth medium is <b>none currently</b> cubic yards and will require <b>2-3</b> acres for storage.	
Total volume of stored overburden is <b>none currently</b> cubic yards and will require <b>minimal</b> acres for storage.	
Will growth medium and overburden materials be moved directly to mined out portions of the site for concurrent reclamation?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
Will the storage areas be cleared of all vegetation and organic matter prior to stockpiling?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If no:</b> Explain: <b>Brush will be removed prior to soil stockpiling, but grasses will remain along with in-place topsoil. Storage areas are flat to gently sloped and do not present a stability issue for stockpiling.</b>	
Will subsurface drainage for the storage area be established prior to material placement?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
Explain: <b>Subsurface drainage improvements are not needed for soil storage areas. They are sandy and flat to gently sloped.</b>	
Will growth medium and overburden materials be stabilized with vegetation to prevent water and wind erosion if stored for more than one season?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	
Are the storage areas delineated on the attached map(s)?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no

<b>3h. Surface Mine Excavations</b>	
What is the total number of acres to be affected by mining related activities (include excavation, processing, stockpiling and land clearing)? <b>~45</b> acres	
What is the maximum vertical depth to be mined below the existing topographic grade? <b>80</b> feet	
What will be the lowest elevation of the excavated mine relative to mean sea level? <b>420</b> feet	
What will be the highest elevation of the excavated mine relative to mean sea level? <b>500</b> feet	
Will benches be developed as mining operations advance?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes:</b> The average dimensions of the benches will be approximately: <b>30-40</b> foot vertical faces separated by <b>45-60</b> foot horizontal benches resulting in an interim sloping configuration of <b>1.5H: 1V</b> (e.g. 1½H:1V, 2H:1V)	
<b>If no:</b> The interim sloping configuration of the excavation slopes will be: _____ H: _____ V (e.g. 1½H:1V, 2H:1V).	
Will excavation operations result in the creation of ponds/water-filled excavation areas?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If yes:</b> The interim sloping configuration of the in-water slopes will be _____ H: _____ V (e.g. 3H:1V).	
Will oversize be generated on site?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If yes:</b> Specify the location for storage:	
Will any waste products such as tailings or crusher fines be generated during mining?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If yes:</b> Specify the location for storage:	
Are the storage/stockpile areas delineated on the attached map(s)?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no

<b>3i. Best Management Practices and Stormwater Controls</b>	
Will all stormwater runoff be contained on site?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> A DEQ (NPDES) Permit may be required.	

Methods to control erosion and minimize sedimentation within the permit area include (check all that apply):

- |   |   |  |
|---|---|--|
| <input checked="" type="checkbox"/> minimize the areas stripped | <input checked="" type="checkbox"/> divert natural runoff around the site | <input checked="" type="checkbox"/> graveled roads and working areas |
| <input checked="" type="checkbox"/> internal sloping            | <input checked="" type="checkbox"/> conveyance ditches                    | <input checked="" type="checkbox"/> rock check dams                  |
| <input type="checkbox"/> water bars                             | <input checked="" type="checkbox"/> settling/infiltration ponds           | <input type="checkbox"/> retention berms                             |
| <input checked="" type="checkbox"/> seeding and mulching        | <input type="checkbox"/> other: _____                                     | <input type="checkbox"/> other: _____                                |



## Section 4: Reclamation Plan

4a. Post-Mining Land Use	
Subsequent Land Use(s) of the permit area (check all that apply):	
<input checked="" type="checkbox"/> range/open space	<input type="checkbox"/> forestry
<input type="checkbox"/> residential	<input type="checkbox"/> commercial
<input type="checkbox"/> industrial	<input type="checkbox"/> agriculture
<input type="checkbox"/> wildlife/wetland	<input type="checkbox"/> other: _____
<input type="checkbox"/> recreation	<input type="checkbox"/> other: _____
<b>If more than one post-mining land use is selected provide a map delineating where each use is applicable.</b>	
What will be the average elevation of the reclaimed mine floor relative to mean sea level? <b>420</b> feet	
Is the proposed post-mining land use compatible with the existing local land use jurisdiction?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	
Is the final local land use approval for surface mining attached?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If no:</b> Explain: <b>Approval of AR overlay in process with Umatilla County.</b>	

4b. Reclamation Schedule	
Will reclamation activities be conducted concurrently with mining?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> How many days after mining is completed will reclamation operations begin?	
<b>If yes:</b> Has the permit area been divided into cells/phases for sequential mining?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no

4c. Final Excavation Slopes	
Will final excavation slopes be constructed using the benching method?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes:</b> The average dimensions of the final benches will be approximately <b>30-40</b> foot vertical faces separated by <b>45-60</b> foot horizontal benches resulting in an interim sloping configuration of <b>1.5H: 1V</b> (e.g. 1½H:1V, 2H:1V).	
Will final slopes be constructed via a continuous slope?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If yes:</b> The completion of Section 4d is required.	
Will reclamation blasting be used to reduce the entire highwall to a scree or rubble slope less than 2H:1V?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If yes:</b> Will access to benches be maintained for reclamation blasting?	<input type="checkbox"/> yes <input type="checkbox"/> no
Will selective blasting will be used to remove benches and walls and to create chutes, buttresses, spurs, scree slopes, and rough cliff faces that appear natural or blend in with surrounding topography?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Will final excavation slopes be steeper than 1½H:1V?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If yes:</b> The <b>DOGAMI Slope Stability Supplemental Form</b> must be submitted with this application.	
Will small portions of benches or vertical faces be left to provide habitat for raptors and other cliff-dwelling birds?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Will the final excavation slopes vary in steepness?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes:</b> Explain: <b>Final slopes will be benched and blend with adjacent slopes.</b>	
Are cross-sections of the final excavation slopes attached? (may be required)	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Will measures be taken to limit access to the top and bottom of hazardous slopes?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Explain: <b>Berms will be maintained at the top of the slope during mining. Fencing will be installed above the highwall where berms are removed following reclamation.</b>	

4d. Final Fill Slopes	
Will above-water final fill slopes be constructed on site?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If no:</b> Skip to 4e.	
Will final fill slopes be steeper than 2H:1V or exceed 100 lineal feet in length?	<input type="checkbox"/> yes <input type="checkbox"/> no
What will be the final sloping configuration of fill slopes? _____H: _____V (e.g. 2H:1V)	
<b>If yes:</b> The <b>DOGAMI Slope Stability Supplemental Form</b> must be submitted with this application.	

Will the final fill slopes vary in steepness?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes:</b> Explain:	
Will fill slopes have a sinuous appearance in both profile and plan view?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	
Will the final grouser tracks of equipment be preserved and oriented to trap moisture, growth medium, and seeds, to encourage seed germination and inhibit erosion (track walking)?	<input type="checkbox"/> yes <input type="checkbox"/> no

<b>4e. Working Floors</b>	
Will flat working areas be formed into gently rolling hills to blend in with the surrounding area?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If yes:</b> Give details:	
Will the working floor be gently graded into sinuous drainage channels to preclude sheet-wash erosion during heavy rain events?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes:</b> Give details: <b>The final quarry floor will be gently sloped to direct stormwater to the north ditch en route to the infiltration area.</b>	
Will the working floor and other compacted areas be, plowed, ripped, or blasted to decompact the upper surface prior to spreading growth mediums to foster revegetation?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Explain (If yes, include depth of decompaction): <b>After the mine excavation is constructed to final grade, the floor and flattened portions of benches will be ripped 3 to 6 inches, then both will be capped with growth medium and revegetated.</b>	

<b>4f. Imported Fill</b>	
Will imported materials be necessary to complete reclamation?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If no:</b> Skip to 4g.	
<b>If yes:</b> Give volumes needed to meet reclamation plan: _____	
Are the locations for fill stockpiling and permanent placement shown on the map(s)?	<input type="checkbox"/> yes <input type="checkbox"/> no
How will the quality of imported fill be monitored to ensure it meets DEQ clean fill standards? _____	
Will the backfill materials be mixed or screened to ensure uniformity for compaction and stability?	<input type="checkbox"/> yes <input type="checkbox"/> no

<b>4g. Backfilling Operations</b>	
Will an excavation area be located below natural grade requiring backfilling?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If no:</b> Skip to 4h	
What will be the total depth of backfilled materials? _____ feet.	
Will backfilling be conducted in lifts?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes:</b> Specify the average depth of the lifts: _____ feet.	
Will the backfilled slopes be compacted?	<input type="checkbox"/> yes <input type="checkbox"/> no
Explain:	
Will compaction testing be conducted under supervision/direction of an Oregon Certified Engineering Geologist or Geotechnical Engineer to determine the compaction percentage? (may be required subject to post-mining land use)	<input type="checkbox"/> yes <input type="checkbox"/> no
Will backfilling be completed utilizing on site overburden materials?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes:</b> Explain:	
Will you be backfilling into water?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Skip to 4h	
Will dewatering be necessary for the backfilling operations?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes:</b> <b>A DOGAMI Groundwater Supplemental Form is required to be submitted with this application and a DEQ NPDES Permit may be required.</b>	

Will backfilling be limited to the dry season or otherwise conducted under dry conditions?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If no: A DOGAMI Slope Stability Supplemental Form may be required.</b>	
Will the excavation pit/pond be <i>entirely</i> backfilled to natural ground surface elevation?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If no: The completion of Section 4h is required for in-water sloping configurations.</b>	

<b>4h. Ponds and Wetlands</b>	
Will stormwater controls or excavation operations intersect the groundwater table resulting in the creation of ponds and/or wetlands?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If no: Go to Section 4i.</b>	
Specify the construction method and dimensions for each settling/infiltration pond to remain on site: Pond #1 will be approximately _____ acres in size and approximately _____ feet deep and constructed via: <input type="checkbox"/> excavation <input type="checkbox"/> retention berms <input type="checkbox"/> combination of both Pond #2 will be approximately _____ acres in size and approximately _____ feet deep and constructed via: <input type="checkbox"/> excavation <input type="checkbox"/> retention berms <input type="checkbox"/> combination of both	
All in-water sloping configurations will be constructed at _____ H: _____ V or flatter to a minimum depth of _____ feet below the low-water level of the ponds(s). <b>Per OAR 632-030-0027(5), all in-water sloping configurations must be established at 3H:1V or flatter from the ordinary high-water level to six feet below the ordinary low-water level for permanent water impoundments.</b>	
If not already present, will soils, silts, and clay-bearing materials be placed below water level to enhance revegetation for fish and wildlife habitat?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes: Give details:</b>	
Will wetlands be constructed on site?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes: Give details:</b>	
Will wildlife and fish habitat/enhancements be developed?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes: Check all that apply:</b>	
<input type="checkbox"/> varied water depths <input type="checkbox"/> islands <input type="checkbox"/> peninsulas <input type="checkbox"/> fish structures <input type="checkbox"/> shallow areas (<18 inches deep) <input type="checkbox"/> sinuous/irregular shorelines <input type="checkbox"/> other: _____ <input type="checkbox"/> other: _____	
What species are the habitat/enhancements intended to benefit?	
Will final pond(s) be utilized for agriculture, forestry or supply water (impoundment)?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If no: Skip to 4i.</b>	
Has approval from other agencies with jurisdiction to regulate impoundment of water been obtained?	<input type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes: Attach written approval.</b>	
What measures will be taken to prevent seepage from the site from adversely affecting the stability of impoundments and adjacent slopes? (check all that apply):	
<input type="checkbox"/> monitoring <input type="checkbox"/> relief drains <input type="checkbox"/> weep holes <input type="checkbox"/> compaction <input type="checkbox"/> grouting <input type="checkbox"/> installing upstream blanket <input type="checkbox"/> none	
Give details:	
What measures have been taken to design impoundments to resist seismic hazards?	

<b>4i. Growth Medium Replacement</b>	
Will the importation of growth medium be required to complete reclamation?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
Explain (if yes, describe source):	

Will growth medium materials be replaced on all above-water slopes and/or benches?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If no:</b> Explain: <b>Near-vertical portions of benches will remain, which will provide wildlife (e.g. raptor) habitat similar to the bluffs and cliffs located in the surrounding vicinity.</b>	
Will growth medium be distributed evenly over the site?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Specify: <b>Except on near-vertical bench slopes</b>	
Soil will be replaced on the mine floor to an approximate depth of <u>8</u> <input checked="" type="checkbox"/> inches <input type="checkbox"/> feet	
Soil will be replaced on established benches to an approximate depth of <u>8</u> <input checked="" type="checkbox"/> inches <input type="checkbox"/> feet	
If growth medium is in short supply, will it be strategically placed to conserve moisture and promote revegetation?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	
Will growth medium be moved when conditions are exceptionally wet or dry?	<input type="checkbox"/> not applicable <input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If yes:</b> Explain:	
<b>If applicable:</b> will clay/silt from settling ponds be used to supplement the growth medium materials?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
Will any additional materials be utilized as a growth medium substitute to complete revegetation (e.g. reject fines)?	<input type="checkbox"/> not applicable <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes:</b> Explain: <b>If excess sand remains at completion of mining, it will be incorporated as a subsoil/additional growth medium for revegetation.</b>	
Will all growth medium be replaced with equipment that will minimize compaction, or will growth medium be plowed, disced, or ripped following placement?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	
Will all replaced growth medium be stabilized in a timely manner with vegetation and/or mulch to prevent loss by erosion, slumping, or crusting?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	

<b>4j. Revegetation</b>	
The average precipitation on site is <u>10</u> inches per year.	
Will the site be revegetated?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> The site will not be revegetated because:	
<input type="checkbox"/> Demonstration plots and areas will be used to show that active revegetation is not necessary.	
<input type="checkbox"/> Revegetation is inappropriate for the approved subsequent use of this surface mine.	
Will revegetation activities start during the first proper growing season (e.g. fall for grasses, fall or late winter for trees and shrubs) following restoration of slopes?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If yes:</b> Give details: <b>Grass seed will be broadcast at 40 pounds per acre over replaced topsoil.</b> <b>If no:</b> Explain:	
Will vegetation test plots be used to determine optimum vegetation plans?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no

<b>4k. Planting and/or Seeding Techniques and Specifications</b>		
Describe the method and time of year for planting and/or seeding: <b>Seed will be broadcast by hand over replaced topsoil in the fall.</b>		
Give seeding details (lbs/acre of grass, legume, or forb mixture): <b>Grass seed will be broadcast at 40 pounds per acre.</b>		
Give planting details (stems/acre of trees and shrubs, size and type of plant stock): <b>n/a</b>		
Additional planting/seeding techniques include:		
<input checked="" type="checkbox"/> ripping, discing and/or tilling	<input type="checkbox"/> blasting to create permeability	<input type="checkbox"/> mulching
<input type="checkbox"/> irrigation	<input type="checkbox"/> fertilization	<input type="checkbox"/> planting dormant trees and shrubs
<input type="checkbox"/> importation of clay or organic-rich growth medium	<input type="checkbox"/> other growth medium conditioners or amendments	<input checked="" type="checkbox"/> seeds to be protected with growth medium or mulch
<input type="checkbox"/> other: _____		

Describe the noxious weed and invasive plant control measures: **Should noxious or invasive species propagate on site, they will be removed mechanically or by herbicide.**

<b>4l. Drainage and Stormwater Controls</b>	
Will the reclaimed surface mine site be internally drained?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Will natural runoff be directed to a natural drainage or safe outlet upon completion of reclamation?	<input type="checkbox"/> not applicable <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If applicable:</b> Explain: <b>The final quarry floor will be gently sloped to direct stormwater to the north ditch en route to the infiltration pond, where it will infiltrate.</b>	
Will the construction of ditches and channels be necessary to limit erosion and siltation?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If applicable:</b> Explain: <b>A perimeter ditch will be constructed along the north side of the operation to capture stormwater and route to the infiltration pond. Check dams will be placed along the ditch as needed to reduce flow velocity and ditch erosion.</b>	
Will conveyance ditches and channels be lined with vegetation or riprap?	<input type="checkbox"/> not applicable <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If applicable:</b> Explain: <b>The ditch will be lined with riprap as needed.</b>	
Will it be necessary to stabilize or rehabilitate stream channels or banks?	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
<b>If yes:</b> Give details:	

<b>4m. Site Cleanup</b>	
Will all mining-related equipment be removed from the site?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	
Will all structures and buildings be removed from the site?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	
Will all visual and/or retention berms be removed from the site?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	
Will all debris, refuse, and/or hazardous material be removed from the site?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	
Will all stockpiles be sold, graded, and or removed from the site?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	
Will all oversize be sold, reduced, or removed from the site?	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no
<b>If no:</b> Explain:	

## Signature Page

### APPLICANT

I am applying for an Operating Permit under ORS 517.790. My signature below attests that the information provided in this application is accurate and true to the best of my knowledge. Any misrepresentation in these materials will be considered grounds for denial for an Operating Permit.

Doug Cox, CRP & Hauling, LLC

Applicant's Printed Name

  
Applicant's Signature

Owner

Title

7/17/2023

Date

### PREPARED BY

I prepared this application for the applicant above. My signature below attests that the information provided in this application is accurate and true to the best of my knowledge. Any misrepresentation in these materials will be considered grounds for denial for an Operating Permit.

Erick Staley, Fulcrum GeoResources LLC

Preparer's Printed Name

  
Preparer's Signature

Principal Geologist

Title

7/17/2023

Date

### LANDOWNER(S)

I have read, understand, and acknowledge receipt of all information provided in this application. By signing this form, I am granting consent to the mining activities as outlined in this application on my property.

Randy Rupp

Landowner (1) Printed Name

  
Landowner (1) Signature

Owner

Title

7/17/2023

Date

Landowner (2) Printed Name

Title

Landowner (2) Signature

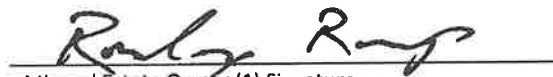
Date

### MINERAL ESTATE OWNER(S)

I have read, understand, and acknowledge receipt of all information provided in this application. By signing this form, I am granting consent to the mining activities as outlined in this application on my property.

Randy Rupp

Mineral Estate Owner (1) Printed Name

  
Mineral Estate Owner (1) Signature

Owner

Title

7/17/2023

Date

Mineral Estate Owner (2) Printed Name

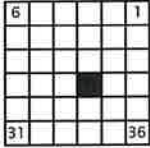
Title

Mineral Estate Owner (2) Signature

Date

Attach additional signature pages as necessary

T 5 N



R 29 E

**EASTERN OREGON**



**SITE COORDINATES:**

LATITUDE: 45° 54' 7.5" N

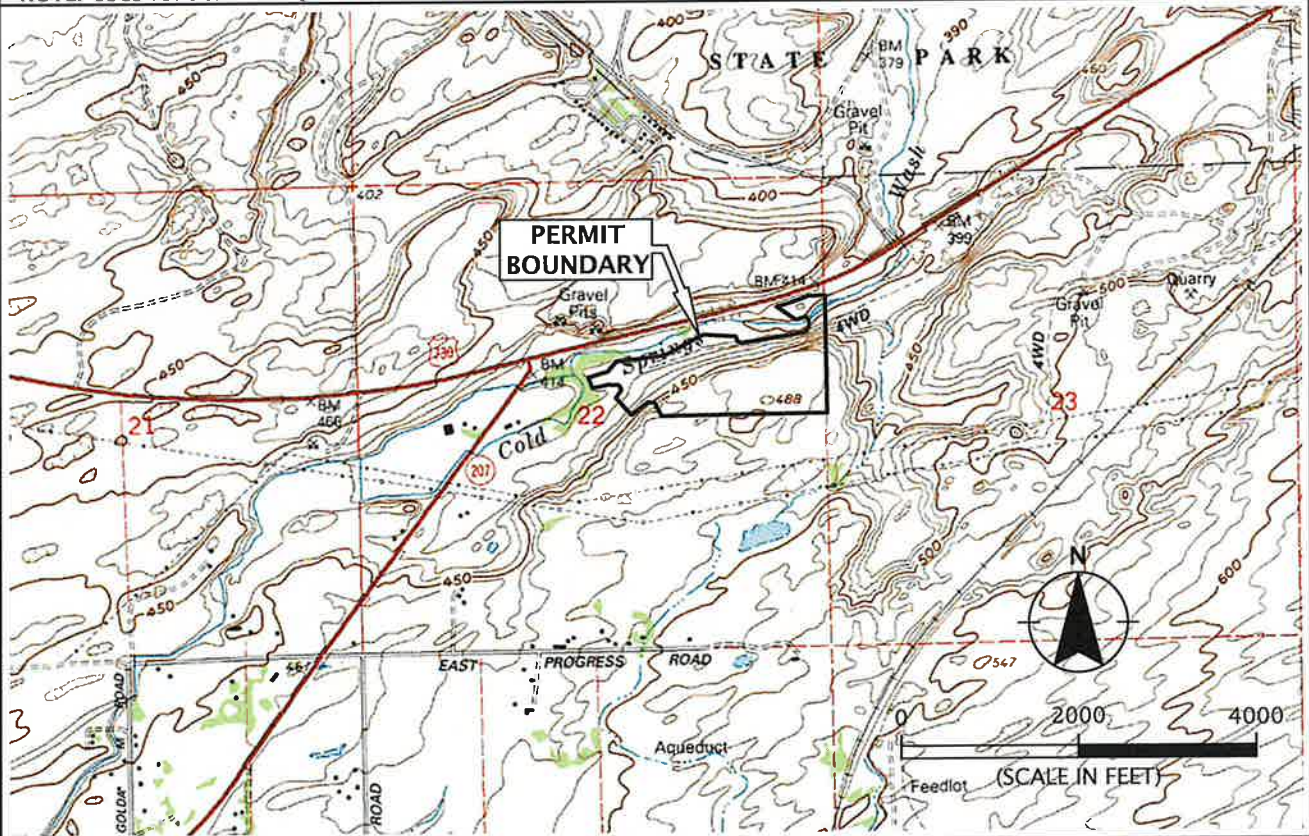
LONGITUDE: 119° 10' 1.2" W

**LEGAL DESCRIPTION**

THE PERMIT BOUNDARY IS LOCATED IN PORTIONS OF THE FOLLOWING QUARTER-QUARTER SECTIONS:

- SE QUARTER OF THE NE QUARTER OF SECTION 22
- SW QUARTER OF THE NE QUARTER OF SECTION 22

**NOTE:** USGS TOPOGRAPHIC QUADRANGLE MAPS REPRODUCED USING MAPTECH TERRAIN NAVIGATOR PRO®.



**FULCRUM**

**GEO RESOURCES**

CRP & HAULING, LLC

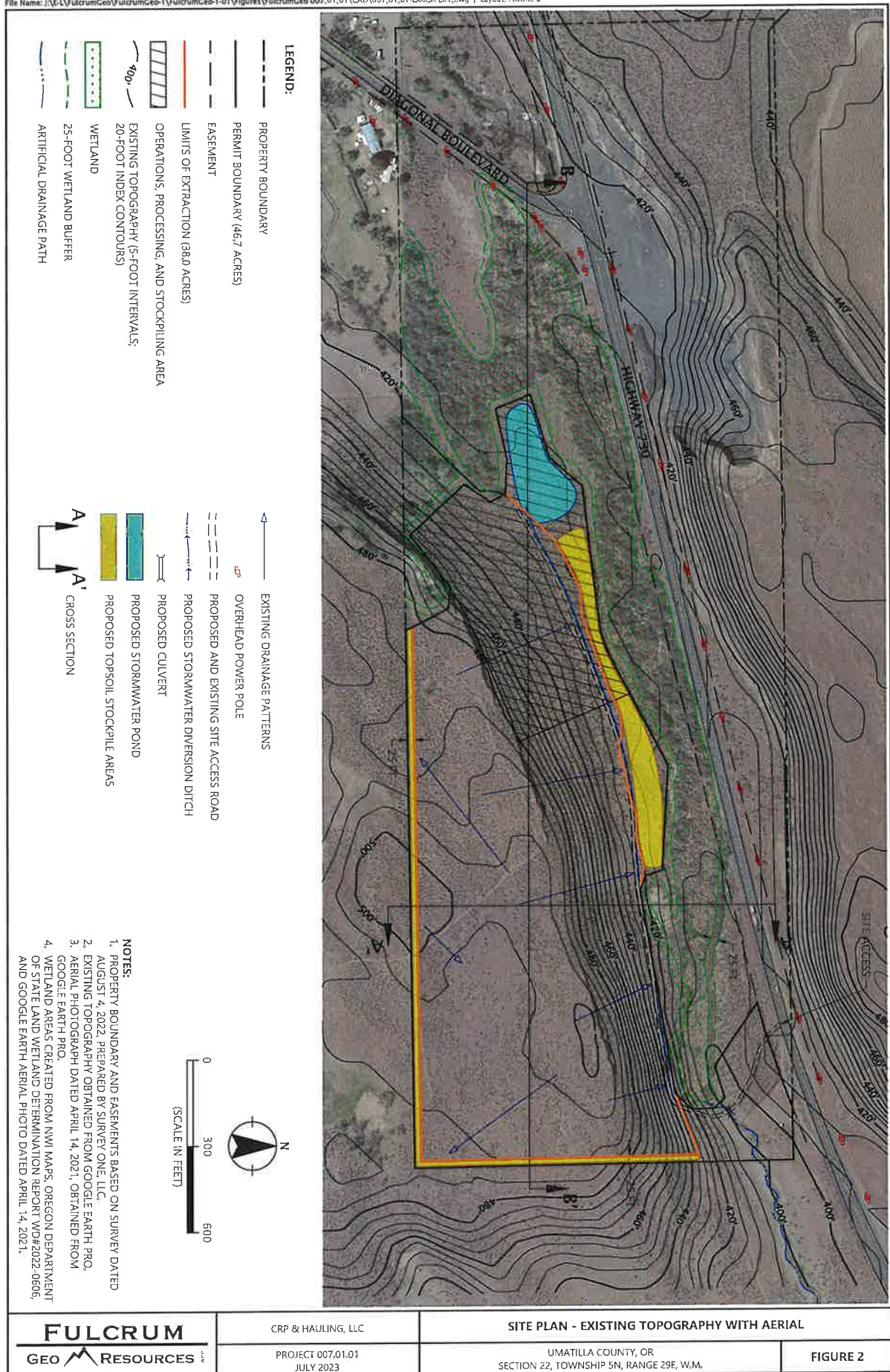
PROJECT 007.01.01  
JULY 2023

**VICINITY MAP**

UMATILLA COUNTY, OR  
SECTION 22, TOWNSHIP 5N, RANGE 29E, W.M.

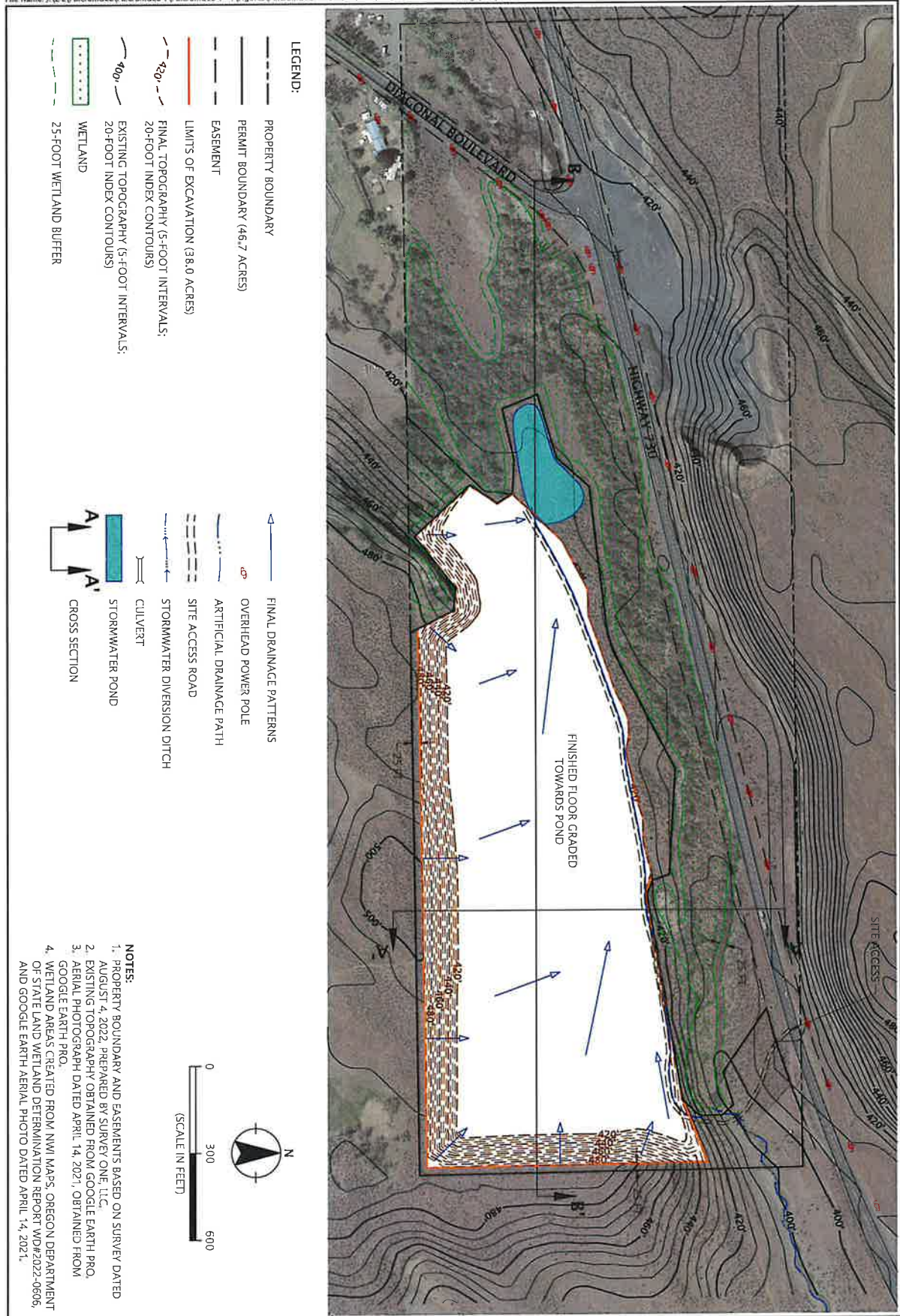
**FIGURE 1**

Printed By: mmiller | Print Date: 7/11/2023 5:08:35 PM  
File Name: J:\E-L\FulcrumGeo\FulcrumGeo-1-01\Figures\FulcrumGeo-1-01\CAD\007.01.01-VM01.dwg | Layout: FIGURE 1



	CRP & HAULING, LLC	SITE PLAN - EXISTING TOPOGRAPHY WITH AERIAL	
	PROJECT 007.01.01 JULY 2023	UMATILLA COUNTY, OR SECTION 22, TOWNSHIP 5N, RANGE 29E, W.M.	FIGURE 2



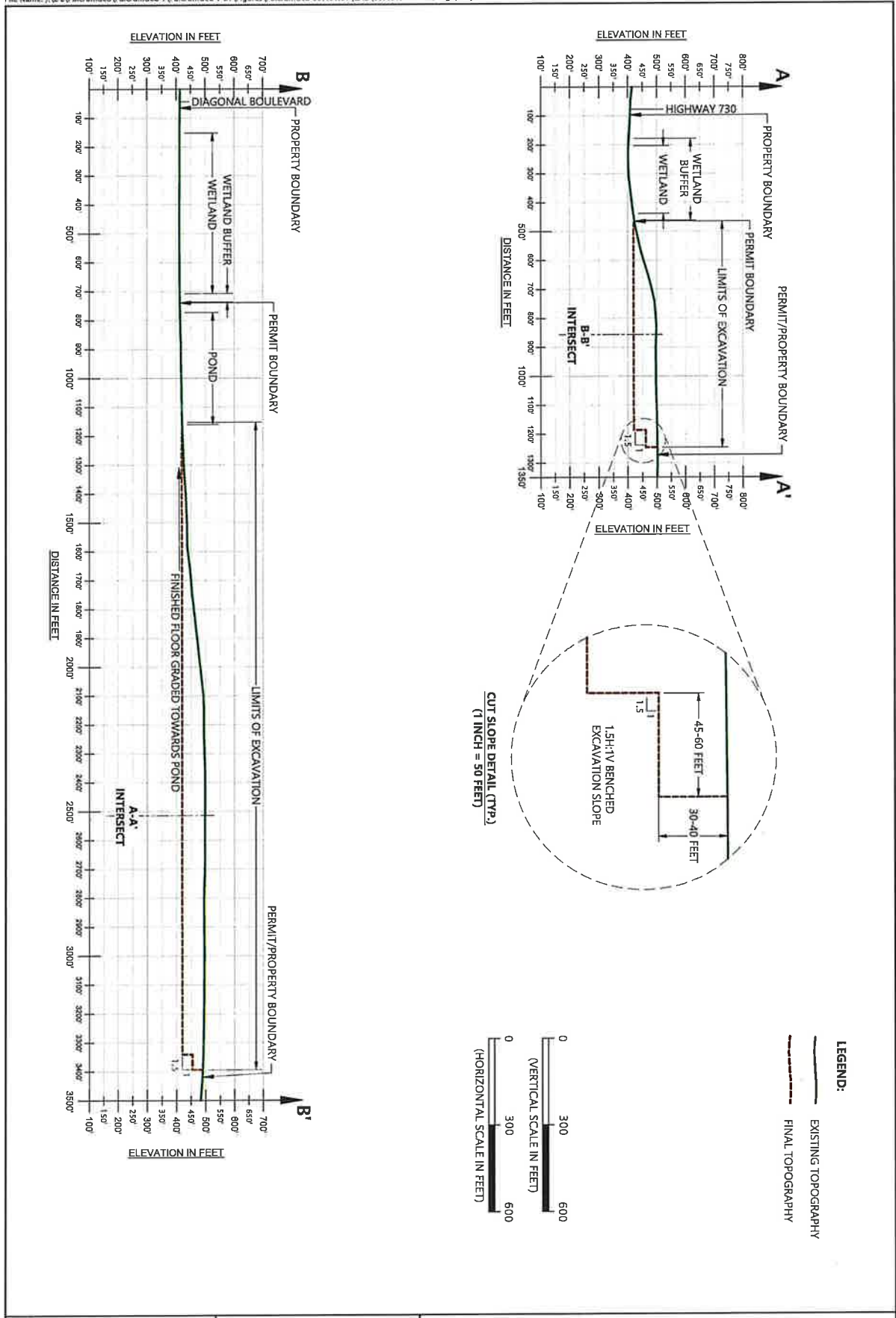


- LEGEND:**
- PROPERTY BOUNDARY
  - PERMIT BOUNDARY (46.7 ACRES)
  - EASEMENT
  - LIMITS OF EXCAVATION (38.0 ACRES)
  - FINAL TOPOGRAPHY (5-FOOT INTERVALS; 20-FOOT INDEX CONTOURS)
  - EXISTING TOPOGRAPHY (5-FOOT INTERVALS; 20-FOOT INDEX CONTOURS)
  - WETLAND
  - 25-FOOT WETLAND BUFFER

- FINAL DRAINAGE PATTERNS
- OVERHEAD POWER POLE
- ARTIFICIAL DRAINAGE PATH
- SITE ACCESS ROAD
- STORMWATER DIVERSION DITCH
- CULVERT
- STORMWATER POND
- CROSS SECTION

- NOTES:**
1. PROPERTY BOUNDARY AND EASEMENTS BASED ON SURVEY DATED AUGUST 4, 2022. PREPARED BY SURVEY ONE, LLC.
  2. EXISTING TOPOGRAPHY OBTAINED FROM GOOGLE EARTH PRO.
  3. AERIAL PHOTOGRAPH DATED APRIL 14, 2021; OBTAINED FROM GOOGLE EARTH PRO.
  4. WETLAND AREAS CREATED FROM NWI MAPS, OREGON DEPARTMENT OF STATE LAND WETLAND DETERMINATION REPORT WD#2022-0606, AND GOOGLE EARTH AERIAL PHOTO DATED APRIL 14, 2021.

	CRP & HAULING, LLC	<b>RECLAMATION PLAN - FINAL TOPOGRAPHY WITH AERIAL</b>	
	PROJECT 007.01.01 JULY 2023	UMATILLA COUNTY, OR SECTION 22, TOWNSHIP 5N, RANGE 29E, W.M.	<b>FIGURE 3</b>



<p><b>FULCRUM</b>          GEO RESOURCES</p>	<p>CRP &amp; HAULING, LLC          PROJECT 005.01.01          JULY 2023</p>	<p>UMATILLA COUNTY, OR          SECTION 22, TOWNSHIP 5N, RANGE 29E, W.M.</p>	<p>FIGURE 4</p>
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Megan Davchevski <megan.davchevski@umatillacounty.gov>

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**Comprehensive Plan Text Amendment #T-093-23, and Zone Map Amendment#Z-323-23: Doug Cox(applicant) / Randy Rupp(owner).**

1 message

---

**barbara Atwood MD** <barbaraatwoodmd@gmail.com>  
To: planning@umatillacounty.gov

Wed, Nov 8, 2023 at 10:22 PM

To Whom It May Concern,

I plan to attend the hearing Nov. 9th at 6:30 PM.

Sincerely,  
Barbara Atwood M.D.

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PLANNING DEPARTMENT

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 **BarbaraAtwood-letter.PDF**  
62K



Exhibit K

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UMATILLA COUNTY  
PLANNING DEPARTMENT

Barbara Atwood

Atwood Farms

33679 East Progress Rd.

Hermiston, OR 97838

11/8/23

RE: Comprehensive Plan Text Amendment #T-093-23, and Zone Map Amendment#Z-323-23: Doug Cox(applicant) / Randy Rupp(owner).

Umatilla County Planning Commission

216 SE 4<sup>th</sup> St.

Pendleton, OR 97801

Dear Commissioners,

The proposed aggregate site is near my Farm and Home. I have several concerns about plans to develop a new quarry site and produce Asphalt at the proposed location. We already have two quarries in this area which are dusty, noisy, and unsightly. I am also concerned about the health risks.

1. **Health Concerns.** The dust and smell of asphalt production are known to irritate lungs and cause asthma symptoms in Humans and Livestock.

OSHA states that, "Health effects from exposure to asphalt fumes include headache, skin rash, sensitization, fatigue, reduced appetite, throat and eye irritation, cough, and skin cancer."

<https://www.osha.gov/asphalt-fumes>.

2. **Noise Exposure Levels.** Rock crushing and blasting produces a significant amount of noise at the quarry 3 miles east of my home and the quarry at the junction of Highway 207 and 730. The quarry east of my place works at all hours of the night and the noise is very annoying. The planning Commission packet states that the quarry will only function from 6 am to 3 pm. I find this doubtful since the other quarries worked around the clock for selected time periods.
3. **Natural Habitat.** Quarries are universally unsightly but I am more worried about the effect of the quarry on the natural habitat which will adversely affect wildlife, natural vegetation, natural creeks, and waterfalls. With the copious dust, noise, pollution, etc, the wildlife in the marsh at the west end of the property will not survive. Has an Environmental Study been done?

4. Water Sources. The property near the proposed re-zoning for the Quarry is designated a "Critical Water Shed area." I am very worried that the rock blasting and pollution from the Quarry and Asphalt production will damage our fragile water sources. I fear that the blasting will cause fissures in our Aquaphor and that the surface ground water sources(creeks) will be damaged or altered. Loss of water would be devastating to my farm and income. Has there been a study on the effect of this project on Surface and Ground Water?
5. Land Value. Adding an additional Quarry to this area will undoubtedly lower our land value. This would be a significant financial impact to all of the surrounding home and farm owners.

Please take these concerns seriously. Once the damage is done, it will be too late.

Sincerely,

A handwritten signature in black ink that reads "Barbara Atwood". The signature is written in a cursive style with a large initial 'B' and a long, sweeping underline.

Barbara Atwood MD

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**Comprehensive Plan Text Amendment #T-093-23, and Zone Map Amendment#Z-323-23: Doug Cox(applicant) / Randy Rupp(owner).**

1 message

---

**Crystal Atwood** <atwoodvr1@gmail.com>  
To: planning@umatillacounty.gov

Wed, Nov 8, 2023 at 10:25 PM

To Whom It May Concern,

I will be unable to attend but sincerely hope the committee takes my concerns into account.

Best regards,  
Crystal Atwood

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UMATILLA COUNTY  
PLANNING DEPARTMENT

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 **CrystalAtwood-letter.PDF**  
83K



Exhibit L



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NOV 09 2023

UMATILLA COUNTY  
PLANNING DEPARTMENT

Crystal Atwood

Atwood Farms

33679 East Progress Rd.

Hermiston, OR 97838

11/8/23

RE: Comprehensive Plan Text Amendment #T-093-23, and Zone Map Amendment#Z-323-23: Doug Cox(applicant) / Randy Rupp(owner).

Umatilla County Planning Commission

216 SE 4<sup>th</sup> St.

Pendleton, OR 97801

Dear Commissioners,

The proposed aggregate site is near my Farm and Home. I have several concerns about plans to develop a new quarry site and produce Asphalt at the proposed location. We already have two quarries in this area which are dusty, noisy, and unsightly. I am also concerned about the health risks.

1. **Health Concerns.** The dust and smell of asphalt production are known to irritate lungs and cause asthma symptoms in Humans and **Livestock**.  
OSHA states that, "Health effects from exposure to asphalt fumes include headache, skin rash, sensitization, fatigue, reduced appetite, throat and eye irritation, cough, and skin cancer."  
<https://www.osha.gov/asphalt-fumes>.
2. **Noise Exposure Levels.** Rock crushing and blasting produces a significant amount of noise at the quarry 1.5 miles east of my home and the quarry at the junction of Highway 207 and 730. The quarry east of my place works at all hours of the night and the noise impacts the peaceful beauty of this area. It negatively impacts sleep. The planning Commission packet states that the quarry will only function from 6 am to 3 pm. I find this doubtful since the other quarries worked around the clock for selected time periods.
3. **Natural Habitat.** Quarries are universally unsightly but I am more worried about the effect of the quarry on the natural habitat which will adversely affect wildlife, natural vegetation, natural creeks, and waterfalls. With the copious dust, noise, pollution, etc, the wildlife in the marsh at the west end of the property will not survive. Has an Environmental Study been

done? Has an endangered or threatened species survey been performed? The Pacific Northwest Wetlands are known breeding grounds to threatened species such as the **Columbia Spotted Frog**.

4. **Water Sources.** The property near the proposed re-zoning for the Quarry is designated as "Critical Water Shed area." I am very worried that the rock blasting and pollution from the Quarry and Asphalt production will damage our fragile water sources. I fear that the blasting will cause fissures in our Aquaphor and that the surface ground water sources(creeks) will be damaged or altered. Loss of water would be devastating to my farm and income. Has there been a study on the effect of this project on Surface and Groundwater?
5. **Land Value.** Adding an additional Quarry to this area will undoubtedly lower our land value. This would be a significant financial impact to all of the surrounding home and farm owners.
6. **Loss of Agriculture only land.** Oregon prides itself on protecting agricultural land by zoning it as EFU this is meant to prevent the use of the land for anything else. By continuing to rezone EFU land to AR we are setting a precedent that EFU is not really enough to protect our farmlands. Quarries use up the land resource whereas EFU land is a renewable resource.

We have so far tolerated the current quarries in our area. However, I hope that the Umatilla County Planning Commission will take these concerns seriously, and reject the proposed rezoning. Once the damage is done, it will be too late.

Sincerely,

Crystal Atwood

A handwritten signature in black ink, appearing to read 'Crystal Atwood', written over a horizontal line.

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## Planning commission public hearing comments

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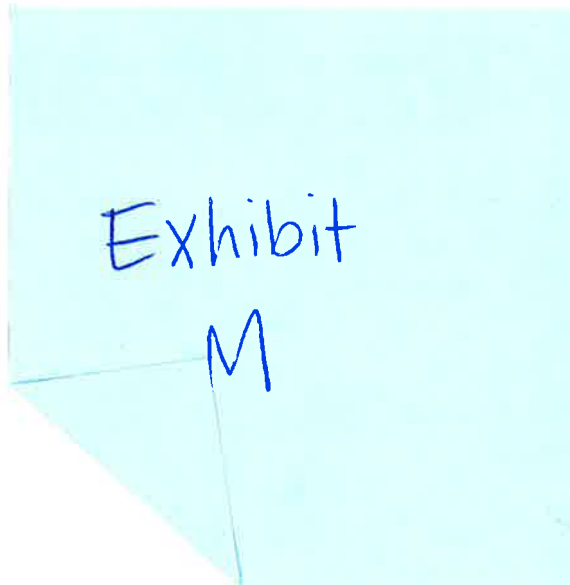
**Kyla Langley Latham** <kylasports@gmail.com>  
To: planning@umatillacounty.gov

Thu, Nov 9, 2023 at 12:54 PM

To whom it may concern,

I do not support the rezoning of the land, described on the map from Doug Cox and Randy Rupp, along highway 730. The map shows the extension of their gravel site encroaches on my families farm ground and desert ground. If the rezoning was to occur it would obstruct the farm ground on my families property and would cause the farmer to lose farmable acreage of his crop.

Thank you,  
Kyla Langley Latham



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UMATILLA COUNTY  
PLANNING DEPARTMENT

Cox Quarry Statement

Wylie Ranch

Aaron Basford

Exhibit N

Good evening everyone, thank you for being here

My name is Cody Basford I am speaking on behalf of the Wylie Ranch owned and operated by my father Aaron Basford.

To start tonight off with why we are against this motion to rezone this property, in the spring of 2023 we caught an employee of Sineco construction employed by Doug Cox tearing down a property line fence. We never received any sort of communication from either Randy Rupp or Doug Cox stating they would like to adjust the property lines. These fences had been in place for over 60 years. They did have it surveyed, they just failed to communicate that to my father. We run a cattle operation and fences are extremely important in our line of business. After another two weeks with no communication Doug made contact and came out to our property to go over what they were trying to accomplish. We agreed to moving the fences to the correct property lines and he promised to build a new fence above and below the cliff line. To this date November 9<sup>th</sup> no fence has been built below the cliff line. No information about a rock quarry and asphalt batch plant was ever mentioned by Doug Cox in the first meeting. After a few weeks of the fence project last spring my dad finally asked Doug what exactly was he up to? Doug then came out and said they wanted to make a rock quarry. Since that time no communication has been made about any of this until we got our notice in the mail in October last month.

We have several concerns in the new request to make a rock quarry.

How will they keep blasting rock and debris from flying over our property line and affecting our cattle and hay operation?

Has an environmental study been done to see the effects a rock quarry will have on all the wildlife that reside in the wetlands? Ducks, beavers, fish, quail, rabbits, deer, all reside in that wetland area.

Will fuel and oil for equipment and the batch plant be stored onsite? Next to a wetland?

Where and how will they supply enough water for this operation?

Documents on pages 173-179 show wetlands extending past their proposed new road access onto 730. Page 173. Please show the room.

If changing the zoning gets approved and this rock quarry and asphalt batch plant starts how will this affect property taxes and resale value for all properties that are next to a rock quarry?

Doug has been submitting documents and applications for over a year and we have just been notified this last month by mail about changing the zoning, the neighborhood would have liked more open conversations with Randy and Doug about their intentions.

To summarize our concerns and statement Randy Rupp and Doug Cox have been difficult to deal with, no communication or notification on what they were wanting to do or any sort of friendly discussions about changing property lines and fences. If this is any indication on the how they will be to have as neighbors next door with a rock quarry we are strongly against having the zoning changed and moving forward with this. I hope the planning commission and board of commissioners will take into consideration that Randy and Doug have done nothing to get along or be neighborly in their process of trying to accomplish their agenda. This is strictly for a financial gain with no regards to the land, wildlife, wetlands and neighbors. They have none of the neighbor's interest or concerns in their plans moving forward and that's how its been since day one starting with their fence removal actions. My father is a steward of the land and takes our cattle business and livelihood seriously and we don't want to see this land abused and cleared of its resources. This land that is in question to be rezoned has been grazed by cattle from previous owners and can sustain wildlife and cattle together for years to come. We would hate to see it destroyed as we are losing farm land across the United States in alarming rates and this is another one of those examples.

Thank you for your time tonight.

Exhibit D

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UMATILLA COUNTY  
PLANNING DEPARTMENT

Jenny and Justin Estes  
34214 Diagonal Road  
Hermiston, OR 97838

November 9, 2023

Umatilla County Planning Commission  
216 SE 4<sup>th</sup> Street  
Pendleton, OR 97838

RE: Umatilla County Comprehensive Plan Text Amendment #T-093-23 and Zone Map Amendment #Z-323-23:: Doug Cox/Randy Rupp (Land Owner)

Planning Commission Members,

I am writing this letter in opposition to the establishment of a new aggregate site identified on the assessor's map as Township 5 North, Range 29 East, Section 22, Tax Lot 400. We oppose the addition of this site to the Umatilla County Comprehensive Plan list of a Goal 5 protected large Significant Site and oppose the application of an Aggregate Resource Overlay Zone to the entire quarry site.

First and foremost, the site that Mr. Cox is proposing to use is not a significant site in the Umatilla County Comprehensive Plan. Therefore, a permit for mining aggregate should not be granted. (OAR 660-023-0180 (6)(c).) Thus, our first objection is to the addition of this site to the Comprehensive Plan on the grounds that the activities associated with this significant site would force a significant change and increased costs to the farming practices on nearby lands devoted to farm use. (ORS 215.213 (6))

Additionally, the applicant has not provided enough information to quantify the use of the 46.7 acres through soil samples and aggregate material samples. It is still unknown where in total the mining area will be, as the applicant hasn't clearly answered that question. It simply doesn't meet the standards as set forth in OAR 660-023-180(3)(a).

The existing land uses within the impact area pre-exist the current application. Ourselves and our neighbors invested in our properties with the expectation that the EFU designation gave us certain rights and protections.



This mining site will be 2100' feet from my back patio. While that may seem like a lot, it certainly isn't. To put this into perspective, it would be about 3 to 5 city blocks. We have invested in our property, not only as a home, but a way of life and an income source. Our home, livestock, water systems and barns all create an infrastructure to our way of life and could be greatly disrupted by this mining operation. Our investment is in jeopardy. The resale value of our home will be affected by the trajectory of this operation to our property. Our well, the only water source we have, could be jeopardized. Our local habitat and animal population will scatter. The PROTECTED Wetland Drainage Area will be compromised. It's not just our property. Our neighbors, 8+ other properties, are in the same situation. We just don't have enough answers to important questions to allow this project to proceed.

OAR 660-023-0182 (5)(b)(A), [Conflicts created by the site] Determine conflicts from proposed mining of a significant aggregate site, due to noise, dust or other discharges.

It is unclear to our parties as to how much our properties will be affected by the noise, dust or discharges as the applicant has failed to specifically identify the area subject to blasting. Based on our information, the entire site has potential to be blasted. The applicant also states that the existing basalt outcropping will mitigate the noise. What will stop the applicant from mining those areas in the future? The applicant has, by choice, moved his mining area a quarter mile east of the existing home in the 1500-foot impact area, and by all accounts, could move another mile or further east, as they own all of that property, lessening the burden to all bordering property owners. There is no validated report that evaluates potential noise, dust or blasting impacts to the existing dwelling or farming activities. There is no proof that the "basalt outcropping" will reduce the noise and disturbance at all and no guarantee that the applicant won't at some point mine the basalt rock outcrop that he is using as his noise dampening excuse. Seems like the applicant is giving his best guess.

Agricultural activities in the impact area include irrigated and non-irrigated grazing and some irrigated crop land. All zones are EFU. While the applicant states there will be no impact on these lands, he has no proof. Noise, dust, and discharges will inevitably affect crops, cattle and water sources. These elements affect our daily life. Our ground will be altered, our animals will be breathing dust and rock, and our crops will be covered. There are severe agricultural concerns throughout our adjacent landowners. While it may seem inconsequential to some, we have many horses that are athletes in our and our daughters' professional trade. They are part of our livelihood, business, and daily life. We can't in good conscience

expect them to breathe in dust particles and perform. These animals are a part of our livelihood and can't escape inside when the air is bad. Thus, we are not only concerned about ourselves and the contamination, but we are also concerned about our livestock, the food they eat and the water they drink.

Additionally, as adjacent property owners, we are not comfortable with the recommendation that "Blasting should be monitored using seismographs or similar equipment to collect vibration data..." This suggests that the blasting has the potential to impact the infrastructure of our land and cause problems. Specifically, we are concerned about our water systems that are the lifeline to our farms and families. The Wetland Drainage Area Goal 5 site on the subject property requires limiting conflicting uses to protect the resource. The applicant has not submitted quantifiable justification that the mining operation will not harm the Wetland Drainage Area.

While the ODOT study was done regarding traffic counts, there has been no mention of the safety of the operation. This stretch of road is busy for a rural area and the incident of accidents on these roads is frequent. The speed limit is 55 mph, which leads to safety issues when cars and heavy trucks enter and exit frequently at a slow rate of speed.

We have valid concerns about the impact on our property and our neighbors' property that we do not believe have been addressed, and quite possibly can't be addressed. In our opinion, the risk to our livelihood and property is too great to allow this mining site, when Mr. Cox has viable options just down the road. We have no desire to disable his ability to mine rock, just not in the current proposed location.

In conclusion, the unknowns are too great, and consequences cannot be analyzed or predicted due to lack of information. The conflicts to blasting do exist. The reasonable practical measures to minimize the conflicts would be for the applicant to move east on his existing property and continue with his current plan. If he is allowed to continue at the current proposed site, there is no possible way to minimize the conflicts reported.

To quote the staff of the Umatilla County Planning Commission, "Regrettably, conflicting responses addressing potential impacts appear throughout the application. Conflicting responses in both addressing potential impacts to the proposed aggregate operation from permissible uses located within the 1,500-foot impact area, and impacts by the proposed aggregate mining operation to uses located within the surrounding area."

“Applicant did not explain how the proposed quarry operation would not conflict with existing uses (dwellings, farm stands, etc.), nor how these same uses, if proposed, should not be permitted within the impact area. Additionally, the applicant contradicts themselves in numerous statements regarding conflicts. It is the applicant's burden to justify measures to protect existing and proposed uses. It is then County decision makers' responsibility to determine whether or not the proposed protection measures are adequate, fair and objective.”

Considering the above quotes from the County Planning department, we are questioning HOW they can make a recommendation to approve the two requests.

We ask you to determine that the protection measures are not adequate for the sustainability and preservation of our land and family.

Respectfully,

Jenny Estes

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## Response to Comprehensive Plan Text Amendment #T-093-23, and Zone Map Amendment #Z-323-23

1 message

---

Justin Estes <justinestes13@gmail.com>  
To: planning@umatillacounty.gov

Thu, Nov 9, 2023 at 2:57 PM

Hello,

Please see the attached letter and map scans in response to the comprehensive plan text amendment #T-093-23 and zone map amendment #Z-323-23.

Justin Estes





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UMATILLA COUNTY  
PLANNING DEPARTMENT

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### 4 attachments

-  **Estes Map 1.pdf**  
318K
-  **Estes Map 3.pdf**  
180K
-  **Justin Estes - Response to Amendment T-093-23, Z-323-23.pdf**  
213K
-  **Estes Map 2.pdf**  
436K



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NOV 09 2023

UMATILLA COUNTY  
PLANNING DEPARTMENT

Justin Estes  
34214 Diagonal Rd.  
Hermiston OR 97838

11/9/23

RE: Comprehensive Plan Text Amendment  
#T-093-23, and Zone Map Amendment #Z-323-23:  
Doug Cox, Applicant/Randy Rupp, Owner

Umatilla County Planning Commission  
216 SE 4th St.  
Pendleton, OR 97801

Dear Planning Commission

The proposed aggregate site is very near my home and farm. As I'm sure you are aware this creates a great concern to my families health and well being. However it seems that we are far behind in the ability to even fight this application. Apparently Mr. Cox has been working on this project for well over a year. The community that lives around this site however was only notified of these plans around the [20th of October 2023](#). We have only had three weeks to process the effects this will have on our health, property values, animals, and safety due to 356 times a day a truck will drive down our road.

There are studies on the effects of property values near quarries. Some find property values decrease as much as 30%. Auburn economics professor Diane Hite has a great research paper if you're interested. When the residents around our little community purchased property with Exclusive Farm Use zoning, we had a reasonable expectation that future zoning changes would have no negative effects on our property values. Changing zoning from EFU to AR is a radical change that will impact the character of this area for hundreds of years. Most of us in the area have little other than our property and devaluation of our property will be devastating for us.

There are already two quarries in close proximity to our homes. Both of which create dust and noise. This new site would be even closer to us and would make enjoying our rural lifestyle unbearable. The owner of the proposed site has approximately 20,000 acres of land past this parcel. There are plenty of sites on that land that would not affect so many homes, wildlife and not to mention the wetlands that run through the proposed site.

On the health side of things, rock quarries create invisible dust particles proven to cause silicosis. Silicosis is a progressive, incurable lung disease. Long term exposure to particulate matter is strongly associated with heart disease, stroke, infertility and pregnancy complications. I will attach links for you to verify these facts.

Going through the comprehensive plan text amendment and zoning map amendment it is very clear insufficient tests have been conducted in all areas of this proposal. Ranging from geological studies to wetlands delineation to noise and dust mitigation. Those of us who WILL be affected by this proposal strongly ask for the commissions support. Support for our health. Support for our property values. Support for our wetlands and wildlife. Support for our lives! Please help us!

Sincerely  
Justin Estes

These are the links to health risks associated with exposure to airborne pollutants arising from quarrying and aggregate processing:

Sources: [WHO Health Effects of Particulate Matter](#)

[EPA Overview of Particle Air Pollution](#)

[EPA Particle Pollution and Your Health; Environmental Health Perspective Particulate Matter Air Pollution Exposure](#)

[60-Million-Strong Study Shows Clear Link Between Exposure To Air Pollution & Premature Death](#)

[A Review of Airborne Particulate Matter Effects on Young Children's Respiratory Symptoms and Diseases](#)

[Association of Short-Term Exposure to Air Pollution with Mortality in Older Adults](#)

[Brief exposure to tiny air pollution particles triggers childhood lung infections](#)

[Health effects for the population living near a cement plant: An epidemiological assessment](#)

[Health Outcomes of Exposure to Biological and Chemical Components of Inhalable and Respirable Particulate Matter](#)

[Respiratory health effects of diesel particulate matter](#)

[Expert position paper on air pollution and cardiovascular disease](#)

[WHO Health effects of particulate matter](#)

[EPA Particulate Matter \(PM\) Pollution](#)

[EPA Particle Pollution and Your Health](#)

[Kings College Particulate Matter and Health](#)



2533.9 Acres  
6.5 Miles from Proposed site







5708,24 Acres

7.9 miles from Proposed Site

#t-093-23

1 message

Terra Electric <office@terra-electric.com>  
To: planning@umatillacounty.gov

Thu, Nov 9, 2023 at 3:16 PM

Good afternoon,  
We will be attending the meeting this afternoon to take in information.  
The concern that we would like to hear being addressed is what affects the new rock pits could have on the surrounding waterways, and what stipulations are in place in case of damages to the water table and Hat Rock Drainage.

Thank you  
Casie and Michael Hull



Terra Electric, LLC

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UMATILLA COUNTY  
PLANNING DEPARTMENT



Exhibit Q

A light blue rectangular sticky note with the handwritten text "Exhibit Q" in blue ink.

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## planning commission public hearing comments

1 message

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**Joyce Langley** <jlangley1213@gmail.com>  
To: planning@umatillacounty.gov

Thu, Nov 9, 2023 at 4:42 PM

The rezoning of the land planned by Doug Cox and Randy Rupp is not favorable to me. As a landowner in the area, as well as a consistent user of the road's to be affected, highway 730, Diagonal road, and Salmon Point Lane. I feel it is already a very busy area. The added traffic would create a negative situation for entering or exiting Salmon Point Lane. There are 10 or more families living on Salmon Point Lane. The farmer's trucks and equipment would also have problems entering or leaving Salmon Point Lane.

Thank you,  
Joyce Langley



Exhibit R

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UMATILLA COUNTY  
PLANNING DEPARTMENT

Exhibit 5

COREY, BYLER, & REW, L.L.P.  
ATTORNEYS AT LAW

Received at  
hearing

STEVEN H. COREY\*  
TIMOTHY P. O'ROURKE  
KARIN E. DALLAS  
JENNIFER E. CURRIN  
PATRICK M. GREGG  
NATALIE R. LAMBERT  
ERIN N. BIENCOURT

222 S.E. DORION AVENUE  
P.O. BOX 218  
PENDLETON, OREGON 97801-0218

TELEPHONE (541) 276-3331  
FAX (541) 276-3148

STEVEN N. THOMAS, RETIRED  
DOUGLAS E. HOJEM, RETIRED  
ROBERT E. O'ROURKE, RETIRED

GEORGE H. COREY, DECEASED  
ALEX M. BYLER, DECEASED  
LAWRENCE B. REW, DECEASED

Email: currin@corey-byler.com

OF COUNSEL  
HENRY C. LORENZEN  
THOMAS M. BYLER

\*Admitted in Oregon and Washington

November 9, 2023

VIA FIRST-CLASS MAIL

Umatilla County Planning Commission  
216 SE 4th Street, Room 104  
Pendleton, OR 97801

Re: Doug Cox / CRP & Hauling, LLC  
Land Use Permit Application

Dear Folks:

Our firm represents Doug Cox and his company CRP & Hauling, LLC ("collective CRP"). CRP is the applicant appearing before you this evening and seeks your recommended approval of a new aggregate site in Umatilla County.

We offer this supplemental letter to respond to the various points raised in the County Staff's memorandum to you of October 25, 2023, where Staff wrote that they were "unable to determine that several criteria of approval were satisfied based on the information supplied by the applicant." This letter responds to that conclusion and sets out further factual background, information, and an explanation as to why the applicable criteria are met here. We therefore ask that you recommend approval of CRP's application.

*i. Supplemental Factual Background*

The site currently has a rock wall and steep slope up to 60 feet tall that creates a natural barrier and sound buffer to residences south of the wall. Mining of the basalt resource will maintain this barrier as a highwall excavated to the south with a final, benched configuration up to 80 feet tall. The existing ODOT quarry, on the same tax lot and located on the north side of Highway 730, has been in place for over 30 years. We are not aware of a record or evidence of noise, dust or nuisance complaints about that quarry or mining operation from the surrounding community. Notably, that quarry has a mined highwall on its north, which serves as a sound

barrier for residences to its north, very similar to the proposed mine and properties to the south. The three homes within the 1,500-foot impact area of the proposed Cox rock quarry are south of the ODOT quarry and are geographically much more exposed to potential impacts from the ODOT quarry (noise, dust) than the proposed Cox quarry. Yet the long history of the ODOT quarry operation has not resulted in complaints. This is an important point for the Planning Commission to consider. The team will share photos at the hearing to supplement the aerial photos included in the application. The two-dimensional aerial photos can be difficult to illustrate the height and depth of the rock bluffs flanking Highway 730.

At the hearing, Erick Staley, licensed engineering geologist, will point out the features of the rock bluff and the value they serve to buffer noise and dust impacts.

The proposed quarry is very large and will take decades, if not longer, to exhaust the resource. Even so, the state DOGAMI will require a minimum 25-foot setback from the property line. That is, even when the entire basalt resource is fully mined, there will remain a sizeable barrier, both vertical and horizontal.

Industry experts have visited the site and agree it is an ideal location for a quarry. It's a natural exposure of hard rock, it has the right grade, face (north slope), direct access to a primary transportation route, and is in proximity to housing that has experience with the ODOT quarry. There is arguably no better use for that land - close to the markets and on a highway. The prevailing winds are away from residents (westerly - from the west).

We can provide specific names and credentials of experienced quarry operators. We are aware of the recent LUBA remand of the Girth Dog LLC quarry on Interstate 84. We hope the commission does not use that as a precedent. Each quarry and each Goal 5 process is unique according to each site.

Staff raised issue about water use. It is the opinion of experienced rock crusher operators that water use will not be an issue and can be provided from offsite sources. Doug Cox will be hiring a third party to set up and operate the rock crusher. There will be a water truck or tank on site to provide water for dust suppression. If the operator uses a 5,000-gallon water truck, likely only a single truck per week will be at the site. Different crusher operators use different amounts of water but usually it is a trickle from a hose into one part of the rock crusher. Water for dust control around the site is also not a significant issue given that Doug will put a layer of crushed rock on the short haul route from the operations area to the highway.

*ii. Responses to Specific Concerns of County Staff*

**The applicant contradicts themselves in numerous statements regarding conflicts. Applicant did not explain how the proposed quarry operations would not conflict with existing uses (dwellings, farm stands, etc.), nor justify how these same uses, if proposed, should not be permitted within the impact area. It is the applicant's burden to justify measures to protect existing and proposed uses. It is then County decision makers' responsibility to determine whether or not the proposed protection measures are adequate, fair and objective.**

Applicant response: The vertical relief of the southern bluff, and what will become the highwall during active mining, as well as the distance from the mine to residences will limit potential impacts to the surrounding area. The mining area is vertically and horizontally a sufficient distance from the houses.

Further, none of the adjacent tax lots would qualify for an additional dwelling and therefore there are no future uses for which the mining would create a conflict. Applicant requested the county limit new uses as a *precautionary* matter in case current state law changes. Under current law, none of the contiguous parcels or parcels within the 1,500-foot boundary would qualify for an additional dwelling. That law is very unlikely to change so, again as a precautionary matter, applicant asked county to limit new dwellings. County could approve the quarry and *not* limit future conflicting uses. Again, the rock bluffs will provide more than adequate buffer in the unlikely situation that a new development would be permitted. The only other use that may be feasible is a farm stand and, given that the contiguous parcels are not active farming operations, a farm stand is highly unlikely to be approved given that 50% of the product would need to be grown on the subject parcel. The applicant is not aware of any other uses that may be allowed.

- **OAR 660-023-0182 (3), An aggregate resource site shall be considered significant if adequate information regarding the quantity, quality and location of the resource... The applicant provided two lab reports and identified one soil sample location. Based on the information provided, staff could not conclude that a representative set of soil samples were provided.**

Applicant response: Erick Staley is a licensed, certified engineering geologist who evaluated the aggregate resource at the site. Mr. Staley will provide additional detail at the hearing to address the adequacy of information available.

- **OAR 660-023-0182 (5)(b)(A), [Conflicts created by the site] Determine conflicts from proposed mining of a significant aggregate site... due to noise, dust or other discharges... Applicant provides blasting of the basalt rock will be required and will occur occasionally, and that noise impacts from blasting will be mitigated with the existing basalt outcropping. Applicant provided an analysis of anticipated impacts from blasting from Fulcrum Geo Resources (Exhibit E). The Fulcrum report includes one detailed map (Figure 2) to support the findings, however, the map does not specifically identify the area subject to blasting. Based on the applicant's information, basalt is on the entire site, covered by sand and gravels thus the entire site would be potentially subject to blasting, although this is unclear. Fulcrum's Figure 2 map, received by Planning on September 13, 2023, identifies several basalt outcrops. The applicant provides that the basalt outcrops will serve as a natural barrier to protect existing uses from the mining activities. However, if the applicant also intends to mine these basalt outcrops, the natural barrier will eventually diminish. Because the areas subject to blasting are unclear, impacts caused by blasting cannot be determined.**

Applicant response: The mine plans prepared by Fulcrum GeoResources and dated September 2023 show the limits of extraction on the site, approximately 38 acres. This is the



area where resource extraction will occur and is less than the 46.7 acres proposed for addition to the County's AR overlay. Note that the AR overlay corresponds to the mine permit boundary being proposed to DOGAMI. Figure 2 of the mine plans also show the location of natural outcroppings of basalt on the site. The topographic contours on the same map show where the basalt bluff is located. Blasting will only be used on the site to extract basalt resource, not the sand that overlies the basalt at lower elevations. The proposed floor of the mine will be 420 feet elevation, as shown on the cross sections submitted with the mine plans (Figure 4). Thus, extraction of the sand below the bluff will generally not extend into the underlying basalt, and blasting will only occur in the southern and eastern portions of the proposed AR overlay, generally corresponding to the bluff and natural outcrop area.

Regarding the barrier effect of the bluff, the mine will be advanced southerly into the bluff, extending and deepening the vertical relief between the active mine and the remaining ground surface to the south. The final mine will result in a benched bedrock slope with up to 80 feet of vertical relief, more than the current bluff affords. Blasting will occasionally occur at the top of the bluff to create benches that will then be progressively lowered into the main excavation. Blasting will only occur a few times a year, and only a portion of those blasts will be conducted on the upslope area of the site, leaving the top of the bluff otherwise vacant of activity while the mine conducts its business in the operations area or on lower benches.

Additionally, there is a proposed topsoil storage area shown on the mine plans located in the 25-foot setback between the southern limits of extraction and the property boundary (Figure 2). This will consist of a berm of stored topsoil to be used for site reclamation when mining is complete. During active mining, this topsoil storage berm will provide an additional barrier between active mining and properties to the south.

An additional and very important aspect of this project is the horizontal distance between the proposed mine and potential receivers in the vicinity. The nearest house to the proposed extraction area is about 1,100 feet away to the west/southwest. At these distances alone, blasting and noise from the site will not pose a significant impact. Considering the natural topography, mining approach resulting in an incised north-facing highwall, and topsoil berms, the sum of these features make it unlikely the proposed mine will have an adverse impact to surrounding properties.

• **OAR 660-023-0182 (5)(c), [If conflicts exist, measures to minimize] The local government shall determine reasonable and practicable measures that would minimize the conflicts identified under subsection (b) of this section.**

**The applicant consulted with Fulcrum GeoResources LLC to develop an Anticipated Impacts from Blasting report (Exhibit E) the Figure 2 map submitted with this report identify a basalt extraction area subject to blasting, however this map was provided to Planning staff as a grayscale. Therefore, it is difficult to determine where the proposed blasting area is located. Figure 2 of Exhibit A identifies the basalt extraction area as the southeast corner of the proposed site. The applicant will have the opportunity to clarify the proposed blasting area.**

**The Planning Commission may find that the applicant's supplied Fulcrum Anticipated Impacts from Blasting report adequately addresses blasting concerns and provides guidelines for mitigating potential blasting impacts by properly planning controlled blasts, implementing blast procedures and time-delays to prevent excessive vibrations, other emissions, and by monitoring blasting to collect vibration data. A subsequent condition of approval requiring these procedures and practices could be imposed to mitigate conflicts. Subsequent Condition #2 has been added to the preliminary findings for consideration.**

Applicant response: The guidelines provided in the Fulcrum GeoResources report are from federal and state requirements that will be the responsibility of a licensed blaster, who is ultimately the professional responsible for onsite blast operations. The licensed blaster will comply with all federal and state mine and safety requirements.

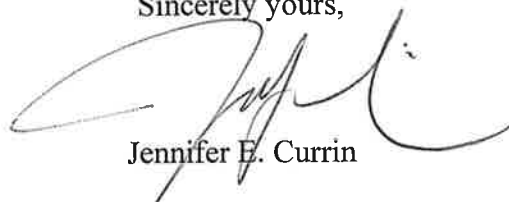
**UCDC 152.487 (A) (4) Adequate screening, either natural or man-made, is available for protecting the site from surrounding land uses.**

**As stated above, the applicant relies on the existing basalt outcrops to provide screening of the site. However, the applicant does not address whether they intend to extract these outcrops. Additionally, the applicant does not offer an additional screening should the basalt outcrops be mined. The Planning Commission may find that additional screening is required along the site boundaries and may impose an additional condition of approval.**

Applicant response: The previous discussion should address this issue. Again, both the topographic barriers being maintained during mining and the horizontal distance between active mining and potential receivers in the site vicinity must be considered to understand the unlikelihood of potential offsite impacts.

Thank you for the opportunity to supplement the record in this matter. Based on the above and supplemental information to be shared at the hearing, we hope the Planning Commission will find that the request satisfies these criteria and will recommend approval of this application.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Jennifer E. Currin", written over a printed name.

Jennifer E. Currin

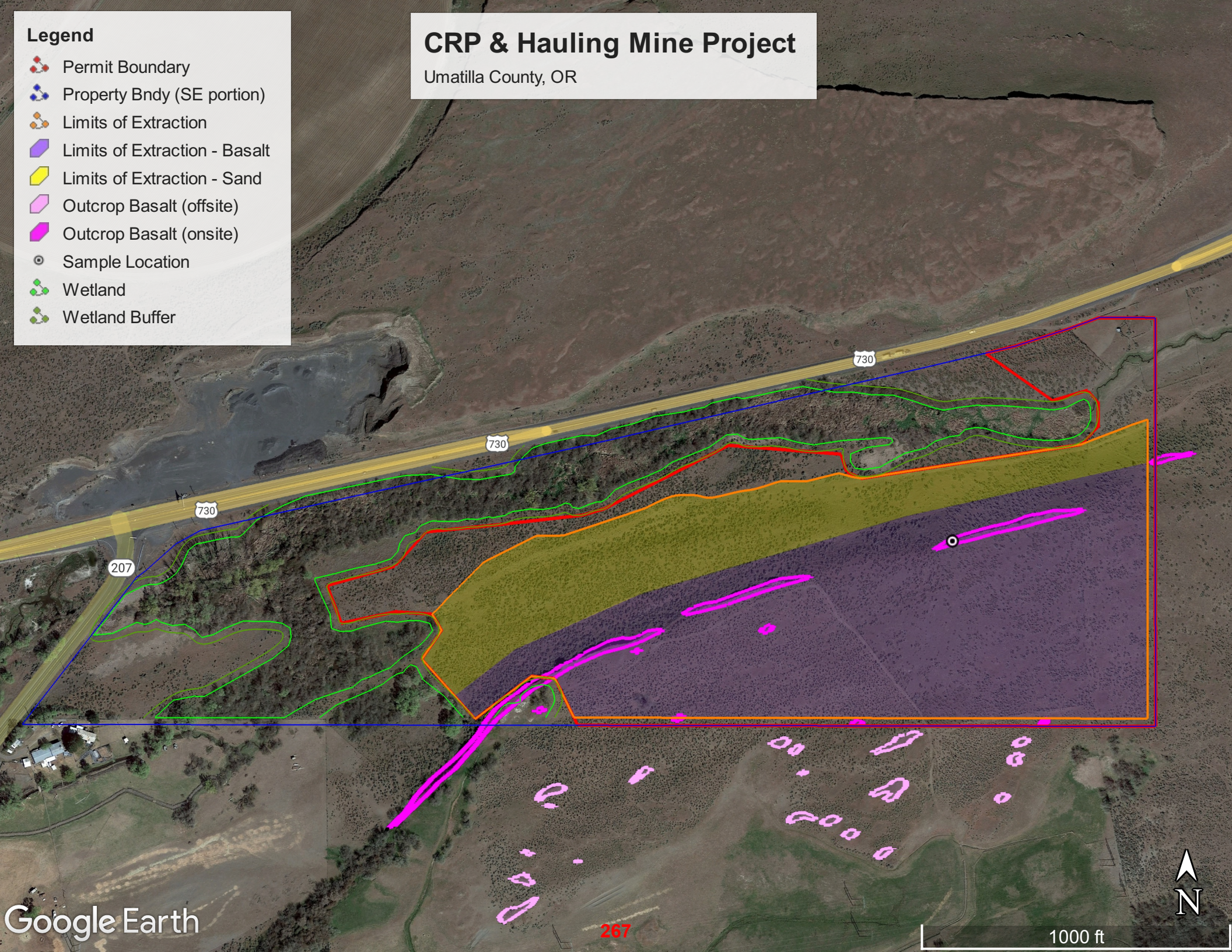
**INTENTIONALLY LEFT BLANK**

**Legend**

- Permit Boundary
- Property Bndy (SE portion)
- Limits of Extraction
- Limits of Extraction - Basalt
- Limits of Extraction - Sand
- Outcrop Basalt (offsite)
- Outcrop Basalt (onsite)
- Sample Location
- Wetland
- Wetland Buffer

# CRP & Hauling Mine Project

Umatilla County, OR



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Megan Davchevski

Exhibit U

**WN2023-0835 Response to Local Case File #Z-323-23 and T-093-23**

2 messages

**Daniel.Evans@dsl.oregon.gov** <Daniel.Evans@dsl.oregon.gov>  
To: megan.davchevski@umatillacounty.gov

Tue, Nov 14, 2023 at 2:45 PM

Hi there,

Cities and Counties are required by statute (ORS 215.418 & 227.350) to submit notice to DSL of any projects that may impact wetlands and waterways, according to the Statewide Wetlands Inventory. DSL has completed review of the Wetland Land Use Notification that was prepared for Doug Cox (WN2023-0835).

Please see attached for the results and conclusions of this review. To request paper copies please contact [support.services@dsl.oregon.gov](mailto:support.services@dsl.oregon.gov). Otherwise, please review the attachments carefully and if you have questions regarding this response, contact Daniel Evans, [Daniel.Evans@dsl.oregon.gov](mailto:Daniel.Evans@dsl.oregon.gov). Questions regarding the local permit should be directed to your Planner: Megan Davchevski, [megan.davchevski@umatillacounty.gov](mailto:megan.davchevski@umatillacounty.gov).

[Planning and Conservation Page](#)  
[Permits and Authorization Page](#)

**RECEIVED**

NOV 14 2023

UMATILLA COUNTY  
PLANNING DEPARTMENT

Thank you,

Aquatic Resource Management Program  
Oregon Department of State Lands  
775 Summer St. NE, Ste. 100  
Salem, OR 97301-1279  
[www.oregon.gov/dsl](http://www.oregon.gov/dsl)

**2 attachments**

**Wetland Land Use Notice.pdf**  
926K

**Wetland Land Use Notice Response.pdf**  
786K

**Megan Davchevski** <megan.davchevski@umatillacounty.gov>  
To: Daniel.Evans@dsl.oregon.gov

Tue, Nov 14, 2023 at 3:53 PM

Thank you.  
[Quoted text hidden]  
--

**Megan Davchevski, CFM**

*Planning Division Manager*

**Community Development Department**



Tel: 541-278-6246 | Fax: 541-278-5480

216 SE 4th Street | Pendleton, OR 97801

<http://www.umatillacounty.gov/planning>



# Wetland Land Use Notification

OREGON DEPARTMENT OF STATE LANDS  
775 Summer Street NE, Suite 100, Salem, OR 97301-1279  
Phone: (503) 986-5200

This form is to be completed by planning department staff for mapped wetlands and waterways.

\* Required Field (?) Tool Tips

## Responsible Jurisdiction

<b>* Municipality *</b>	<b>Date *</b>
<input type="radio"/> City of <input checked="" type="radio"/> County of	Umatilla
	10/19/2023

## Staff Contact

<b>First Name *</b>	<b>Last Name *</b>
Megan	Davchevski
<b>Phone * (?)</b>	<b>Email *</b>
541-278-6246	megan.davchevski@umatillacounty.gov

## Applicant

<b>First Name *</b>	<b>Last Name *</b>
Doug	Cox
<b>Applicant Organization Name</b> (if applicable)	
<b>Mailing Address *</b>	
Street Address	
PO Box 131	
Address Line 2	
City	State
Hermiston	OR
Postal / Zip Code	Country
97838	United States
<b>Phone (?)</b>	<b>Email (?)</b>
	wdcx51393@gmail.com

Is the Property Owner name and address the same as the Applicant? \*

No  Yes

## Property Owner

<b>First Name *</b>	<b>Last Name *</b>
Randy	Rupp
<b>Property Owner Organization Name</b> (if applicable)	

### Mailing Address (If different than Applicant Address)

Street Address

176 Kranichwood St

Address Line 2

City

Richland

Postal / Zip Code

99352-8458

State

WA

Country

Phone (?)

Email (?)

### Activity Location



Township\* (?)

05N

Range\* (?)

29E

Section\* (?)

22

Quarter-quarter Section (?)

Tax Lot(s)\*

400

You can enter multiple tax lot numbers within this field. i.e. 100, 200, 300, etc.

To add additional tax map and lot information, please click the "add" button below.

### Address

Street Address

Address Line 2

City

Postal / Zip Code

State

Country

County\*

Umatilla

Adjacent Waterbody

### Proposed Activity



Prior to submitting, please ensure proposed activity will involve physical alterations to the land and/or new construction or expansion of footprint of existing structures.

Local Case File #\* (?)

Z-323-23 and T-093-23

Zoning

EFU

#### Proposed

Building Permit (new structures)

Grading Permit

Site Plan Approval

Other (please describe)

Zone Map Amendment and  
Comprehensive Plan Text Amendment

Conditional use Permit

Planned Unit Development

Subdivision



**Applicant's Project Description and Planner's Comments: \***

The applicant requests to establish a new aggregate site, add the site to the Umatilla County Comprehensive Plan list of Goal 5 protected Large Significant Sites, and apply the Aggregate Resource (AR) Overlay Zone to the entire quarry site. The proposed site is located south of Highway 730 and east of Highway 207, south of the Hat Rock community. The site is identified on assessor's map as Township 5 North, Range 29 East, Section 22, Tax Lot 400. The site is approximately 46.7 acres and is zoned Exclusive Farm Use (EFU). The criteria of approval are found in Oregon Administrative Rule 660-023-0040 – 0050, 660-023-0180 (3), (5) and (7), and Umatilla County Development Code (UCDC) Section 152.487 – 488.

Application previously received DSL Wetland Determination #2022-0606

**Required attachments with site marked: Tax map and legible, scaled site plan map. (?)**

Doug Cox Public Notice Impact Area and Dwelling Buffer Map.pdf 376.42KB

**Additional Attachments**

DSL WD 2022-0606.pdf 976.03KB

**Date**

10/19/2023



# Wetland Land Use Notice Response

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## Response Page

NOV 14 2023

Department of State Lands (DSL) WN#\*  
WN2023-0835

UMATILLA COUNTY  
PLANNING DEPARTMENT

## Responsible Jurisdiction

Staff Contact	Jurisdiction Type	Municipality
Megan Davchevski	County	Umatilla
Local case file #	County	
Z-323-23 and T-093-23	Umatilla	

## Activity Location

Township	Range	Section	QQ section	Tax Lot(s)
05N	29E	22		400

Street Address

Address Line 2

City

State / Province / Region

Postal / Zip Code

Country

Umatilla

Latitude

45.901916

Longitude

-119.167643

## Wetland/Waterway/Other Water Features



- There are/may be wetlands, waterways or other water features on the property that are subject to the State Removal-Fill Law based upon a review of wetland maps, the county soil survey and other available information.
- The National Wetlands Inventory shows wetland, waterway or other water features on the property
- The county soil survey shows hydric (wet) soils on the property. Hydric soils indicate that there may be wetlands.

## Closing Information



**Additional Comments**

Umatilla County submitted a Zone Map Amendment and Comprehensive Plan Amendment for DSL to review. DSL does not permit or make recommendations on zoning changes, only a review of the need for a wetland removal/fill permit associated with proposed ground disturbances or subdivision. The provided map for a zoning change included a generic outline of a work area DSL has previously reviewed, however, it is not known if there have been site specific changes.

**Review History:**

WD2022-0606 Wetland Determination– DSL recommended a site-wide delineation or a relocation of the proposed work footprint to avoid identified potential wetland areas.

WD2023-0095 Wetland Determination–DSL reviewed a new site-wide plan and determined that the reconfigured footprint appears to avoid impacts to wetlands and waters. Please note: the wetland/waters boundaries shown on the applicant's 1/25/2023 site plan were specifically called out as unverified and not part of a DSL-approved wetland delineation, however, there was confidence that the site specific plan would not require a wetland removal-fill permit.

I've attached WD2023-0095 and the 1/25/2023 site plan. If there are no changes to the applicants 1/25/2023 site plan, then it appears a permit is still not required. If there are changes, DSL will need an updated detailed site plan in order to conduct a review.

**This is a preliminary jurisdictional determination and is advisory only.**

This report is for the State Removal-Fill law only. City or County permits may be required for the proposed activity.

**Contact Information**

- For information on permitting, use of a state-owned water, wetland determination or delineation report requirements please contact the respective DSL Aquatic Resource, Proprietary or Jurisdiction Coordinator for the site county. The current list is found at: <http://www.oregon.gov/dsl/ww/pages/wwstaff.aspx>
- The current Removal-Fill permit and/or Wetland Delineation report fee schedule is found at: <https://www.oregon.gov/dsl/WW/Documents/Removal-FillFees.pdf>

**Response Date**

11/14/2023

**Response by:**

Daniel Evans

**Response Phone:**

503-986-5271



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NOV 21 2023

Shawna Van Sickle

Exhibit ✓

UMATILLA COUNTY

T-093-232-323-23 PLANNING DEPARTMENT

1 message

'Darlene Westerling' via Planning <planning@umatillacounty.gov>

Mon, Nov 20, 2023 at 10:03 PM

Reply-To: Darlene Westerling <darlenewesterling@yahoo.com>

To: "planning@umatillacounty.gov" <planning@umatillacounty.gov>

I HAVE MANY CONCERNS ABOUT THIS PURPOSED OPERATION. MANY STATEMENTS ARE CONTRADICTORY  
PG 10 THE PROPOSED MINING AREA WILL BE 500 FT OR MORE FROM THE TWO HOME SITES.

PG 14 STATES THAT TAX LOT 600 , MY PROPERTY, IS APPROX 1/4 FROM THE PROPOSED MINING AREA. WHICH WILL BE INSIDE THE 1,500 FT IMPACT AREA pg 41 Mining will not be done within 100 ft of the home, processing equipment shall not be operated with in 500 ft of an existing dwelling at the time of the application. The nearest dwelling is located to the south and west of the quarry area . the dwelling will be appro 1500 ft from the mining area. Many contradictions

.PG 15, THE MINING OPERATION WILL COMPLY WITH ALL STATE DUST AND NOISE IMPACTS TO THE ADJACENT HOUSE. SEVERAL TECHNIQUES WILL BE UTILIZED TO ENSURE THE IMPACT FROM THE BLASTING WILL BE ABSORBED ON THE SUBJECT PARCEL. THIS WILL ENSURE THAT IMPACTS TO THE ADJACENT DWELLING WILL BE NON-EXISTENT OR VERY MINIMAL .IN MY RESEARCH I FOUND Pits and quarries disrupt the existing movement of surface water and groundwater; they interrupt natural water recharge and can lead to reduced quantity and quality of drinking water for residents and wildlife near or downstream from a quarry site. IT STATES THAT THE 30 FT -50 BASALT CROPPING WILL CREATE A BUFFER TO THE HOUSE. THIS BASALT CROPPING IS EAST OF MY HOUSE WITH A LARGE OPEN AREA BETWEEN IT AND MY HOUSE AND IT WILL NOT CREATE A BARRIER TO SOUND ETC. MOST OF MY PROPERTY IS WEST OF THE RIM. IT WILL ACTUALLY CREATE A FUNNEL TO SEND IT RIGHT TO MY HOUSE.THERE ARE CONCERNS ABOUT THE BLASTING VIBRATIONS EFFECTING THE FOUNDATION OF THE HOUSE AND CAUSING CRACKS IN THE WALLS ETC ALSO THAT THE BLASTING COULD CAUSE VIBRATIONS IN THE GROUND THAT COULD CAUSE UNDERGROUND WATER TO BE REROUTED SO I WOULD HAVE NO WATER IN MY WELL.

PG 23 IT IS THEN COUNTY DECISION MAKERS' RESPONSIBILITY TO DETERMINE WHETHER OR NOT THE PROPOSED PROTECTION MEASURES ARE ADEQUATE , FAIR OBJECTIVE.

PG 35 RESTRICTS A LANDOWNER'S ABILITY TO PURSUE A CLAIM FOR RELIEF OR CAUSE OF ACTION ALLEGING INJURY FROM AGGREGATE OPERATION. IS THIS FAIR AND OBJECTIVE?

PG 37 UMATILLA COUNTY FINDS THAT PROPOSED CONFLICTING USES WITHIN THE 1,500 FT IMPACT AREA ARE REQUIRED TO SIGN A WAIVER OF REMONSTRANCE TO ACHIEVE GOAL 5 AND WAIVE THEIR RIGHTS TO REMONSTRANCE AGAINST THE MINING ACTIVITIES ALLOWED BY THIS DECISION. WHAT ABOUT MY HOUSE BEING WITHIN THE 1500 IMPACT ZONE NOW?

PG 14 STATES THAT TAX LOT 600 , MY PROPERTY, IS APPROX 1/4 FROM THE PROPOSED MINING AREA. WHICH WILL BE INSIDE THE 1,500 FT IMPACT AREA

pg 41 Mining will not be done within 100 ft of the home, processing equipment shall not be operated with in 500 ft of an existing dwelling at the time of the application. The nearest dwelling is located to the south and west of the quarry area . the dwelling will be approximatly 1500 ft from the mining area. (contradiction) SO IT SOUNDS LIKE THEY CAN OPERATE UP TO 100 FT FROM MY HOUSE. I DO NOT WANT TO HAVE MINING DONE WITHIN 100 FT OF MY HOUSE. I OPPOSE THIS OPERATION

.PG 15, THE MINING OPERATION WILL COMPLY WITH ALL STATE DUST AND NOISE IMPACTS TO THE ADJACENT HOUSE. SEVERAL TECHNIQUES WILL BE UTILIZED TO ENSURE THE IMPACT FROM THE BLASTING WILL BE ABSORBED ON THE SUBJECT PARCEL. THIS WILL ENSURE THAT IMPACTS TO THE ADJACENT DWELLING WILL BE NON-EXISTENT OR VERY MINIMAL. WHAT TECHNIQUES WILL BE USED.? IT STATES THAT THE 30 FT -50 BASALT CROPPING WILL CREATE A BUFFER TO THE HOUSE. THIS BASALT CROPPING IS EAST OF MY HOUSE WITH AN OPEN AREA BETWEEN IT AND MY HOUSE AND IT WILL NOT CREATE A BARRIER TO SOUND ETC. IT WILL ACTUALLY CREATE A FUNNEL TO SEND IT RIGHT TO MY HOUSE.THERE ARE CONCERNS ABOUT THE

BLASTING VIBRATIONS EFFECTING THE FOUNDATION OF THE HOUSE AND CAUSING CRACKS IN THE WALLS ETC ALSO THAT THE BLASTING COULD CAUSE VIBRATIONS IN THE GROUND THAT COULD CAUSE UNDERGROUND WATER TO BE REROUTED SO I WOULD HAVE NO WATER IN MY WELL.

PG 23 IT IS THEN COUNTY DECISION MAKERS' RESPONSIBILITY TO DETERMINE WHETHER OR NOT THE PROPOSED PROTECTION MEASURES ARE ADEQUATE , FAIR OBJECTIVE.

PG 35 RESTRICTS A LANDOWNER'S ABILITY TO PURSUE A CLAIM FOR RELIEF OR CAUSE OF ACTION ALLEGING INJURY FROM AGGREGATE OPERATION. HOW IS THIS FAIR?

PG 37 UMATILLA COUNTY FINDS THAT PROPOSED CONFLICTING USES WITHIN THE 1,500 FT IMPACT AREA ARE REQUIRED TO SIGN A WAIVER OF REMONSTRANCE TO ACHIEVE GOAL 5 AND WAIVE THEIR RIGHTS TO REMONSTRANCE AGAINST THE MINING ACTIVITIES ALLOWED BY THIS DECISION. HOW IS THIS FAIR?

PG 31, THIS SAYS PROCESSING EQUIPMENT WILL BE SITED TO RETAIN THE 500 FT SETBACK TO THE EXISTING DWELLINGS. . WHAT DOES THIS MEAN? THE DWELLING WILL BE 1,500 FT FROM THE MINING AREA SO WHY IS PROCESSING EQUIPMENT SO CLOSE TO MY HOUSE? HOW WILL PROCESSING EQUIPMENT BE A BUFFER. IF THEY ARE OPERATING THEY WILL BE NOISY, THAT IS NOT A BUFFER. IF MY HOUSE IS GOING TO BE 1,500 FT FROM THE SITE WHY IS OPERATING EQUIPMENT BEING ALLOWED WITHIN 500 FT OF MY HOUSE?

PG 52 ACCORDING TO THE MAP ON THIS PAGE IT SHOWS THE ZONING BOUNDARY WHICH IS MUCH FARTHER THAN 1,500 FT FROM MY HOUSE, SO I DON'T UNDERSTAND WHY IT SAYS THEY CAN HAVE EQUIPMENT 500 FT FROM MY HOUSE

the purposed Goal 5 site is a 46.7 acre portion TL400. 13 Adjacent use;;Adjacent to the west side of the subject property is OPEN space with some vegetation and one dwelling.

Applicant states the proposed mining area will be 500 ft or more from the home sites This seems to conflict with WHAT was said before ON PG 52 WHERE IT SAYS THE OPERATION WILL BE 1500 FT FROM MY HOUSE.

PG 196 WHAT IS THE MAXIMUM VERTICAL DEPTH TO BE MINED RELATIVE TO SEA LEVEL? 80 FT. HOW WILL THIS EFFECT MY WELL? IT IS 100 FT AND THE ROCK IS AT 80 FT. MY WELL IS 100 FT DEEP AND THE ROCK IS 80 FT. HOW IS THIS GOING TO EFFECT MY WELL? THIS IS GETTING INTO MY WATER STRATA.

The silica dust will contaminate the pastures , alfalfa lands and of course any other farm crops that are grown in the area.

WETLANDS NV5 developed a mine plan to avoid impact on the wetlands area. What is this plan? The drainage pond will impact the animals , eagles ducks, geese, deer that will use the pond as it will be contaminated by the silica that is in the dust that is washed from the gravel. IMPACT AREA; response; tax lot 600 will be 1/4 mi west of the purposed mining area. There is no other factual information upon which to evaluate further impacts. My response;; I have researched this a lot and there are many serious impacts 3. The Environmental Impacts of Aggregate Extraction | Toronto Environmental Alliance (web site)

Creating the pits or quarries requires the removal of virtually all natural vegetation, top soil and subsoil to reach the aggregate underneath. Not only does this lead to a loss of existing animal wildlife, it also leads to a huge loss of biodiversity as plants and aquatic habitats are destroyed. Moreover, adjacent eco-systems are affected by noise, dust, pollution and contaminated water.

Pits and quarries disrupt the existing movement of surface water and groundwater; they interrupt natural water recharge and can lead to reduced quantity and quality of drinking water for residents and wildlife near or downstream from a quarry site. Potential impairment of water quality on the site, including harm to the aquifer

The water quality of residential wells close by could be harmed.

There will be a drainage pond to put the silica water washed from the gravel that will be a contaminate for the wild life that will drink from it and geese and duck that will frequent it also.

This is a complete disaster for wild life and surrounding homes and wells.

When the quarry is dug below the water table, the water needs to be pumped out. This can effectively drain the water from the surrounding neighborhood and lower the ground water level. Can be something of an issue for wells especially.

They plan on digging 80 ft deep and my water table is 80. How might this effect my water well?

Dust created by gravel quarries is considered respirable crystalline silica, a type of particulate matter. Studies have established a strong link between these particles and the following health effects:

- Silicosis
- Pulmonary disease<sup>1</sup>
- Reduction in lung function

Leukemia

Atherosclerosis and heart disease<sup>2</sup>

Dysrhythmia

Heart failure and cardiac arrest

Stroke and cognitive disorders<sup>3</sup>

Fertility problems

Miscarriage

Premature birth

Low birth weight<sup>4</sup>

Carcinogenic Dust - Stop 3009 Vulcan Quarry (web site)

PM10 particles can travel as little as a hundred yards or as much as 30 miles.

Why put a Gravel Pit / mining operation that creates a known carcin(web site)

It seems to me that the pollution from the silica dust is going to BE way worse than the exhaust from the trucks as this site states that the silica never leaves the lungs.

PRELIMINARY FINDINGS AND CONCLUSIONS

PG 26, CONSEQUENCES RELATED TO LOSS OF QUARRY' vehicle emission will increase if trucks must travel further to access material.

The value of property decreases most within the immediate vicinity but will be felt several miles away. Homes within a quarter mile will drop by about 30%. A mile away the value of homes will decrease by about 13%, Homes as far as 3 miles away can expect about a 6% drop in value.

The people at Hat Rock were not informed of this purposed site. They will be the most effected by the silica dust as the wind blows from the west most of the time. The bluff will not be a barrier as it stops at the Hat Rock road. any wind will blow this contaminated dust right to them. Hat Rock Park is a state park also.

As I have pointed out there are many problems with having rock quarry at this location, impact on wild life, wells, farm land, air quality, health problems, DECREASE IN PROPERTY VALUE I CONSIDER MY PROPERTY TO BE VERY UNIQUE PROPERTY AND CAN NOT BE REPLACED. I OPPOSE THIS OPERATION, DARLENE WESTERLING

, or

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RECEIVED



NOV 27 2023

Megan Davchevski <

Exhibit W

umatilla.gov>

UMATILLA COUNTY  
PLANNING DEPARTMENT

**Mining can result in increased nitrogen levels in groundwater**

1 message

Darlene Westerling <darlenewesterling@yahoo.com>  
To: Megan Davchevski <megan.davchevski@umatillacounty.gov>

Sun, Nov 26, 2023 at 4:39 AM

**I found some more important info that I feel needs to be addressed.**

**Mining can result in increased nitrogen levels in groundwater through the use of nitrogen-based explosives. Most commercial explosives contain between 70% and 90% ammonium nitrate – which is highly soluble in water. Spillage, dissolution in wet holes and incomplete detonation during blasting activities results in soil and water contamination with nitrates, nitrites and ammonia. Nitrogen-rich water is typically pumped from the underground workings and then circulates through process water dams, the tailings dam return water and the concentrator plant. If not contained in the mine water circuit, surface spills or seepage through unlined facilities may pose a risk to groundwater.**

**Helping mines find the real source of nitrates in water**

**Helping mines find the real source of nitrates in water**

The issue of water quality has become topical in the aftermath of the contamination in the Olifants River catchm...

Skinner's presentation advances tools for mines to more efficiently identify **nitrate** sources in surface and ground **water**. Mining can result in increased nitrogen levels in groundwater through ...

Published: 21 April 2023  
(This article belongs to the Special Issue [Novel Approaches in Contaminant Hydrology and Groundwater Remediation](#))

Download keyboard\_arrow\_down [Browse Figures](#) [Versions](#) [Notes](#)



## Abstract

Gravel pits are considered potentially hazardous in terms of groundwater quality protection as they represent an open part of the aquifer system, increasing the aquifer's vulnerability to contamination from the surface. The aim of this research was to determine the biogeochemical processes in gravel pits that have a positive effect on the groundwater quality in the alluvial aquifer in NW Croatia. The aquifer is situated below developed agricultural land, with high groundwater nitrate concentrations having been recorded over the last decades. The differences between two gravel pits and the surrounding groundwater were studied using in situ, hydrochemical, and isotopic parameters ( $\delta^{15}\text{N-NO}_3$  and  $\delta^{18}\text{O-NO}_3$ ), together with existing microbial data. The analyses of nitrogen species indicated that nitrate attenuation processes take place in gravel pits. Bacterial denitrification and nitrate uptake by algae were responsible for significant decreases in nitrate concentration. These processes were more effective in the inactive gravel pit, which has a longer water residence time and during warm periods, when microbial biomass, abundance, and activity were high. The seasonally variable microbial activity also affected trace metals, removing them from groundwater, possibly through the biosorption of metal ions. The presented research shows that the observed biogeochemical processes are associated with seasonal changes that affect the types and number of microbial communities and the chemical composition of water, resulting in gravel pits being groundwater remediation points.

Keywords:

gravel pit; surface and groundwater quality; nitrogen species; denitrification; biosorption

# Exhibit X

Dec 6, 2023

Wylie Ranch

Aaron Basford

Cody Basford

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DEC 06 2023

UMATILLA COUNTY  
PLANNING DEPARTMENT

We represent tax lots 500 and 4500

Can we pull up the map on pg6 of the packet please?

Show the room the tax lots and fences

We have several concerns and questions regarding this rezoning.

- We estimate from online mapping that 89.2 acres of our land will be inside the 1500 ft impact boundary. That comes to 29% of our land affected by this outcome. We have four different pastures and three hay fields all inside that boundary.
- We graze our cattle in those pastures year around and we simply cannot move our cattle into other pastures simply because the neighbor will be blasting or crushing rock for several weeks. We rotate our cattle through our pastures to graze and let the other pastures regrow during that time. We also have three hay fields inside the boundary and the extra dust and debris will affect our hay sample test. Dirt inside hay shows up as ASH in a hay sample. That brings the quality down and drives the price down as well for selling it to customers.
- Those two key points is how our cattle ranch makes a living, Selling cattle and hay. What makes this so frustrating is everything we do to take care of our cattle and fields and way of life affects no one else. What Doug and Randy are trying to do will affect all the surrounding neighbors. What makes their livelihood more important than all of ours?
- Not one neighbor currently does anything to poorly affect the other neighbor or their animals in our neighborhood and we want to keep it that way.

Questions we have from researching information Found/Not found in the packet.

- Fulcrum Geo Resources only took one sample. How can you tell me that covers the whole site and all of us neighbors and everyone in this room today should just go along with that low effort sample made by this so-called expert in Geology?
- This property in question for rezoning has no water rights, no power, no access and as stated before they have no real plan. Doug states he will hire out the blasting and

crushing and the asphalt batch plant but has provided no information regarding that topic and no actual business hours inside this packet, just a probably 6-6 6-7 hours but nothing outlined as to who these companies will be.

- Doug also stated November 9<sup>th</sup> there would be a water truck onsite to deal with dust, he said he would get the water from the city of Hermiston, I spoke with the city of Hermiston and Doug would have to pay to take water since this project is not a city project and would these trips in the water truck add to the additional 376 trips estimated by Doug per day? One truck can go all the way into town and get water and be back and keep up with 46 acres on a windy dry day for dust control? Does that even make sense or can you tell me that hauling water onsite is going to keep the dust control down to zero?
- We also want to know more information on as they blast or crush the basalt cliff line won't that constantly be moving the 1500 ft buffer zone?
- Doug mentioned in the November 9<sup>th</sup> meeting about removing the top soil and placing it in a pile along the property fence. All that soil is very sandy and will blow and will not take to water well. In the fall and winter the wind blows primary out of the North, North-East. Right to us and the other neighbors.
- Doug also stated in the November 9<sup>th</sup> meeting that he spoke to my father about the fence and was very neighborly and that was not the case. He stated he would build a new fence above and below the cliff line on the newly surveyed property lines which my father agreed but no fence has been built below the cliff to this date and Doug stated this is due to no access but somehow, they were able to built a very poor low-quality fence above the cliff line with no access as well so that goes to show his word means nothing. He does not do what he says he will do.
- Doug also stated he is hometown neighborly guy but he doesn't even live remotely close to Hermiston or in this community and neither does Randy Rupp.
- Randy Rupp has also made no communication to us or any of the neighbors in any sort which also shows lack of friendly or neighborly actions.
- To further support our experiences with Doug and Randy, they have been submitting documents and permits and sampling without a single notice or any communication to any of us neighbors until we received our hearing notice in the mail, they have had a year plus head start and they purposely have left us in the dark because they know that this proposal of rezoning is not a favorable thing for us neighbors, it really only benefits them and the rest of us are just affected in a negative way and our properties and animals.
- Another Key fact of the Hermiston area is there is several Gravel pits already selling rock and have plenty of rock available to purchase including: American Rock, Jones Scott, Granite paving and Rock, and Rock-solid sand and gravel. The claim from Doug stating there is a shortage of rock and he can't find any for jobs is false. He can purchase rock for jobs from any of these places.

## Land values

- What will this do to our land value? Who would want to build a house or shop or animal barn or hay barn next to asphalt batch plant and rock quarry? What if we choose to expand or sell off part of the 89 acres in the boundary, we have to do so under the Goal 5 terms?
- Can we build structures on our property next to the proposed rezoning? If not or have to do so under select terms will we be compensated for the loss in that opportunity By Doug and Randy for their actions affecting our own property?

This sight is not the best option for Randy and Doug and Randy Rupp has a lot more ground that will better suit all parties involved if they are so friendly and neighborly as they say they are, other properties owned by Rupp would affect no one as closely as this will affect all of us.

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DEC 14 2023

UMATILLA COUNTY  
PLANNING DEPARTMENT



# Umatilla County

Department of Land Use Planning

DIRECTOR  
Robert Waldher

## WAIVER OF 150 DAY RULE FOR PLANNING REVIEW

LAND USE  
PLANNING,  
ZONING AND  
PERMITTING  
  
CODE  
ENFORCEMENT  
  
SOLID WASTE  
COMMITTEE  
  
SMOKE  
MANAGEMENT  
  
GIS AND  
MAPPING  
  
RURAL  
ADDRESSING  
  
LIAISON,  
NATURAL  
RESOURCES &  
ENVIRONMENT

I, Doug Cox - CRP's Holding, have made application to the Umatilla County Resource and Development Department ("Department") for a Comprehensive Plan Text Amendment / Zoning Map Amendment (permit/limited land use decision/zone change).

In accordance with ORS 215.427, I understand that:

- 1) If this application was incomplete when submitted, the DEPARTMENT had 30 days from receipt of the application to inform me of the missing information and the application was then deemed complete when the missing information was received by the Department.
- 2) After receipt of a complete application, the DEPARTMENT has 150 days to take final action on an application for a permit, limited land use decision or zone change.
- 3) If the DEPARTMENT does not take final action on an application with 150 days, the applicant, under ORS 215.429, may file a petition for a writ of mandamus in Umatilla County Circuit Court to compel the Department to issue the approval of the application.

Having read this document and understanding my statutory rights with regard to my application, in accordance with 215.427(4), I voluntarily agree to extend the 150 day provision for a period not to exceed ~~150~~ days beyond February 22, 2024.

Doug Cox  
Applicant signature

12-13-23  
Date

Megan Anchurski  
Signature of Acknowledgement by Department

12/14/23  
Date

**INTENTIONALLY LEFT BLANK**

Exhibit 2



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Megan Davchevski <megan.davchevski@umatillacounty.gov>

JAN 22 2024

water well test result

4 messages

UMATILLA COUNTY  
COMMUNITY DEVELOPMENT

Darlene Westerling <darlenewesterling@yahoo.com>  
To: Megan Davchevski <megan.davchevski@umatillacounty.gov>

Wed, Jan 10, 2024 at 11:12 PM

I am still very concerned about the gravel pit and the effects it could have on my well water. I had my well tested in Dec and it tested good. I have sent other letters about evidence of gravel pits contaminating ground water. Of course there are other concerns besides the well water as I have mentioned before. Below is the results of the water test. I have sent letters to the EPA also about this. Some one mentioned that the Planning commission has an attorney that we can talk to. If that is the case I would like to have that ph number. Thank you, Darlene Westerling

[https://apis.mail.yahoo.com/ws/v3/mailboxes/@.id==VjN-qQfOy9061r7e2PrTtV\\_OMeQmaJimaU9r2-JLFtMksJJ4KR-Mlu-s\\_8VhKhI0aVYaEzmrPpWoqXueeK24Hk4MHw/messages/@.id==AKceD6lOuFA0ZYB69QoteK8de-s/content/parts/@.id==2/refresh?appid=YMailNorrin&ymreqid=a6ea6462-fbf6-2877-1c7c-e500f8014300](https://apis.mail.yahoo.com/ws/v3/mailboxes/@.id==VjN-qQfOy9061r7e2PrTtV_OMeQmaJimaU9r2-JLFtMksJJ4KR-Mlu-s_8VhKhI0aVYaEzmrPpWoqXueeK24Hk4MHw/messages/@.id==AKceD6lOuFA0ZYB69QoteK8de-s/content/parts/@.id==2/refresh?appid=YMailNorrin&ymreqid=a6ea6462-fbf6-2877-1c7c-e500f8014300)

Megan Davchevski <megan.davchevski@umatillacounty.gov>  
To: Darlene Westerling <darlenewesterling@yahoo.com>  
Cc: Doug Olsen <doug.olsen@umatillacounty.gov>, Patrick Gregg <gregg@corey-byler.com>

Mon, Jan 22, 2024 at 11:51 AM

Hi Darlene,

Thank you for your email regarding the proposed Doug Cox aggregate site. The link that you sent me did not work, if you would like to provide it as a comment, please try to download the file and resubmit it to me.

Umatilla County Counsel is Doug Olsen. His phone number is 541-278-6208. I have copied him on this email along with the applicant's counsel.

Thanks,

Megan

On Wed, Jan 10, 2024 at 11:12 PM Darlene Westerling <darlenewesterling@yahoo.com> wrote:

I am still very concerned about the gravel pit and the effects it could have on my well water. I had my well tested in Dec and it tested good. I have sent other letters about evidence of gravel pits contaminating ground water. Of course there are other concerns besides the well water as I have mentioned before. Below is the results of the water test. I have sent letters to the EPA also about this. Some one mentioned that the Planning commission has an attorney that we can talk to. If that is the case I would like to have that ph number. Thank you, Darlene Westerling

[https://apis.mail.yahoo.com/ws/v3/mailboxes/@.id==VjN-qQfOy9061r7e2PrTtV\\_OMeQmaJimaU9r2-JLFtMksJJ4KR-Mlu-s\\_8VhKhI0aVYaEzmrPpWoqXueeK24Hk4MHw/messages/@.id==AKceD6lOuFA0ZYB69QoteK8de-s/content/parts/@.id==2/refresh?appid=YMailNorrin&ymreqid=a6ea6462-fbf6-2877-1c7c-e500f8014300](https://apis.mail.yahoo.com/ws/v3/mailboxes/@.id==VjN-qQfOy9061r7e2PrTtV_OMeQmaJimaU9r2-JLFtMksJJ4KR-Mlu-s_8VhKhI0aVYaEzmrPpWoqXueeK24Hk4MHw/messages/@.id==AKceD6lOuFA0ZYB69QoteK8de-s/content/parts/@.id==2/refresh?appid=YMailNorrin&ymreqid=a6ea6462-fbf6-2877-1c7c-e500f8014300)

--

Megan Davchevski, CFM

Planning Division Manager

Community Development Department



Tel: 541-278-6246 | Fax: 541-278-5480





Megan Davchevski <megan.davchevski@umatillacounty.gov>

---

## Mining can result in increased nitrogen levels in groundwater

1 message

---

**Darlene Westerling** <darlenewesterling@yahoo.com>

Tue, Jan 23, 2024 at 10:08 AM

To: Megan Davchevski <megan.davchevski@umatillacounty.gov>

My water tested Dec, 2023 ,4.27 for nitrates which is safe to drink, I don't understand how this operation can be allowed with evidence. Other neighbors water are at rick besides mine. Please do not allow this to happen. It is my understanding that it is your job to protect the citizens . Darlene Westerling

<https://www.mining.com/web/helping-mines-find-real-source-nitrates-water/>

Mining can result in increased nitrogen levels in groundwater through the use of nitrogen-based explosives. Most commercial explosives contain between 70% and 90% ammonium nitrate – which is highly soluble in water. Spillage, dissolution in wet holes and incomplete detonation during blasting activities results in soil and water contamination with nitrates, nitrites and ammonia. Nitrogen-rich water is typically pumped from the underground workings and then circulates through process water dams, the tailings dam return water and the concentrator plant. If not contained in the mine water circuit, surface spills or seepage through unlined facilities may pose a risk to groundwater.

# MINING.COM

## Helping mines find the real source of nitrates in water

SRK Consulting | November 28, 2017 | 5:25 am

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JAN 23 2024

UMATILLA COUNTY  
COMMUNITY DEVELOPMENT



28 November 2017 – Johannesburg: The issue of water quality has become topical in the aftermath of the contamination in the Olifants River catchment in Mpumalanga over recent decades, as well the surfacing of acid mine drainage from old and abandoned mines around Gauteng and other provinces.

### SIGN UP FOR THE MINING NEWS DIGEST

SIGN UP

---

In a paper presented at the 13th International Mine Water Association Congress held in Finland recently, SRK Consulting principal hydrogeologist Sarah Skinner highlighted that nitrogen is one of the contaminants of concern in the Olifants catchment. Here, the average nitrate concentrations in some areas can be as high as 45 milligrams per litre as nitrogen – with some areas showing concentrations of less than 1 mg/l and others up to 80 or 90 mg/l. This average is well in excess of the official national South African drinking water quality standard of 11 mg/l – as set out in SA National Standard 241-2015.

"So even before some mines start up, the nitrogen levels may already be very high," said Skinner.

Skinner's presentation advances tools for mines to more efficiently identify nitrate sources in surface and ground water.

Mining can result in increased nitrogen levels in groundwater through the use of nitrogen-based explosives. Most commercial explosives contain between 70% and 90% ammonium nitrate – which is highly soluble in water. Spillage, dissolution in wet holes and incomplete detonation during blasting activities results in soil and water contamination with nitrates, nitrites and ammonia. Nitrogen-rich water is

typically pumped from the underground workings and then circulates through process water dams, the tailings dam return water and the concentrator plant. If not contained in the mine water circuit, surface spills or seepage through unlined facilities may pose a risk to groundwater.

Around many mines, however, there are human settlements that also contribute to higher-than-average nitrogen levels – usually through sources like pit latrines and cattle lots. Tilling of soils and the use of fertilisers, as well as the natural geology, can also add to the nitrate content in the water resources.

“This makes it more difficult to identify the source of nitrogen in the water resources,” she said. “These various nitrate sources can contribute to the water quality monitoring data generated by the mines and complicate the quantification of mining-related impacts on the water resources. It is thus critical for mines to understand the variable sources contributing to the impact at a specific monitoring point. Evaluating which sources are having the greatest impact on surface water quality allows the mine to focus its water management strategy on those specific areas.”

Based on data from a study at a South African platinum mine, Skinner outlined how a number of different tools were used to establish the sources of elevated nitrogen levels in the water in the area of the mine. Like all water use licence holders, mines are required to meet quality standards in water management, so must monitor and address any changes in water quality over time. In her presentation, Skinner said each of the tools in the study provided a ‘puzzle piece’ that could be used to establish a fuller picture of nitrogen sources in and around the mine.

“In the study, we looked at water chemistry, stable isotopes and nitrogen isotopes, as well the natural geological and hydro-geological conditions in the area of the mining operation,” she said.

( Insert Figure 1: Tools used in the integrated approach)

The use of nitrogen isotopes, for instance, is one of the better ways to establish whether the source of the nitrogen is from human and animal waste – as opposed to chemical fertilisers and explosives. These results pick up a ‘fingerprint’ in the nitrogen isotope, which is indicative of where the nitrogen originates. Conventional nitrate analysis only gives quantitative data and does not discriminate between sources.

“However, due to the fact that the ammonium nitrate in fertiliser and in explosives are essentially the same, nitrogen isotopes will not be able to differentiate whether the source is from fertilisers or mining-related,” she said. “The next steps in distinguishing between a fertiliser or explosive source involve hydro-chemical testing to establish cation-anion ratios. These steps make use of deuterium and oxygen isotopes as each source will add something distinctive to the water, such as chloride – which would give a nitrate-chloride signature – whereas tailings dams may give more of a sulphate signature.”

This is all part of a multi-disciplinary and multi-faceted approach, which can identify the origin of the source. Once the source is identified, further assessments are required to identify the most practical and cost-effective management measures.

A conceptual hydrogeological model is used to identify the direction of flow and depth to water table or topographic surface. Furthermore, knowing the flow rate allows for the development of a site salt balance which will further inform the water management around the mine and allow mines to highlight to management those sources most likely to affect the water resources.

The use of multiple tools in the source assessment allows the question of “Where is the source of this nitrogen?” to be answered. Where sources are unrelated, mines can motivate for changes to the regulated limits – as well as provide the regulators with useful information on which to take the necessary steps in addressing non-mine related impacts to the water resources. Where mines are having an impact, strategies can be focused on the priority sources where management will achieve the greatest improvement or offer the best protection to the regional water resource.



SRK Consulting principal hydrogeologist Sarah Skinner.

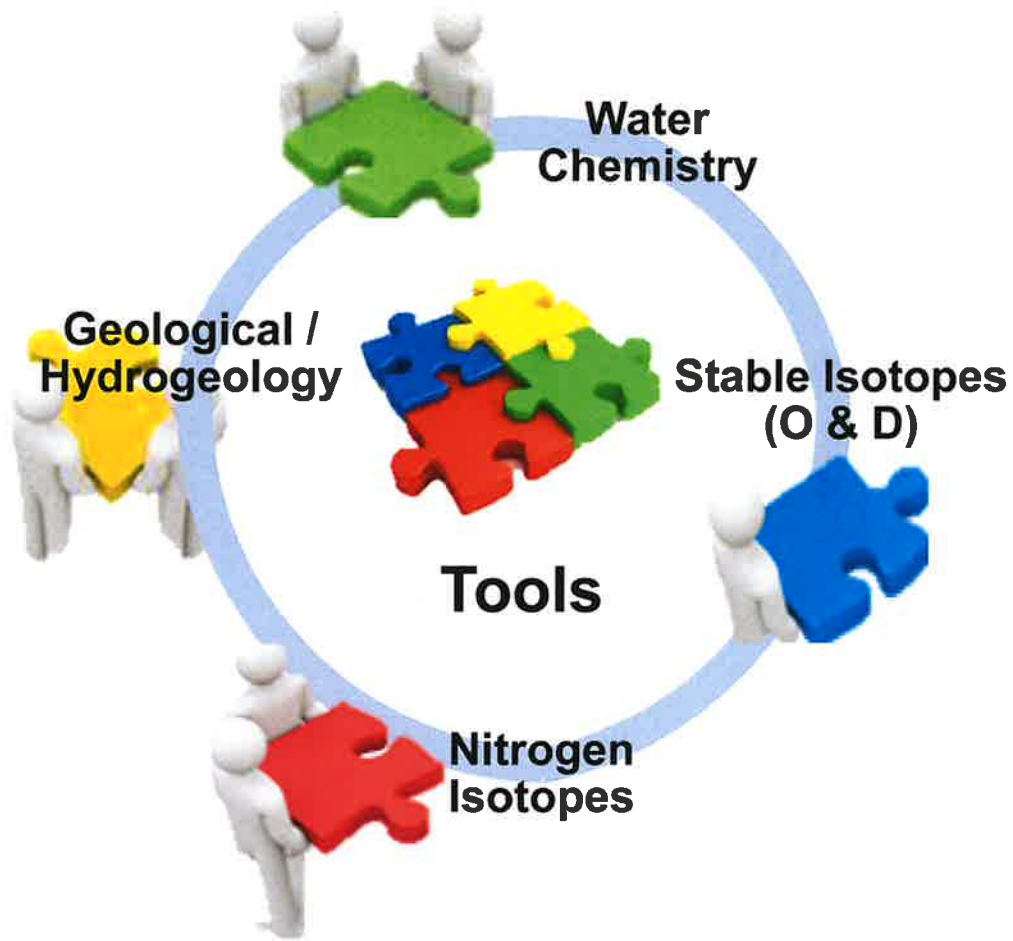






Figure 1. Tools used in the integrated approach.

About SRK – [www.srk.co.za](http://www.srk.co.za)

SRK is an independent, global network of consulting practices in over 45 countries on six continents. Its experienced engineers and scientists work with clients in multi-disciplinary teams to deliver integrated, sustainable solutions across a range of sectors – mining and exploration, water and waste, environmental and social impact, civil and infrastructural engineering, and energy. SRK's focus helps clients to grasp the opportunities and embrace the risks now emerging as commodity prices improve with signs of economic recovery.

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Exhibit AA



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JAN 23 2024

UMATILLA COUNTY  
COMMUNITY DEVELOPMENT

Umatilla County Board of Commissioners  
216 SE Fourth Street  
Pendleton, OR 97801

January 22, 2024

RE: Rock Quarry Application T-09-23 and Z-323-23

Commissioners –

My name is Steve Culbert, and I am the President of Culbert Construction Inc. we are a Heavy Civil Contractor that specializes in road construction and aggregate placement, we primarily execute projects In Eastern Washington and Northeast Oregon.

Please consider my support for the rock quarry application T-09-23 and Z-323-23. I have known the applicant Doug Cox for 30+ years. I believe in the quality and integrity of his work. As a contractor and a businessman, Doug has the highest standards and most importantly dose what he says.

When working in Umatilla County Specifically West Umatilla County Our Company and countless others need SPEC solid rock aggregate that will be produced under this application if approved and a permit is issued.

There are few options for this type of rock product and prices have skyrocketed. Price increases have a direct impact on Municipalities, Developers, Small business alike and at the end of the day the Taxpayers pay for this.

We must work together to keep projects affordable by allowing reputable Contractors to produce good products and keep competition strong. We can't let a few Companies headquartered out of State corner the market and consequently artificially inflate their prices, this hurts all of us!

This quarry located at the intersection of Highway 730 and Highway 207 is ideally situated for all the development occurring in the westerly part of the county.

I am confident Doug will operate the rock quarry with the same high standards he employs in his other business ventures. I not only support, I urge you to approval of this application.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Culbert".



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# Exhibit AB

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**JAN 23 2024**

**UMATILLA COUNTY  
COMMUNITY DEVELOPMENT**



January 23, 2024

Umatilla County Board of Commissioners  
216 SE Fourth Street  
Pendleton, OR 97801

RE: Rock Quarry Application for Doug Cox  
Applications T-09-23 and Z-323-23

Commissioners –

Please consider my support for the rock quarry application filed by Doug Cox. I have known Doug for 10 years and I believe him to be an individual of integrity. He has always been honest and professional in our business dealings. As a contractor, Doug has consistently performed to the highest standards. He has repeatedly demonstrated his commitment to meeting budget and schedule requirements for his projects. His practice of maintaining on-site involvement allows him to quickly respond to unexpected challenges with the least disruption to the projects. Doug's experience and expertise have proven to be invaluable to the success of many local projects.

Through the operation of the Hermiston Plan Center, I am able to see the increased needs our local communities have for construction materials and services. I am in continual discussions with developers, project owners, contractors, and suppliers about the resources our county has to offer. The need for aggregate material and asphalt continues to increase in Umatilla County. The quarry at the intersection of Highway 730 and Highway 207 is ideally situated for the development expected in our county and surrounding areas. It is important that we encourage local businesses and residents to fill these needs and further the investment in our local economy.

I have no doubt that Doug will operate the rock quarry with the same high standards he employs in his other contracting work. I urge you to approve Doug's application and strengthen our communities' resources.

Respectfully,

Staci A. McQuain  
Hermiston Plan Center

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# EXHIBIT AC



Megan Davchevski <megan.davchevski@umatillacounty.gov>

---

## CRP & Hauling LLC, Comprehensive Plan Text Amendment/Zone Map Amendment

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Cassandra Gallegos <gallegos@corey-byler.com>  
To: Megan Davchevski <megan.davchevski@umatillacounty.gov>  
Cc: Patrick Gregg <gregg@corey-byler.com>

Wed, Jan 24, 2024 at 3:38 PM

Good afternoon,

Please find attached a letter from Patrick M. Gregg of this date regarding the above referenced matter. I also copied a Dropbox link down below where you can access the related materials. Please let me know if you have any trouble accessing the Dropbox file. Thank you.

<https://www.dropbox.com/scl/fo/z522sdescjhccmibbbd2f/h?rlkey=c34dd3ls1dv4jfiz8gwz9ojmu&dl=0>

Kind regards,

Cassandra Gallegos

LEGAL ASSISTANT

### Corey, Byler & Rew, LLP

[222 SE Dorion Ave.](#)

P.O. Box 218

Pendleton, OR 97801

(PH) 541-276-3331

(FX) 541-276-3148

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 Letter to Megan D. 01.24.24.pdf  
726K

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JAN 24 2024

UMATILLA COUNTY  
COMMUNITY DEVELOPMENT

COREY, BYLER, & REW, L.L.P.  
ATTORNEYS AT LAW

STEVEN H. COREY\*  
TIMOTHY P. O'ROURKE  
KARIN E. DALLAS  
JENNIFER E. CURRIN  
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GEORGE H. COREY, DECEASED  
ALEX M. BYLER, DECEASED  
LAWRENCE B. REW, DECEASED

Email: [gregg@corey-byler.com](mailto:gregg@corey-byler.com)

OF COUNSEL  
HENRY C. LORENZEN  
THOMAS M. BYLER

\*Admitted in Oregon and Washington

January 24, 2024

Ms. Megan Davchevski  
Umatilla Planning Department  
216 SE 4th St.  
Pendleton, OR 97801  
[megan.davchevski@umatillacounty.gov](mailto:megan.davchevski@umatillacounty.gov)

Re: Comprehensive Plan Text Amendment #T-093-23  
Zone Map Amendment #Z323-23  
Doug Cox, CRP & Hauling, LLC, Applicant; Randy Rupp, Landowner  
Our File No. 123-045

Dear Ms. Davchevski:

As you know, I along with my law firm Corey, Byler & Rew, LLP, represent Doug Cox and his business CRP & Hauling, LLC (collectively "CRP") in relation to CRP's efforts to obtain land use approval for construction and operation of an aggregate rock quarry and asphalt batch plant in Umatilla County. As noted by the recent submissions into the record on behalf of CRP there is a critical need for additional aggregate rock sources and asphalt sources in Umatilla County to support further economic development.

I have enclosed with this letter a variety of materials, including technical and scientific studies, which lend further support to CRP's application. I am hopeful that after review of these materials, and the voluminous materials already submitted, that the Umatilla County Planning Department will recommend the Board of Commissioners approve the application.

Simply put, CRP believes that its pending application meets all requirements in the Umatilla County Development Code, applicable regulations and laws of the State of Oregon, and

will not otherwise negatively impact the surrounding properties. For these reasons CRP requests that the Comprehensive Plan Text Amendment and Zone Map Amendment be approved by the Umatilla County Board of Commissioners.

*i. Procedural History*

A brief outline of the procedural history of CRP's application is helpful to frame the situation here. CRP has been working on this process since the first quarter of 2023. CRP originally submitted its written preapplication on May 23, 2023. Thereafter CRP obtained further studies in response to feedback from County staff. CRP submitted a formal application on June 8, 2023, which was not accepted by the County. It was only after interaction between the undersigned and County counsel that CRP's formal application was accepted on August 25, 2023. Additional requested information was provided to County staff by CRP on September 13, 2023.

The County issued a staff report on October 4, 2023, and a hearing was set before the Umatilla County Planning Commission for November 9, 2023. During that November 9, 2023, hearing the Planning Commission, short three members and with only six present, initially deadlocked 3-3 on whether to approve the application. Thereafter, without clarity as to whether it was expressly authorized by rules of procedure or applicable law, the Planning Commission held a new vote and denied the application 5-1. Given that the application requires approval or denial of the Board of Commissioners, the recommendation of the Planning Commission requires a de novo hearing. That hearing, as you know, is set for February 15, at 1:30 p.m.

*ii. Additional Documentation in Support*

CRP believes that its application, as originally submitted to and heard by the Planning Commission on November 9, 2023, was comprehensive, well-supported by scientific and technical information, and complied with the Umatilla County Development Code in all respects. Notwithstanding, CRP has gathered the below additional information that both (i) provides further support for its application, and (ii) addresses concerns raised by opponents at the Planning Commission hearing. Those additional documents enclosed with this letter are:

- 1) Technical Memorandum dated February 16, 2023, prepared by Air Sciences, Inc.

This study confirms that CRP's proposed quarry will produce emissions of particulate matter at levels less than the Oregon Significant Emission Rate ("SER") values, even using conservatively high estimates of production at the proposed quarry location. The report also concludes that the quarry is anticipated to comply with all requirements of the Oregon DEQ, including air quality standards.

- 2) Blast Plan prepared by High Mountain Construction, Inc. dated January 16, 2024.

This Blast Plan provides blast designs for two scenarios at the proposed quarry location, using possible blast locations located as close as possible to the existing residential structures in the area, in order to model the predicted effects. These are, in effect, "worse case" scenarios of the potential blast impact on nearby residences. The Blast Plan uses methods approved by the Oregon Department of Transportation

(“ODOT”) and the Federal Highway Administration. As you can see the Blast Plan concludes that estimated ground vibrations from blasting result in impacts well below the established regulatory thresholds.

- 3) Carlson Testing, Inc. Aggregate Qualification Testing dated January 8, 2024.

This report supplements an earlier report and concludes that the rock samples submitted from the proposed quarry site meet the ODOT requirements to be classified as a significant aggregate resource.

- 4) *Phoenix Center Policy Paper Number 53: Quarry Operations and Property Values Revisiting Old and Investigating New Empirical Evidenced* dated March, 2018, from the Phoenix Center for Advanced Legal and Economic Public Policy Studies.

This policy paper performs a new and updated analysis of the impact of new quarry sites on adjoining property values. The conclusion of this policy paper is that pre-existing studies, which suggest that home prices near newly permitted quarries fall, is not supported by the empirical data, prior studies reaching such conclusions were based upon unreliable methods, and the results of those prior studies could not be replicated. This policy paper is being submitted as a direct response to concerns raised by opponents at the November 9, 2023, Planning Commission hearing.

- 5) Updated Mine Plan dated January 17, 2024.

This document was prepared by licensed professional geologist Erick Staley to supplement and revise his earlier mine plan, submitted on behalf of CRP, to address concerns that arose at the November 9, 2023, Planning Commission hearing.

- 6) Revised Resource Estimate Report dated January 17, 2024.

This Revised Resource Estimate Report was prepared by Erick Staley and supplements and revises his earlier reports on behalf of CRP. This latest version incorporates additional field work, test pits, and rock sampling conducted following the November 9, 2023, Planning Commission Hearing. Consistent with earlier reports in the record it confirms that the basalt bedrock underlying the proposed CRP quarry represents a significant aggregate resource and estimates 4.7 million tons of potential aggregate resources at the location.

- 7) Sound Analysis from Coffman Engineers, Inc. dated January 2024.

This sound analysis, relying upon field work performed at the proposed CRP quarry site, confirmed that calculated sound levels from the proposed operation of CRP's quarry would be within the applicable DEQ noise limits at all sampled locations. The report also proposed limited mitigation measures to address any lingering concerns.

- 8) Email dated December 13, 2023, and Stamped Findings Report from Thomas Lapp, District 12 Permit Specialist, Oregon Department of Transportation.

This correspondence and report confirm that ODOT has accepted the proposed approach design to the quarry location from U.S. Highway 730.

9) Proposed Revised Findings and Conclusions prepared by Applicant.

This document is a proposed revision of the Preliminary Findings and Conclusions prepared by the Umatilla County Planning Department. While CRP respects and appreciates the hard work of your office this redline incorporates the updated and supplemental information described herein and is revised to recommend approval by the Board of Commissioners with appropriate conditions.

10) State of Oregon Water Well Supply Report for Well I.D. 49855; UMAT 54508

This Well Log concerns a well located on the real property owned by a member of the public who has spoken out against CRP's proposed quarry. It is being submitted into the record in support of the analysis on behalf of CRP, set out in the redline identified in Item 9, which establishes that proposed mining and blasting activities will not impact the opponent's water well.

*iii. Community Support*

We wish to note that CRP has significant support for this project in the community, in particular in the local business community. At the November 9, 2023, Planning Commission hearing the opponents were afforded an opportunity to speak. In contrast, members of the public who support CRP's application were not afforded an opportunity to speak. Since the November 9, 2023, Planning Commission Hearing numerous letters of support have been sent to Umatilla County related CRP's pending application. These letters emphasize the importance of the proposed CRP quarry to the continued economic development of Umatilla County and urge its approval.

*iv. Conclusion*

It is CRP's view that the application as submitted, and supplemented by the documents enclosed with this letter, is comprehensive, well-supported by factual and technical information, and complies with all requirements of the Umatilla County Development Code and applicable regulations and laws of the State of Oregon. In addition, it has community support and will directly aid in further economic development in Umatilla County. For these reasons CRP respectfully requests that the Umatilla County Board of Commissioners reverse the decision of the Umatilla County Planning Commission and approve Comprehensive Plan Text Amendment #T-093-23 and Zone Map Amendment #Z323-23.

Thank you.

Sincerely yours,

  
Patrick M. Gregg





TECHNICAL MEMORANDUM

# CRP & HAULING UMATILLA COUNTY SITE CRUSHING AND ASPHALT PLANT EMISSIONS

PREPARED FOR: D. Cox, CRP & Hauling  
 PREPARED BY: M. Hampson, Air Sciences Inc.  
 PROJECT NO.: 445-1  
 COPIES: E. Staley, Fulcrum GeoResources  
 DATE: January 16, 2024

At the request of CRP & Hauling, Air Sciences Inc. has developed estimates of emissions of particulate matter (PM), particulate matter with a diameter of 10 micrometers or less (PM<sub>10</sub>), and fine particulate matter (PM<sub>2.5</sub>) from a proposed rock-crushing and asphalt plant in Umatilla County south of Highway 730 and east of Highway 207. The emissions for the proposed project were compared to the Oregon Significant Emission Rate (SER) values.<sup>1</sup>

Table 1 summarizes the calculated total PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions; the SER values; and the evaluation of whether the emissions from the proposed project are below the SER values.

**Table 1. Proposed Project Emissions Estimates and Regulatory Thresholds**

Pollutant	SER <sup>(1)</sup>	Emissions	Below SER?
	(ton/year)	(ton/year)	
PM	25	22.9	Yes
PM <sub>10</sub>	15	8.2	Yes
PM <sub>2.5</sub>	10	1.6	Yes

(1) SER values from [OAR 340-200-0020](#).

Air Sciences’ finding is that the total estimated emissions from the proposed project are less than the SER values. Therefore, these findings indicate the proposed project is not a major source of the evaluated pollutants. Additionally, the project is expected to comply with all the requirements of the Oregon Department of Environmental Quality (ODEQ) permitting and Cleaner Air Oregon programs, including all applicable air quality standards.

The next section details the calculation of the emissions.

<sup>1</sup> [OAR 340-200-0020](#)

## Emissions Estimates

Several operational activities of the proposed project were identified as potential sources of PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions: crushing, screening, material transfers (including conveyor transfers and truck loading and unloading), and asphalt mixing. Emissions from these activities were estimated using the following calculation:

$$R = EF \times T \times N;$$

where R is the emission rate, EF is the emission factor, T is the throughput of the activity, and N is the number of sources.

The calculation used emission factors both provided by ODEQ for this type of analysis and found in ODEQ's Emission Factors for Asphalt and Aggregate Industries documentation.<sup>2</sup> The proposed project includes an electric heater for the asphalt plant, so the gaseous criteria pollutant emission factors are not applicable. Table 2 lists the activities evaluated and their emission factors.

**Table 2. Emission Factors**

Activity	Emission factor	PM (lb/ton)	PM <sub>10</sub> (lb/ton)	PM <sub>2.5</sub> (lb/ton)
Rock crushing	(a)	0.04	0.02	0.0012
Screening	(b)	0.025	0.0087	0.00132
Truck loading	(c)	0.00021	0.0001	1.5E-05
Truck unloading	(d)	3.4E-05	1.6E-05	2.4E-06
Conveying	(e)	0.003	0.0011	0.00017
Asphalt batch mixing	(f)	0.1400	0.034	0.018

- (a) [ODEQ AQ-EF06](#), Rock crushers (water spray)
- (b) [EPA 1995, AP42 Ch. 11.19](#), Table 11.9.2-2, 8/04 (screening)
- (c) [EPA 1995, AP42 Ch. 11.19](#), Table 11.9.2-2, 8/04 (truck loading – crushed stone)
- (d) [EPA 1995, AP42 Ch. 11.19](#), Table 11.9.2-2, 8/04 (truck unloading – fragmented stone)
- (e) [EPA 1995, AP42 Ch. 11.19](#), Table 11.9.2-2, 8/04 (conveyor transfer point)
- (f) [ODEQ AQ-EF06](#), Hot Mix Asphalt Plants, Batch Mix (venturi or wet scrubber)

The number of sources is based on the planned operation of one crusher and one asphalt batch mixer, as well as estimates of the number of screens and material transfers. The calculations use

---

<sup>2</sup> [ODEQ AQ-EF06](#)

conservatively high estimates of maximum annual production rates for the proposed facility: 300,000 tons of crushed rock and 100,000 tons of asphalt.

Table 3 provides the sources and throughput rates used in the emission calculations and the estimated emission rates of PM, PM<sub>10</sub>, and PM<sub>2.5</sub> for each of the activities.

**Table 3. Activity and Emissions Estimates for the Proposed Project**

Activity	Number of sources <sup>(1)</sup>	Throughput (ton/year)	PM (ton/year)	PM <sub>10</sub> (ton/year)	PM <sub>2.5</sub> (ton/year)
Rock crushing	1	300,000	6.0	3.0	0.2
Screening	2	300,000	7.5	2.6	0.4
Truck loading	3	300,000	0.1	0.05	0.007
Truck unloading	3	300,000	0.02	0.01	0.001
Conveying	5	300,000	2.3	0.8	0.1
Asphalt batch mixing	1	100,000	7.0	1.7	0.9
<b>Total:</b>			<b>22.9</b>	<b>8.2</b>	<b>1.6</b>

(1) The proposed project includes a single crusher and mixer; the number of screens and transfers is estimated.

High Mountain  
Construction, Inc.



1340 Bear Creek Rd.  
Princeton, Idaho 83857  
(208) 875-1512 office

Blasting Plan for CRP & Hauling, LLC planned quarry site in Umatilla County OR

This is a preliminary blast plan intended to show what a typical blast might look like using typical blast-production quantities and locating the blast area as close as possible to the nearest residences to the site. This plan is based on the CRP mine plan regarding estimated average depth and location of the blast and nearby structures. As there are no prior seismograph readings for blasting at this site, we have used Oregon DOT and Federal Highway Administration approved methods to calculate maximum allowed pounds of explosive per delay so as not to exceed vibration limits at existing structures (see attached Oregon.gov document and attached Figures #1 and #2 showing estimated vibration readings). The attached blasting plan shows what a typical blast might look like using these numbers.

When/If blasting is required at this site, a new blasting plan will be generated for the exact blast location using actual depths, distances, and quantities to be blasted. The blast will be monitored both visually and using seismographs to measure ground vibration and air blast. Future blasts will utilize these readings as well as the visual observations to make any adjustments necessary.

ODOT document is also available at  
[Oregon.gov/ODOT/GenEnvironmental/Docs\\_GeologyGeotech/Material-Source\\_Blasting-white-paper.pdf](https://www.oregon.gov/ODOT/GenEnvironmental/Docs_GeologyGeotech/Material-Source_Blasting-white-paper.pdf)

# CRP Blast Plan







Site Map

RECEIVED

JAN 24 2024

UMATILLA COUNTY  
COMMUNITY DEVELOPMENT

## Legend

-  Blast Scenario #1 - Area 180ft x 75ft
-  Blast Scenario #2 - Area 200ft x 80ft
-  Distance - Blast #1 - Nearest Blast Hole to Nearest Structure (1,350ft)
-  Distance - Blast #2 - Nearest Blast Hole to Nearest Structure (1,100ft)
-  Limits of Extraction
-  Potential Blast Area



Google Earth

1000 ft

**Scenario #1 - Blast on Bluff to Nearest Residential Structure**



*High Mountain Const.*



**Blasting plan**

Date  planned date  
 Blaster-in-Charge   
 WA License #  Mt License #

Customer   
 Location   
 Site Location

Type of Rock

Pattern #1   
 Burden  Spacing

Yards/Hole   
 Hole Depth  Sub drill   
 Average

Total Holes Pattern #1

Total Yards  Tons

Stem Height  ft

Hole Diameter

**Totals**                      **Holes**

**Yards**       **Tons**

Max Holes Per 8MS

Max Pounds Per 8MS  lbs

Distance to nearest structure  ft  
 description of structure

Powder Factor

Ton

**Blasting Agent or Explosives**

	Pounds
ANFO	41,184
Apex Emulsion	
Amex W.R.	
Amex Bag	
Fortel ultra 2.5x16	
2x16 Emulex	
Gainite 5 X 30	
Total	41,184

**Primers**

	Units	Pounds
Pentex 16	78	78
Pentex 12		0
Pentex 7		0
Pentex 5.5	78	26
Diamond Nuggets		
Magnum Ultra 2x8		
Powerditch 1000 2x16		
Powerditch 1000 1 1/4 x 8		
Total	156	104

**Detonators**

	Quantity	Electronic	Quantity
Handidet 100ft.		Icon 15m	
Handidet 80ft.		Icon 6m	
Handidet 60ft		UT 600 30ft	
Handidet 50ft		UT 600 50ft	
Handidet 40ft		UT 600 65ft	
Handidet 30ft		UT 600 100ft	
Handidet 24ft			
Handidet 16ft			
Handidet 12ft			
20 ft Exel MS #20	78		
40 ft. Exel ms #20			
60 ft. Exel ms #20			
80 ft. Exel ms #20			
100 ft. Exel ms #20			

**Surface Detonators**

	Quantity
Exel HTD 100 12'	
Exel HTD 42 12'	
Exel HTD 25 12'	
Exel HTD 17 12'	
Exel HTD 100 20'	
Exel HTD 42 20'	5
Exel HTD 25 20'	
Exel HTD 17 20'	6
Exel Lead	
Exel HTD 9 20'	

Total 156 Total

0

Total 11

Scenario #1 - Blast on Bluff to Nearest Residential Structure



Not to scale

CRP & Hauling, LLC  
Umatilla Co, OR  
proposed quarry site  
generic blast timing

**Figure 1**

Predicting PPV with "K" factor = 100

Using Oregon DOT and Federal Hwy Administration values for "K" and "a" when no prior seismograph readings are available for the site

Distance	Explosive weight / delay									
	1584	1609	1634	1659	1684	1709	1734	1759	1784	
1350	0.36	0.36	0.36	0.37	0.37	0.38	0.38	0.39	0.39	0.39
1375	0.35	0.35	0.35	0.36	0.36	0.37	0.37	0.38	0.38	0.38
1400	0.34	0.34	0.34	0.35	0.35	0.36	0.36	0.37	0.37	0.37
1425	0.33	0.33	0.33	0.34	0.34	0.35	0.35	0.35	0.35	0.36
1450	0.32	0.32	0.33	0.33	0.33	0.34	0.34	0.35	0.35	0.35
1475	0.31	0.31	0.32	0.32	0.32	0.33	0.33	0.34	0.34	0.34
1500	0.30	0.30	0.31	0.31	0.32	0.32	0.32	0.33	0.33	0.33
1525	0.29	0.30	0.30	0.30	0.31	0.31	0.31	0.32	0.32	0.32
1550	0.29	0.29	0.29	0.30	0.30	0.30	0.31	0.31	0.31	0.31
1575	0.28	0.28	0.29	0.29	0.29	0.30	0.30	0.30	0.30	0.31
1600	0.27	0.27	0.28	0.28	0.28	0.29	0.29	0.29	0.29	0.30
1625	0.26	0.27	0.27	0.27	0.28	0.28	0.28	0.29	0.29	0.29
1650	0.26	0.26	0.26	0.27	0.27	0.27	0.28	0.28	0.28	0.28
1675	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.28
1700	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.27	0.27

1350 is the distance in feet from the nearest structure (shed to west) to blast holes. See site Picture.



**Scenario #2 - Blast Closest to Residential Structure**



*High Mountain Const.*



**Blasting plan**

Date  planned date  
 Blaster-in-Charge   
 WA License #  Mt License #

Customer   
 Location   
 Site Location   
 Western most point of excavation

Type of Rock

Pattern #1   
 Burden  Spacing

Yards/Hole   
 Hole Depth  Sub drill   
 Average

Total Holes Pattern #1

Total Yards  Tons

Stem Height  ft

Hole Diameter

**Totals**                      **Holes**

**Yards**       **Tons**

Max Holes Per 8MS

Max Pounds Per 8MS

Distance to nearest structure  ft  
 description of structure

Powder Factor      BCY

Ton

**Blasting Agent or Explosives**

	<b>Pounds</b>
ANFO	17,740
Apex Emulsion	
Amex W.R.	
Amex Bag	
Fortel ultra 2.5x16	
2x16 Emulex	
Gainite 5 X 30	
<b>Total</b>	<b>17,740</b>

**Primers**

	<b>Units</b>	<b>Pounds</b>
Pentex 16	112	112
Pentex 12		0
Pentex 7		0
Pentex 5.5		0
Diamond Nuggets		
Magnum Ultra 2x8		
Powerditch 1000 2x16		
Powerditch 1000 1 1/4 x 8		
<b>Total</b>	<b>112</b>	<b>112</b>

**Detonators**

	<b>Quantity</b>		<b>Electronic</b>	<b>Quantity</b>
Handidet 100ft.			Icon 15m	
Handidet 80ft.			Icon 6m	
Handidet 60ft			UT 600 30ft	
Handidet 50ft			UT 600 50ft	
Handidet 40ft	112		UT 600 65ft	
Handidet 30ft			UT 600 100ft	
Handidet 24ft				
Handidet 16ft				
Handidet 12ft				
20 ft Exel MS #20				
40 ft. Exel ms #20				
60 ft. Exel ms #20				
80 ft. Exel ms #20				
100 ft. Exel ms #20				

**Surface Detonators**

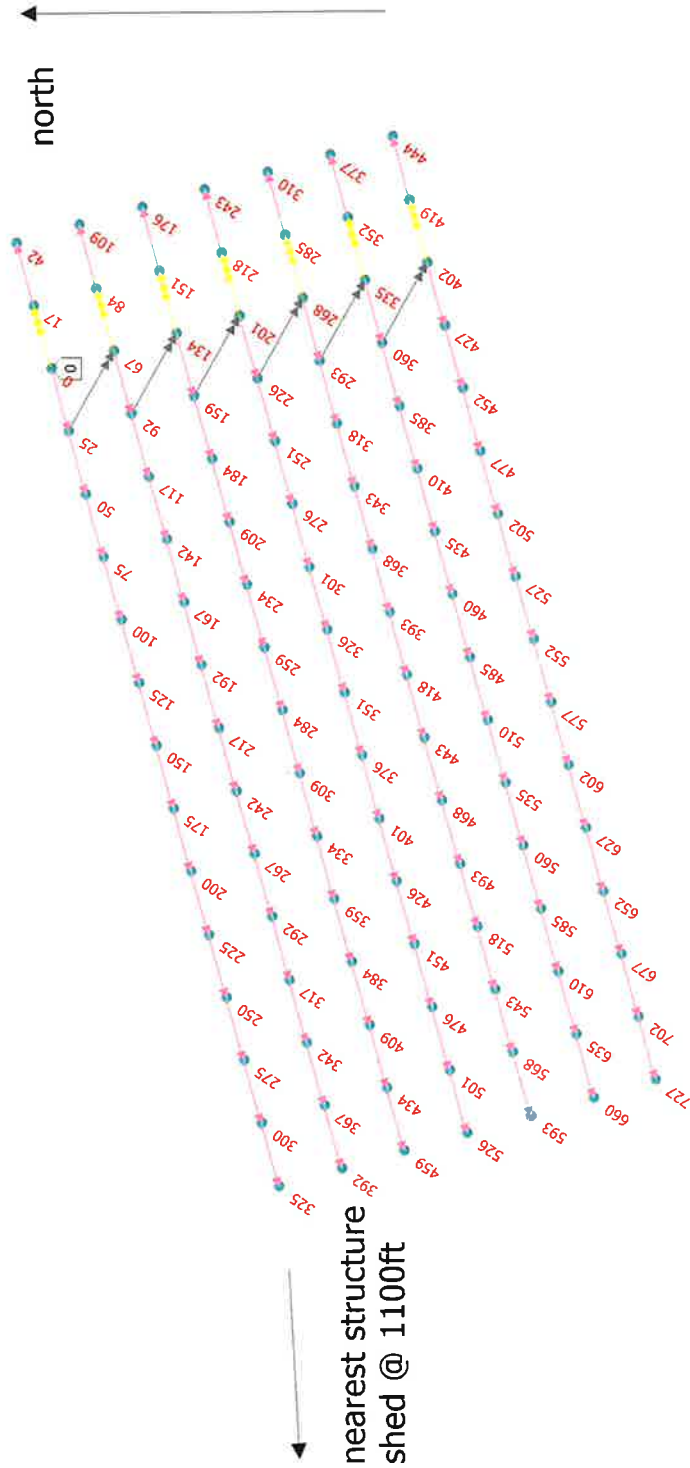
	<b>Quantity</b>
Exel HTD 100 12'	
Exel HTD 42 12'	
Exel HTD 25 12'	
Exel HTD 17 12'	
Exel HTD 100 20'	
Exel HTD 42 20'	6
Exel HTD 25 20'	
Exel HTD 17 20'	7
Exel Lead	
Exel HTD 9 20'	

Total 112 Total

0

Total 13

Scenario #2 - Blast Closest to Residential Structure



Not to scale

CRP & Hauling, LLC  
Umatilla Co, OR  
proposed quarry site  
preliminary blast plan timing

**Figure 2**

Predicting PPV with "K" factor = 100  
 Using Oregon DOT and Federal Hwy Administration values for "K" and "a" when no prior seismograph readings are available for the site

Distance	Explosive weight / delay										
	425	475	525	575	625	675	725	775	825		
	Predicted Peak Particle Velocity - in/sec										
1100	0.17	0.19	0.20	0.22	0.23	0.25	0.26	0.28	0.29		
1125	0.17	0.18	0.20	0.21	0.23	0.24	0.25	0.27	0.28		
1150	0.16	0.18	0.19	0.20	0.22	0.23	0.25	0.26	0.27		
1175	0.16	0.17	0.18	0.20	0.21	0.22	0.24	0.25	0.26		
1200	0.15	0.16	0.18	0.19	0.20	0.22	0.23	0.24	0.25		
1225	0.15	0.16	0.17	0.18	0.20	0.21	0.22	0.23	0.25		
1250	0.14	0.15	0.17	0.18	0.19	0.20	0.22	0.23	0.24		
1275	0.14	0.15	0.16	0.17	0.19	0.20	0.21	0.22	0.23		
1300	0.13	0.14	0.16	0.17	0.18	0.19	0.20	0.21	0.22		
1325	0.13	0.14	0.15	0.16	0.17	0.19	0.20	0.21	0.22		
1350	0.12	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.21		
1375	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.20	0.21		
1400	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20		
1425	0.11	0.12	0.13	0.15	0.16	0.16	0.17	0.18	0.19		
1450	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19		

# **ROCK BLASTING and the COMMUNITY**

The concern of damage from ground vibration, airblast, and flyrock from blasting are a major concern to both the nearby landowners and ODOT as the quarry owner. In most cases these concerns are based on misunderstandings and unsubstantiated fears resulting from a lack of information. The purpose of this handout is to help illustrate the concept of blasting, explain the science, and hopefully provide the information needed to explain what is being proposed, and what surrounding property owners can expect.

To set the stage for the remainder of this discussion, we want to first address some of the common terms and definitions related to blasting:

- Explosives – Any chemical mixture poured or placed in a borehole that reacts at a high speed to generate gas and heat, thus causing tremendous outward pressures. Some common types used are ANFO (ammonium nitrate and fuel oil), dynamite, TNT, and water gels and emulsions for boreholes filled with groundwater.
- Two basic forms of energy are released when explosives react – gas energy and shock energy. Shock energy is the pressure that is transmitted outward from the borehole into the rock, causing microfractures to form and propagate outward for a short distance. Gas energy is the pressure that is exerted on the borehole walls by the expanding gases after a chemical reaction has been completed. These gases follow the 'path of least resistance' along existing and newly-formed fractures in the rock and this causes the majority of rock breakage in quarry blasting.
- Energy from a blast which is not used for rock breakage is wasted in the form of ground vibration and airblast.
- Ground Vibration – Seismic waves that spread out from the blasthole(s) along and through the ground, much like ripples in a pond. Ground vibration is comprised of many different waves with different frequencies and travel paths. The components (frequency, displacement, peak particle velocity, and acceleration) are measured with a seismometer, and it has been found that PPV is the most predictable and indicative of damage. Vibration levels, typically far below the levels required to produce damage, can be felt by humans (Figure 2).
- Peak Particle Velocity (PPV) – A measurement of ground vibration. The maximum speed (measured in mm/sec or in/sec) at which a particle in the ground is moving relative to its inactive state.
- Airblast – An airborne wave emanating from the blast, which is observed by people and structures as sound and pressure. It is measured in decibels (dB), just like noise. The airblast from an improper blast is what can crack walls and break windows.
- Flyrock – Rock or debris that is propelled into the air by the blast. Flyrock usually originates from material on the surface or the upper free face.

- Scaled distance (on Figure 1) is a formula for reducing the combined effects of distance and weight of the explosives into a single value that can be related to PPV. Scaled distance is  $d / \sqrt{w}$  where
  - d = distance from blast
  - w = weight of explosive per delay (if instantaneous this is the total weight of explosives; if delayed these are individual detonations).
- Delayed Blast – A blast in which boreholes or groups of boreholes are detonated separately, by a time interval of at least 15 milliseconds. This time has been shown to be generally sufficient to isolate the energy from individual detonations. Thus a blast can consist of a large number of holes that when fired produce vibrations approximately equivalent to firing holes one at a time.
- Free Face – The visible near-vertical wall(s) within the quarry (see Figure 3 for this and explanations for other blasthole terms)
- Burden – The distance from a blasthole or row to a free face (Figure 3)
- Stemming Height – The top portion of the blasthole normally filled with crushed rock to confine the explosion downward (Figure 3)

Ground vibrations, measured as Peak Particle Velocity (PPV), are commonly viewed as the major concern for off-site damage resulting from blasting.

Extensive research has been conducted throughout the last 40 years by the United States Bureau of Mines (USBM) and the Office of Surface Mining (OSM) [both bureaus of the U.S. Department of Interior], universities, and private groups. This research has led to the development of acceptable vibration standards, vibration damage criteria, seismographs, and techniques to predict and control blast vibrations that greatly reduce the risk of off-site impacts from blasting.

When the OSM developed regulations pertaining to ground vibration, they concluded that "if ground vibration (PPV) were limited to 1 inch per second then 95% of the damage to (surrounding) houses, etc. would be prevented." Initially the OSM made a policy decision that 95% was an acceptable level of public protection and made 1 inch per second the standard. After more recent research, both law and science have set the PPV limit at 0.5 inches per second to avoid off-site damage (which feels like, according to Figure 1, the same as a loaded truck or bus going by 50-100 feet away). As a real example, Las Vegas had used a maximum PPV of 0.25 inches per second since 1993, but as of 2000 the city has changed the criteria and raised the allowable vibration to a maximum PPV of 0.5 inches per second.

**Principle factors that affect ground vibration levels at a given point of interest are:**

- Weight of the explosive fired per delay period
- Distance from blast to point of concern (house, cistern, etc.)
- Blast configuration (existence of a free face, trench, confined area, etc.)
- Geology (sites with a thick layer of soil have been known to produce ground vibrations 10 times as great as locations with a thin layer of soil over rock)

The first two factors are the most influential to ground vibration, which is what most of the graphs are showing (see Figures 1, 2, 4). The distance from the blast to the point of concern cannot be controlled by the Blasting Contractor, but the weight of explosives fired per delay period can be. Some site conditions, such as removing a thick layer of soil, can also be manipulated to lessen the amount of ground vibration.

**How Peak Particle Velocity (PPV) is calculated and used to design a blast:**

To determine the weight of explosives that can be detonated without off-site damage, the Blasting Contractor uses the following formula that relates peak particle velocity to distance and the weight of explosives fired in a single delay period:

$$PPV = k * (d / \sqrt{w})^a$$

where **k** and **a** are constants that vary depending on site conditions. Ideally, values for **k** and **a** are generally derived from blast vibration monitoring at a site and define a line that represents a relationship between PPV and the weight of explosives for those conditions. In the absence of vibration monitoring from previous shots in the quarry and to take into account variations in geologic conditions and blast patterns, the values for **k** and **a** are set to represent an upper limit to peak particle velocities relative to scaled distance (shown as Upper Limit on Figure 4, which is based on over 10,000 measurements recorded worldwide). ODOT uses the following values for **k** and **a**, which were developed by Federal Highway Administration (FHWA):

$$k = 100$$

$$a = -1.6$$

Thus, if a structure is 530 feet away from a blast (1/10 of a mile) and the peak particle velocity at that point is limited to 0.5 inches per second, then according to the formula above, the maximum weight of explosives that can be detonated during a single delay period, and still be under the limit to avoid off-site damage, is approximately 370 pounds. If a structure is 1,320 feet away (1/4 of a mile) and the peak particle velocity at that point is limited to 0.5 inches per second, then the maximum weight of explosives that can be detonated is approximately 2,300 pounds per delay period.

To illustrate the example in reverse, consider that typical blasts at quarries use a 3½ inch diameter hole approximately 40 feet deep. The explosive most commonly used is ANFO and the top part is stemmed with sand/gravel or drilling cuttings poured on top of the ANFO to help force the blast energy into the rock. The amounts of ANFO and stemming vary depending on the location of the hole in the blast pattern, site conditions, the hardness of the rock to be blasted, and of course, on PPV limitations for surrounding structures. Generally, a minimum amount of stemming for a 3½ inch diameter, 40 foot hole would be approximately 7 feet, which would leave 33 feet of hole for ANFO. The weight of explosives in the hole would be approximately 115 pounds. If a single hole is fired per delay period, at a distance of 530 feet, the PPV should be approximately 0.2 inches per second. If three holes are fired simultaneously (within the same 15 millisecond window), then the PPV at a distance of 530 feet should

be approximately 0.47 inches per second. Note that the relationship between PPV and the weight of explosives is not linear – three times the explosives do not produce three times the PPV. The PPV calculated with this formula represents a likely maximum value (the Upper Limit line); the actual PPV would generally be less than these values and be located below the Upper Limit line.

### **Effects of Blasting on Groundwater:**

- Studies have shown that significant fracturing in the rock around a blast hole is generally limited to a distance of 20-40 blasthole diameters. Thus, for the typical 3½ inch drill hole, the zone of damage would generally be 6-12 feet.
- Studies have concluded that there are little to no significant long-term mechanical changes in an aquifer that could be attributed to blasts detonated at distances greater than 500 feet from the observation wells.
- Blast vibrations are not believed to permanently degrade groundwater quality, but can sometimes cause local and temporary turbidity that can extend for hundreds of feet beyond the blast zone. These sediments can remain in suspension for days or weeks; however, this is only temporary and aesthetic, and not suggestive of physical damage to the aquifer or well.
- In tests directly on wells, steel well casings remained intact even after 25 pound charges were detonated as close as 10 feet from the well screen (a PPV=33 inches per second derived from the equation).
- Blast vibrations have been shown in a number of cases to improve the long-term water yield in aquifers due to the “flushing out” of fine sediments from between joints, allowing more permeability and overall storage.

### **Principle factors that affect airblast levels at a given point of interest are:**

- Distance from blast to point of concern
- Orientation of the free face
- Presence or absence of temperature inversions (commonly exist in the morning and evening)
- Burden distance
- Stemming height and/or material used
- Weight of explosive detonated per delay period

All but the first two or three factors can be adjusted by a Blasting Contractor to reduce airblast.

### **Principle factors that affect the amount of flyrock landing near point of concern:**

- Distance from blast to point of concern
- Orientation of free face
- Zones of adverse geology (voids, decomposed seams, large joints)
- Weight of explosive detonated per delay period
- Burden distance

- Stemming height and/or material used
- Bench height
- Delay Configuration (when individual holes are detonated in relation to each other, which controls the direction and degree of rock displacement)

Again, all but the first two factors can be adjusted or designed for by a Blasting Contractor to reduce the amount of flyrock.

**What ODOT and the Blasting Contractor can do to keep ground vibration, airblast, and flyrock at acceptable and safe levels:**

- Require an approved Blasting Consultant to design/approve the blasting plans
- Perform pre-blast surveys. These are done either by or through the Blasting Contractor prior to the blast to document the condition of structures, foundations, windows, etc. prior to exposure to vibration from blasting.
- ODOT review the submitted blasting plan(s) prior to allowing the blast(s) to proceed
- Require ground vibration monitoring during the blasts(s)
- Require that blast mats be laid upon the blast area(s) to help contain flyrock
- Blasting contractors are licensed and bonded
- Place safeguards in the Special Provisions of the contract

Example: Contractor Responsibility and Liability: Oregon Standard Specifications for Construction

**00170.94 Use of Explosives** – The Contractor shall comply with all Laws pertaining to the use of explosives. The Contractors shall notify anyone having facilities near the Contractor’s operations of Contractor’s intended use or storage of explosives. The Contractor shall be responsible for all damage resulting from its own, its agents’ and employees’, and its Subcontractors’ use of explosives. (See 00330.41 (e) and Section 00335.)

**CONCLUSION:**

Blasting is an inherently dangerous activity which can result in serious injury, death, and/or damage if not designed and performed professionally. With the safeguards and technology employed in this industry today, many of the concerns of the past are exactly that – concerns of the *past*.

Today’s Blasting Contractors are professional. They have the knowledge and technology to make this dangerous task safe, for themselves and the surrounding property. The key to making sure blasts are carried out successfully and safely is knowing what the issues and concerns are up front. For example, a blast design cannot take into account potential impacts to wells and springs if their existence is not known.

When ODOT or a Contractor working for ODOT is preparing for the blasting phase of a project, they try to be thorough in identifying all elements of concern; but sometimes things are not obvious. This is why ODOT and the Contractor need to rely on local knowledge of the surroundings.

It is in the best interest of ODOT and the Contractor to complete this work in a timely, efficient, and safe manner. This can and will be the end result as long as all factors of concern are known and taken into account.



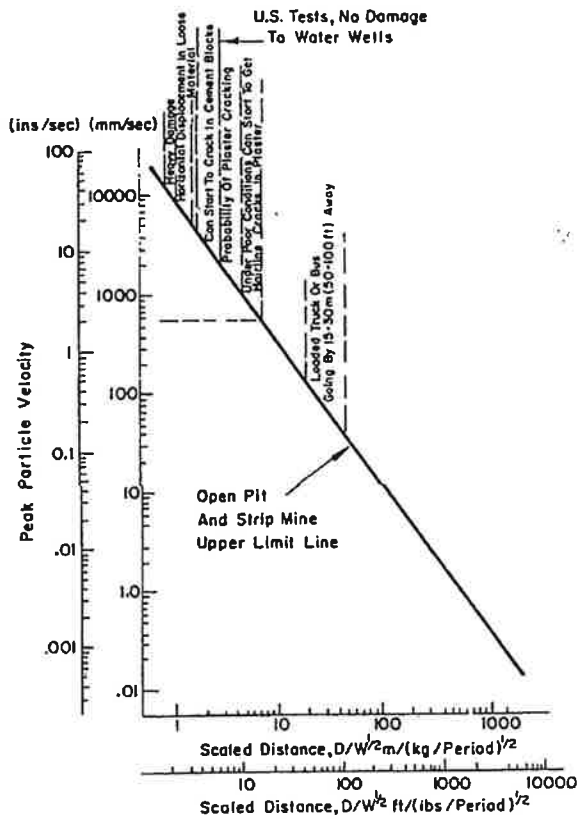


Fig. 1. Structural response at different scaled distances from pit blasts.

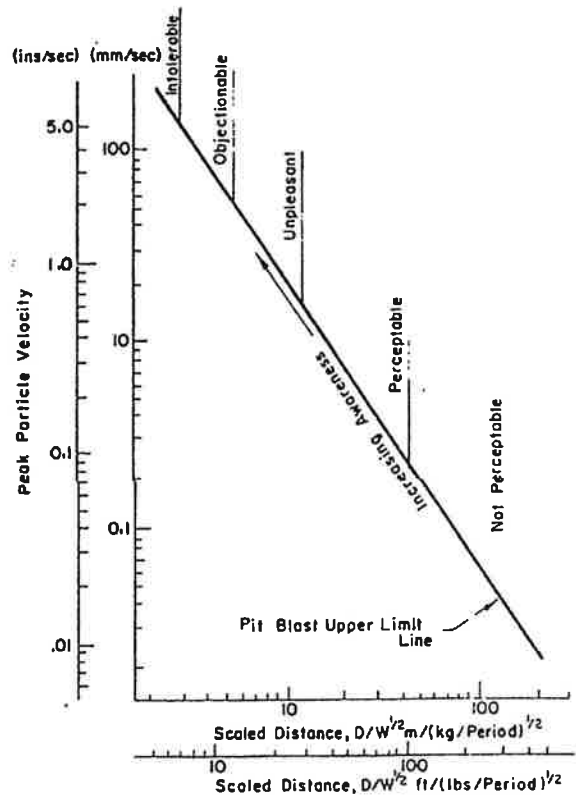


Fig. 2. Anticipated human response to blast vibrations at different scaled distances from pit blasts.

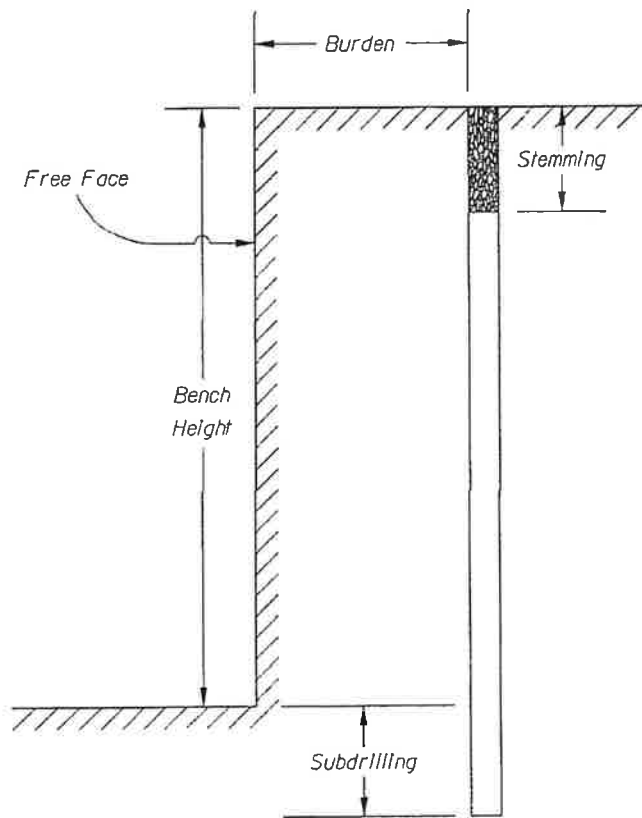


Figure 3. Profile of a Typical Quarry Blast Hole

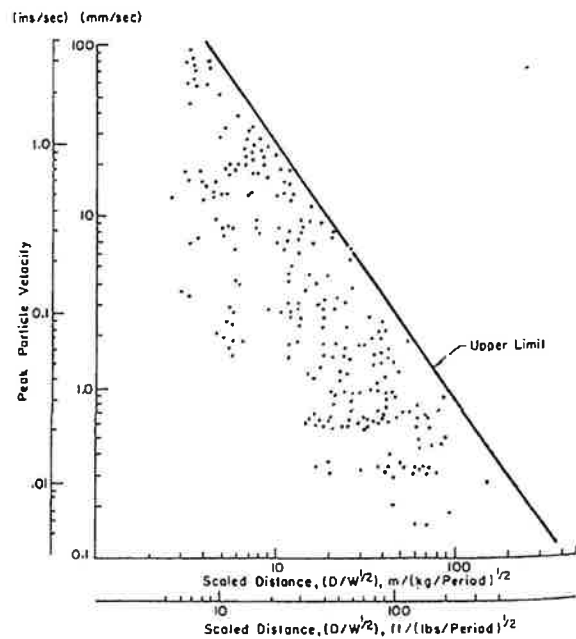


Fig. 4. Typical vibration data from multiperiod delay blasts in open pits and strip mines.

# Carlson Testing, Inc.

JAN 24 2024

UMATILLA COUNTY  
 COMMUNITY DEVELOPMENT

January 8, 2024  
 CTI #T2302808  
 Lab Log #23-0571

Fulcrum GeoResources LLC – Erick Staley  
 17600 Pacific Highway Unit 357  
 Marylhurst, OR 97036

**RE: GOAL 5 AGGREGATE QUALIFICATION TESTING  
 CRP – LAB TESTING  
 UMATILLA, OR**

As requested, Carlson Testing Inc. (CTI) has completed two (2) sets of Goal 5 Aggregate Qualification testing conducted on a sample of basalt rock and sand material. The samples were collected by your representative on November 14, 2023 from onsite test pits and outcrop and submitted to our Tigard laboratory on November 15, 2023. AASHTO T104 Soundness in Aggregates testing performed by our Salem Laboratory. ODOT Aggregate specifications were applied at the client's request. Testing was completed on December 27, 2023. Following are the results:

**UMATILLA #2:**

**LOS ANGELES ABRASION – AASHTO T96:**

Grading	Revolutions	Percent Loss to Abrasion, %	ODOT Section 02630 Specifications
B	500	12.4	35.0% Maximum

**OREGON AIR DEGRADATION - ODOT TM 208:**

Test ID	Test Results	ODOT Section 02630 Specifications
Sediment Height, inches	0.5"	3.0" Maximum
Passing the #20 sieve, %	11.7%	30.0% Maximum

**SOUNDNESS IN AGGREGATES USING SODIUM SULFATE (FINE AGGREGATE) – AASHTO T104:**

Sieve Fraction	Weight Before Test, gms	Weight After Test, gms	Weight Loss After 5 Cycles, gms	Percent Loss After 5 Cycles, %
2-1/2" to 1-1/2"	5100.8	5050.0	50.8	1.0
1-1/2" to 3/4"	1534.2	1502.2	32.0	2.1
3/4" to 3/8"	1010.0	994.8	15.2	1.5
3/8" to #4	302.2	296.9	5.3	1.8

Average Percent Loss, %: 1.6%  
 ODOT Section 00745 Specifications: 12.0% Maximum

**UMATILLA #3:**

**LOS ANGELES ABRASION – AASHTO T96:**

Grading	Revolutions	Percent Loss to Abrasion, %	ODOT Section 02630 Specifications
B	500	11.6	35.0% Maximum

**OREGON AIR DEGRADATION - ODOT TM 208:**

Test ID	Test Results	ODOT Section 02630 Specifications
Sediment Height, inches	0.3"	3.0" Maximum
Passing the #20 sieve, %	12.4%	30.0% Maximum

**SOUNDNESS IN AGGREGATES USING SODIUM SULFATE (FINE AGGREGATE) – AASHTO T104:**

Sieve Fraction	Weight Before Test, gms	Weight After Test, gms	Weight Loss After 5 Cycles, gms	Percent Loss After 5 Cycles, %
2-1/2" to 1-1/2"	4943.7	4912.4	31.3	0.6
1-1/2" to 3/4"	1502.9	1480.9	22.0	1.5
3/4" to 3/8"	1007.1	992.2	14.9	1.5
3/8" to #4	302.1	296.7	5.4	1.8

Average Percent Loss, %: 1.4%  
 ODOT Section 00745 Specifications: 12.0% Maximum

**MATERIAL FINER THAN THE #200 SIEVE BY WASHING – AASHTO T11:**

Sample Identification	Test Data
Location/Exploration/Depth	TP-1
Description/Classification	Sand
Maximum Aggregate Size	#4
Method	Procedure A - Water
Moisture Content, %	2.3
Material Finer than #200 Sieve, %	0.8

The sample submitted meets the aggregate quality requirements for ODOT Section 02630 and 00745 Aggregate Qualification.

Our reports pertain to the material tested/inspected only. Information contained herein is not to be reproduced, except in full, without prior authorization from this office. Under all circumstances, the information contained in this report is provided subject to all terms and conditions of CTI’s General Conditions in effect at the time this report is prepared. No party other than those to whom CTI has distributed this report shall be entitled to use or rely upon the information contained in this document.

Respectfully submitted,  
**CARLSON TESTING, INC.**



Jason Bryant  
 QA Manager

jsb

CC: FULCRUM GEORESOURCES LLC – ERICK STALEY

Erick@fulcrumgeo.com

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**JAN 24 2024**

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COMMUNITY DEVELOPMENT**



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*Phoenix Center Policy Paper Number 53:*

***Quarry Operations and Property Values:  
Revisiting Old and Investigating New Empirical Evidence***

George S. Ford, PhD  
R. Alan Seals, PhD

(March 2018)

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(2018).

**Phoenix Center Policy Paper No. 53**  
***Quarry Operations and Property Values:***  
***Revisiting Old and Investigating New Empirical Evidence***

**George S. Ford, PhD<sup>†</sup>**  
**R. Alan Seals, PhD<sup>\*</sup>**

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*Abstract:* A large literature exists on the impact of disamenities, such as landfills and airports, on home prices. Less frequently analyzed is the effect of rock quarries on property values, and what little evidence is available is dated and conflicting. This question of price effects is a policy relevant one, with one study in particular used frequently to support “not in my backyard” campaigns against new quarry sites. In this POLICY PAPER, we revisit the literature and conduct a new analysis of the price effects of quarries, estimating the effect of quarries on home prices with data from four locations across the United States and a wide range of econometric specifications and robustness checks along with a variety of temporal circumstances from the lead-up to quarry installation to subsequent operational periods. We find no compelling statistical evidence that either the anticipation of, or the ongoing operation of, rock quarries negatively impact home prices. Our study likewise highlights a number of shortcomings in the empirical methodologies generally used to estimate the effect of disamenities on real estate prices. First and foremost, many existing studies are naïve as to the empirical conditions necessary to identify a causal relationship and do not establish credible strategies to estimate the counter-factual outcome. Second, the inclusion of “distance to the site” regressors in hedonic models is shown to be an unreliable statistical method. Using the method of randomized inference, the null hypothesis of “no effect” of placebo quarries is rejected in as much as 93% of simulations.

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<sup>\*</sup> Adjunct Fellow, Phoenix Center for Advanced Legal & Economic Public Policy Studies; Associate Professor of Economics and Director of Graduate Studies – Auburn University.

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## I. Background

Odds are that underneath your feet is a construction material made of sand, crushed stone, and gravel. These construction materials are an essential ingredient into nearly every construction project, from residential housing, office buildings, retail outlets, entertainment structures, to the roads that connect them.<sup>1</sup> Sand, rock and gravel are literally the foundation of economic development, but their extraction process can generate dust, noise, vibration, and truck traffic. While modern technologies and methods have greatly reduced quarries' impact, the environmental and economic consequences of quarry operations receive considerable attention, often in the form of "not in my backyard" (or "NIMBY") campaigns opposing quarry expansions or new sites. Choosing a quarry site is a delicate task. While a quarry may be best located far from residential density on NIMBY concerns, it also needs to be near the final point of demand due to its high transportation cost. Quarries must balance the need to be both "near" and "far," so they are typically found on the outskirts of cities and towns.

A key NIMBY complaint in the siting and expansion of quarries is the effect of the operations on nearby home values. According to Census data, housing amounts to about 70% of the average American's net wealth, so naturally homeowners are sensitive to any adverse effect, real or imagined, on property values.<sup>2</sup> Despite NIMBY opposition, nearly all the evidence on quarry operations finds no price effect. Frequently mentioned studies include Rabianski and Carn (1987) and Dorrian and Cook (1996), both of which find no relationship between appreciation rates of property values near to and far from quarries.<sup>3</sup> An

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<sup>1</sup> 2014 *Minerals Yearbook, Construction Sand and Gravel*, U.S. Geological Survey (2014) at p. 1 (available at: [https://minerals.usgs.gov/minerals/pubs/commodity/sand\\_&\\_gravel\\_construction/myb1-2014-sandc.pdf](https://minerals.usgs.gov/minerals/pubs/commodity/sand_&_gravel_construction/myb1-2014-sandc.pdf)) ("Construction sand and gravel is a traditional basic building material and is one of the earliest materials used by humans for dwellings and later for outdoor areas such as paths, roadways, and other constructs. Despite the relatively low, but increasing, unit value of its basic products, the construction sand and gravel industry is a major contributor to and an indicator of the economic well-being of the Nation").

<sup>2</sup> *Wealth, Asset Ownership, & Debt of Households Detailed Tables: 2013*, U.S. Census Bureau (2017) (available at: <https://www.census.gov/data/tables/2013/demo/wealth/wealth-asset-ownership.html>).

<sup>3</sup> A.M. Dorrian and C.G. Cook, *Do Rock Quarry Operations Affect Appreciation Rates of Residential Real Estate*, Working Paper (1996); J. Rabianski and N. Carn, *Impact of Rock Quarry* (Footnote Continued. . .)

even earlier study conducted for the U.S. Bureau of Mines in 1981 also found no consistent relationship between quarry operations and the prices of nearby homes.<sup>4</sup> There are a number of consulting reports on the question, and none report price attenuation attributable to a quarry.<sup>5</sup>

Opposition to quarries based on home valuations relies universally on a report by Professor Patricia Hite (2006).<sup>6</sup> This brief, 250-word study (hereinafter the “*Hite Report*”) analyzes data from a few thousand homes sales (apparently in the mid-to-late 1990s) around a single quarry in Delaware, Ohio. Using an unconventional regression model and data on transactions occurring decades after the quarry opened, the *Hite Report* finds a positive relationship between home prices and distance from the quarry. Based on that evidence, the *Hite Report* concludes that quarries reduce home values. Yet, the *Hite Report*’s methods and data do not support a causal interpretation.

As economic development marches on, new quarries will be required to satisfy the demand for basic building materials. In light of the mostly dated and conflicting evidence on the effect of quarries on housing prices, this POLICY PAPER offers new evidence, and a review of old evidence, on the relationship between housing prices and rock quarries. First, given its frequent use by NIMBY opposition to quarries, we revisit the *Hite Report*, analyzing home sales data

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*Operations on Value of Nearby Housing*, Prepared for the Davidson Mineral Properties (August 25, 1987).

<sup>4</sup> M. Radnor, D. Hofler, *et al.*, *Social, Economic and Legal Consequences of Blasting in Strip Mines and Quarries*, U.S. Bureau of Mines (May 1981) (available at: <http://www.cdc.gov/niosh/nioshtic-2/10006499.html>).

<sup>5</sup> See, e.g., *Study of Impact of Proposed Quarry on The Real Estate Values of Surrounding Residential Property in Raymond, New Hampshire*, Crafts Appraisal Associates Ltd. (April, 2009) (“The evidence does however suggest that the overall marketplace does not react to an influence such as a quarry with a measurable negative reaction as it relates to sale price.”); *Martin Marietta New Design Quarry: Analysis of Effect on Real Estate Values*, Stagg Resources Consultants, Inc. (November 17, 2008); *A Property Valuation Report: Affect [sic] of Sand and Gravel Mines on Property Values*, Banks and Gesso, LLC (October 2002); *Impacts of Rock Quarries on Residential Property Values in Jefferson County, Colorado*, Banks and Gesso, LLC (May 1998); R.J. McKown, *Analysis of Proposed Sand & Gravel Quarry: Granite Falls, WA*, Schueler, McKown & Keenan, Inc. (September 25, 1995).

<sup>6</sup> D. Hite, *Summary of Analysis: Impact of an Operational Gravel Pit on House Values: Delaware County, Ohio*, Working Paper (2006). We assign the date “2006” as is conventional, but that year is merely the recording stamp date on the document when it was filed in some type of proceeding. We do not know whether a more detailed analysis was provided at some point. We have never seen such a document cited and were unable to locate it.



around the same Delaware-Ohio quarry. Despite replicating both the location and methods of the *Hite Report*, our regression analysis finds that prices *fall* – not rise – as distance from the quarry increases. This result conflicts with that appearing in the *Hite Report*, so we look for more evidence by analyzing data on homes sales near a quarry outside of Murfreesboro, Tennessee, over the same time interval. Again, we find prices *fall* as distance from the quarry increases.

We are reluctant, however, to claim this evidence implies quarries raise home prices. Rather, we conclude, based on the method of randomized inference and other tests, that the *Hite Report's* method is unreliable. Using a simulation of pseudo-treatments, we find that the null hypothesis that home prices rise or fall in distance from a *randomly selected location* is rejected in no less than 67% of cases at the 10% nominal significance level. Estimating price-distance relationships, especially without explicitly considering selection bias, is a highly-unreliable statistical procedure. The nature of real estate markets do not permit the effect of quarries to be identified with such naïve empirical tests.

Second, using data on home sales near a relatively new quarry in Gurley, Alabama, we augment the Hite-style analysis with a difference-in-differences estimator, which quantifies the price-distance relationship both before-and-after operations begin. By exploiting the timing of the quarry buildout and the location of home sales with respect to the quarry, we can credibly identify a causal relationship, at least in theory. Unlike the analysis for Delaware and Murfreesboro, home prices rises in distance from the Gurley quarry site, but do so *before* the quarry becomes operational. After operations begin in 2013, the positive effect of distance is attenuated, again suggesting a positive effect of quarries on housing values.

One critique of our Gurley analysis is that market participants shift price forecasts downward in response to the prospect of a quarry so that the deleterious effects of the quarry could be realized before the quarry opens. Quarry site approvals normally take a decade or so, providing ample time for anticipatory responses to valuation fears. To address this concern, we analyze transactions near a recently approved quarry in Madera County, California. Using a difference-in-differences estimator in conjunction with Coarsened Exact Matching, we test for the anticipatory effect of the proposed quarry on nearby housing prices located along the major roadways serving the site. We find no evidence the quarry reduced housing prices. If anything, relative home prices rose near the quarry site.

While our evidence suggests that quarries do not reduce, but may increase, home prices, our analysis suggests more than anything that the identification of

the effect of quarries on prices is a very difficult problem, facing many conceptual and practical obstacles. We do not resolve all these difficulties. That said, we can conclude the evidence strongly implies the *Hite Report* and its methods are unreliable. Further analysis is, as usual, encouraged.

This paper is outlined as follows. First, we discuss the empirical requirements of quantifying a plausibly causal relationship between property values and quarry operations. Second, we revisit the *Hite Report*, estimating the price-distance relationship for the same quarry in Delaware, Ohio, and replicating the analysis for a quarry near Murfreesboro, Tennessee. Using a simulation method, we demonstrate the futility of estimating the price effects of quarries using the method proposed in the *Hite Report*. Third, we turn to the estimation of causal effects using the difference-in-differences estimator for quarry sites in Gurley, Alabama, and Madera County, California. Across multiple methods, we find, if anything, that home prices near quarries rise, not fall. In all, however, we believe our analysis best supports the hypothesis of “no effect” of quarries, or the announcement of quarries, on home prices. Conclusions are provided in the final section.

## II. Empirical Framework

Disamenities such as landfills, airports, windfarms and prisons may plausibly reduce the prices of nearby homes. Such effects have been widely studied.<sup>7</sup> Modern empirical methods for observational data based on the Rubin Causal Model, however, suggest that much of the work may offer biased estimates of such disamenities because much it looks only at prices after the “treatment,” making it difficult to address selection bias.<sup>8</sup> To conclude that a disamenity reduces home values, the researcher’s interest must be in the *causal effect* of an amenity or disamenity on property values. Using only post-treatment prices is problematic since the locations of amenities and disamenities are not randomly selected, and

---

<sup>7</sup> Other disamenities that may affect property values, airports and waste disposal, are frequently opposed by homeowners. See, e.g., J.P. Nelson, *Airport and Property Values: A Survey of Recent Evidence*, 14 JOURNAL OF TRANSPORT ECONOMICS AND POLICY 37-52 (1980) (available at: [http://www.bath.ac.uk/e-journals/jtep/pdf/Volume\\_XIV\\_No\\_1\\_37-52.pdf](http://www.bath.ac.uk/e-journals/jtep/pdf/Volume_XIV_No_1_37-52.pdf)); J.B. Braden, X. Feng, and D. Won, *Waste Sites and Property Values: A Meta-Analysis*, 50 ENVIRONMENTAL AND RESOURCE ECONOMICS 175-201 (2011).

<sup>8</sup> Excellent resources on the modern methods of causal inference for economic analysis include G.W. Imbens and J.M. Wooldridge, *Recent Developments in the Econometrics of Program Evaluation*, 47 JOURNAL OF ECONOMIC LITERATURE 5-86 (2009); J.D. Angrist and J. Pischke, *MOSTLY HARMLESS ECONOMETRICS: AN EMPIRICIST'S COMPANION* (2008); and J.D. Angrist and J. Pischke, *MASTERING 'METRICS: THE PATH FROM CAUSE TO EFFECT* (2015).

disamenities are typically located away from residential density to minimize impact and to placate NIMBY resistance.

The non-random selection of a quarry site greatly complicates the quantification of a quarry on housing prices due to selection bias. Finding that housing prices rise at increased distance from a quarry may merely reflect the economics of site choice (i.e., real estate is cheaper per unit in less densely populated areas on the outskirts of town) rather than any causal effect on property values. Also and consequently, empirical work may be frustrated by the lack of housing density near the site, rendering small sample sizes, which may, in turn, lead to the undue influence of outliers. Many quarries, especially new ones, have almost no housing within a mile or two of the site (the typical distance within which negative effects are claimed), as shown in the maps provided in the Appendices. And, given the lengthy approval process, if a quarry does affect housing prices, then such effects may occur prior to operations by an “announcement effect.” In conducting empirical work on quarries and housing prices, the researcher must address, and deal with the theoretical and empirical consequences of, the non-random nature of site location.

#### A. *Quantifying the Effect of a Quarry on Housing Prices*

Resistance to new quarry sites (or the expansions of old ones) based on property values rests exclusively on the *Hite Report*. In that report, the effect on prices is quantified by comparing the mean, quality-adjusted transactions prices around the quarry outside of Delaware, Ohio, as the home’s distance from the quarry increases. This “experiment,” however, has little hope of accurately measuring the effect of quarries on home prices.

To better grasp the nature of the problem, let there be two types of residential locations: (1) locations proximate to and potentially affected by quarry operations (labeled  $N$ , for “near”); and (2) locations distant from and entirely unaffected by quarry operations (labeled  $F$ , for “far”). Also, let there be two periods: the period prior to ( $t = 0$ ) and after ( $t = 1$ ) the initiation of quarry operations. For now, assume the approval process is instantaneous and that the quality and type of homes in the two locations are very similar (or, that such differences can be accounted for by statistical methods).

Prior to quarry operations homes sell for the average price  $P_0^N$  if near the future location of the quarry and  $P_0^F$  otherwise. (A numerical example is provided later.) For various reasons, these prices need not be equal. After quarry operations begin, the average, quality-adjusted prices for houses are  $P_1^N$  and  $P_1^F$ . The

differences in the prices across time ( $P_1 - P_0$ ) are  $\delta^N$  and  $\delta^F$ . Other things constant, the effect of the quarry operations can be measured as,

$$\Delta = \delta^N - \delta^F = (P_1^N - P_0^N) - (P_1^F - P_0^F), \quad (1)$$

where  $\Delta$  is the difference-in-differences (“DiD”) estimator.<sup>9</sup> The DiD estimator looks for a difference in outcomes after the treatment that is difference than the differences in outcomes before the treatment (thus, explaining the term difference-in-differences). Under certain conditions, the DiD estimator plausibly measures the causal effect of the quarry.

Many studies of the effect of amenities or disamenities on housing values looks only at the difference between *near* and *far* locations in the *post-treatment* period, or the difference in  $P_1^N$  and  $P_1^F$  (or  $\delta_1$ ). This post-treatment approach is the one used in the *Hite Report*, where all the data is from sales decades after the quarry operations began. If, however, there is a difference in prices before the quarry operations begin, this post-operations difference is clearly not a measure of the effect of proximity to the quarry. A numerical example may prove helpful.

#### B. A Numerical Example

Before a quarry opens, assume the average, quality-adjusted price for a home near the quarry site is \$80,000, but the average price is \$100,000 for homes far from the future quarry site. Thus, there is a \$20,000 or 20% difference in prices prior to quarry operations, perhaps reflecting the lack of locational rents for homes far from residential density. Plainly, since quarry operations have not begun, this difference cannot be attributed to the quarry. In fact, the quarry site may have been chosen because of the lower property values or lack of residential housing in the area.

As a benchmark case, say that the quarry operations once initiated have *no effect* on property values and the sales prices of homes are unchanged after quarry operations begin (\$80,000 and \$100,000, respectively). If a researcher were to

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<sup>9</sup> See, e.g., B.D. Meyer, *Natural and Quasi-Experiments in Economics*, 13 JOURNAL OF BUSINESS & ECONOMIC STATISTICS 151-161 (1995); J.D. Angrist and A.B. Krueger, *Empirical Strategies in Labor Economics*, in HANDBOOK OF LABOR ECONOMICS Vol. 3A (eds., O. Ashenfelter and D. Card) (1999); S. Galiani, P. Gertler, and E. Scharfrodsky, *Water for Life: The Impact of the Privatization of Water Services on Child Mortality*, 113 JOURNAL OF POLITICAL ECONOMY 83-123 (2005); D. Card, *The Impact of the Mariel Boatlift on the Miami Labor Market*, 13 INDUSTRIAL AND LABOR RELATIONS REVIEW 245-257 (1990).

simply compare prices based on distance from the quarry after operations begin, then a difference of 20% would be found. Yet, that difference existed prior to the quarry's opening, and thus the quarry did not *cause* that difference, implying any causal claim made about that difference is mistaken. The truth (by assumption) is that the quarry had *no effect*. The DiD estimator ( $\Delta$ ) is, in fact, zero, correctly identifying the causal effect of the quarry [ $= (80,000 - 80,000) - (100,000 - 100,000)$ ].

Assume instead that the quarry does reduce prices for nearby homes. Let the post-quarry average prices be \$70,000 near and \$100,000 far from the quarry, other things constant.<sup>10</sup> Prices near the quarry fall by \$10,000 and those far from the quarry are unchanged. The DiD estimator accurately quantifies the effect of the quarry, which is a \$10,000 reduction in value [ $= (70,000 - 80,000) - (100,000 - 100,000)$ ]. Looking at data after the quarry operations begin, alternately, which is the *Hite Report's* approach, would find an effect size of \$30,000 [ $=70,000 - 100,000$ ], or three times the true effect. Selection bias accounts for the \$20,000 error in the estimated effect.

Ideally, then, to properly identify the causal effect of a quarry operation, the researcher must observe prices both before and after the quarry may reasonably be expected to affect housing prices (among other considerations such as the similarity in pricing trends prior to the treatment). The analysis of transactions occurring well after the quarry opens offers little hope for quantifying the effect of the quarry, absent unique circumstances. Certainly, the empirical demands are considerable, and the identification of the causal effect must be explicitly set forth and proper empirical methods applied.

### C. Key Assumptions for Estimating Causal Effects

With regard to the location of homes and quarries, we do not have the luxury of experimental data. Rather, the data is observational and the data generation process occurs over many decades. The observational nature of the data is crucial: quarry site and housing locations are non-random and not independent of economic activity near the site or each other. Thus, research on the price effects of quarry sites must pay careful attention to selection bias, which is caused by the non-random process by which sites are chosen to avoid residential density but still

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<sup>10</sup> For instance, a large condominium complex may have built near the quarry. The researcher must adjust for the difference in average prices resulting from this changing mix of household types).

(Footnote Continued. . . .)

remain close to the point of demand for aggregates (i.e., sand, stone and gravel). Thus, the “treatment” and “outcome” are related through observed and potentially unobserved factors.<sup>11</sup>

As explained by Imbens and Wooldridge (2009), when estimating the causal treatment effect in observational studies the researcher must be alert to two key concepts stemming from selection bias: (1) unconfoundedness (or the conditional independence assumption) and (2) covariate overlap (or common support).<sup>12</sup> Unconfoundedness implies that, conditional on observed covariates  $X$ , the treatment assignment probabilities are independent of potential outcomes. If we have a sufficiently rich set of observable covariates, then regression analysis including the variables  $X$  leads to valid estimates of causal effects. Since the  $X$  must be observed to be included in the regression model, this approach is often referred to as *selection on observables*. It is difficult to know and impossible to test whether the observed and included  $X$  are sufficient to guarantee unconfoundedness (so the regression error and treatment are uncorrelated), though some guidance is available through pseudo-treatment tests (as applied later).

The conditional independence assumption (or *unconfoundedness*) implies that the observed factors included in the statistical analysis fully account for all the differences in the types of homes sold both near and far from the quarry (or other site of interest).<sup>13</sup> In quantifying the effect of education on income, for instance, it is not enough to simply compare the incomes of persons with and without a college education. Work ethic, for instance, affects both the probability that a person will obtain a college degree and his or her future income. A hard-working person may earn a higher income even without a college education. If work ethic cannot be observed, then a comparison of average incomes across those with and without a college degree does not measure the true value of a degree. The difference is a positively biased estimate of the payoff of education.

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<sup>11</sup> In regression analysis, this problem appears as a correlation between the regression residual and the treatment variable.

<sup>12</sup> *Supra* n. 8.

<sup>13</sup> That is, the regression model includes all the regressors needed to make the conditional *near* and *far* prices equal prior to the treatment.

(Footnote Continued. . . .)

The second factor to consider for the measurement of the causal effect is covariate overlap, which Imbens and Wooldridge (2009) observe is, after unconfoundedness, the “main problem facing the analyst.”<sup>14</sup> This condition implies that the support of the conditional distribution of  $X$  for the control group overlaps completely with the conditional distribution of  $X$  for the treatment group. That is, the covariate distributions for the treated and untreated groups are sufficiently alike, thereby lending credibility to the extrapolations inherent to regression analysis between groups. If the characteristics of untreated observations (homes *far from* the quarry) are very different from the treated observations (homes *near to* the quarry), then the projections from the controls to the treated units will be a poor one.

Say, for instance, that a sample used to assess the effect of an experimental cancer treatment includes only persons over 65 years old in the experimental treatment group (or simply treatment group) and only persons below 45 years old in the non-treatment group (or control group). The purpose of the control group is not simply a counterweight to the treatment group. Rather, the control group measures the outcomes for the treated group if that group did not receive the treatment. To fix ideas, what we actually want to estimate is what would the treatment group have looked like had they not been treated, which is the sole purpose of a control group. It is unreasonable to expect, we believe, that the survival outcomes of 45 year-old persons provides an approximation of survival outcomes of persons 65 years and over that did not receive the experimental treatment. To extrapolate this discussion to the case of housing values, if the control group includes almost all homes in a golf course community with swimming pools and the treatment group—the properties near some disamenity—includes mostly one-bedroom condominiums, then the difference in sale prices between the two is a nearly meaningless statistic. Regression models are powerful tools, but they cannot make up for such large differences in characteristics across treatment and control groups (even if observable and included in the regression model as explanatory variables), which is important given that the control group is being “projected” onto the treatment group.

A number of statistical techniques are used to address confoundedness and covariate imbalance in observational studies. In a housing study, for instance, a researcher may choose the control group by finding a group of homes comparable to the treatment group—that is, similar square footage, amenities, lot sizes—from a population of homes unaffected by the treatment. This approach, which we

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<sup>14</sup> Imbens and Wooldridge, *supra* n. 8 at 43.

employ here, ensures that the characteristics of homes in the treatment and control groups are sufficiently similar, adding credibility to the control group as a suitable “stand in” for the treatment group if it had not received the treatment.

The *Hite Report* is silent on both of these key assumptions, and there is good reason to suspect the analysis fails on both counts. All the pricing data is for home sales occurring long after the quarry operation began and the regression model is quite basic, so the experiment is almost certainly plagued with selection bias. As for covariate overlap, from what few descriptive statistics are provided in the *Hite Report* we observe that the range of home prices within 0.5 miles of the quarry has a minimum of \$80.1 and a maximum of \$178.9 (in thousands). In contrast, the range of prices for homes further from the quarry is \$60 to \$798.6. This difference in the maximum prices is sizable, suggesting that the homes near the quarry may be very much unlike those far from the quarry, thus risking biased results of the effect of distance.

### III. Revisiting the *Hite Report*

In NIMBY campaigns challenging quarry development, the *Hite Report* is the sole empirical analysis supporting the claim that quarries reduce housing prices. Subsequent works by Erickcek (2006), the Center for Spatial Economics (2009), Smith (2014), among others, conduct no new empirical analysis, choosing instead to extrapolate the *Hite Report's* results to different locations (a questionable practice on its own).<sup>15</sup>

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<sup>15</sup> G.A. Erickcek, *An Assessment of the Economic Impact of the Proposed Stoneco Gravel Mine Operation on Richland Township*, W.E. Upjohn Institute for Employment Research (August 15, 2006) (available at: <http://www.stopthequarry.ca/documents/US%20Study%20on%20the%20impact%20of%20pits%20quarries%20on%20home%20prices.pdf>); *The Potential Financial Impacts of the Proposed Rockfort Quarry*, Center for Spatial Economics (February 26, 2009) (available at: [http://wewrpc.org/FinancialImpacts\\_RockfortQuarryCanada.pdf](http://wewrpc.org/FinancialImpacts_RockfortQuarryCanada.pdf)); G. Smith, *Economic Costs and Benefits of the Proposed Austin Quarry in Madera County*, Report (October 23, 2014) (available at: <http://www.noaustinquarry.org/wp-content/uploads/2016/08/Austin-Quarry-Economics-Report.pdf>). Other works relying on the *Hite Report* (directly or indirectly) include, e.g., M. Conklin, et al., *The Quarry Proposed by St. Marys Cement Inc. for a Location Near Carlisle, Ontario Should Not be Permitted: Proponents' Brief*, 5 STUDIES BY UNDERGRADUATE RESEARCHERS AT GUELPH (2011) (available at: <https://journal.lib.uoguelph.ca/index.php/surg/article/view/1338/2345>); *Business Survey and Economic Assessment of Locating a Quarry and Asphalt and Cement Plants within Aeortech Park*, Group ATN Consulting, Inc. (October 13, 2014) (available at: [http://stopthefallriverquarry.com/wp-content/uploads/2015/10/GATN\\_Aerotech\\_Park\\_FINAL\\_Report\\_Oct\\_13\\_2015-2.pdf](http://stopthefallriverquarry.com/wp-content/uploads/2015/10/GATN_Aerotech_Park_FINAL_Report_Oct_13_2015-2.pdf)); M.A. Sale,

(Footnote Continued. . . .)



This uniform reliance on the *Hite Report* is somewhat surprising. On the face of it, the report is a seven-page document consisting of 1.5 pages of double spaced text (about 250 words) along with a few tables and figures. It is more an “abstract” than it is a “study.” Moreover, even a brief review of the *Hite Report* points to a number of serious problems that should give any researcher pause. First, there are almost no details regarding model specification and few details on the data used. Not even descriptive statistics are provided. Second, the choice of model specification is entirely ad hoc, treating nearly identical variables (distance) differently with respect to functional form and using a non-standard and unnecessary estimation procedure. Such inconsistent, unconventional and inconvenient choices are symptomatic of ends-driven analysis. Third, no explanation is provided as to how the chosen model and analysis of transactions occurring decades after the quarry operations began might identify the effect of *that particular* quarry (or any new quarry) on housing prices. Selection bias is clearly a concern, but it is neither mentioned nor addressed. Fourth, no analysis is provided to suggest that the homes near the quarry are sufficiently similar to those distant from the quarry to provide reliable estimates of the effect of distance (i.e., covariate overlap). Comparing prices of the homes in rural areas on the outskirts of town to those near the local university risks confusing the vagaries of real estate development with the impact of the quarry.

Setting aside the question of causality for the moment, whether the relationship estimated in the *Hite Report* can be replicated is an important first step in evaluating the report’s credibility and the suitability of the methods used to answer this policy-relevant empirical question. To that end, we collect data on home sales within five-miles of the same quarry in Delaware, Ohio, evaluated in the *Hite Report*.<sup>16</sup> It appears the data from the *Hite Report* was from the 1990’s (though it is impossible to be certain given the lack of detail), so we collect data on

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*Quarry Bad for Area*, THE NEWS & ADVANCE (September 28, 2008) (available at: [http://www.newsadvance.com/opinion/editorials/letters-to-the-editor-for-sunday-september/article\\_ca388ca4-14c7-534b-9b17-1b78d1cecc40.html](http://www.newsadvance.com/opinion/editorials/letters-to-the-editor-for-sunday-september/article_ca388ca4-14c7-534b-9b17-1b78d1cecc40.html)).

<sup>16</sup> Data is obtained from [www.agentpro247.com](http://www.agentpro247.com). For all our analysis, we limit the prices to greater than \$25,000 and less than \$1,000,000, and look only at the “full” sales of single-family homes not in distress. The National Lime & Stone Quarry near Delaware, Ohio, is located near Latitude 40.281005 and Longitude -83.135828.

(Footnote Continued. . . )

sales over the ten-year period 1998 through 2007.<sup>17</sup> These data appear to immediately follow that used in the *Hite Report* but precedes the housing market crash in 2008 and the broader economic malaise that followed.<sup>18</sup> For further analysis, we also collect data on sales near a quarry outside of Murfreesboro, Tennessee, over the same ten-year period.

#### A. A Review of Empirical Methods

To reproduce the *Hite Report's* analysis, we obtain transactions prices on 2,114 single-family homes between 1998 through 2007 that are located within five miles of the National Lime & Stone Quarry near Delaware, Ohio. Using latitude and longitude coordinates, distance from each home to the center the quarry ( $D$ ) is calculated. Other explanatory variables used the *Hite Report* include, for each transaction, the sale date ( $DATE$ ), the distance to Delaware City ( $DDC$ ), the house-to-lot size ( $H2L$ ), the number of bathrooms ( $BATH$ ), and the number of total rooms ( $TOTR$ ). We measure the sale date as the year of sale; the *Hite Report* does not indicate how the sale date is measured.<sup>19</sup>

The regression model of the *Hite Report* takes the following general form,

$$p_{it} = \exp(\delta_1 \ln D_i + \beta_0 + \sum_{j=1}^k \beta_j X_{j,i}) + \varepsilon_{i,t}, \quad (2)$$

where  $p_{it}$  is the transaction price (in thousands) for home  $i$  at time  $t$ ,  $\ln D$  is the natural log of distance from the quarry (in miles), and  $X_j$  are the  $k$  regressors listed above (with coefficients  $\beta_j$  as coefficients).<sup>20</sup> For reasons unexplained in the *Hite Report*, only the distance from the quarry is transformed by the natural log

<sup>17</sup> See also D. Hite, *The Impact of the Ajax Mine on Property Values*, ARMCHAIRMAYOR.CA (March 5, 2015) (available at: <https://armchairmayor.ca/2015/03/05/letter-the-impact-of-the-ajax-mine-on-property-values>) (stating that the analysis was completed in 1996-1998).

<sup>18</sup> Our data source does not offer data in the early-to-mid 1990s, so we cannot replicate the same time period as the *Hite Report*. We are trying to obtain such data for further analysis.

<sup>19</sup> It is preferred to measure  $DATE$  as a fixed effects, as this specification requires prices to rise monotonically over time.

<sup>20</sup> The variables in the model are listed at *Hite Report*, *supra* n. 6 at p. 3. A similar specification is used in D. Hite, *A Hedonic Model of Environmental Justice*, Working Paper (February 14, 2006) (available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=884233](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=884233)).

transformation; distance from the city center (*DCC*) and the other regressors are not transformed. The specification seems purely ad hoc.

Equation (2) is non-linear in the parameters and must be estimated by Non-Linear Least Squares (“NLS”). This specification is highly irregular in econometric practice. Normally, hedonic models of housing prices are estimated by Ordinary Least Squares (“OLS”). A regression model quite similar to Equation (2) and very common in hedonic analysis is,

$$\ln p_{i,t} = \delta_1 \ln D_i + \beta_0 + \sum_{j=2}^k \beta_j X_{j,i} + v_{i,t}, \quad (3)$$

where the dependent variable is the natural log of price and where the *Xs* might be transformed to logs as well.<sup>21</sup> While Equation (3) is typical of hedonic price functions, we are unable to find the estimation of Equation (2) anywhere in the literature. In fact, we were unable to locate a single instance where even the author of the *Hite Report* estimates a hedonic price function using Equation (2), but plenty of instances where Equation (3) is used.<sup>22</sup> As detailed later, a test of functional form can inform us as to whether the natural log transformation of the dependent variable is a better approach and infinitely more common.

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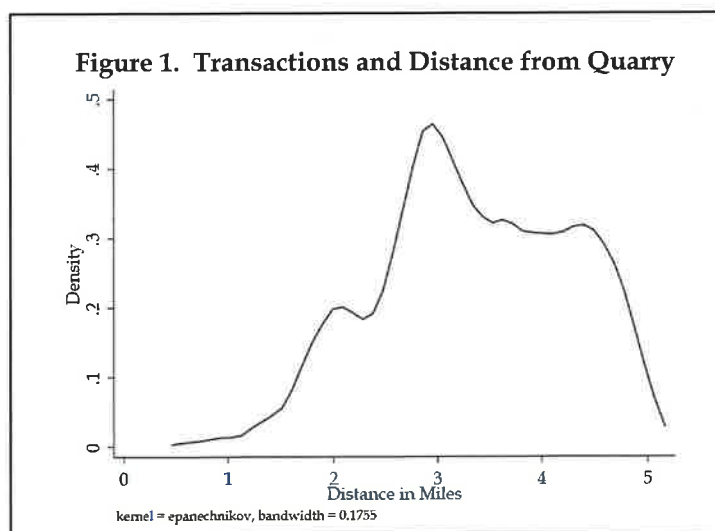
<sup>21</sup> Note that Equation (3) is not simply the log transformation of Equation (2) because of the additive error term in Equation (2).

<sup>22</sup> See, e.g., D. Hite, W.S. Chern, F. Hitzhusen and A. Randall, *Property Value Impacts of an Environmental Disamenity*, 22 JOURNAL OF REAL ESTATE FINANCE AND ECONOMICS 185-202 (2010) (draft available at: <https://ssrn.com/abstract=290292>); D. Hite, A. Jauregui, B. Sohngen, and G. Traxler, *Open Space at the Rural-Urban Fringe: A Joint Spatial Hedonic Model of Developed and Undeveloped Land Values*, Working Paper (November 1, 2006) (available at: <https://ssrn.com/abstract=916964>); D.M. Brasington and D. Hite, *A Mixed Index Approach to Identifying Hedonic Price Models*, 38 REGIONAL SCIENCE AND URBAN ECONOMICS 271-284 2008 (August 5, 2006) (available at: <https://ssrn.com/abstract=928252>); E. Affuso, C. de Parisot, C. Ho, and D. Hite, *The Impact of Hazardous Wastes on Property Values: The Effect of Lead Pollution*, 22 URBANI IZZIV 117-126 (2010) (available at: <https://ssrn.com/abstract=1427544>); D. Hite, *Factors Influencing Convergence of Survey and Market-Based Values of an Environmental Disamenity*, Mississippi State University Agricultural Economics Working Paper No. 2001-011 (November 29, 2001) (available at: <https://ssrn.com/abstract=292447>); C. Ho and D. Hite, *Economic Impact of Environmental Health Risks on House Values in Southeast Region: A County-Level Analysis*, Working Paper (2005) (available at: <https://ssrn.com/abstract=839211>); D. Hite, *A Hedonic Model of Environmental Justice*, Working Paper (February 14, 2006) (available at: <https://ssrn.com/abstract=884233>).

The coefficient of primary interest in the *Hite Report* is  $\delta_1$ , which measures the percent change in the transaction price for a percentage change in distance from the quarry ( $D$ ), but only *after* the quarry operations began (see Eq. 1). In this specification (and also for Eq. 3), this elasticity is constant across the full range of distance. With data on 2,812 sales, the *Hite Report* estimates the coefficient  $\delta_1$  to be 0.125, where the positive sign indicates the average sale price of homes is higher the further away the homes are from the quarry (statistically significant at the 1% level). The *Hite Report* concludes, as do subsequent reports that adopt the result, that this positive coefficient implies quarries reduce the price of nearby homes. As detailed above, the positive sign on the coefficient  $\delta_1$  cannot reasonably be interpreted in this manner since the data is for sales occurring long after quarry operations began, among other concerns.

#### B. National Lime & Stone Quarry in Delaware, Ohio

Replication is the essence of science. Even if the estimated price-distance relationship from Equation (2) lacks a causal interpretation, it is worth evaluating whether the *Hite Report's* findings can be confirmed. We do so by estimating Equation (2) using data on 2,114 transactions in the same area over the period 1998-2007. Figure 1 offers the kernel density of the distribution of transactions by distance from the quarry. The thinness of the market very near the quarry is plain to see, which is also apparent from a map of the area surrounding the quarry (see Appendix 1).



Regression results from Equation (2) are summarized in the first column of Table 1, along with descriptive statistics for the full sample and the sample divided

into homes closer to the quarry than two miles and those further than that distance. The model has a Pseudo-R<sup>2</sup> of 0.25, which is very close to that reported in the *Hite Report* (0.254).<sup>23</sup> Five of the seven estimated coefficients (including the constant term) are statistically different from zero at the 1% level or better.

**Table 1. Regression Results and Descriptive Statistics**  
*National Quarry near Delaware, Ohio*

	Coef (t-stat)	Mean (St. Dev)	N = 0 Mean (St. Dev)	N = 1 Mean (St. Dev)
lnD ( $\delta_1$ )	-0.1413*** (-4.00)	1.166 (0.304)	1.227 (0.230)	0.518 (0.224)
DATE	0.0450*** (11.13)	2002.7 (2.952)	2002.5 (2.969)	2004.4 (2.125)
DDC	0.0409*** (5.92)	2.876 (2.139)	2.859 (2.207)	3.050 (1.207)
H2L	-0.102 (-0.81)	0.1498 (0.1110)	0.148 (0.111)	0.1668 (0.102)
BATH	0.0419 (1.09)	1.806 (0.584)	1.788 (0.597)	1.995 (0.384)
TOTR	0.1398*** (7.59)	5.099 (1.016)	5.065 (1.031)	5.099 (1.016)
Constant	-85.71*** (-10.57)	...	...	...
Pseudo-R <sup>2</sup>	0.250			
Obs.	2,114	2,114	1,930	184

Statistical Significance: \*\*\* 1%, \*\* 5%, \* 10%

Despite using exactly the same regression model and data on sales around the same quarry, we find that the transaction prices of homes *decrease* (not increase) as the distance from the quarry increases. The negative coefficient (-0.141) is similar in size *but different in sign* from that found in the *Hite Report* (0.125) and is statistically significant at the 1% level. The estimated coefficient implies a 1% increase in distance reduces home average, quality-adjusted home prices by about 0.14%. Since the coefficient is less than unity, the price-distance relationship is subject to diminishing marginal returns.<sup>24</sup> Figure 2 illustrates the relationship

<sup>23</sup> The Pseudo-R<sup>2</sup> is the squared correlation coefficient between the predicted value of the regression and the dependent variable.

<sup>24</sup> For any fixed change in mileage, the percentage change falls as distance increases.

between sale prices and distance from the quarry, revealing sizable reductions in average prices as distance from the quarry increases.

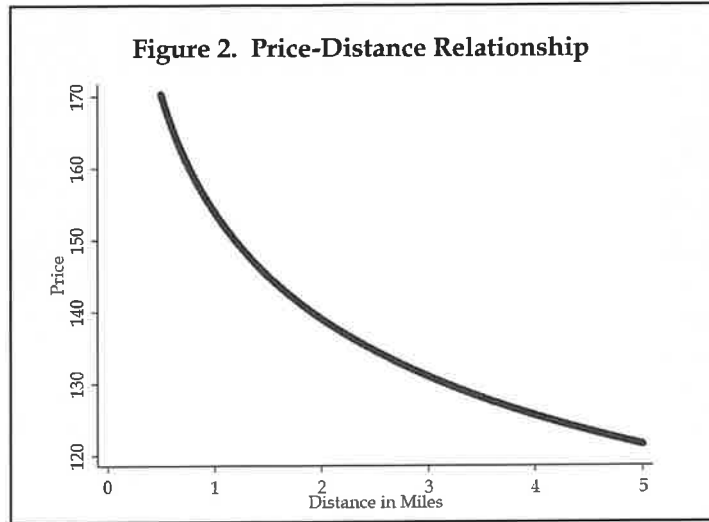


Table 2 summarizes the average predicted prices and price effects at varying distances from the quarry. Interpretation of the table is straightforward. A home sold 3 miles from the quarry will have a price 22% lower than that of a home sold within 0.5 miles of the quarry, or 16% lower than the average home sold within 1.5 miles of the quarry. At two miles, the differences are 18% and 11%; at five miles, the differences are 28% and 22%. These are sizable effects.

**Table 2. Home Values by Distance from Quarry**

	Distance in Miles from Quarry							
	0.5	1.0	1.5	2.0	2.5	3	4.0	5.0
Avg. Price ('000)	169.8	153.9	145.4	139.6	135.2	131.8	126.5	122.6
Reduced Value (from 0.5 miles)	...	-9%	-14%	-18%	-20%	-22%	-25%	-28%
Reduced Value (from 1.5 miles)	...	...	...	-11%	-14%	-16%	-19%	-22%

These estimates and their predicted effect on prices are based on the estimation method (Eq. 2) used in the *Hite Report*. There are other equation specifications and estimation methods that are more consistent with standard practice in the analysis of housing prices (hedonics). In order to assess the robustness of the result, we offer alternative analyses below.

### 1. *Alternative Estimation Approaches*

As discussed above, Equation (2) is a non-standard method to estimate the relationship of interest. Normally, a researcher would avoid the non-linear Equation (2) and use the natural log of price to estimate Equation (3) by OLS. Statistical testing (such as the Box-Cox test of functional form) may be used to evaluate whether the linear or log-form of the dependent variable is preferred.<sup>25</sup> Other advantages of Equation (3) over Equation (2) is that the linear equation is amenable to estimation by Median Regression (“MReg”) and Robust Regression (“RReg”), both of which are less sensitive to outliers in the data than is NLS or OLS.<sup>26</sup> Outliers are common in home sales data, so it is sensible to evaluate the effect on the estimates by these alternative estimation procedures, especially when the results are used in a policy relevant setting that may have significant financial implications.<sup>27</sup> We summarize the results from both methods.

Modern research on housing prices increasingly accounts for the spatial nature of real estate markets using new spatial methods.<sup>28</sup> We estimate the price-distance

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<sup>25</sup> W.E. Griffiths, R.C. Hill and G.G. Judge, *LEARNING AND PRACTICING ECONOMETRICS* (1993) at pp. 345-7.

<sup>26</sup> See, e.g., R. Koenker, *QUANTILE REGRESSION* (2005); B.S. Cade and B.R. Noon, *A Gentle Introduction to Quantile Regression*, 1 *FRONTIERS IN ECOLOGY AND THE ENVIRONMENT* 412-420 (2004) (available at: <http://www.econ.uiuc.edu/~roger/research/rq/QReco.pdf>); O.O. John, *Robustness of Quantile Regression to Outliers*, 3 *AMERICAN JOURNAL OF APPLIED MATHEMATICS AND STATISTICS* 86-88 (2015); P.J. Rousseeux and A.M. Leroy, *ROBUST REGRESSION AND OUTLIER DETECTION* (2005); R. Andersen, *MODERN METHODS FOR ROBUST REGRESSION* (2008); T.P. Ryan, *MODERN REGRESSION METHODS* (2008).

<sup>27</sup> C. Janssen, B. Söderberg and J. Zhou, *Robust Estimation of Hedonic Models of Price and Income for Investment Property*, 19 *JOURNAL OF PROPERTY INVESTMENT & FINANCE* 342-360 (2001); S.C. Bourassa, E. Cantoni and M. Hoesli, *Robust Hedonic Price Indexes*, 9 *INTERNATIONAL JOURNAL OF HOUSING MARKETS AND ANALYSIS* 47-65 (2016).

<sup>28</sup> Including papers by the *Hite Report's* author. See, e.g., D.M. Brasington and D. Hite, *Demand for Environmental Quality: A Spatial Hedonic Analysis*, 35 *REGIONAL SCIENCE AND URBAN ECONOMICS* 57-82 (2005) (draft available at: <https://ssrn.com/abstract=491244>); see also J.M. Mueller and J.B. Loomis, *Spatial Dependence in Hedonic Property Models: Do Different Corrections for Spatial Dependence Result in Economically Significant Differences in Estimated Prices?*, 33 *JOURNAL OF AGRICULTURAL AND RESOURCE ECONOMICS* 212-231 (2008) (available at: <http://ageconsearch.umn.edu/bitstream/42459/2/MuellerLoomis.pdf>); L. Osland, *An Application of Spatial Econometrics in Relation to Hedonic House Price Modeling*, 32 *JOURNAL OF REAL ESTATE*

(Footnote Continued. . .)

relationship using a Spatial Regression Model (“SReg”). To do so, a spatial weighting matrix ( $W$ ) is computed and spatially-weighted lags of the dependent and independent variables are included in the regression as well as an adjustment for autocorrelated errors.<sup>29</sup>

**Table 3. Alternative Estimation Methods**  
*National Quarry near Delaware, Ohio*

	OLS Coef (t-stat)	MReg Coef (t-stat)	RReg Coef (t-stat)	SReg Coef (t-stat)	OLS-CEM Coef (t-stat)
InD	-0.2726*** (-7.31)	-0.2021*** (-14.21)	-0.1220*** (-5.59)	-0.1558 *** (-2.65)	-0.147*** (-3.00)
DATE	0.0433*** (12.45)	0.0342*** (15.76)	0.0367*** (16.58)	0.0440*** (12.86)	0.0453*** (6.30)
DDC	0.0273*** (3.90)	0.0460*** (8.64)	0.0551*** (15.00)	0.0679*** (5.09)	0.0483*** (3.31)
H2L	0.0794 (0.68)	-0.1131 (-1.47)	-0.2591*** (-3.74)	-0.1779 (-1.48)	0.1812 (0.94)
BATH	0.0485 (1.46)	0.0997*** (5.41)	0.1499*** (7.94)	0.0166 (0.56)	-0.0092 (-0.10)
TOTR	0.1540*** (8.97)	0.1523*** (14.00)	0.1508*** (14.12)	0.1497*** (9.11)	0.2047*** (6.44)
Constant	-82.47*** (-11.82)	-64.31*** (-14.80)	-69.52*** (-15.67)	-77.07*** (-11.25)	-86.77*** (-6.02)
Spatial Terms ( $\chi^2$ )				242.3***	
Pseudo-R <sup>2</sup>	0.246	0.216	0.243	0.265	0.214
Obs.	2,114	2,114	2,114	2,114	1,461
Statistical Significance: *** 1%, ** 5%, * 10%					

RESEARCH 289-320 (2010) (available at:  
[http://pages.jh.edu/jrer/papers/pdf/past/vol32n03/03.289\\_320.pdf](http://pages.jh.edu/jrer/papers/pdf/past/vol32n03/03.289_320.pdf)).

<sup>29</sup> D.M. Drukker, H. Peng, I.R. Prucha, and R. Raciborski, *Creating and Managing Spatial-Weighting matrices with the spmat Command*, 13 STATA JOURNAL 242-286 (2013); D.M. Brasington and D. Hite, *Demand for Environmental Quality: A Spatial Hedonic Analysis*, 35 REGIONAL SCIENCE AND URBAN ECONOMICS 57-82 (2005) (draft available at: <https://ssrn.com/abstract=491244>). We truncate the distance at 0.5 miles.

(Footnote Continued. . . .)



Results for the alternative estimation methods are summarized in Table 3.<sup>30</sup> Across all four alternatives, the price-distance relationship is negative and statistically different from zero at the 1% level or better. Plainly, the negative price-distance relationship is robust to estimation method. The price-distance elasticity is a good bit larger for OLS and MReg, but similar to that estimated by Equation (2) for both the RReg and SReg methods (in the full sample). Note that more of the regressors are statistically significance in MReg and RReg, suggesting these estimation alternatives are worth consideration.

## 2. Coarsened Exact Matching

Thus far, we have paid no attention to whether homes near the quarry are like those far from the quarry (i.e., covariate overlap). What evidence is available in the *Hite Report* suggests that in her sample the types of homes sold near the quarry may have been be very different than those sold at a distance from it. While distance from the quarry is a continuous variable, we can consider covariate overlap by comparing the characteristics of homes near to and those far from the quarry, using a two-mile cutoff. In Table 1, we do observe some meaningful differences between homes within two miles of the quarry and those further away especially in the year sold and the number of bathrooms and total rooms.<sup>31</sup> To ensure we are comparing like homes, we apply Coarsened Exact Matching (“CEM”) to the data and match on these three variables.<sup>32</sup> All 184 transactions within two miles of the quarry are matched to 1,277 (of 1,930) homes further than

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<sup>30</sup> The Box-Cox test statistic for the Delaware County data is 64.1, which is statistically significant at better than the 1% level. The test statistic is distributed  $\chi^2(1)$  with a critical value of 2.71 at the 10% level. The natural log transformation, consistent with Equation (3), is preferred to the specification estimated in the *Hite Report*. Or, we might say the problem is not so much in the estimation by NLS rather than OLS but that the natural log transformation of the dependent variable is the better specification.

<sup>31</sup> Standardized differences (the absolute value of the means difference divided by the square root of the summed variances) are used. See Imbens and Wooldridge, *supra* n. 8 at p. 24. The rule of thumb for a large difference is a standardized difference exceeding 0.25. For the DATE variable, the standardized difference is 0.51, and about 0.30 for bathrooms and total rooms.

<sup>32</sup> S.M. Iacus, G. King, G. Porro, *Causal Inference without Balance Checking: Coarsened Exact Matching*, Working Paper (June 26, 2008) (available at: <https://ssrn.com/abstract=1152391>), later published *Causal Inference without Balance Checking: Coarsened Exact Matching*, 20 POLITICAL ANALYSIS 1-24 (2012) (available at: [https://gking.harvard.edu/files/political\\_analysis-2011-iacus-pan\\_mpr013.pdf](https://gking.harvard.edu/files/political_analysis-2011-iacus-pan_mpr013.pdf)).

(Footnote Continued. . . )

two miles from the quarry. The weights created by the CEM procedure are then used to estimate Equation (3) by weighted OLS.

Results for the CEM-weighted regression are reported in the final column of Table 3. The estimated coefficients are comparable in most respects to the other models.<sup>33</sup> Most significantly, the price-distance relationship remains negative (-0.147) and statistically different from zero. While we do not present the results in the table, we note that when estimated using the non-linear Equation (2) with CEM-weighted data the price-distance relationship is negative (-0.053) but not statistically significant, a difference we will return to later.

### C. *Rogers Group Quarry near Murfreesboro, Tennessee*

It is reasonable to expect that the relationship of home prices to distance from a quarry might vary by location. Earlier research suggests this is so in other contexts.<sup>34</sup> To further evaluate the results reported in the *Hite Report*, we collect data on home sales around the Rogers Group Quarry near Murfreesboro, Tennessee.<sup>35</sup> Transaction data is again collected for years 1998 through 2007 and the sample includes 2,311 transactions. Given differences in data availability, we replace the total number of rooms with square footage (*SQFT*). Distance from the city center (*DCC*) is measured from Murfreesboro. We apply the same methods as before, estimating Equation (2) by NLS and then Equation (3) by OLS, MReg, RReg, and SReg. Results are summarized in Table 4. We do not observe large differences between the characteristics of home sold near to and far from the quarry, so we do not apply CEM for this quarry.

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<sup>33</sup> CEM-weighting often alters the coefficients and their significant levels since the data is better matched.

<sup>34</sup> See *supra* n. 7 and citations therein.

<sup>35</sup> The quarry is located at coordinates: 35.884699, -86.530625.

**Table 4. Regression Results and Descriptive Statistics**  
*Rogers Quarry near Murfreesboro, Tennessee*

	NLS Coef (t-stat)	OLS Coef (t-stat)	MReg Coef (t-stat)	RReg Coef (t-stat)	SReg Coef (t-stat)
lnD	-0.0655*** (-4.99)	-0.0383*** (-2.63)	-0.0320*** (-3.01)	-0.0327*** (-3.78)	-0.0222 (-0.72)
DATE	0.0522*** (27.09)	0.0443*** (20.36)	0.0407*** (31.73)	0.0404*** (35.55)	0.0444 (23.05)
DDC	-0.0035* (1.85)	-0.0006 (-0.26)	-0.0007 (-0.44)	-0.0011 (-0.84)	-0.0012 (-0.15)
H2L	-0.6590 (-1.11)	0.6404 (0.42)	-2.170*** (-4.47)	-2.676*** (-5.84)	0.3311 (0.42)
BATH	0.1395*** (17.65)	0.1666*** (13.44)	0.1811*** (24.06)	0.1759*** (28.87)	0.1344*** (12.17)
SQFT	0.00026*** (17.40)	0.00021*** (5.82)	0.00032*** (25.01)	0.00033*** (29.27)	0.00018*** (9.10)
Constant	-100.3*** (-17.40)	-84.59*** (-19.52)	-77.57*** (-30.57)	-76.87*** (-33.79)	-77.84*** (-20.17)
Spatial Terms ( $\chi^2$ )					385.2***
Pseudo-R <sup>2</sup>	0.692	0.590	0.529	0.678	0.605
Obs.	2,311	2,311	2,311	2,311	2,311
Statistical Significance: *** 1%, ** 5%, * 10%					

The fit the regressions ( $R^2$  is around 0.60) is much higher than for the Delaware data, but the negative coefficients on distance are seen again. For the NLS model, the price-distance relationship is -0.0655 and the coefficient is statistically different from zero at better than the 1% level. Across the alternative specifications and estimation methods, the price-distance relationship is consistently negative and statistically different from zero, save one exception. Only in spatial regression is the price-distance relationship not statistically significant, though the coefficient is negative and similarly sized to the other models.

Additional evidence also leads to questions about the negative views of quarries. If quarries were a disamenity, then we might expect people to avoid living around them. Figures 3A-3C in Appendix 3 demonstrate population movements for Rutherford County, Tennessee, with emphasis on the Rogers Group quarry. Population is measured using U.S. Census Bureau population data for years 1990, 2000, and 2010. These figures show population density increasing

dramatically over this time period in the same census block as the Rogers Group quarry. These population movements toward the quarry in conjunction with the econometric results further indicate the Murfreesboro quarry is not a great disamenity, if a disamenity at all.

D. *Randomized Inference and the Implausibility of the Model*

Our analyses of home prices near the quarries in Delaware, Ohio, and Murfreesboro, Tennessee, find a negative and statistically significant relationship between home prices and distance from a rock quarry in most specifications and estimation methods. Consequently, we find no evidence that supports the findings of the *Hite Report*, despite using the same model and, in one instance, the same quarry from that earlier study. We fear, however, that these estimated relationships are mainly the consequence of the *Hite Report's* poor experimental design than they are a measure of any real effect of the quarry. Indeed, we question whether the quantification of the effect of a disamenity or amenity can be plausibly estimated by a price-distance relationship. In Delaware County, for instance, it is not hard to find a statistically-significant price-distance relationship (using Eq. 2) from just about anywhere: the Church of the Nazarene off Highway 101 ( $\delta_1 = -0.058$ ,  $t = -2.79$ ); The Greater Gouda gourmet grocery on North Sandusky Road ( $\delta_1 = 0.268$ ,  $t = 6.92$ ); and the Foot & Ankle Wellness Center off South Hook Road ( $\delta_1 = -0.043$ ,  $t = -2.99$ ).

Given patterns in real estate development, it seems plausible that a positive or negative price-distance relationship would be observed from almost any location. A sensible way to evaluate the reliability of the distance-based hedonic regressions is to apply the method of randomized inference (a type of pseudo-treatment).<sup>36</sup> In this procedure, the location of a “disamenity” or “amenity” is randomly chosen in the geographic area under study. Given the random assignment of location, we might expect the price-distance relationship to be statistically significant in proportion to the alpha-level of the statistical test (say, a 10% significance level) due to random variation. That is, a valid statistical test conducted at the 10% level

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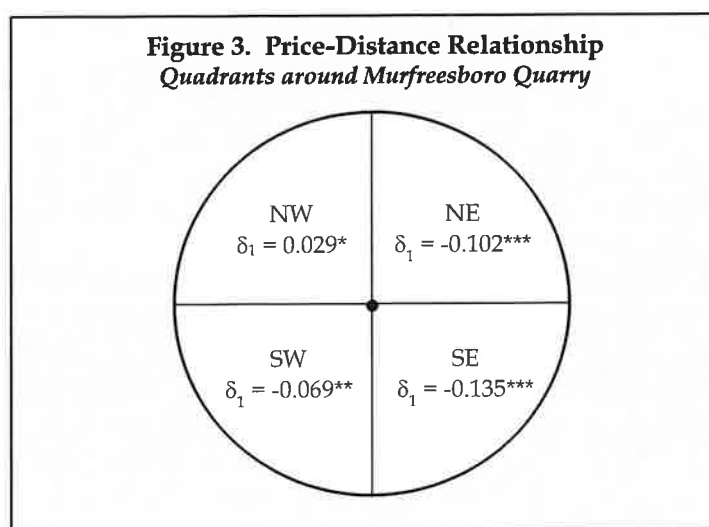
<sup>36</sup> R.A. Fisher, *THE DESIGN OF EXPERIMENTS* (1935); P.R. Rosenbaum, *OBSERVATIONAL STUDIES* (2002); M.D. Cattaneo, B.R. Frandsen, and R. Titiunik, *Randomization Inference in the Regression Discontinuity Design: An Application to Party Advantages in the U.S. Senate*, 3 *JOURNAL OF CAUSAL INFERENCE* 1-24 (2015); T. Fujiwara and L. Wantchekon, *Can Informed Public Deliberation Overcome Clientelism? Experimental Evidence from Benin*, 5 *AMERICAN ECONOMIC JOURNAL: APPLIED ECONOMICS* 241-255 (2013).

will reject the null hypothesis 10% of the time even if the null is true (e.g., Type I error).

We conduct such tests using the following simulation. First, a random location (latitude, longitude) within the Delaware area is chosen (see Appendix 4 for an illustration of the process). Second, the distances from this location to all home sales is computed. Third, we replace in the regression model the variable measuring distance from the quarry ( $D$ ) with this alternate distance measure ( $D'$ ). Fourth, we estimate a regression of price on the same variables as above, obtaining the coefficient, t-statistic and its probability on  $\delta_1$ . Fifth, this process is repeated 1,000 times. Finally, from these 1,000 simulations, we can compute how often the null hypothesis of “no effect” is rejected.

At the threshold significance level of 10%, the null hypothesis is rejected in a whopping 67% of the simulations for the data from Delaware County, sometimes with positive and sometimes negative coefficients. Conducting the same simulation for Murfreesboro, the rejection rate is an even larger 93%. Given the random selection of locations in the simulation, this result is a powerful indictment against the sort of model employed in the *Hite Report*. A researcher may pick just about any location and find a statistically-significant price-distance relationship. We conclude based on this analysis that the addition of a distance variable to a hedonic model in an effort to identify the effect of a quarry on home prices is a poor experimental design with grossly inaccurate inference tests, especially when using asymptotic critical values for hypothesis testing and only data on post-operation transactions. In fact, we suspect many of the hedonic studies using distance from disamenities may be similarly unable to identify an effect of interest, but leave that question to future research.

Another problem with estimating the price-distance relationship is that unlike square footage, distance from a quarry is not unidimensional but occurs on a coordinate plane. A house may be located to the east or to the west, to the north or to the south, of a quarry, and moving closer to or away from the town center, a university, a landfill, or any other site that may influence prices. To see this, we divide the transaction data near Murfreesboro into four quadrants around the quarry (northeast, northwest, southeast, and southwest) and estimate a price-distance relationship unique to each quadrant (using Eq. 2). Results are summarized in Figure 3.



From Figure 3, we see that the price-distance relationships are not equal across quadrants but rather differ substantially by the direction of the movement away from the quarry. From Table 4, we know that the average price-distance relationship from this quarry is negative (and statistically significant). Yet, from Figure 3, we see that the price-distance relationship is positive in the Northwest quadrant, but negative in all other quadrants. All the estimated price-distance relationships are statistically different from zero at the 10% level or better. It appears, therefore, that there is no “price-distance relationship” but many “price-distance relationships” from any given site. We believe these results are more evidence of the spurious nature of the price-distance relationship estimated using hedonic models of housing prices.

In light of our randomized inference procedure and additional evidence, we conclude, for now, that the type of model and experimental design used in the *Hite Report* is entirely unsuited to the task of identifying the price impact of quarries. Our results from replication efforts, which consistently find a negative price-distance relationship, are no less implicated by the defect than those of the *Hite Report*. Identifying the effects of quarries on housing prices requires a different experimental design, and careful attention to selection bias, covariate overlap, and the numerous ramifications of thin markets around the site. We attempt to offer some better evidence below.

#### E. *Spurious Regression and the Search for Results*

In light of the evidence that a statistically significant price-distance relationship is found for no less than seven-out-of-ten randomly chosen locations,

we conclude the *Hite Report's* experimental design is incapable of quantifying the effect of quarries on house prices. The results from such models are spurious. Consequently, we expect that the price-distance relationship will be sometimes positive, sometimes negative, sometimes statistically significant and sometimes not for any given quarry. Statistical significance is the flip of a coin heavily weighted toward the rejection of the null hypothesis. Our analysis also shows that the choice of estimation method may alter the estimated coefficient and its significance, a common trait of spurious regression.

The fact different quarries and different estimation methods produce different results advises caution in conducting and assessing such studies, especially in a policy-relevant context when economic development is at stake. Inference errors may be inadvertent, or an advocate may exploit the spurious nature of the relationship by searching for a location, model specification, and time period to produce an outcome supporting a favored policy position. We can demonstrate the risks of such an ends-driven search by looking at more recent data for Delaware, Ohio, using data on prices for the five-year period 2012 through 2016 (1,429 transactions). The models and variables are measured in the same way as above.

Table 5 summarizes the results from a few estimation methods. For expositional purposes, we present only on the price-distance relationship. Using the unconventional Equation (2) from the *Hite Report*, we find that the price-distance relationship for this period is positive – a statistically significant result (by asymptotic convention). The result is opposite of that estimated for the data from the 1998-2007 period, even though the location is the same. Without any constraint on the choice of time period to analyze, an unscrupulous advocate is free to choose data from different periods in search of results to support his or her position.

**Table 5. Results Delaware Quarry, Years '12-16**

	NLS Coef (t-stat)	OLS Coef (t-stat)	MReg Coef (t-stat)	RReg Coef (t-stat)	SReg Coef (t-stat)
lnD	0.1285*** (3.45)	0.0192 (0.52)	-0.0065 (-0.32)	0.0412 (1.63)	0.0780 (1.10)
Spatial Terms ( $\chi^2$ )					41.28***
Pseudo-R <sup>2</sup>	0.392	0.332	0.263	0.377	0.347
Obs.	1,429	1,429	1,429	1,429	1,429
Statistical Significance: *** 1%, ** 5%, * 10%					

Model selection and variable choice may also be used in an ends-drive search for results. As shown in Table 5, estimating Equation (3), a standard functional form for hedonic regressions, the positive coefficient is now a sixth the size of that estimated by Equation (2) and is no longer statistically different from zero at standard levels.<sup>37</sup> Also, Median, Robust and Spatial Regression do not find statistically significant price-distance relationships. In fact, the only model that produces a statistically-significant positive effect is the non-standard regression equation used in the *Hite Report*. Moreover, if we replace the *TOTR* variable with the *SQFT* variable in the NLS model, the price-distance relationship shrinks to 0.02 (one-sixth the size) and the coefficient is no longer statistically significant. Again, a researcher may pick-and-choose model specification, along with time period analyzed and regressors, to obtain a desired result. Skepticism is warranted for any analysis of the price effects of quarries (and amenities or disamenities generally) absent robustness analysis across time and model specifications.

**Table 6. Results Delaware Quarry, Years '98-07 & '12-16**

	NLS	OLS	MReg	RReg	SReg
	Coef	Coef	Coef	Coef	Coef
	(t-stat)	(t-stat)	(t-stat)	(t-stat)	(t-stat)
lnD	0.10028 (0.11)	-0.1361*** (-5.04)	-0.0963*** (-6.33)	-0.0501*** (-2.89)	-0.1059** (-2.10)
Spatial Terms ( $\chi^2$ )					41.28***
Pseudo-R <sup>2</sup>	0.302	0.262	0.219	0.288	0.151
Obs.	3,543	3,543	3,543	3,543	3,543
Statistical Significance: *** 1%, ** 5%, * 10%					

As another check on robustness (or a lack thereof), we combine the data from 1998-2007 and 2012-2016, excluding those years when the housing market and economy generally were in turmoil (2008-2011). Results on the price-distance relationship are summarized in Table 6. Now, Equation (2) estimated by NLS reports a statistically insignificant (but positive) coefficient for the price-distance relationship. The other estimation methods, however, all confirm the negative and statistically significant relationship consistent with the results in Tables 1 and 3. It appears, therefore, whether or not quarries affect prices hinges on model selection and dates selected, which simply demonstrates the spurious nature of these sorts of experiments. Plainly, care must be given to model selection, and robustness analysis should be thorough and explicit. And, in light of the randomized

<sup>37</sup> The Box-Cox test indicates a preference for the transformation ( $\chi^2 = 40.7$ ).



inference and quadrant analysis above, the utility of the price-distance relationship for quantifying the effects of quarries and disamenities should be regarded as defective, at least until further research demonstrates otherwise.

The analyses presented here, we believe, offers compelling evidence that the *Hite Report's* experimental design is a flimsy method, easily manipulated to produce nearly any desired result through the selection of location, model specification, estimation technique, and the time period analyzed. The *Hite Report's* findings cannot be reliably replicated and conflicting results are readily obtained. The spurious nature of the price-distance relationship from such experiments is clearly demonstrated, and the defective approach allows for nearly any result imaginable. Using data long after a quarry opens poses no limits on the selection of time period, enhancing the risk of the exploitation of spurious regression for economic and political advantage.

#### IV. A Difference-in-Difference Approach

As detailed above, to quantify the effect of a quarry on home prices the researcher ideally needs pricing data both before and after quarry operations begin.<sup>38</sup> With this data, statistical analysis can determine how the relationship between price and distance from the quarry *changes* after the quarry opens, thus quantifying, under some well-known assumptions, a plausible causal effect.

There are some potential shortcomings with a simple before-and-after analysis, however. New quarries take years to get approval and normally we expect equity prices to reflect new information quickly, so price effects may precede that event. In this section, we offer two before-and-after analyses of the effect of a quarry on home prices. First, we evaluate pricing activity around the Vulcan quarry in Gurley, Alabama, which began operations in 2013. Gurley is a rural area not far from the city of Huntsville, Alabama. Consistent with the analysis above, we use the general format of the *Hite Report* (and several

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<sup>38</sup> Another possible identification strategy involves exploiting policy experiments with respect to residential distance from a quarry. For example, if some states required houses to be a certain distance away from a quarry while other states did not, then a credible counter-factual could be constructed allowing the researcher to estimate the effect of quarry distance on home prices. A regression discontinuity design could be used to identify the price-distance relationship if regulations required potential home buyers to be informed of the quarry for homes within a certain distance. Homes just inside and just outside this cut-point would be used as treatment and control units to identify the causal price-distance relationship.

(Footnote Continued. . . .)

alternatives) to test for a *change* in the price-distance relationship after the quarry opens.

Second, we evaluate the price effects of the contested Austin Quarry in Madera, California, which was approved in 2016.<sup>39</sup> Located in the southwest corner of the intersection of Highway 41 and Highway 145, the site is proximate to two subdivisions, one located on Highway 145 and the other on Highway 41. Thus, not only are the subdivisions proximate to the quarry, but both are expected to deal regularly with the quarry's traffic flow. Though first proposed in 2010, media coverage and public protest did not begin until 2013, at which time the new quarry might be expected to affect home prices through an announcement effect.<sup>40</sup> A control group is chosen using CEM from homes sales in subdivisions not too far from the quarry site but beyond the range of influence. We find no statistically significant effect of the quarry in either model, though in both cases the estimated coefficients indicate, if anything, the quarry raises property values.

#### A. *The Empirical Model*

For these analyses, we employ the standard regression model for the DiD estimator. Using a log-linear form common to hedonic regressions, the regression equation is,

$$\ln p_{it} = \Delta T \cdot N_i + \delta_0 N_i + \beta_0 + \sum_{j=2}^k \beta_j X_{j,i} + u_{it} , \quad (4)$$

where  $T$  is dummy variable equal to 1.0 after the treatment and  $N_i$  is a dummy variable for homes near the quarry site (or a continuous measure of distance from the quarry). The estimated coefficient  $\delta_0$  measures the difference in average sale prices for homes near the quarry (or the effect of distance from it) *prior to the treatment*. After the treatment, the difference in price between homes near and far from the quarry is  $\Delta + \delta_0$ . The difference between the two effects is  $\Delta$ , which is the DiD estimator, as defined in Equation (1), or  $\Delta = \delta_1 - \delta_0$ . The t-test on the coefficient

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<sup>39</sup> J. Rieping, *Controversial Quarry Up for Vote*, MADERA TRIBUTE (July 16, 2016) (available at: <http://www.maderatribune.com/single-post/2016/07/16/Controversial-quarry-up-for-vote>); M.E. Smith, *Austin Quarry Approved in 3-2 Vote*, SIERRA STAR (July 20, 2016) (available at: <http://www.sierrastar.com/latest-news/article90713132.html>).

<sup>40</sup> Lexus-Nexus search conducted on February 20, 2018. B. Wilkinson, *Concerns Over Truck Traffic on Road*, SIERRA STAR (February 21, 2013).

$\Delta$  is, therefore, a direct test of the statistical significance of the effect of a quarry on home prices.

As an alternative, we estimate,

$$\ln p_{it} = \Delta T \cdot N_i + \beta_0 + \sum_{j=2}^k \beta_j X_{j,i} + \lambda_t + v_{it} , \quad (5)$$

where the continuous *DATE* variable is replaced with year fixed effects ( $\lambda_t$ ), which is a somewhat standard treatment of time in the DiD regression. Due to collinearity with the fixed effects, the  $\delta_0 N$  term is no longer included in the regression, but the interpretation of  $\Delta$  is unchanged.

For consistency with the earlier analysis, we also estimate the model specification of the *Hite Report*, adding as a regressor the interaction of a treatment dummy variable for years 2013 and later ( $T$ ). The regression model is,

$$p_{it} = \exp(\delta_0 \ln D_i + \Delta \ln T \cdot D_i + \beta_0 + \sum_{j=2}^k \beta_j X_{j,i}) + \varepsilon_{it} , \quad (6)$$

where the variables are defined the same way as the Murfreesboro analysis (i.e., total rooms is replaced with square footage). The coefficient  $\delta_0$  quantifies the price-distance relationship prior to the initiation of quarry operations in 2013. Starting in 2013, the price-distance relationship is measured by  $\delta_0 + \Delta = \delta_1$ , where  $\Delta$  measures the *change* in the slope of the price-distance relationship. If the quarry reduces home values near the quarry, then  $\Delta$  should be positive and statistically significant. Equation (6) is estimated by NLS.

#### B. *Vulcan Quarry in Gurley, Alabama*

As with the earlier analysis, data is obtained on home sales within a five-mile radius of the quarry location in Gurley, Alabama. The quarry began operations in 2013, and our data spans 2005 through portions of 2017. The sample includes 593 transactions, but we note only 83 are for sales prior to 2013.<sup>41</sup> Since there is no “city

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<sup>41</sup> The low samples are likely the consequence of the rural nature of the market and data collection in such areas. We cannot exclude the possibility the sample is peculiar in some respect.

center" in the area, the DCC variable is measured as the distance from the WalMart Supercenter in the nearby town of Big Cove.

**Table 7. Regression Results and Descriptive Statistics**  
*Vulcan Quarry in Gurley, Alabama*

	NLS-Eq. 6	OLS-Eq. 4	OLS-Eq. 5	Mean
	Coef	Coef	Coef	(St. Dev)
	(t-stat)	(t-stat)	(t-stat)	
lnD	0.0876 (0.97)	0.2723*** (3.64)	0.3679** (2.20)	3.445 (0.987)
T·lnD	-0.1205** (-2.41)	-0.0543 (-1.07)	-0.1587 (-0.88)	2.936 (1.50)
DATE	0.0162* (1.67)	0.0191* (1.85)	...	2014.1 (2.30)
DDC	-0.0456*** (-5.85)	-0.0529*** (-5.99)	-0.0512*** (-5.80)	4.484 (2.27)
H2L	-1.2185 (-0.79)	-0.2457 (-0.11)	0.1868 (0.08)	0.063 (0.029)
BATH	0.1752*** (6.92)	0.2672*** (8.84)	0.2655*** (8.71)	2.875 (0.932)
SQFT	2.2E-04*** (5.97)	2.0E-04*** (3.22)	1.9E-04*** (3.11)	2,870.3 (1,139.8)
Constant	-27.99 (-1.43)	-27.57 (-1.32)	10.61*** (36.57)	...
$\lambda_t$	No	No	Yes	...
Pseudo-R <sup>2</sup>	0.641	0.602	0.608	...
Obs.	593	593	593	593

Statistical Significance: \*\*\* 1%, \*\* 5%, \* 10%

Results are summarized in Table 7.<sup>42</sup> Many of the coefficients are statistically significant and similar to those estimated using the Murfreesboro data. First, for Equation (6) estimated by NLS, we find that housing prices rise as distance from the quarry increases (the coefficient on lnD is positive), but this positive effect is observed *prior to the beginning of quarry operations*. After the quarry opens, the positive (though statistically insignificant) price-distance relationship is attenuated; the estimated  $\Delta$  coefficient is -0.103 and the null hypothesis of "no effect" for the DiD estimator is rejected at the 5% level. Prior to 2013, the price-

<sup>42</sup> Since we do not observe large differences in the characteristics of homes near to and far from the quarry, we do not apply CEM.

distance elasticity is 0.088 ( $\delta_0$ ), but after 2013 it is -0.033 ( $\delta_1$ ), a small effect that is statistically indistinguishable from zero (F-stat = 0.16, prob = 0.69).

Turning to Equation (4), the price-distance relationship is again positive (and much larger than with NLS) but is now statistically significant prior to the beginning of quarry operations. The  $\Delta$  coefficient is -0.054, which while negative is no longer statistically different from zero at standard levels. The positive price-distance relationship is attenuated after the quarry began operating, but not to a statistically significant degree. The results are similar for Equation (5). Though not summarized in the table, we note that for MReg and RReg neither of the quarry-distance coefficients is statistically different from zero. The SReg results, also not presented in the table, are not wholly unlike the OLS estimates of Equation (4); the coefficient  $\delta_0$  is positive (0.331,  $t = 4.45$ ) and statistically significant, but the  $\Delta$  coefficient is negative (-0.055,  $t = 0.98$ ) and not statistically different from zero.

The lack of robustness to specification leads us to conclude that the most likely effect of the quarry is no effect at all. Also, we acknowledge that the defects in the *Hite Report's* empirical strategy is as relevant here as before: our randomized inference simulation computes a rejection rate on  $\delta_0$  of 65% and for  $\Delta$  of 67% (at a nominal 10% significance level). While we recognize the limitations of the data and the methods, on whole the results are entirely at odds with the claim that quarries reduce housing prices. If anything, the effect is the opposite.

### C. Austin Quarry in Madera County, California

Quarry sites often take years for approval. Our model of the Gurley quarry presumed that prices do not reflect the quarry operations until after the quarry is operational. A reasonable argument may be made, however, that home prices might adjust before the quarry opens when the local population becomes aware of the future quarry site. We consider that possibility now.

The Austin Quarry in Madera, California, was approved in September 2016 despite a substantial NIMBY effort.<sup>43</sup> A search of news outlets reveals that public attention to proposed quarry initiated in early 2013 and was very active is

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<sup>43</sup> M. Smith, *Supervisors Approve Austin Quarry 3-2*, SIERRA STAR (September 12, 2016) (available at: <http://www.sierrastar.com/news/local/article101492412.html>).

(Footnote Continued. . . .)

subsequent years.<sup>44</sup> Thus, we define the treatment dummy  $T$  as having values of one in years after 2013 (and also consider other years). Data is collected for the ten years preceding the treatment date, so the data spans 2007 through 2016.

The Austin Quarry site is well outside of town, but there are two subdivisions proximate (less than three miles) to the site: Bonadelle Rancheros-Madera Ranchos and Bonadelle Rancheros Nine. Both subdivisions abut the major highways (Highways 41 and 145) servicing the quarry site. If any homes are to be affected by the quarry, then these are the most likely candidates, and they represent our treatment group. The dummy variable  $N$  takes a value of 1 for these subdivisions (zero otherwise). Visual inspection of the area points to a number of subdivisions in the vicinity that are neither on the major highways serving the site nor within ten miles of the site: Madera Estates, Madera Country Club, Lake Madera Country Club, Chuk Chansé, Valley Lake Ranchos, Madera Acres, Madera Knolls, and Madera Highlands. A control group will be selected from home sales in these subdivisions.

Estimation of the DiD estimator employs Equation (5). Regressors include the age of the home at the sale data ( $AGE$ ), square footage ( $SQFT$ ), the number of bedrooms ( $BED$ ) and bathrooms ( $BATH$ ), a dummy variable indicating whether the home a two story home ( $STRY$ ), a dummy variable indicating the presence of a fireplace ( $FIRE$ ), a dummy variable indicating whether the home has a swimming pool ( $POOL$ ). Year fixed effects are included.

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<sup>44</sup> B. Wilkinson, *Concerns Over Truck Traffic on Road*, SIERRA STAR (February 32, 2013); G. Smith, *Economic Costs and Benefits of the Proposed Austin Quarry in Madera County* (October 23, 2014) (available at: <http://www.noaustinquarry.org/wp-content/uploads/2016/08/Austin-Quarry-Economics-Report.pdf>); M.E. Smith, *Progress Continues on Austin Quarry*, SIERRA STAR (February 10, 2016) (available at: <http://www.sierrastar.com/news/article87816032.html>); B. Wilkinson, *Group Opposes Proposed Rock Quarry*, SIERRA STAR (November 12, 2014) (available at: <http://www.sierrastar.com/news/article87802492.html>); D. Joseph, *Quarry Issues Need to be Addressed*, SIERRA STAR (December 3, 2014) (available at: <http://www.sierrastar.com/opinion/article87803072.html>).

**Table 8. Descriptive Statistics**  
*Austin Quarry in Madera County, California*

Variable	ALL Mean (St.Dev)	N=0 Mean (St.Dev)	N=1 Mean (St.Dev)	Stan. Diff.
AGE	16.13 (12.16)	16.50 (12.22)	15.21 (11.95)	0.075
SQFT	1811.6 (522.7)	1706.7 (490.6)	2072.9 (509.5)	0.518*
BED	3.32 (0.59)	3.27 (0.54)	3.43 (0.70)	0.179
BATH	1.99 (0.68)	1.83 (0.66)	2.38 (0.56)	0.639*
STRY	0.024 (0.15)	0.016 (0.12)	0.043 (0.20)	0.115
FIRE	0.632 (0.48)	0.730 (0.44)	0.390 (0.49)	0.515*
POOL	0.068 (0.25)	0.033 (0.17)	0.159 (0.36)	0.311*
Price	215.4	195.0	266.3	
Price/SQFT	120.8	116.4	131.9	
Obs.	887	633	254	

Descriptive statistics for the treatment and control pool are provided in Table 8. The homes are similar in some respects, but large standardized differences ( $> 0.25$ ) are found for square footage, the number of bathrooms, and the presence of a fireplace or pool.<sup>45</sup> CEM based on *SQFT*, *BATH*, *FIRE*, and *POOL* reduces the standardized differences to acceptable levels for all the regressors. We are able to match 229 of 254 homes in the treated group to 450 of 633 homes in the control pool, for an estimation sample of 679 home sales.

<sup>45</sup> Imbens and Wooldridge, *supra* n. 8.

**Table 9. Regression Results and Descriptive Statistics**  
*Austin Quarry in Madera County, California*

	OLS Coef (t-stat)	CEM-OLS Coef (t-stat)	CEM-MReg Coef (t-stat)	SReg Coef (t-stat)
$N$ ( $\delta_0$ )	0.1166** (2.47)	0.1277** (2.08)	0.1194*** (4.99)	0.1913** (2.11)
$T-N$ ( $\Delta$ )	0.1663*** (2.95)	0.1005 (1.21)	0.1161*** (3.14)	0.0878 (1.32)
AGE	0.0017 (1.20)	0.0087*** (3.47)	-0.0003 (-0.35)	-0.0055* (-0.35)
SQFT	1.7E-04*** (3.40)	1.3E-04** (2.05)	3.0E-04*** (12.68)	2.0 E-04*** (4.39)
BED	0.0349 (0.90)	0.01205*** (2.63)	0.0450** (2.49)	-0.0542 (1.54)
BATH	0.0288 (1.08)	-0.0439 (-0.60)	-0.0777*** (-2.60)	-0.0218 (-0.61)
STRY	-0.0878 (-0.70)	-0.0408 (-0.33)	0.0043 (0.05)	-0.1378 (-1.29)
FIRE	0.0770** (2.43)	0.0650* (1.73)	0.0422*** (2.94)	0.0305 (0.88)
POOL	0.1833*** (3.71)	0.1577*** (4.03)	0.0853*** (3.68)	0.2346*** (3.63)
Constant	11.21*** (98.08)	10.92*** (70.30)	11.35*** (20.67)	11.62*** (83.17)
$\lambda_t$	Yes	Yes	Yes	Yes
Spatial Terms ( $\chi^2$ )				27.17***
Pseudo-R <sup>2</sup>	0.482	0.491	0.361	0.186
Obs.	887	679	679	887

Statistical Significance: \*\*\* 1%, \*\* 5%, \* 10%

Regression results are summarized in Table 9. For comparison purposes and to illustrate the important effects of covariate balance, estimates for both the full and CEM-weighted samples are provided. The models fit the data well for both samples. For the full sample, which we caution does not rely on balanced data, the estimated  $\delta_0$  coefficient (0.117) indicates that prices in the treated group were about 12% higher [ $\exp(\delta_0) - 1$ ] in the pre-treatment period. After the treatment, the prices were even higher ( $\Delta = 0.166$ ), a statistically significant result of about an 18% increase. The remaining coefficients are sensibly sized and many are statistically different from zero. A swimming pool, for instance, raises price by about \$38,000.

Turning to the CEM-weighted model, the price difference before the treatment is a bit larger ( $\delta_0 = 0.128$ ), and the difference is statistically significant at standard



levels. As in the full sample, the DiD estimator  $\Delta$  is positive (0.100), but now it is not statistically significant. For the balanced sample, we cannot reject the null hypothesis that the quarry’s announcement effect is zero, though the coefficient is relatively large and the t-statistic is much larger than 1.00. In contrast, for the CEM-weighted MReg, prices are higher in the treated area during both the pre-treatment and treatment period, and both coefficients are statistically different from zero at better than the 1% level.

In the final column of Table 9, we summarize the results from SReg using the full sample. The spatial terms are statistically significant at the 1% level. The results are comparable to the others. Prices are higher in the treated area before the treatment, but we do not see a statistically significant change is seen after the treatment. The DiD estimator  $\Delta$  is positive and relatively large (0.09), but statistically significant only at the 20% level.

**Table 10. Regression Results, Annual Treatment Effect**  
*Austin Quarry in Madera County, California*

	2013	2014	2015	2016
	Coef	Coef	Coef	Coef
	(t-stat)	(t-stat)	(t-stat)	(t-stat)
<i>T-N</i> ( $\Delta$ )	0.2721*** (2.65)	0.0018 (0.01)	0.0322 (0.42)	0.3949 (1.41)

Statistical Significance: \*\*\* 1%, \*\* 5%, \* 10%

Finally, we can estimate the  $\Delta$  coefficient for each year beginning with our chosen treatment date (2013), thereby assessing whether that choice is influencing the estimate.<sup>46</sup> The results by year are summarized in Table 10. Large positive coefficients are observed in years 2013 and 2016 (the latter close to being statistically significant), and smaller positive coefficients for the other years. These results are consistent with those reported in Table 9.

Notably, we do not estimate a price-distance relationship in these equations. Distance from the quarry site is not a regressor. Unlike the distance-based model, the rejection rates for randomized inference (assigning the homes in the treatment group randomly from those in the sample) are very close to the nominal level of the test (11% rejection rate versus 10% nominal test level). The statistical reliability

<sup>46</sup> The coefficients are year specific and do not quantify the average after the treatment year, as do the results from Table 9.

of this approach is much superior to the price-distance approach used in the *Hite Report*.

Taken together, we conclude from these results indicate that the effect of the quarry may very well be zero, at least in the form of an announcement effect. If there is any effect, it is positive. Whether or not the quarry will affect prices, either positively or negatively, after operations begin (assuming they do) is unknowable at this time. In light of the evidence presented here and in prior research, the expectation must be that there will be little to no effect on home prices and, if anything, that effect may be positive.

## V. Conclusions

We estimate the effect of rock quarries on home prices with data from four quarry locations across the United States, a wide range of econometric specifications and robustness checks, and a variety of temporal circumstances from the lead-up to quarry installation to subsequent operational periods. We find no compelling statistical evidence that either the anticipation of, or the ongoing operation of, rock quarries negatively impact home prices. While our study extends the literature on estimating the effects of “disamenities,” primarily as a critique of existing methods, the empirical problem is difficult and likely requires advanced research methods beyond what we provide here. The primary obstacle to estimating these effects is the lack of data and that lack of data is actually driven by the quarry site selection process, which limits our ability to infer a causal relationship. Thin markets and a subsequent lack of sales data are a serious problem since quarries are today (and typically in the past) located, by design, away from residential density.

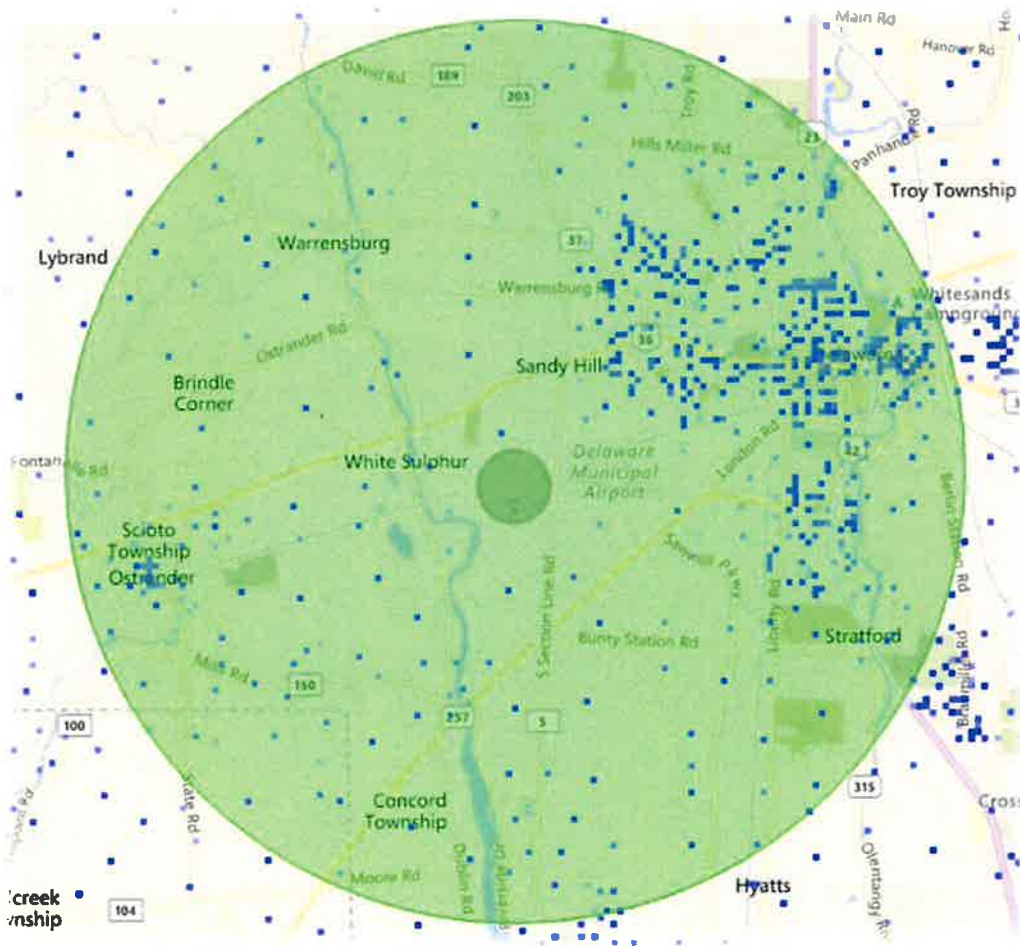
Our study highlights a number of shortcomings in the empirical methodologies generally used to estimate the effect of disamenities on real estate prices. First and foremost, the vast majority of studies do not (or even attempt to) identify the causal effect of disamenities. That is, existing studies are naïve as to the empirical conditions necessary to identify a causal relationship and do not establish credible strategies to estimate the counter-factual outcome – i.e., how the real estate around quarries would have looked, on average, without a landfill or other disamenity. To evaluate the credibility of existing studies and their methodologies, we first employ permutation tests to examine whether or not the existing methodologies yield higher than expected rejection rates of the null hypothesis. We accomplish this by randomly assigning a location in our sample space with a “disamenity” (i.e., a placebo quarry) and then estimate the effect on surrounding home prices. The null hypothesis of “no effect” of the placebo

quarries is rejected in no less than 7 out of 10 simulations, and at a rate as high as 9 out of 10 simulations.

In an attempt to produce a meaningful counter-factual we employ a difference-in-differences estimation strategy which exploits the timing and placement of a quarry. We use this strategy in two different contexts: (1) before and after operations of a quarry in Gurley, Alabama; and (2) before and after local debate (and subsequent approval) of a quarry in Madera County, California. The first exercise estimates the effect of quarry operations on home prices and the second exercise estimates the anticipatory effect of a quarry on home prices. Neither exercise yields evidence of a negative impact on home prices. Given a number of data concerns and model limitations (since our interest is primarily in replication), further research is advised.

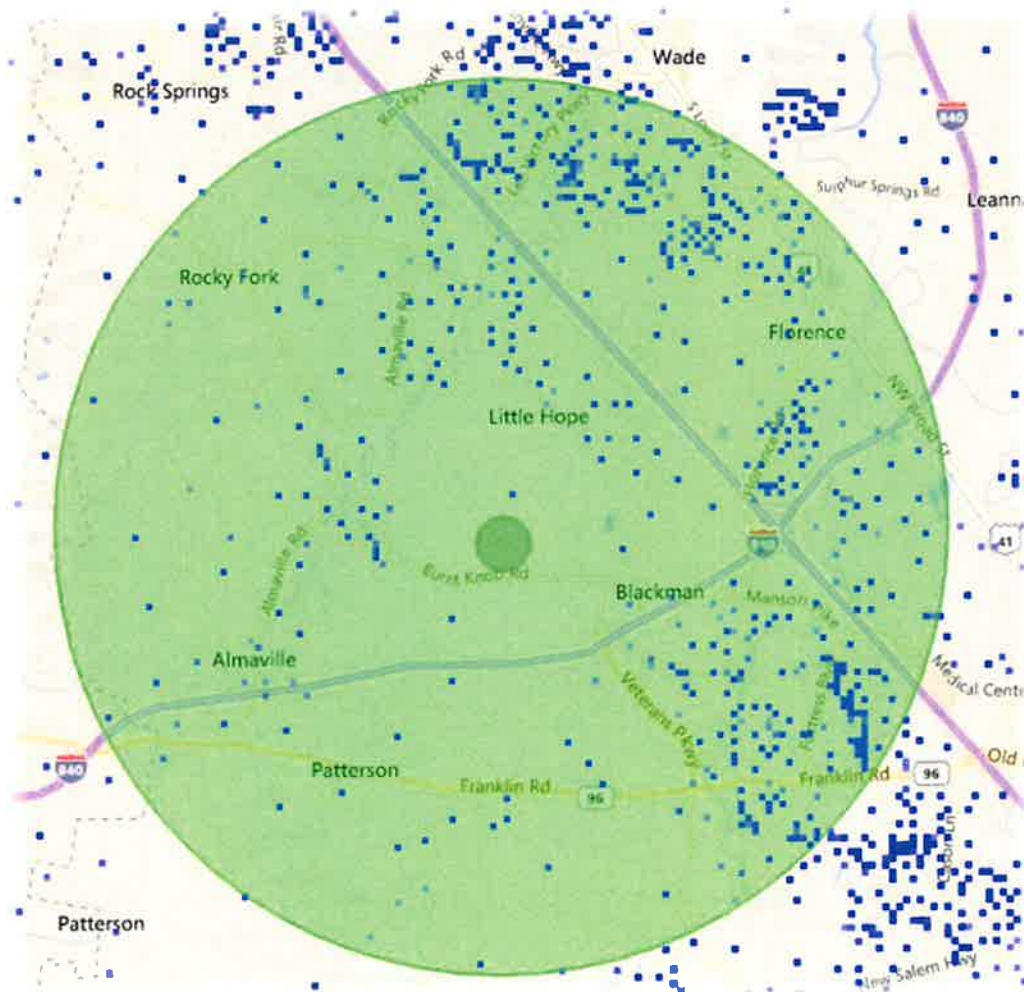
**APPENDIX 1. MAP OF NATIONAL LIME & STONE QUARRY NEAR DELAWARE, OHIO**

Notes: The small, inner green circle marks the National Lime & Stone Quarry near Delaware, Ohio. The larger green circle is a five-mile radius around the quarry location. The blue dots mark areas of population density using 2010 census data. Map generated using censusviewer.com.



**APPENDIX 2. MAP OF ROGERS GROUP QUARRY NEAR MURFREESBORO, TENNESSEE**

Notes: The small, inner green circle marks the Rogers Group Quarry near Murfreesboro, Tennessee. The larger green circle is a five-mile radius around the quarry location. The blue dots mark areas of population density using 2010 census data. Map generated using censusviewer.com.



### APPENDIX 3. CENSUS BLOCK POPULATION GROWTH NEAR ROGERS GROUP QUARRY NEAR MURFREESBORO, TENNESSEE

Notes: Figures 3A-3C demonstrate population movements for Rutherford County, TN, with emphasis on the Rogers Group quarry. Population is measured using U.S. Census Bureau population data for years 2000, 2010, and 2016. Darker blues imply greater population.

Fig. 3A: Rutherford County, TN, 1990 Population Density

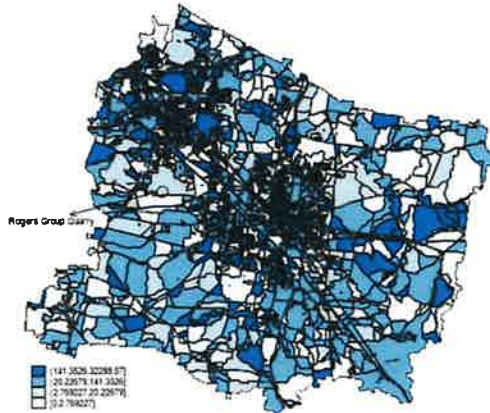


Fig. 3B: Rutherford County, TN 2000 Population Density

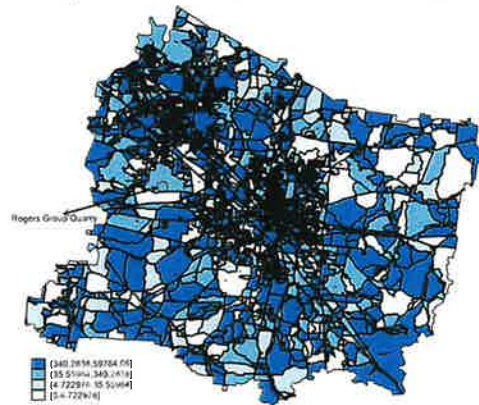
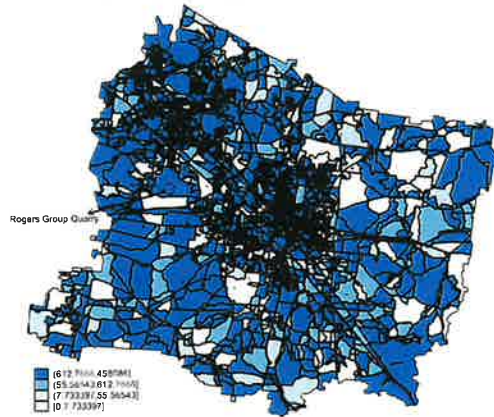
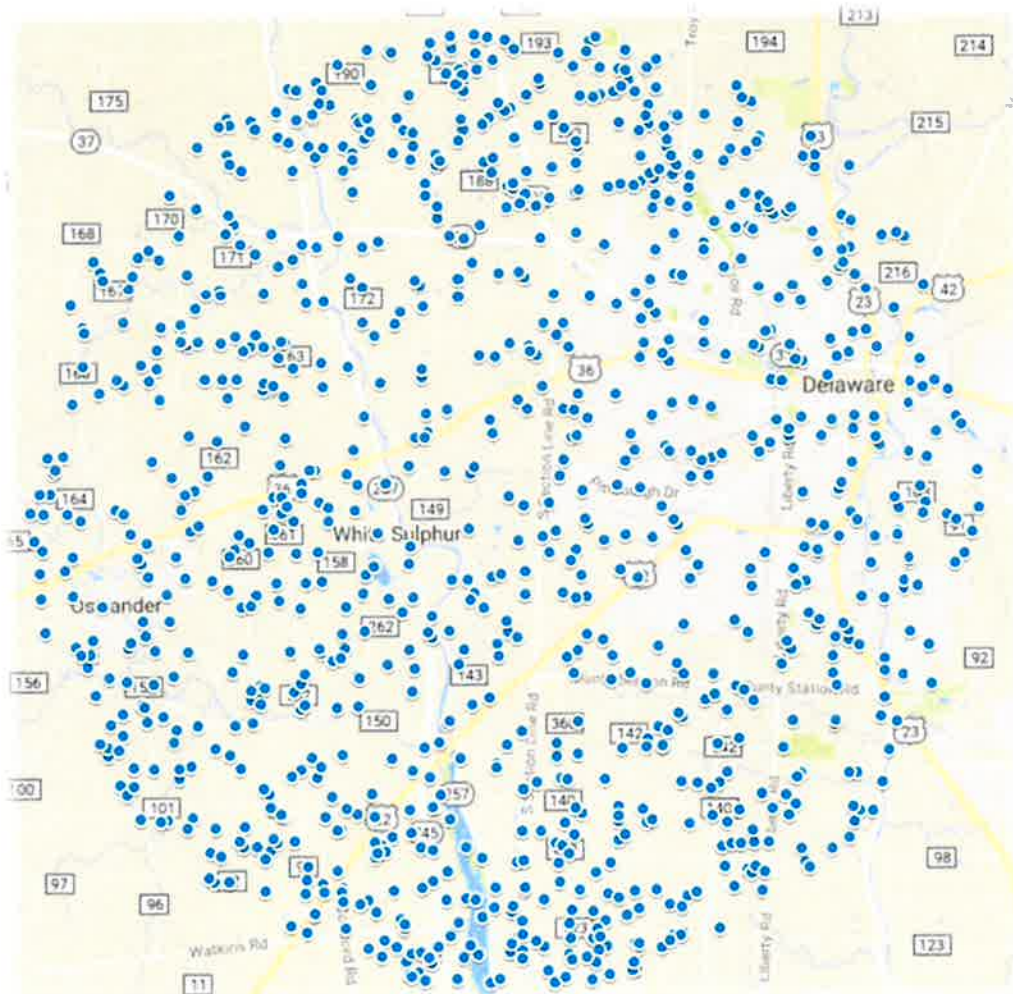


Fig. 3C: Rutherford County, TN 2010 Population Density



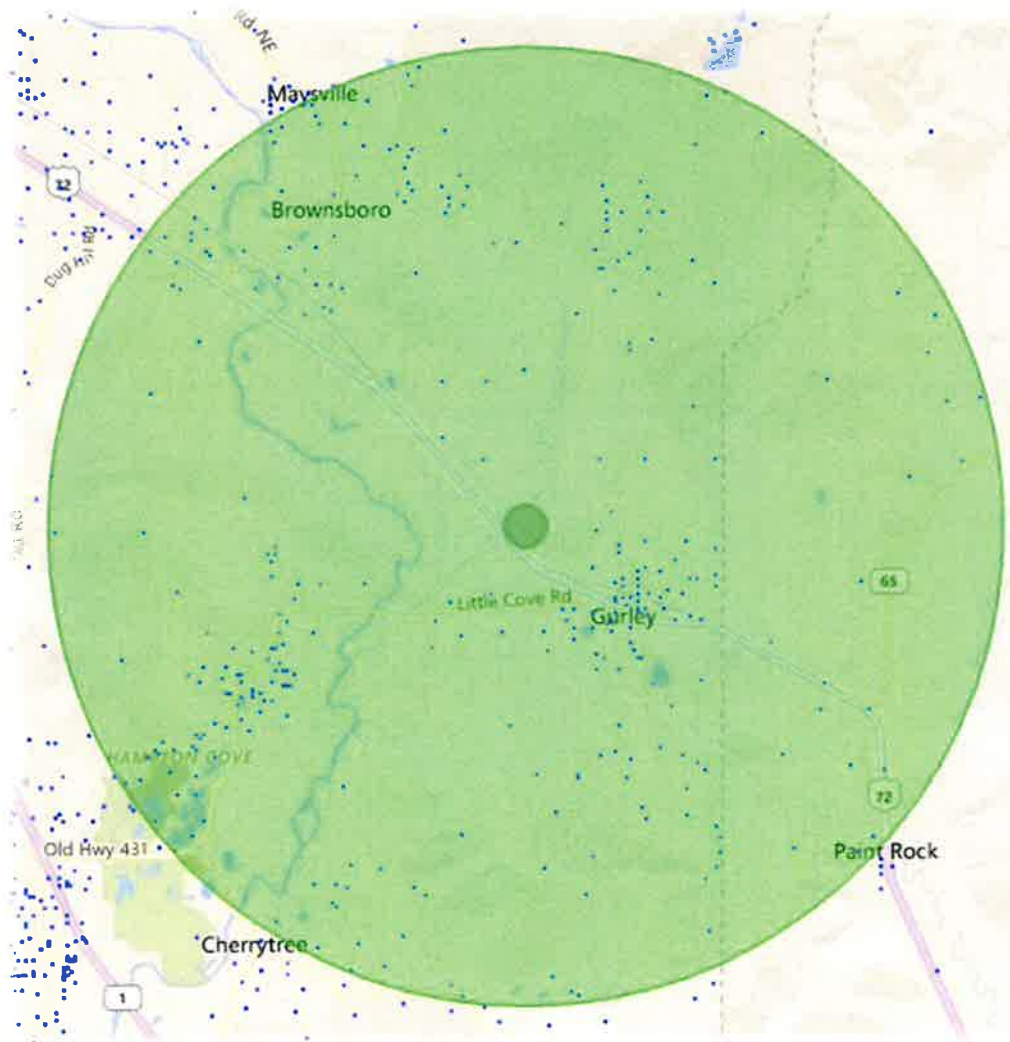
**APPENDIX 4. ILLUSTRATIVE MAP OF RANDOM LOCATIONS USED FOR  
RANDOMIZED INFERENCE ANALYSIS FOR DELAWARE COUNTY**

Notes: The blue dots represent the random locations chosen by the randomized inference simulation for Delaware County, Ohio. Map generated using Google maps.



**APPENDIX 5. VULCAN QUARRY NEAR GURLEY, ALABAMA**

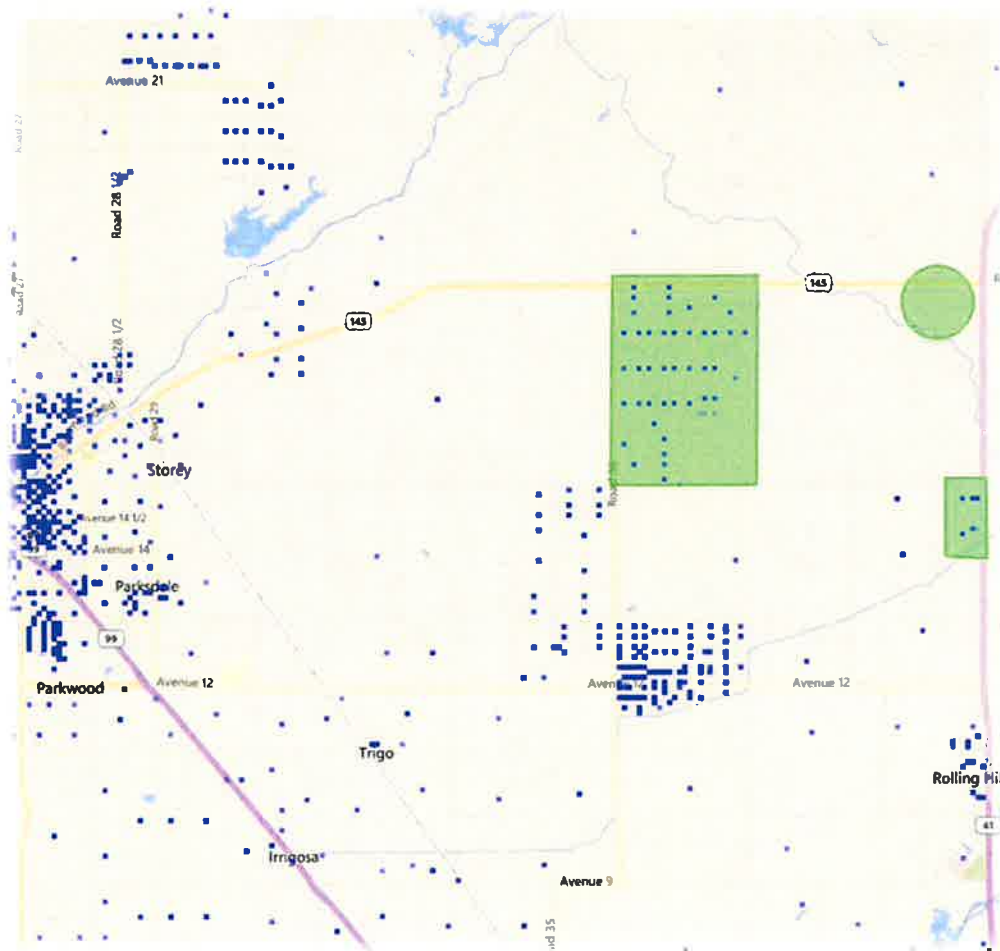
Notes: The small, inner green circle markets the Vulcan Quarry near Gurley, Alabama. The larger green circle is a five-mile radius around the quarry location. The blue dots mark areas of population density using 2010 census data. Map generated using censusviewer.com.

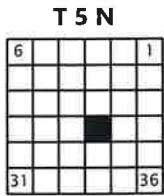




**APPENDIX 6. MAP OF AUSTIN QUARRY SITE IN MADERA COUNTY, CALIFORNIA**

Notes: The green circle marks the site of the proposed Austin Quarry in Madera County, California. The immediate two areas of population to the South and West of the quarry site – marked in green rectangles – are the “treated” areas. The blue dots mark areas of population density using 2010 census data. The control group is chosen from areas further west and north of Highway 145 toward Madera. Map generated using censusviewer.com.





R 9 E

**RECEIVED**

JAN 24 2024

UMATILLA COUNTY  
COMMUNITY DEVELOPMENT

**EASTERN OREGON**



**SITE COORDINATES:**

LATITUDE: 45° 54' 7.5" N

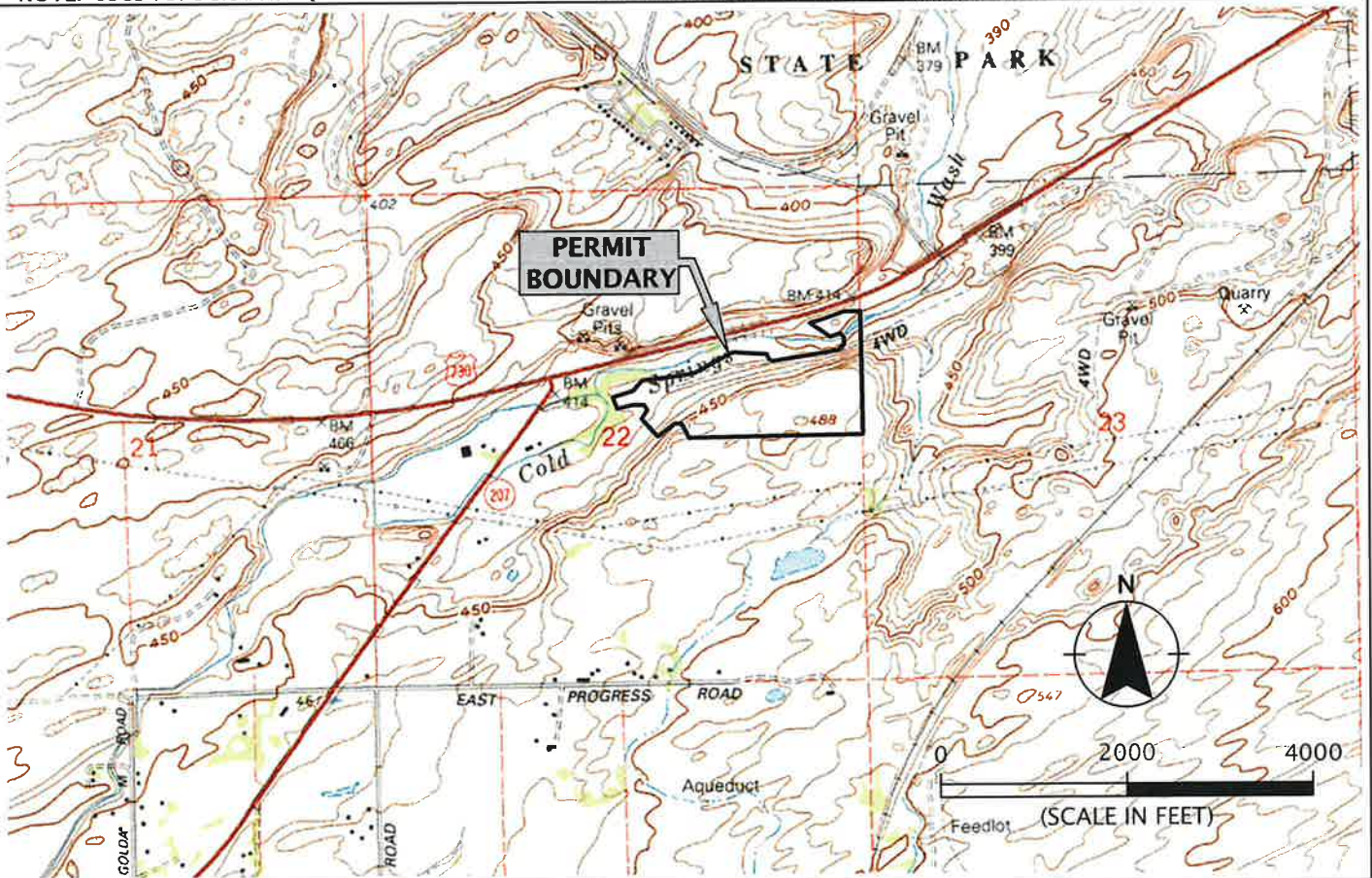
LONGITUDE: 119° 10' 1.2" W

**LEGAL DESCRIPTION**

THE PERMIT BOUNDARY IS LOCATED IN PORTIONS OF THE FOLLOWING QUARTER-QUARTER SECTIONS:

- SE QUARTER OF THE NE QUARTER OF SECTION 22
- SW QUARTER OF THE NE QUARTER OF SECTION 22

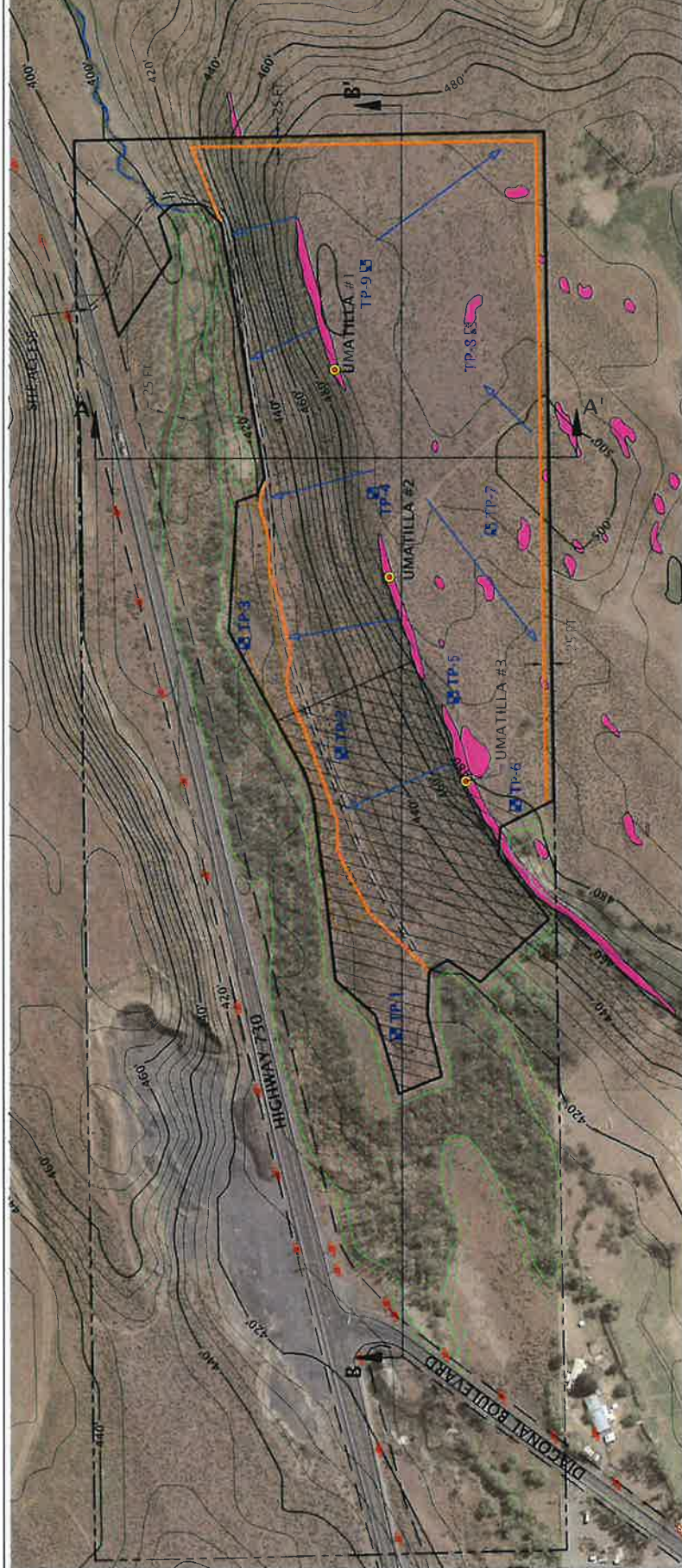
**NOTE:** USGS TOPOGRAPHIC QUADRANGLE MAPS REPRODUCED USING MAPTECH TERRAIN NAVIGATOR PRO®.



Printed By: Mike Miller | Print Date: 1/17/2024 7:59:53 AM  
File Name: J:\E-1\FulcrumGeo\FulcrumGeo-1-01\Figures\FulcrumGeo-007.01.01\CAD\007.01.01-VM01.dwg | Layout: FIGURE 1

<b>FULCRUM</b> GEO RESOURCES <small>INC.</small>	CRP & HAULING, LLC	<b>VICINITY MAP</b> UMATILLA COUNTY, OR SECTION 22, TOWNSHIP 5N, RANGE 29E, W.M.	
	PROJECT 007.01.01 JANUARY 2024		

SITE PLAN - FIELD OBSERVATIONS AND ROCK SAMPLE LOCATIONS



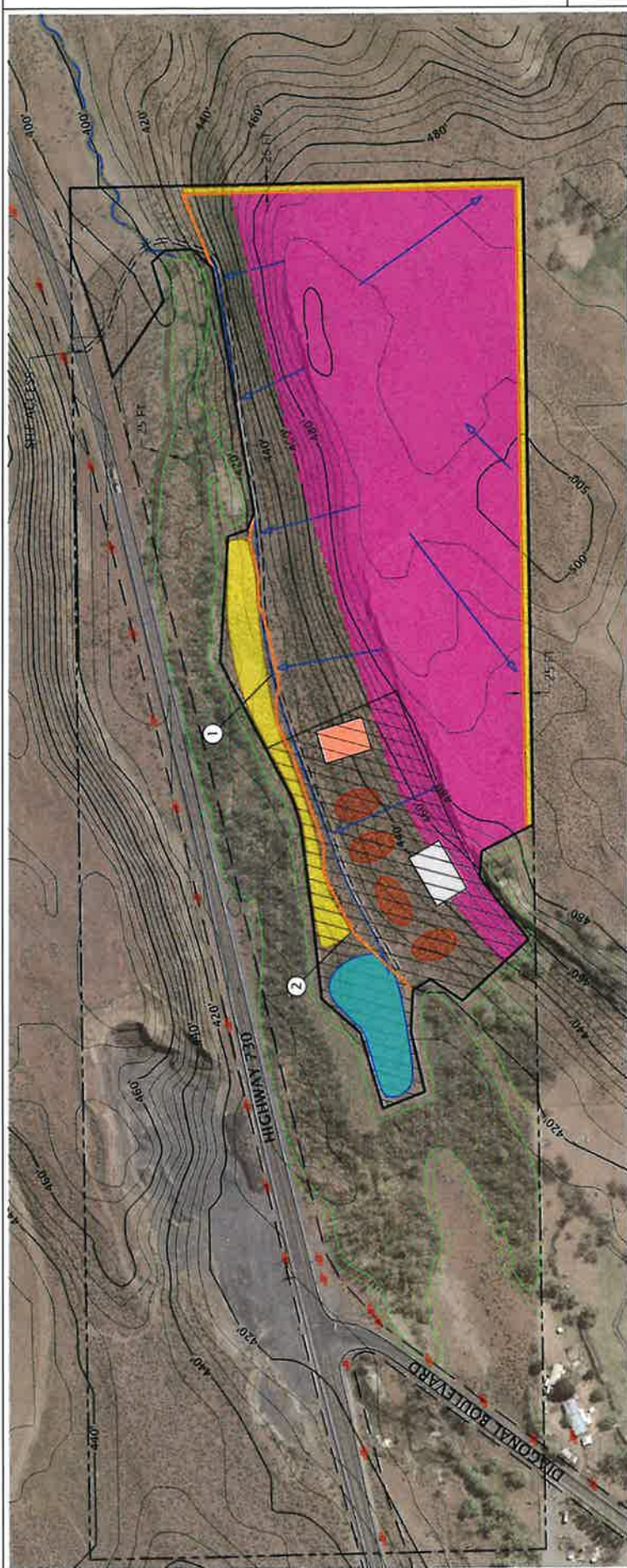
- LEGEND:**
- PROPERTY BOUNDARY
  - PERMIT BOUNDARY (46.7 ACRES)
  - EASEMENT
  - LIMITS OF EXTRACTION (88.0 ACRES)
  - OPERATIONS, PROCESSING, AND STOCKPILING AREA
  - EXISTING TOPOGRAPHY (5-FOOT INTERVALS; 20-FOOT INDEX CONTOURS)
  - WETLAND
  - 25-FOOT WETLAND BUFFER
  - ARTIFICIAL DRAINAGE PATH
- LEGEND:**
- EXISTING DRAINAGE PATTERNS
  - OVER-HEAD POWER POLE
  - BASALT OUTCROP
  - UMATILLA #1
  - TP-1
  - TEST PIT
  - PROPOSED AND EXISTING SITE ACCESS ROAD
  - PROPOSED CULVERT
  - CROSS SECTION

**NOTES:**

1. PROPERTY BOUNDARY AND EASEMENTS BASED ON SURVEY DATED AUGUST 4, 2022, PREPARED BY SURVEY ONE, LLC.
2. EXISTING TOPOGRAPHY OBTAINED FROM GOOGLE EARTH PRO.
3. AERIAL PHOTOGRAPH DATED APRIL 14, 2021, OBTAINED FROM GOOGLE EARTH PRO.
4. WETLAND AREAS CREATED FROM NWI MAPS, OREGON DEPARTMENT OF STATE LAND WETLAND DETERMINATION REPORT WD#2022-0606, AND GOOGLE EARTH AERIAL PHOTO DATED APRIL 14, 2021.

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 COMMUNITY DEVELOPMENT



- LEGEND:**
- PROPERTY BOUNDARY
  - - - PERMIT BOUNDARY (46.7 ACRES)
  - - - EASEMENT
  - LIMITS OF EXTRACTION (38.0 ACRES):
  - BASALT EXTRACTION AREA (POTENTIAL BLAST AREA) (11.4 ACRES)
  - OPERATIONS, PROCESSING, AND STOCKPILING AREA
  - EXISTING TOPOGRAPHY (5-FOOT INTERVALS; 20-FOOT INDEX CONTOURS)
  - WETLAND
  - 25-FOOT WETLAND BUFFER
  - ARTIFICIAL DRAINAGE PATH
  - EXISTING DRAINAGE PATTERNS
- ⊕ OVERHEAD POWER POLE
  - - - PROPOSED AND EXISTING SITE ACCESS ROAD
  - PROPOSED STORMWATER DIVERSION DITCH
  - PROPOSED CULVERT
  - PROPOSED PRODUCT STOCKPILE
  - PROPOSED ROCK CRUSHER
  - PROPOSED ASPHALT BATCH PLANT
  - ① PROPOSED SCALES LOCATION
  - ② PROPOSED OFFICE LOCATION
  - PROPOSED TOPSOIL STOCKPILE AREAS
  - PROPOSED STORMWATER POND

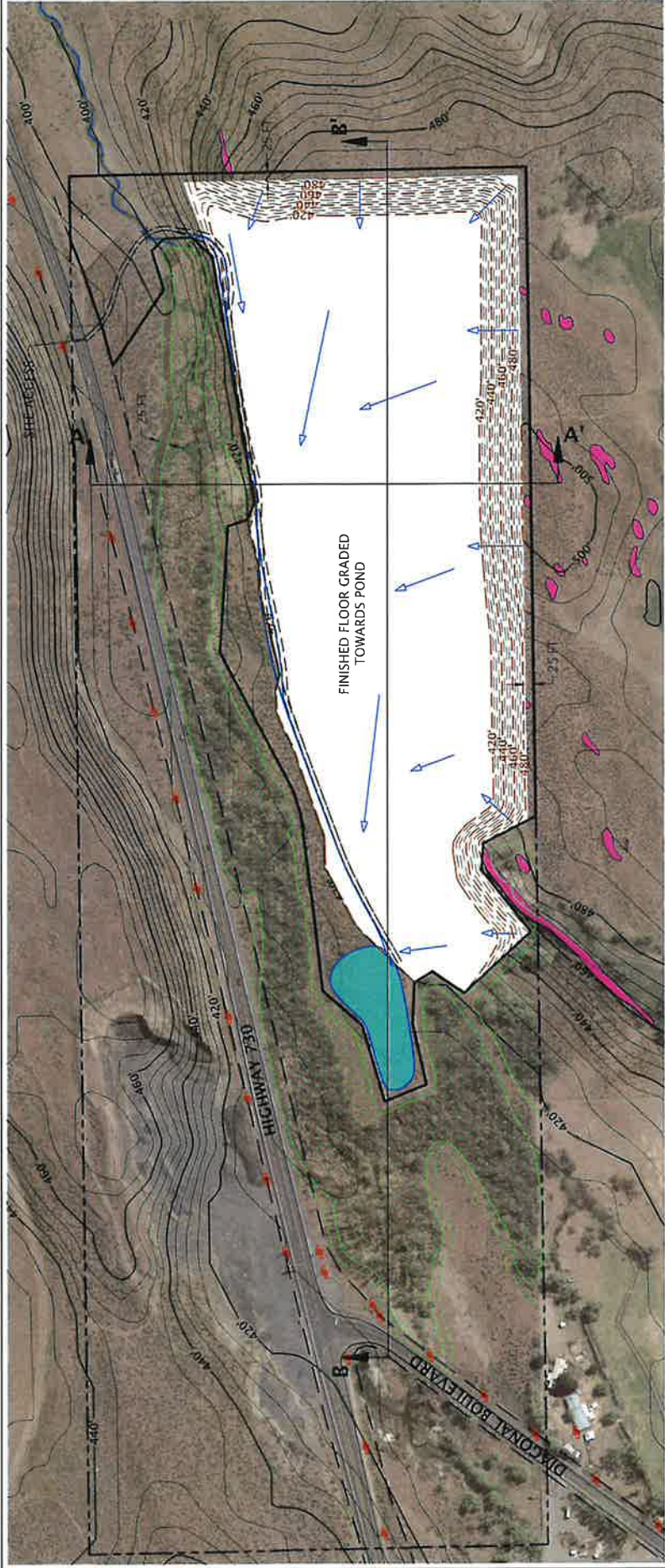


- NOTES:**
1. PROPERTY BOUNDARY AND EASEMENTS BASED ON SURVEY DATED AUGUST 4, 2022, PREPARED BY SURVEY ONE, LLC.
  2. EXISTING TOPOGRAPHY OBTAINED FROM GOOGLE EARTH PRO.
  3. AERIAL PHOTOGRAPH DATED APRIL 14, 2021, OBTAINED FROM GOOGLE EARTH PRO.
  4. WETLAND AREAS CREATED FROM NWI MAPS, OREGON DEPARTMENT OF STATE LAND WETLAND DETERMINATION REPORT WD#2022-0606, AND GOOGLE EARTH AERIAL PHOTO DATED APRIL 14, 2021.

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**LEGEND:**

- PROPERTY BOUNDARY
- PERMIT BOUNDARY (46.7 ACRES)
- EASEMENT
- LIMITS OF EXCAVATION (38.0 ACRES)
- - - FINAL TOPOGRAPHY (5-FOOT INTERVALS; 20-FOOT INDEX CONTOURS)
- - - EXISTING TOPOGRAPHY (5-FOOT INTERVALS; 20-FOOT INDEX CONTOURS)
- WETLAND
- 25-FOOT WETLAND BUFFER

**FINAL DRAINAGE PATTERNS**

- OVERHEAD POWER POLE
- BASALT OUTCROP
- ARTIFICIAL DRAINAGE PATH
- SITE ACCESS ROAD
- STORMWATER DIVERSION DITCH
- CULVERT
- STORMWATER POND
- CROSS SECTION

**NOTES:**

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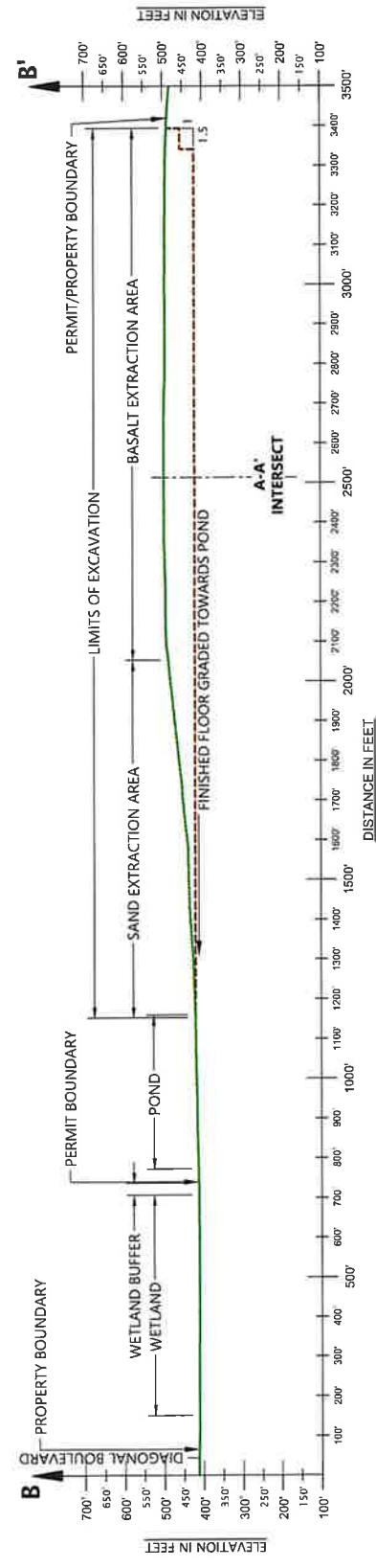
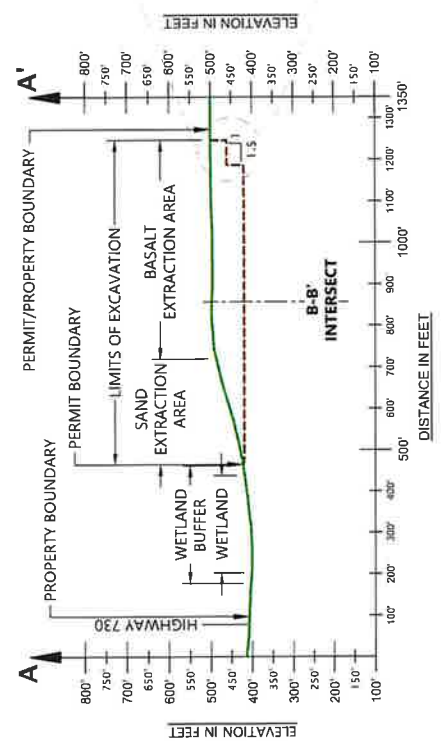
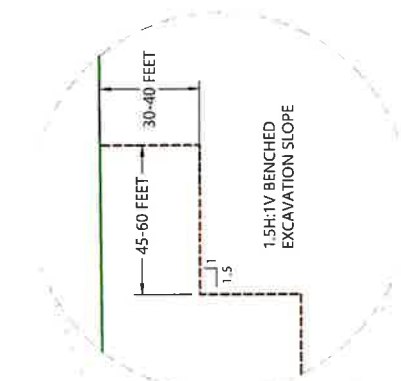
0 300 600  
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**LEGEND:**  
 EXISTING TOPOGRAPHY  
 FINAL TOPOGRAPHY



January 17, 2024

Corey, Byler & Rew, LLP  
222 S.E. Dorion Avenue  
Pendleton, Oregon 97801-0218

Attention: Patrick Gregg

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**JAN 24 2024**  
**UMATILLA COUNTY**  
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**Revised Resource Estimate**  
Proposed CRP & Hauling Quarry  
Umatilla County, Oregon  
Project: 007.01.01

## **INTRODUCTION**

On behalf of CRP & Hauling, LLC, Fulcrum GeoResources LLC (Fulcrum) presents this revised resource estimate for the proposed CRP & Hauling Quarry located in unincorporated Umatilla County, Oregon (Figure 1). Previously, NV5 completed a mine resource evaluation for the project<sup>1</sup>. Their report concluded the basalt bedrock underlying the site represents a significant aggregate resource and estimated the tonnage to be 4.7 million tons. Since that report, Fulcrum conducted additional field reconnaissance, rock-sample testing, and explored subsurface conditions using test pits explorations. This revised resource estimate incorporates the new data and provides an updated basalt-aggregate resource estimate for the site.

## **SITE CONDITIONS**

The 2023 NV5 report provides a detailed description of the surface and geologic conditions at the site and its vicinity. Site topography includes a well-defined bluff about 30 to 50 feet tall running roughly east to west, which separates a flat upland in the southeast from the gently sloped, lower property to the north, shown on Figure 2. Elevations range from 400 to 500 feet above mean sea level (MSL). The upland bluff exposes basalt of the Columbia River Basalt Group, which represents a regionally significant source for aggregate. The basalt is extensively exposed along the bluff face and as isolated exposures around the flat upland area. The basalt is overlain by sand representing Missoula flood deposits.

---

<sup>1</sup> NV5, 2023. Mine Resource Evaluation Report, Proposed Mine Site, Umatilla County, Oregon, dated January 31, 2023. Project: CRPHaul-1-01

### **ADDITIONAL FIELD STUDIES**

Fulcrum visited the site on November 14, 2023, and mapped many exposures of basalt in the upland area, as shown on Figure 2. The basalt is fresh to slightly weathered based on hand-lens observation of broken surfaces. Rock strength ranges from strong (R4) to extremely strong (R6) based on field strikes using a steel rock hammer, in general accordance with manual field tests described in the Oregon Department of Transportation (ODOT) Geotechnical Design Manual<sup>2</sup>.

Fulcrum observed nine test pits (TP-1 through TP-9) excavated at the site using a CAT excavator with a 2-foot-wide, toothed bucket. The test pit locations are shown on Figure 2, and logs of the encountered soil and rock conditions is provided in Attachment A. Test pits were excavated to depths ranging from 1.5 to 7 feet below ground surface (BGS). Test pits TP-1 through TP-3, located on the lower site below the bluff, encountered fine to medium sand with few fines to the maximum depth explored, about 7 feet BGS. Laboratory testing of a sand sample collected from TP-1 indicates the sand has 0.8 percent fines and had a moisture content of 2.3 percent at the time of sample collection. The laboratory test report is provided in Attachment B.

Test pits TP-4 through TP-9 were excavated at the top of the bluff slope and across the upland area. All of these test pits encountered refusal on strong to extremely strong basalt bedrock. The overlying fine to medium sand ranged from 1.5 to 6 feet thick. The excavator could not advance more than a few inches into the basalt bedrock.

Groundwater was not encountered in the test pits and was not observed in the site vicinity during Fulcrum's field work. Surface water was observed in wetlands located north of the proposed project area.

### **ADDITIONAL ROCK SAMPLES**

Previously, NV5 collected a sample of basalt bedrock (Umatilla #1) from the eastern onsite bluff as a confirmation sample of the rock quality. The sampling location is shown on Figure 2. The sample consisted of two 5-gallon buckets of rock pried from the bluff face. The sample was submitted to Carlson Testing, Inc. out of Tigard, Oregon for aggregate quality testing. Test results summarized in NV5's 2023 report indicate the rock meets ODOT test criteria for abrasion, air degradation, and sulfate soundness testing, key tests required to determine if an aggregate resource can be considered significant.

Fulcrum collected additional rock samples from the onsite bluff in the central and western portions of the site (Umatilla #2 and #3, respectively), as shown on Figure 2. Each sample consisted of two 5-gallon buckets of rock pried from the bluff face. These samples were also submitted to Carlson Testing for the same aggregate-quality tests. All of the test results, including the first sample and the two additional samples are included in Attachment B and are summarized in Table 1 below. Test results indicate all three rock samples meet ODOT test criteria for determining the basalt to be a significant aggregate resource.

---

<sup>2</sup> ODOT, Geotechnical Design Manual, Chapter 5 – Soil and Rock Classification and Logging, January 2023. Retrieved from [https://www.oregon.gov/odot/GeoEnvironmental/Docs\\_GeologyGeotech/GDM\\_2023.pdf](https://www.oregon.gov/odot/GeoEnvironmental/Docs_GeologyGeotech/GDM_2023.pdf)



**Table 1. Aggregate Quality Requirements and Laboratory Test Results**

Quality Test Method	ODOT Specifications	Results		
		Umatilla #1	Umatilla #2	Umatilla #3
Abrasion (AASHTO T 96) <sup>1</sup>	Loss not more than 35 percent by weight	10.1 percent (pass)	12.4 percent (pass)	11.6 percent (pass)
Oregon Air Degradation (ODOT TM 208) <sup>2</sup>	Loss not more than 30 percent by weight	1.4 percent (pass)	11.7 percent (pass)	12.4 percent (pass)
Sodium Sulfate Soundness (AASHTO T 104) <sup>3</sup>	Loss not more than 12 percent by weight	0.8 percent (pass)	1.6 percent (pass)	1.4 percent (pass)

1. AASHTO T 96, Standard Method of Test for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
2. ODOT Test Method 208-12, Method of Test for Oregon Air Aggregate Degradation
3. AASHTO T 104, Standard Method of Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate

## REVISED RESOURCE QUANTITY ESTIMATE

Additional field studies conducted by Fulcrum corroborate the findings of the NV5 2023 resource report regarding the geologic conditions and the location and quality of the aggregate resource at the site. Fulcrum completed mapping of more surface basalt outcrops across the upland area than had previously been observed and collected two additional rock samples for quality testing. All test results meet ODOT specifications.

The test pits conducted in the upland area provide direct measurement of the sand overlying basalt bedrock where basalt is not otherwise exposed. NV5 had used an average thickness of 2 feet for overburden to estimate the resource volume. Based on Fulcrum’s test pit observations, the calculated average sand thickness over bedrock is 4.3 feet. However, this average does not account for the area where there is no sand, which would substantially lower the average. As a conservative estimation of resource quantity, Table 2 below provides a revised resource estimate using the calculated average of 4.3 feet of sand over bedrock. Table 2 also uses the basalt density discussed in the NV5 report – 2.3 tons per cubic yard – to convert basalt volume to tonnage.

**Table 2. Revised Resource Quantity Estimate for the Basalt Extraction Area**

<b>Material</b>	<b>Estimated Quantity</b>
Gross Cut Volume	2,125,679 cubic yards
Overburden Volume	- 140,827 cubic yards
In Situ Rock Volume	1,984,852 cubic yards
Resource Tonnage	4,565,160 tons

**CONCLUSION**

The revised resource estimate is about 4.6 million tons. This is still more than nine times the required resource tonnage (500,000 tons) for the site to be considered a significant aggregate resource in Umatilla County in accordance with Oregon Administrative Rules 660-023-0180(3).



If you have questions concerning the information provided, please call.

Sincerely,

Fulcrum GeoResources LLC

A handwritten signature in blue ink, appearing to read "Erick J. Staley".

Erick J. Staley, C.E.G.  
Principal Engineering Geologist



Expires 06/01/2024

Document ID: 007.01.01\_2024-01-17 rev resource est.docx  
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## LIMITATIONS

Fulcrum GeoResources LLC prepared this report for use by CRP & Hauling, LLC for the proposed CRP & Hauling Quarry located in Umatilla County, Oregon. The services described in this report were provided consistent with generally accepted professional consulting principles and practices. Our report, conclusions, and interpretations should not be construed as warranty of the site conditions and are not applicable to areas other than the subject site.

Our interpretations of the mining and geologic conditions are based on discussions with the client, review of publicly available information, observed exposures of soil and rock at the project area, and observation of subsurface explorations. The accuracy of outside information is beyond our control.

Exploration observations indicate soil and rock conditions only at specific locations and only to the depths penetrated. They do not necessarily reflect soil or rock strata or water level variations that may exist between exploration locations. If subsurface conditions differing from those described in this report are noted during the course of site development, re-evaluation will be necessary.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices in this area at the time the report was prepared. No warranty or other conditions, express or implied, should be understood.

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**SITE COORDINATES:**

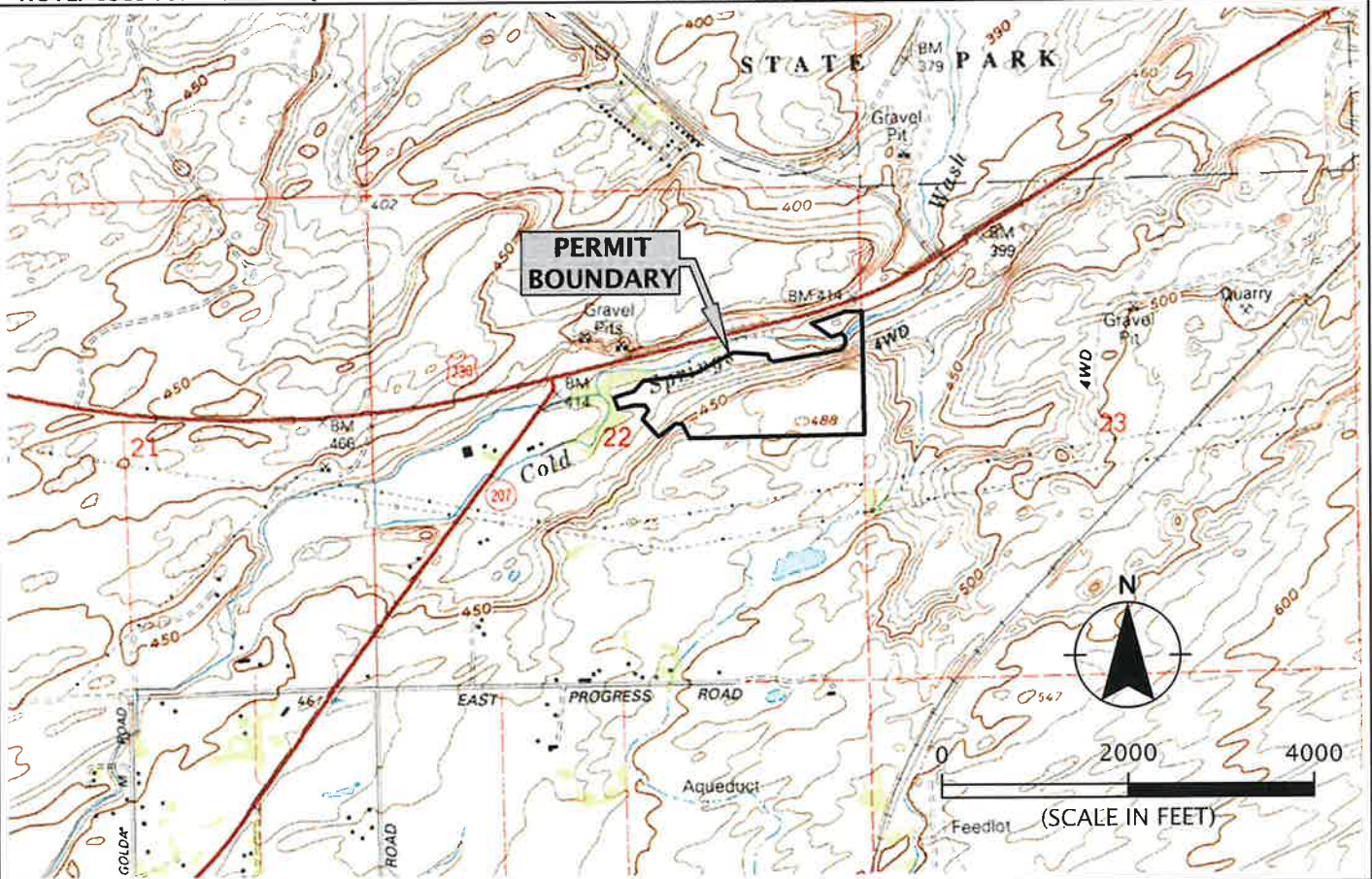
LATITUDE: 45° 54' 7.5" N  
 LONGITUDE: 119° 10' 1.2" W

**LEGAL DESCRIPTION**

THE PERMIT BOUNDARY IS LOCATED IN PORTIONS OF THE FOLLOWING QUARTER-QUARTER SECTIONS:

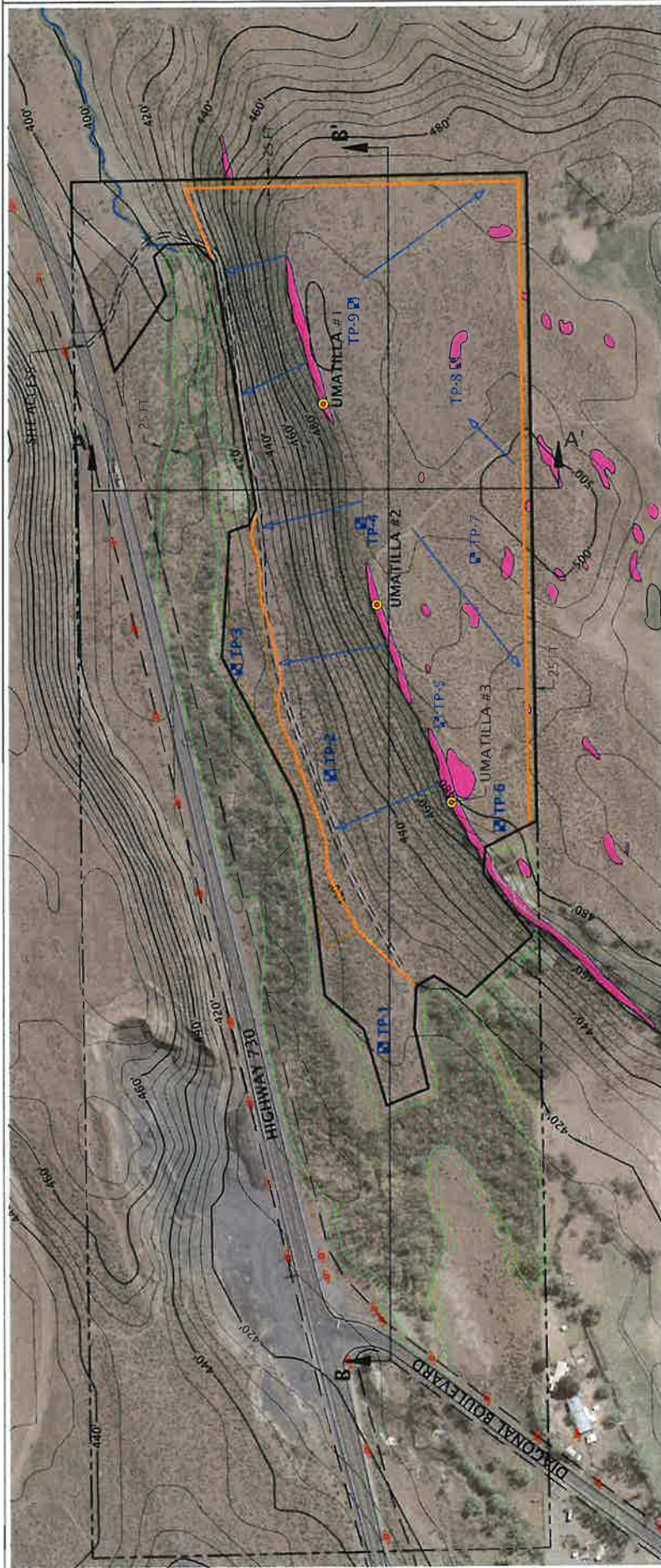
- SE QUARTER OF THE NE QUARTER OF SECTION 22
- SW QUARTER OF THE NE QUARTER OF SECTION 22

**NOTE:** USGS TOPOGRAPHIC QUADRANGLE MAPS REPRODUCED USING MAPTECH TERRAIN NAVIGATOR PRO®.



Printed By: Mike Miller | Print Date: 1/17/2024 7:59:53 AM  
 File Name: J:\E-L\Fulcrum\Geo\FulcrumGeo-1-01\Figures\FulcrumGeo 007.01.01\CAD\007.01.01-VM01.dwg | Layout: FIGURE 1

<b>FULCRUM</b> <b>GEO RESOURCES</b>	CRP & HAULING, LLC	<b>VICINITY MAP</b>	
	PROJECT 007.01.01 JANUARY 2024	UMATILLA COUNTY, OR SECTION 22, TOWNSHIP 5N, RANGE 29E, W.M.	<b>FIGURE 1</b>

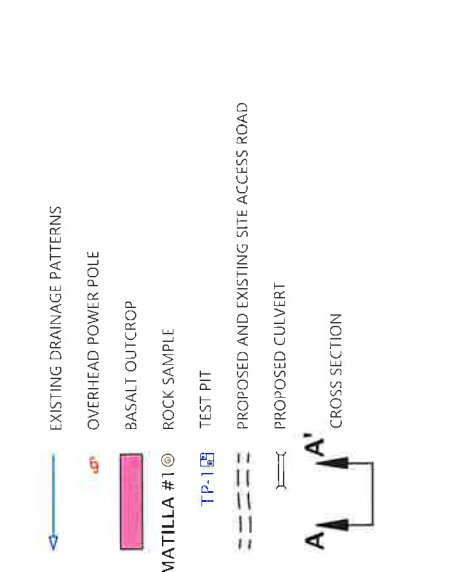


**LEGEND:**

- PROPERTY BOUNDARY
- PERMIT BOUNDARY (46.7 ACRES)
- EASEMENT
- LIMITS OF EXTRACTION (38.0 ACRES)
- EXISTING TOPOGRAPHY (5-FOOT INTERVALS; 20-FOOT INDEX CONTOURS)
- WETLAND
- 25-FOOT WETLAND BUFFER
- ARTIFICIAL DRAINAGE PATH
- EXISTING DRAINAGE PATTERNS
- OVERHEAD POWER POLE
- BASALT OUTCROP
- UMATILLA #1
- TP-1
- TP-2
- TP-3
- TP-4
- TP-5
- TP-6
- TP-7
- TP-8
- TP-9
- PROPOSED AND EXISTING SITE ACCESS ROAD
- PROPOSED CULVERT
- CROSS SECTION

**NOTES:**

- PROPERTY BOUNDARY AND EASEMENTS BASED ON SURVEY DATED AUGUST 4, 2022, PREPARED BY SURVEY ONE, LLC
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**ATTACHMENT A**

**TEST PIT LOGS**

# Test Pit Logs



**CRP & Hauling, LLC - Umatilla County Site**

**Contractor** CRP & Hauling, LLC  
**Operator** Doug Cox  
**Equipment** CAT Excavator, 2-ft toothed bucket

**Project #** 007.01.01  
**Date** 11/14/2023

Test Pit	Depth (feet)	Notes	Samples & Lab Results
TP-1	Surface	Grass with sage brush; topsoil 2 to 3 inches thick.	#1 @ 4 feet: 0.8% fines
	0.0 - 7.0	Loose, light brown-gray, fine to medium SAND (SP), trace silt, moist (Missoula Flood deposits).  Exploration completed at 7 feet depth. Moderate to severe caving from 1 to 7 feet. No groundwater encountered.	
TP-2	Surface	Grass with sage brush; topsoil 4 to 6 inches thick.	
	0.0 - 6.5	Loose, light brown-gray, fine SAND (SP), trace silt, moist (Missoula Flood deposits).  Exploration completed at 6.5 feet depth. Moderate to severe caving from 1 to 6.5 feet. No groundwater encountered.	
TP-3	Surface	Grass with sage brush; topsoil 4 to 6 inches thick.	
	0.0 - 7.0	Loose, light brown-gray, fine to medium SAND (SP), trace silt, dry to moist (Missoula Flood deposits); Stratified with alternating beds 6 to 18 inches thick of fine sand and fine-to-medium sand.  Exploration completed at 7 feet depth. Moderate to severe caving from 1 to 7 feet. No groundwater encountered.	
TP-4	Surface	Grass with sage brush; topsoil 2 to 3 inches thick.	#1 @ 2 feet
	0.0 - 4.5	Loose, light brown-gray, fine to medium SAND (SP), trace silt, moist (Missoula Flood deposits); Becomes dry at 1.5 feet, then moist at 3 feet.  Exploration completed at 4.5 feet depth due to refusal on bedrock (competent, hard BASALT). Moderate caving from 0.5 to 4.5 feet. No groundwater encountered.	
TP-5	Surface	Grass with sage brush; topsoil 2 to 3 inches thick.	
	0.0 - 6.0	Loose, light brown-gray, fine to medium SAND (SP), trace silt, moist (Missoula Flood deposits); Becomes dry at 1.5 feet, then moist at 3.5 feet.  Exploration completed at 6 feet depth due to refusal on bedrock (competent, hard BASALT). Moderate to severe caving from 1 to 6 feet. No groundwater encountered.	
TP-6	Surface	Grass with sage brush; topsoil 3 to 4 inches thick.	
	0.0 - 2.2	Loose, light brown-gray, fine to medium SAND (SP), trace silt, moist (Missoula Flood deposits).  Exploration completed at 2.2 feet depth due to refusal on bedrock (competent, hard BASALT). No caving observed. No groundwater encountered.	
TP-7	Surface	Grass with sage brush; topsoil 2 to 3 inches thick.	
	0.0 - 5.5	Loose, light brown-gray, fine to medium SAND (SP), trace silt, moist (Missoula Flood deposits); Becomes dry at 1.4 feet, then moist at 3 feet.  Exploration completed at 5.5 feet depth due to refusal on bedrock (competent, hard BASALT). Moderate caving from 1 to 5.5 feet. No groundwater encountered.	
TP-8	Surface	Grass; topsoil 2 to 3 inches thick; near boundary of exposed bedrock area about 100 feet x 50 feet.	
	0.0 - 1.5	Loose, light brown-gray, fine to medium SAND (SP), trace silt, moist (Missoula Flood deposits); Becomes gravelly at 0.8 feet (weathered basalt boulders).  Exploration completed at 1.5 feet depth due to refusal on bedrock (competent, hard BASALT). No caving observed. No groundwater encountered.	
TP-9	Surface	Grass with sage brush; topsoil 2 to 3 inches thick.	
	0.0 - 6.0	Loose, light brown-gray, fine to medium SAND (SP), trace silt, moist to dry (Missoula Flood deposits); Slightly coarser sand toward bottom.  Exploration completed at 6 feet depth due to refusal on bedrock (competent, hard BASALT). Moderate caving from 0.5 to 6 feet. No groundwater encountered.	

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## **ATTACHMENT B**

### **LABORATORY TEST RESULTS**



# Carlson Testing, Inc.

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Bend Office (541) 330-9155  
Geotechnical Office (503) 601-8250  
Eugene Office (541) 345-0289  
Salem Office (503) 589-1252  
Tigard Office (503) 684-3460

UMATILLA COUNTY  
COMMUNITY DEVELOPMENT

January 26, 2023  
CTI Job #T2207311  
Lab Log #22-0613

NV5 - Erick Staley  
9450 SW Commerce Cir Ste. 300  
Wilsonville, OR 97070

RE: **GOAL 5 RESOURCES EVALUATION TESTING**  
**NV5 - UMATILLA #1 - LABORATORY TESTING**

As requested, Carlson Testing Inc. has completed LA Abrasion, Oregon Air Degradation, and Soundness of Aggregates tests conducted on a sample of out-crop basalt-bedrock material from the Umatilla #1 site. The sample was collected by your representative on December 13, 2022 from the site and delivered to our Tigard facility on December 15, 2022. Testing was completed on January 24, 2023. ODOT Section 2630.11 and 00745 specifications applied at client's request. Following are the test results:

#### LOS ANGELES ABRASION – AASHTO T96:

Sample Identification	Test Results
Sample Number	1
Nominal Maximum Aggregate Size, inch	1/2"
Grading	B
Revolutions	1000
Percent Loss to Abrasion, %	10.1%
ODOT Section 2630.11 Specification	35.0% Maximum

#### OREGON AIR DEGRADATION (OAD) – ODOT TM 208:

Test Identification	Test Results	ODOT Section 2630.11 Specifications
Sediment Height, inch	0.6	3.0" Maximum
% Passing the #20 Sieve, %	1.4	30.0% Maximum

#### SOUNDNESS IN AGGREGATE USING MAGNESIUM SULFATE (COARSE AGGREGATE) – AASHTO T104:

Sieve Fraction	Weight Before Test, gms	Weight After Test, gms	Weight Loss After 5 Cycles, gms	Percent Loss After 5 Cycles, %
3/4" to 3/8"	1001	995	6	0.6
3/8" to #4	299	296	3	1.0

Average Percent Loss after 5 Cycles: 0.8%


ODOT Section 00745 Specification: 12.0% Maximum

This sample meets specifications and requirements of the Goal 5 Resources evaluation testing.

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Respectfully submitted,

**CARLSON TESTING, INC.**



Jason Bryant  
QA Manager

cb  
cc: NV5 - ERICK STALEY

ERICK.STALEY@NV5.COM

JAN 24 2024

UMATILLA COUNTY  
COMMUNITY DEVELOPMENT

Bend Office (541) 330-9155  
 Geotechnical Office (503) 601-8250  
 Eugene Office (541) 345-0289  
 Salem Office (503) 589-1252  
 Tigard Office (503) 684-3460

# Carlson Testing, Inc.

January 8, 2024  
 CTI #T2302808  
 Lab Log #23-0571

Fulcrum GeoResources LLC – Erick Staley  
 17600 Pacific Highway Unit 357  
 Marylhurst, OR 97036

**RE: GOAL 5 AGGREGATE QUALIFICATION TESTING  
 CRP – LAB TESTING  
 UMATILLA, OR**

As requested, Carlson Testing Inc. (CTI) has completed two (2) sets of Goal 5 Aggregate Qualification testing conducted on a sample of basalt rock and sand material. The samples were collected by your representative on November 14, 2023 from onsite test pits and outcrop and submitted to our Tigard laboratory on November 15, 2023. AASHTO T104 Soundness in Aggregates testing performed by our Salem Laboratory. ODOT Aggregate specifications were applied at the client’s request. Testing was completed on December 27, 2023. Following are the results:

**UMATILLA #2:**

**LOS ANGELES ABRASION – AASHTO T96:**

Grading	Revolutions	Percent Loss to Abrasion, %	ODOT Section 02630 Specifications
B	500	12.4	35.0% Maximum

**OREGON AIR DEGRADATION - ODOT TM 208:**

Test ID	Test Results	ODOT Section 02630 Specifications
Sediment Height, inches	0.5"	3.0" Maximum
Passing the #20 sieve, %	11.7%	30.0% Maximum

**SOUNDNESS IN AGGREGATES USING SODIUM SULFATE (FINE AGGREGATE) – AASHTO T104:**

Sieve Fraction	Weight Before Test, gms	Weight After Test, gms	Weight Loss After 5 Cycles, gms	Percent Loss After 5 Cycles, %
2-1/2" to 1-1/2"	5100.8	5050.0	50.8	1.0
1-1/2" to 3/4"	1534.2	1502.2	32.0	2.1
3/4" to 3/8"	1010.0	994.8	15.2	1.5
3/8" to #4	302.2	296.9	5.3	1.8

Average Percent Loss, %: 1.6%  
 ODOT Section 00745 Specifications: 12.0% Maximum

**UMATILLA #3:**

**LOS ANGELES ABRASION – AASHTO T96:**

Grading	Revolutions	Percent Loss to Abrasion, %	ODOT Section 02630 Specifications
B	500	11.6	35.0% Maximum

**OREGON AIR DEGRADATION - ODOT TM 208:**

Test ID	Test Results	ODOT Section 02630 Specifications
Sediment Height, inches	0.3"	3.0" Maximum
Passing the #20 sieve, %	12.4%	30.0% Maximum

**SOUNDNESS IN AGGREGATES USING SODIUM SULFATE (FINE AGGREGATE) – AASHTO T104:**

Sieve Fraction	Weight Before Test, gms	Weight After Test, gms	Weight Loss After 5 Cycles, gms	Percent Loss After 5 Cycles, %
2-1/2" to 1-1/2"	4943.7	4912.4	31.3	0.6
1-1/2" to 3/4"	1502.9	1480.9	22.0	1.5
3/4" to 3/8"	1007.1	992.2	14.9	1.5
3/8" to #4	302.1	296.7	5.4	1.8

Average Percent Loss, %: 1.4%  
 ODOT Section 00745 Specifications: 12.0% Maximum

**MATERIAL FINER THAN THE #200 SIEVE BY WASHING – AASHTO T11:**

Sample Identification	Test Data
Location/Exploration/Depth	TP-1
Description/Classification	Sand
Maximum Aggregate Size	#4
Method	Procedure A - Water
Moisture Content, %	2.3
Material Finer than #200 Sieve, %	0.8

The sample submitted meets the aggregate quality requirements for ODOT Section 02630 and 00745 Aggregate Qualification.

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Respectfully submitted,  
**CARLSON TESTING, INC.**



Jason Bryant  
 QA Manager

jsb

CC: FULCRUM GEORESOURCES LLC – ERICK STALEY

Erick@fulcrumgeo.com

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UMATILLA COUNTY  
COMMUNITY DEVELOPMENT

# SOUND ANALYSIS

## CRP & HAULING MINE

Umatilla County, Oregon

January 2024

CEI PROJECT NO. 232865

**SOUND ANALYSIS**

**PREPARED FOR:**

**CRP & Hauling, LLC  
PO Box 131  
Hermiston, Oregon 97838**

**CEI Project No. 232865**

**PREPARED BY:**

**COFFMAN ENGINEERS, INC.  
1101 Second Avenue, Suite 400  
Seattle, Washington 98101**

**CONTACT:**

**Ioana Park, P.E.  
Acoustics  
ioana.park@coffman.com  
206-623-0717**

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## **1. INTRODUCTION**

Coffman Engineers, Inc. (Coffman) has prepared the following report to describe sound levels associated with proposed mining activities at the CRP Mine near Hermiston in Umatilla County, Oregon. The report presents baseline sound levels measured in the vicinity of the project site, noise-emission characteristics of proposed noise sources, calculated sound levels due to the proposed operations, and noise mitigation measures for proposed activities.

## **2. PROJECT SITE AND SURROUNDING LAND USES**

An aerial photograph of the proposed CRP Mine site, surrounding properties, and sound analysis locations are shown in Figure 2-1.

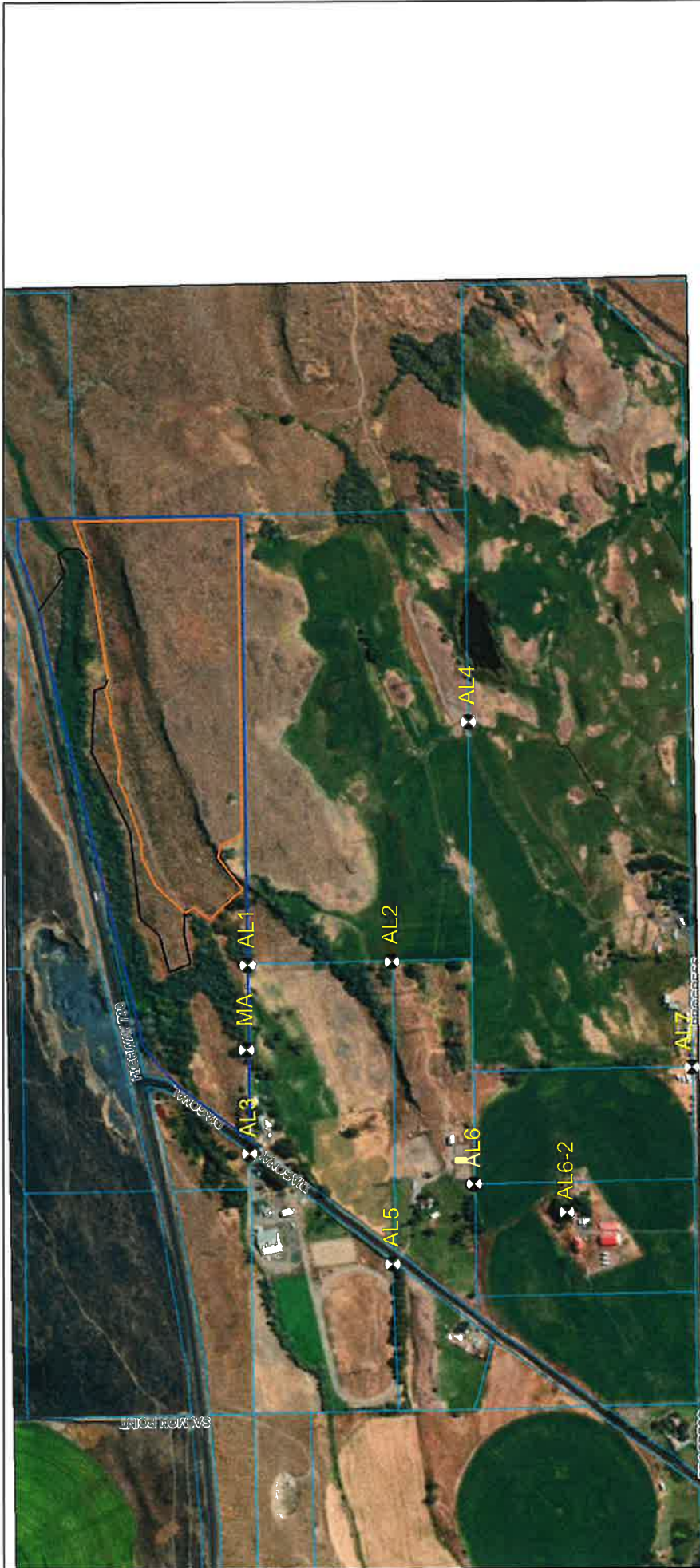
The proposed CRP Mine is located in unincorporated Umatilla County, Oregon, Northeast of Hermiston. The proposed project occupies the Southeast quadrant of Umatilla County Parcel 5N29220000400 (Umatilla Tax Account 127060).

The Applicant requests to establish a new aggregate site, add the site to the Umatilla County Comprehensive Plan list of Goal 5 protected Large Significant Sites, and apply the Aggregate Resource (AR) Overlay Zone to the entire quarry site.



The project property and most surrounding properties are zoned Exclusive Farm Use (EFU). The property to the north, across Highway 430, is zoned Exclusive Farm Use-Aggregate Resource (EFU/AR).

The nearest residences are located South and Southwest of the project site, East and West of Diagonal Boulevard and 550 to 1750 feet from the permit boundary.





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Checked	<p style="text-align: center;"> <b>Figure 2-1</b>  <b>CRP Mine Sound Analysis</b>  <b>Site Plan and Sound Analysis Locations</b> </p> 		

### 3. SOUND LEVEL DESCRIPTORS AND CRITERIA

#### 3.1 Sound Level Descriptors:

Sound is measured as sound level in units of decibels, dB. Environmental sound is often measured as A-weighted sound level in dBA. The A-weighting is a specific weighting filter in a sound level meter that corresponds to human hearing sensitivity at the various sound frequencies. People normally experience sound levels between about 30 and 90 dBA, depending on their activity. For example, a loud nearby vehicle, radio or power tool may produce 80 to 90 dBA, normal conversation is about 50 to 60 dBA, and a bedroom or quiet office is about 30 to 40 dBA.

Each 10-dB increase in sound level corresponds to a tenfold increase of sound energy but is judged by a listener as only a doubling of loudness. The smallest changes in sound level considered clearly noticeable are about 3 to 5 dB.

Sound levels from two or more sources are combined using logarithms, not by adding the levels. When two levels are combined, the louder level predominates, and the combined level is the louder level plus 0 to 3 dBA. Some examples: 50 dBA combined with 50 dBA is 53 dBA; 50 dBA combined with 40 dBA results in 50.4 dBA, which is rounded off to 50 dBA since fractions of a dB are negligible from the point of view of human hearing.

Because sound levels fluctuate over time, several A-weighted sound level descriptors are used to characterize the sound over time. An hourly **percentile sound level,  $L_n$** , is defined as the sound level exceeded during  $n$  percent of one hour. For example, the L50 is the sound level exceeded during 50% of one hour, *i.e.*, for a total of 30 minutes during the hour. The hourly L10 is the sound level exceeded during 10% of the hour, *i.e.*, for a cumulative duration of six minutes over the course of the hour. The hourly L1, L10, and L50 are directly relevant to State of Oregon noise regulations, as discussed in Section 3.2 below.

For a sound comprising energy over a range of frequencies, the **sound spectrum** represents the distribution of sound energy by frequency. When considering environmental sound in the State of Oregon, the sound spectrum is also measured. The sound pressure levels are usually measured in frequency bands of one octave centered at frequencies of 31, 63, 125, 250, 500, 1000 (1k), 2000 (2k), 4000 (4k), and 8000 (8k) Hz.

#### 3.2 State of Oregon Noise Regulations:

**Oregon Administrative Rules (OAR) 660-023-0180**, *Mineral and Aggregate Resources*, governs the approval standards for the addition of a significant mineral and aggregate site to Umatilla County's Goal 5 Natural Resource Inventory and determination of whether to allow mining at the site. Under OAR 660-023-0180(5)(b)(A), the County must consider conflicts to existing uses due to noise, and whether such conflicts can be minimized. According to OAR 660-023-0180(1)(g), a conflict is deemed minimized if the applicant can ensure conformance to the applicable federal, state, or local standard, such as Oregon Department of Environmental Quality (DEQ) standards for noise.

**OAR 340-035-0035**, *Noise Control Regulations*, contains State of Oregon DEQ regulations pertaining to noise. Hourly statistical sound levels produced at an industrial or commercial

site and received at nearby noise-sensitive properties are limited to the sound levels listed in Table 3-1.

<b>TABLE 3-1 Oregon DEQ Allowable Statistical Noise Levels in Any One Hour</b>	
<b>7 am – 10 pm</b>	<b>10 pm – 7am</b>
L50 – 55 dBA	L50 – 50 dBA
L10 – 60 dBA	L 10 – 55 dBA
L1 – 75 dBA	L 1 – 60 dBA

The CRP Mine site qualifies as a “previously unused industrial site.” Equipment operating at the facility is subject to an additional limitation on the amount of sound increase over existing sound levels at neighboring noise-sensitive properties. The increase in the hourly statistical sound levels L50 and L10 over ambient statistical levels may not exceed 10 dBA.

The noise limits in Table 3-1 apply to all mining and processing equipment operating at the CRP Mine facility, including haul trucks operating within the mine. Sounds from trucks operating on public roads and sounds from emergency warning beepers are exempt from the limits of Table 3-1 but are subject to the 10-dBA limitation on sound increases.

In addition to the limits on overall A-weighted sound levels, Oregon DEQ also limits the corresponding L50 sound levels in one-octave bands. The limits on one-octave-band sound levels are listed in Table 3-2.

<b>TABLE 3-2                  OREGON DEQ LIMITS ON L50                  IN ONE-OCTAVE BANDS</b>									
<b>Time of Day</b>	<b>OCTAVE-BAND CENTER FREQUENCY, Hz</b>								
	<b>31.5</b>	<b>63</b>	<b>125</b>	<b>250</b>	<b>500</b>	<b>1k</b>	<b>2k</b>	<b>4k</b>	<b>8k</b>
Daytime (7 a.m. – 10 p.m.)	68	65	61	55	52	49	46	43	40
Nighttime (10 p.m. – 7 a.m.)	65	62	56	50	46	43	40	37	34

**3.3 Umatilla County Noise Regulations:**

Noise in Umatilla County is regulated by Chapter 96, *Noise Control*, of the Umatilla County Code. The chapter is focused primarily on noise sources associated with residential land uses, such as air conditioners, residential maintenance, and home entertainment.

Sections 152.485 to 152.491 of Umatilla County Development Code, pertaining to the Aggregate Resource Overlay Zone, and Chapter 112, *Mining*, of the Umatilla County Code make no specific mention of noise.

Therefore, the provisions of the Oregon Noise Regulations are considered to dictate noise limits for the purposes of this analysis.

**4. EXISTING SOUND LEVELS**

**4.1 Sound Measurement Locations:**

Three locations were selected for measurements of baseline sound levels and are shown in Figure 2-1 as Locations AL1, MA, and AL7. The locations were selected to be representative of existing conditions at the sound analysis locations presented in Section 6.2, which are also shown in Figure 2-1.

Locations AL1 and AL7 are among the analysis locations listed in Section 6.2. Location MA is a conservative (worst-case) approximation of baseline conditions at Analysis Location 3; existing sound levels at AL3 are actually higher than measured at MA due to proximity to traffic on Diagonal Boulevard.

**4.2 Continuous and Short-Term Sound Measurements:**

Existing sound levels were monitored continuously for 24 hours at Locations AL1 and MA. The sound monitoring was initiated at 1:30 p.m. at Location AL1 and at 2:30 p.m. at Location MA on Monday, November 27, 2023.

An additional, short-term (10-minute) measurement of sound levels in one-octave bands and A-weighted was conducted at Location AL7. The short-term measurement took place between 1:05 and 1:15 p.m. on Tuesday, November 28, 2023.

The long-term noise monitoring was conducted using a Larson Davis LxT and a Rion Model NL-32 Sound Level Meter. The short-term measurements were conducted using a Larson Davis 831 Real-Time Spectrum Analyzer. All instruments conform to the specifications of ANSI S1.4 for Type I instruments.

All measurements were conducted at the first-story elevation of five feet above-ground elevation.

Weather conditions were overcast with average wind speeds of 3 to 7 mph from the east, daytime temperatures in the mid-30s, and nighttime temperatures in the upper 20s degrees Fahrenheit. The weather conditions were within the range accepted by the Oregon DEQ *Sound Measurement Procedures Manual*.

A summary of the long-term and short-term measured sound levels, including overall statistical levels over several hours, is presented in Table 4-1.

<b>TABLE 4-1 SUMMARY OF SOUND-LEVEL MEASUREMENTS (dBA)</b>				
<b>Measurement Location</b>	<b>Measured Sound Levels</b>			
	<b>Daytime (7 a.m. to 10 p.m.)</b>		<b>Nighttime Hour of Operation (6 to 7 a.m.)</b>	
	<b>L50</b>	<b>L10</b>	<b>L50</b>	<b>L10</b>
AL1	37-49 Overall 46	46-57 Overall 56	Overall 47	Overall 53
MA	37-49 Overall 46	47-55 Overall 54	Overall 46	Overall 52
AL7*	31	38	<i>not measured</i>	<i>not measured</i>
<i>*10-minute measurement</i>				

The main source of existing noise at the sound measurement locations was traffic, including truck traffic, on SR-730 and Diagonal Boulevard. Since the purpose of the sound measurements was to characterize overall baseline sound levels at the property, the measurement instruments were not paused for truck pass-bys.

The neighboring Umatilla Ready-Mix operation was active until 3 p.m. on each measurement day. Reported activities included stockpiling and load-out of material, but no aggregate processing. Sound from these activities was not audible at the sound measurement locations.

Table 4-1 shows that the results of the continuous noise monitoring and short-term sound measurements were below Oregon DEQ daytime and nighttime noise limits at all measurement locations. The comparison with noise limits is presented for reference only. The measured sound levels include contributions from sources such as traffic and aircraft flyovers, which are not subject to the noise limits of Table 3-1.

## 5. PROPOSED OPERATIONS AND SOUND EMISSIONS

### 5.1 Proposed Operations:

Proposed activities consist of occasional blasting followed by extraction, operation of a rock crusher, scale, office, stockpile areas, and an asphalt batch plant. The proposed hours of operation are 6 a.m. to 7 p.m.

The locations and activities related to each of the operation's components, as assumed in the Sound Analysis, are described briefly below.

Extraction of rock material (mining) would occur in the Southeast quadrant of the site, on benches between an existing elevation of 500 feet Above Sea Level (ASL) and the proposed mine floor elevation of 420' ASL. Rock extraction would be effected by drilling, blasting, and truck-loading. The resulting rock material would be trucked to the processing facility.

Extraction of sand would occur in a band of terrain between the rock-mining benches and the pit floor. Sand would be extracted using a front-end loader and in-mine trucks and stockpiled for delivery off-site or for use in the construction of berms and reclamation.

Aggregate processing (crushing, screening, sorting, and washing) would take place near the center of the mine. Equipment would include a jaw crusher, cone crusher, sorting screens, and conveyors. The resulting aggregate would be stockpiled for delivery off-site or transported to the proposed asphalt batch plant.

Asphalt production would take place near the center of the mine. Equipment would include a burner, bag-house with blower, and hopper for loading trucks.

Haul Trucks transporting aggregate or asphalt off site would access the site from US-730 at the North site access (elevation 390 feet ASL). According to the project Transportation Impact Analysis (TIA) prepared by Kittelson & Associates dated May 2023, the project would generate 17 truck roundtrips (17 in and 17 out) during a weekday a.m. peak hour. A.m. peak traffic hours are from 7 to 9 a.m. according to the TIA.

Perimeter buffers of minimum 25-foot width would be maintained between the quarry and properties to the east and south. The separation between the limits of extraction and the North and West property boundaries would be 250 feet and 900 feet, respectively, as imposed by the presence of wetlands.

### 5.2 Equipment Sound Emissions:

Reference L50 sound levels of equipment proposed for the CRP Mine were obtained from the Coffman database. The source sound levels normalized to a reference distance of 50 feet are shown in Table 5-1.

<b>TABLE 5-1 REFERENCE SOUND LEVELS OF EQUIPMENT</b>		
<b>Source</b>	<b>L50 at 50 Feet, dBA</b>	<b>Source Height, Feet</b>
<b>Mining</b>		
Loader Loading Truck	83	8
Rock Drill	84	8
<b>Processing</b>		
Cone Crusher	88	10
Finish Screen Tower	89	15
Jaw Crusher	80	15
<b>Asphalt Plant</b>		
Burner	80	10
Bag-House Blower	80	5

According to the Oregon DEQ standards, warning devices such as back-up alarms are exempt from the noise limits of Tables 3-1 and 3-2.

## 6. CALCULATED SOUND LEVELS AND EVALUATION

### 6.1 Methodology and Sound Modeling Scenarios:

The sound-level calculations were performed using the CadnaA program, which is based on International Standard ISO 9613 for the prediction of environmental noise. The model takes into account the sound power level, directivity, location, and height of the noise sources, distance, ground cover and topography between the noise source and receiver, atmospheric conditions, and location and height of the receiver.

Three noise-modeling scenarios were selected for analysis in order to represent proposed mining, processing, and asphalt-production operations. Table 6-1 lists the modeled scenarios and assumptions regarding topographical features and location of equipment during proposed activities.

TABLE 6-1 NOISE MODELING SCENARIOS FOR PROPOSED OPERATIONS			
Variant	Topographical Conditions	Scenario Description	Sound Source Locations
10	Extraction areas at existing elevations, sloping from 420' to 500'	Rock mining at south extraction limit, 485'	Loader, truck, rock drill
		Sand mining at southwest extraction limit, 435'	Loader, truck
		Aggregate processing in southwest portion of extraction area, 440'	Jaw crusher, cone crusher, screen
	25'-wide buffer areas at south and east perimeter 900' setback to west property boundary	Asphalt plant near center of extraction area, 440'	Burner, blower
		Loadout between north site access and west limits of extraction	17 hourly roundtrips
20	Extraction areas at existing elevations, sloping from 420' to 500'	Rock mining at southwest extraction limit, 460'	Loader, truck, rock drill
		Sand mining at southwest extraction limit, 435'	Loader, truck
		Aggregate processing in southwest portion of extraction area, 440'	Jaw crusher, cone crusher, screen
	25'-wide buffer areas at south and east perimeter 900' setback to west property boundary	Asphalt plant near center of extraction area, 440'	Burner, blower
		Loadout between north site access and west limits of extraction	17 hourly roundtrips
30	Pit floor at final elevation  (420' ASL)	Rock mining on low bench near southwest corner of extraction limits, 450'	Loader, truck, rock drill
		Sand mining at pit floor near southwest corner of extraction limits, 420'	Loader, truck
		Aggregate processing in southwest portion of pit floor, 420'	Jaw crusher, cone crusher, screen
	25'-wide buffer areas at south and east perimeter 900' setback to west property boundary	Asphalt plant near center of extraction area, 420'	Burner, blower
		Loadout between north site access and west limits of extraction	17 hourly roundtrips

**6.2 Sound Analysis Locations:**

For the purpose of analyzing sound levels from proposed operations, eight sound-analysis locations were selected to represent noise-sensitive properties near the project site. The analysis locations are listed in Table 6-2 and shown in Figure 2-1.



<b>TABLE 6-2 DESCRIPTION OF ANALYSIS LOCATIONS</b>	
Analysis Location	Description
AL1	NE corner of Parcel 126956, 34316 Diagonal Rd.
AL2	NE corner of Parcel 126967, 34214 Diagonal Rd.
AL3	NE corner of Parcel 126964, 34287 Diagonal Rd.
AL4	North property line of Parcel 126969, 33869 E. Progress Rd.
AL5	NE corner of Parcel 126963, 34253 Diagonal Rd.
AL6	NE corner of Parcel 126978, 33679 E. Progress Rd.
AL6-2	2 <sup>nd</sup> -story window of residence at 33679 E. Progress Rd.
AL7	North property line of Parcel 130134, 33800 E. Progress Rd.

**6.3 Calculated Sound Levels:**

Calculated L50 sound levels from the operations listed in Table 6-1 are shown in Table 6-3. The table also shows applicable Oregon DEQ noise limits and baseline sound levels.

For a worst-case examination, it was assumed that all the equipment listed in Table 5-1 operates at the listed sound levels for at least 30 minutes of each hour, therefore, contributes to the hourly L50. The sound levels from the equipment listed in Table 5-1 were relatively steady, with fluctuations of no more than 7 dBA between the L1 and L50 and 3 dBA between the L10 and L50. Since the Oregon DEQ (Table 3-1) allows the hourly L1 to exceed the hourly L50 by 20 dBA during the daytime and by 10 dBA at night, compliance of the calculated L50 with noise limits also ensures that the corresponding L10 and L1 will comply with the respective noise limits.

**TABLE 6-3  
CALCULATED SOUND LEVELS (dBA)  
PROPOSED MINING OPERATIONS  
WITHOUT ADDITIONAL NOISE MITIGATION**

Scenario Description		Sound Levels at Analysis Locations							
		1	2	3	4	5	6	6-2	7
10	Total L50 during start of mining	<u>64</u>	<u>54</u>	<u>54</u>	48	49	49	47	44
	L50 from rock mining at south extraction limit	<u>54</u>	<u>50</u>	47	47	42	42	42	39
	L50 from sand mining at southwest extraction limit	<u>60</u>	48	47	36	42	43	38	37
	L50 from processing in southwest area	<u>61</u>	49	<u>51</u>	39	46	45	43	41
	L50 from asphalt in center area	44	38	40	35	36	33	33	30
20	Total L50 during mining at southwest extraction limit	<u>66</u>	<u>55</u>	<u>55</u>	44	50	50	46	44
	L50 from rock mining at southwest extraction limit	<u>63</u>	<u>51</u>	<u>50</u>	39	45	46	41	40
	L50 from sand mining at southwest extraction limit	<u>60</u>	48	47	36	42	43	38	37
	L50 from processing in southwest area	<u>61</u>	49	<u>51</u>	39	46	45	43	41
	L50 from asphalt in center area	44	38	40	35	36	33	33	30
30	Total L50 during final stages of mining	<u>61</u>	47	<u>54</u>	42	47	46	44	39
	L50 from rock mining on low bench near SW extraction limit	<u>55</u>	40	47	31	40	37	34	30
	L50 from sand mining at pit floor near southwest extraction limit	<u>52</u>	37	44	29	37	35	30	28
	L50 from processing in southwest area	<u>59</u>	44	<u>53</u>	39	45	45	43	37
	L50 from asphalt in center area	44	37	37	37	33	33	33	30
Existing baseline daytime L50		37-49 Overall 46		37-49 Overall 46					31
Existing baseline L50 6-7 a.m.		47		46					
Oregon DEQ daytime noise limits for L50		55	55	55	55	55	55	55	55
Oregon DEQ daytime noise limits for L10		60	60	60	60	60	60	60	60
Oregon DEQ nighttime noise limits for L50		50	50	50	50	50	50	50	50
Oregon DEQ nighttime noise limits for L10		55	55	55	55	55	55	55	55
<i>Sound levels shown in Italics and underlined exceed Oregon DEQ nighttime noise limits</i>									

**6.4 Evaluation:**

Table 6-3 shows that calculated L50 sound levels from proposed operations at the CRP Mine meet the Oregon DEQ daytime noise limit of 55 dBA at all analysis locations with the exception of AL1. Sound levels at this location without additional noise mitigation exceed the daytime noise limit by up to 11 dBA. The exceedances are partly due to processing activities in the southwest portion of the extraction area and partly due to sand and rock mining at the west limit of the extraction area.

Furthermore, the results of Table 6-3 show that sound levels from mining and processing activities as received at Analysis Location 1 are expected to exceed the nighttime noise limit of 50 dBA L50, which is in effect during the proposed hours of 6 a.m. to 7 a.m. Sound levels from proposed processing activities are also expected to exceed the nighttime noise limit at Analysis Locations 2 and 3.

Sound levels (L50) from proposed activities without additional noise mitigation are expected to exceed baseline measured sound levels by more than 10 dBA at Analysis Locations 1 and 7, primarily due to mining near the Southwest corner of the extraction area and due to aggregate-processing activities. Sound increases in excess of 10 dBA are in violation of Oregon DEQ regulations.

Recommendations for sound-mitigation measures during these operating conditions are provided in Section 7.

## 7. NOISE MITIGATION MEASURES

The proposed CRP Mine incorporates noise mitigation measures in the form of perimeter buffers of minimum 25-foot width to the east and south and separation of 250 to 900 feet between the limits of extraction and property boundaries to the north and west. These measures were taken into account in the sound-level calculations of Section 6.

The calculated sound levels reported in Section 6 show sound levels at AL1 exceeding Oregon DEQ daytime and nighttime noise limits and exceeding the DEQ sound-increase limit during mining near the Southwest corner of the extraction area and during aggregate processing. The results also show that hourly L50 sound levels during several proposed phases of the operation would exceed the nighttime noise limit of 50 dBA.

The following additional noise-mitigation measures are recommended in order to bring sound levels from mine operations into compliance with OAR 340-35:

- Construct a pair of sound berms ranging in height from 20 to 25 feet at the Southwest corner of the extraction limits, as shown by the pink lines in Figure 7-1. The East (Upper) Berm, 20 feet in height and approximately 540 feet long, would be built atop the existing rock face. The West (Lower) Berm would be approximately 530 feet long and range in height from 20 feet at its East End to 25 feet at its West End. It would be constructed against the existing, natural rock wall at the Southwest Corner of the extraction area. The berms should be constructed during initial clearing of the mining area. Subsequently, they should be maintained in place for the life of the operation, in order to provide shielding of residences along Diagonal Road from mining and aggregate-processing activities.
- Restrict the schedule of aggregate processing (crushing and screening) to the hours after 7 a.m., during which the Oregon DEQ daytime noise limits are in effect.

Table 7-1 presents calculated sound levels during proposed daytime mine operations with noise mitigation. The table also shows applicable Oregon DEQ daytime noise limits and baseline sound levels measured at properties in the vicinity of the project site during daytime hours. With the sound berms in place, L50 sound levels from all mining, processing, and asphalt-production activities are expected to meet the Oregon DEQ daytime noise limit of 55 dBA at all Analysis Locations.

Table 7-2 presents calculated sound levels during activities proposed for the 6-7 a.m. hour with noise mitigation. These include rock and sand mining and asphalt production. L50 sound levels from all these activities with mitigation meet the nighttime noise limit of 50 dBA.

Tables 7-1 and 7-2 show that projected sound levels during proposed operations with noise mitigation are within 10 dBA of baseline L50 sound levels at the Analysis Locations. Therefore, the sound levels with noise mitigation are in compliance with all the provisions of OAR 340-035-0035 pertaining to new noise sources located on previously unused sites.



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Figure 7-1  
CRP Mine Sound Analysis  
Recommended Sound Berms



Date	Name
01-19-2024	IP

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**TABLE 7-1  
 CALCULATED SOUND LEVELS (dBA)  
 PROPOSED DAYTIME MINING OPERATIONS  
 WITH NOISE MITIGATION**

Scenario Description		Sound Levels at Analysis Locations							
		1	2	3	4	5	6	6-2	7
16	Total L50 during start of mining with sound berms	54	49	50	44	45	45	44	40
	L50 from rock mining at south extraction limit	45	43	39	42	36	32	37	37
	L50 from sand mining at southwest extraction limit	43	36	34	29	29	29	28	22
	L50 from processing in southwest area	53	47	49	36	44	44	43	37
	L50 from asphalt in center area	43	37	40	35	33	33	33	30
26	Total L50 during mining at SW extraction limit with sound berms	55	48	50	40	45	45	44	38
	L50 from rock mining at southwest extraction limit	47	40	38	33	33	33	32	26
	L50 from sand mining at southwest extraction limit	43	36	34	29	29	29	28	22
	L50 from processing in southwest area	53	47	49	36	44	44	43	37
	L50 from asphalt in center area	43	37	40	35	33	33	33	30
36	Total L50 during final stages of mining with sound berms	53	45	50	40	45	44	43	35
	L50 from rock mining on low bench near SW extraction limit	45	37	33	29	28	29	27	21
	L50 from sand mining at pit floor near southwest extraction limit	42	34	30	25	25	26	24	18
	L50 from processing in southwest area	51	43	50	37	44	43	42	33
	L50 from asphalt in center area	41	36	37	37	33	33	33	30
Existing baseline daytime L50		37-49 Overall 46		37-49 Overall 46					31
Oregon DEQ daytime noise limits for L50		55	55	55	55	55	55	55	55
Oregon DEQ daytime noise limits for L10		60	60	60	60	60	60	60	60

**TABLE 7-2  
 CALCULATED SOUND LEVELS (dBA)  
 PROPOSED 6-7 A.M. MINING OPERATIONS  
 WITH NOISE MITIGATION**

Scenario Description		Sound Levels at Analysis Location							
		1	2	3	4	5	6	6-2	7
16	Total L50 during start of mining with sound berms	49	45	43	43	39	37	39	38
	L50 from rock mining at south extraction limit	45	43	39	42	36	32	37	37
	L50 from sand mining at southwest extraction limit	43	36	34	29	29	29	28	22
	L50 from asphalt in center area	43	37	40	35	33	33	33	30
26	Total L50 during mining at SW extraction limit with sound berms	49	43	43	38	37	37	36	32
	L50 from rock mining at southwest extraction limit	47	40	38	33	33	33	32	26
	L50 from sand mining at southwest extraction limit	43	36	34	29	29	29	28	22
	L50 from asphalt in center area	43	37	40	35	33	33	33	30
35	Total L50 during final stages of mining with sound berms	48	40	39	37	35	35	34	31
	L50 from rock mining on low bench near SW extraction limit	45	37	33	29	28	29	27	21
	L50 from sand mining at pit floor near southwest extraction limit	42	34	30	25	25	26	24	18
	L50 from asphalt in center area	41	36	37	37	33	33	33	30
Existing baseline L50 6-7 .m.		47		46					
Oregon DEQ nighttime noise limits for L50		50	50	50	50	50	50	50	50
Oregon DEQ nighttime noise limits for L10		55	55	55	55	55	55	55	55

In addition to the A-weighted sound levels presented in Tables 6-3, 7-1, and 7-2, the computational noise model also reports resulting sound levels in one-octave bands. These results confirm that the sound levels from the proposed mine with noise mitigation meet the one-octave-band requirements shown in Table 3-2.

## 8. SUMMARY AND CONCLUSION

The findings of the Sound Analysis are summarized as follows:

- Existing measured sound levels are at or below Oregon DEQ noise limits at all measurement locations in the vicinity of the project site. The comparison with noise limits is presented for reference only. The measured sound levels include contributions from sources such as traffic and aircraft flyovers, which are not subject to the Oregon DEQ noise limits.
- Calculated sound levels from proposed operations at the CRP Mine with noise mitigation meet applicable Oregon DEQ noise limits at all Analysis Locations.
- Recommended noise-mitigation measures are as follows:
  - Construct berms ranging in height from 20 to 25 feet at the Southwest Corner of the extraction limits, as described in Section 7.
  - Limit the hours of aggregate processing to begin after 7 a.m.

**END OF REPORT**

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# Subject: Highway 002/US730 Road Approach permit. File 93753.



**LAPP Thomas** <Thomas.Lapp@odot.oregon.gov>  
to Doug Cox, STACEY Addie

Wed, Dec 13, 2023, 2:06 PM

You are viewing an attached message. Umatilla County Mail can't verify the authenticity of attached messages.

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**JAN 24 2024**

**UMATILLA COUNTY  
COMMUNITY DEVELOPMENT**

Doug,

I am emailing today per your request, to state the facts associated with your application to construct a new highway approach road at mile point 191.88, right side of highway, on/from the Columbia River Highway 002/US730. The two existing road approaches serving the subject property will be removed as condition for approval of the new approach, which will result in the net reduction of one approach to the site.

The ODOT District 12 Permits office received your road approach application (from CRP and Hauling) on October 23, 2023.

It was noted on the Land Use Compatibility Statement (signed by Umatilla County Planner Megan Davchevski), that the land use file(s) noted on the application are under review or appeal.

The District 12 Permits Specialist and Region 5 Access Management Engineer worked with the property owner's Designated Agent Doug Cox, for approval to permit construction of the new approach under 'No Alternate Access' criteria for a 'Conditional Use' permit based on the pending land use application decision for EFU/Aggregate Overlay zone, through the Umatilla County Planning Dept.

The applicant's proposed approach design was accepted, and the attached Findings Report was created for the new approach, followed by issuance of the approach construction permit.

When the proposed land use(s) are approved by the Umatilla County Planning Department, the approach permit status will change from a 'Conditional Approval', and the new approach permit will be considered permanent for the land use approved by the County.

The Designated Agent has received the approach construction permit, and as such, may display the permit as evidence that approach permit is approved for construction by ODOT.

Thanks,

Thomas Lapp  
District 12 Permit Specialist  
1327 SE 3<sup>rd</sup> Street  
Pendleton, OR 97801  
Ph (541)278-3450  
Fax (541)276-5767

**One attachment** • Scanned by Gmail



RECEIVED

JAN 24 2024

UMATILLA COUNTY  
COMMUNITY DEVELOPMENT

File Code: PMT 4-70

## FINDINGS WORKSHEET FOR APPLICATION FOR STATE HIGHWAY APPROACH

October 31, 2023

### ENGINEERING STAMP:



RENEWS: 12-31-2023

**DECISION:** The requested application for State Highway Approach is Approved.

**SUBJECT:** Highway Number 002, (Columbia River),  
at Mile Point 191.88  
Application Number 93753

### BACKGROUND INFORMATION

#### APPLICANT

Doug Cox  
CRP & Hauling  
PO Box 131  
Hermiston, OR 97838

#### PROPERTY OWNER

Randy Rupp  
176 Kranichwood Street  
Richland, WA 99352-8458

All requested information for this application was received and the application was deemed complete on 10-31-2023. The application is located in Region 5, District 12.

## **PROPOSED APPROACH LOCATION:**

Highway Classification: Regional, Other, None Highway AADT: 3417  
Posted Speed: 55 Design Speed: 70  
Urban or Rural: Rural  
Lane Configuration: 2 lanes  
Truck flow is 50% of Highway AADT. The property also fronts on Hwy333 (Regional), see Record 93684.

## **PROPERTY INFORMATION**

Property Location: Hermiston  
Tax Map and Lot Number(s): T12-R5-S5DD-TL1900  
Current Use of the Property: Vacant range land  
Proposed Use of the Property: Range land and Rock Quarry  
Local Government Agency: Umatilla County Land Use Case Number: T-093-23 & Z 323-23  
Description of Site Boundaries and Adjoining Properties: North is Hwy002 and West is Hwy333, South and East is Farm and range land.  
Average Daily Traffic of the Proposed Use of the Property: 250 vehicles per day

## **ACCESS INFORMATION**

Reason for the Application: New Approach  
Related records; 33158 (Hwy002, MP191.38) and 33121 (Hwy002, MP191.89), both will be closed. Record 93684 (Hwy333, PM0.11) Application is withdrawn.

## **FINDINGS:**

### ***OAR 734-051-4020(5) No Alternate Access***

*(5) Applications for Properties With No Alternate Access. For an application for an approach to property with a right of access and no alternate access, the department may waive the standards and criteria of this rule for approach road spacing, sight distance and channelization if the department and the applicant agree on an approach location and mitigation measures that optimize safety, highway operations and site design. Approval of an application under this section does not require approval of a*

*deviation. If agreement cannot be reached and the application for a proposed approach does not meet the standards of this rule, then the applicant may request approval of a deviation from the access management standards as set forth in OAR 734-051-3050.*

**Findings of Fact:**

The property does not have alternate access and the Department and the applicant agree on a location and mitigation measures that optimize safety, highway operations and site design for an approach.

Property owner agrees to close 33158 (Hwy002, MP191.38) and 33121 (Hwy002, MP191.89) and withdraw application 93684 (Hwy333, PM0.11).

**FINDINGS of ULTIMATE FACT for a Property with No Alternate Access:**

The property has no means of access other than a highway approach and the highway approach can be permitted in accordance with OAR 734-051-4020(5).

**DECISION:**

**Application for Approach: Approved**

**RECEIVED**

**JAN 24 2024**

**UMATILLA COUNTY  
COMMUNITY DEVELOPMENT**

Edits proposed by Applicant

**UMATILLA COUNTY BOARD-OF COUNTY COMMISSIONERS  
PRELIMINARY FINDINGS AND CONCLUSIONS  
COMPREHENSIVE PLAN TEXT AMENDMENT T-093-23,  
ZONING MAP AMENDMENT #Z-323-23  
MAP ~~SS~~N 29 22; TAX LOT  
#400**

1. APPLICANT: Doug Cox, CRP and Hauling, PO Box 131, Hermiston, OR 97838
2. OWNER: Randy Rupp, 176 Kranichwood Street, Richland, WA 99352
3. REQUEST: The request is to add a portion of Tax Lot 400 on Assessor's Map ~~SS~~N 29 22 to the Umatilla County list of Large Significant Sites, providing necessary protections under Goal 5 including limiting conflicting uses within the impact area, and applying the Aggregate Resource Overlay Zone to the proposed site. The applicant is requesting approval for occasional blasting, extraction, operation of a rock crusher, scale, office, stockpile areas and an asphalt batch plant. The proposed Goal 5 site is a 46.7-acre portion of TL 400, which is 109.65-acres. The goal of this application is to establish the 46.7-acre Large Significant Site with protections under Goal 5 and to allow mining (including blasting), processing, stockpiling and operation of an asphalt batch plant.
4. LOCATION: The subject property is bifurcated by the intersection of Oregon State Highway 730 and State Highway 207. The proposed project area is located south of Highway 730 and east of Highway 207, although the subject property also makes up land north of Highway 730 and west of Highway 207. The subject property is approximately 5 miles east of the City of Umatilla and approximately 5.5 miles north-east of the City of Hermiston.
5. SITUS: The proposed aggregate site does not currently have a situs address.
6. ACREAGE: Tax Lot 400 is assessed as 109.64 acres. The proposed Aggregate Resource Overlay Zone is 46.7 acres.
7. COMP PLAN: The subject property has a Comprehensive Plan designation of North/South Agriculture.
8. ZONING: The subject property is zoned Exclusive Farm Use (EFU). The portion of the subject property north of Highway 730 also as the Aggregate Resource (AR) overlay zone applied.
9. ACCESS: The site has frontage along Highway 730 and Highway 207, and is bisected by both state highways. The applicant has proposed that site access be from Highway 730 and is working with ODOT to obtain approval to relocate the Highway 730 driveway.
10. ROAD TYPE: Both State Highway 207 and 730 are two-lane, paved state highways.

PRELIMINARY FINDINGS AND CONCLUSIONS

Cox Quarry, Text Amendment T-093-23 and Zoning Map Amendment. #Z-323-23

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- 11. EASEMENTS: There are no access or utility easements on the subject property. The applicant provides that there is a long-term lease agreement with ODOT for exclusive permission for extracting aggregate out of the property's existing rock quarry north of Highway 730.
- 12. LAND USE: The subject parcel is bifurcated east to west by State Highway 730. On the north side of the highway is an ODOT quarry which has existed for many years. On the south side of the highway is open space that contains a steep rock bluff on the south half of the parcel. There is a small, remnant part of the parcel that is west of Highway 207 and south of Highway 730. The lower lying ground is used for cattle grazing. No crops are grown on this parcel.
- 13. ADJACENT USE: An approved ODOT mining operation is located on the subject property, north of Highway 730. A steep rock bluff is directly to the north of the parcel. An irrigated crop circle is located north and north west of the subject property. Adjacent to the west side of the subject property is open space with some vegetation and one dwelling. To the south of the subject property is rangeland and one dwelling. The applicant states that the proposed mining area will be 500 feet or more from the two homesites. To the east is primarily open space with some moderate grazing and another aggregate operation.
- 14. LAND FORM: Columbia River Plateau
- 15. SOIL TYPES: The subject property contains predominately Non-High Value soil types. High Value Soils are defined in UCDC 152.003 as Land Capability Class I and II. The soils on the subject property are predominately Class IV.

Soil Name, Unit Number, Description	Land Capability Class	
	Dry	Irrigated
75E: Quincy loamy fine sand, 5 to 25 percent slopes	Vle	Vlle
78B: Quincy-Rock outcrop complex, 1 to 20 percent slopes		Vlle
94A: Starbuck-Rock outcrop complex, 0 to 5 percent slopes	IVe	Vle
119A: Wanser loamy fine sand, 0 to 3 percent slopes		Vlw
122B: Winchester sand, 0 to 5 percent slopes	IVe	Vlle
<i>Soil Survey of Umatilla County Area, 1989, NRCS. The suffix on the Land Capability Class designations are defined as "e" - erosion prone, "c" - climate limitations, "s" soil limitations and "w" - water (Survey, page. 172).</i>		

- 16. BUILDINGS: There are no buildings on the subject property.
- 17. UTILITIES: The site is not served by utilities.
- 18. WATER/SEWER: The applicant provides that there are no water rights associated with the subject parcel. Additionally, there is no septic system. The applicant

PRELIMINARY FINDINGS AND CONCLUSIONS

Cox Quarry, Text Amendment T-093-23 and Zoning Map Amendment. #Z-323-23

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provides that the property owner has other lands in the vicinity that do have water rights. Applicant states that water for dust control will be procured from a permitted water source.

19. FIRE SERVICE: The property is served by the Umatilla Rural Fire District.
20. IRRIGATION: The property is not located within an irrigation district.
21. FLOODPLAIN: The subject property is NOT in a floodplain.
22. WETLANDS: The subject property contains several wetlands identified on the National Wetlands Inventory. Prior to this application, the applicant submitted a request to Oregon Department of State Lands (DSL) for an off-site wetlands determination. Applicant procured engineering services from NV5 (consulting firm) to develop a mine resource evaluation report. Based on the wetlands indicated in the DSL report, NV5 developed a mine plan to avoid impact to the wetland areas, including observation of undisturbed buffers. The applicant subsequently requested a follow-up offsite determination from DSL using the mine plan from the NV5 report. DSL's updated report is attached, concluding "the proposed project area appears to avoid jurisdictional wetlands or waterways. A Removal Fill Permit is not likely to be required." See attached mine resource report dated January 31, 2023.
23. NOTICES SENT: Notice was sent to the Department of Land Conservation and Development (DLCD) on October 5, 2023. Notice was mailed to neighboring land owners and affected agencies on October 20, 2023. Notice was printed in the October 28, 2023 publication of the East Oregonian.
24. HEARING DATE: A public hearing was held before the Umatilla County Planning Commission in the Justice Center Media Room, 4700 NW Pioneer Place, Pendleton, OR 97838 on **November 9, 2023 at 6:30 PM.**

A subsequent hearing is scheduled before the Umatilla County Board of County Commissioners on **December 6, 2023 at 9:00 AM, was continued at the request of the applicant.** The hearing before the Board of Commissioners will be held on February 15, 2024, at 1:30 PM in Room 130 at the County Courthouse, 216 SE 4<sup>th</sup> St., Pendleton, OR 97801.

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25. AGENCIES: Umatilla County Assessor, Umatilla County Public Works, Oregon Department of Transportation Region 5-Highways Division, Oregon Department of Land Conservation and Development, Department of Environmental Quality, Department of Geology and Mineral Industries, Department of State Lands, Oregon Water Resources Department, CTUIR-Natural Resources, CTUIR-Cultural Resources, Umatilla Rural Fire District, Pacific Power, US Fish and Wildlife, Bonneville Power

Administration and Umatilla County Counsel

26. COMMENTS: Several comments were received in opposition prior to the November 9, 2023 Planning Commission Hearing. During the hearing, testimony was provided by the applicant, the applicant's attorney and hired geologist. The applicant's attorney also provided written comment at the hearing (see Exhibit S). Additionally, several project opponents voiced concerns with verbal testimony. Documents received prior to the Planning Commission hearing and during testimony were added to the project record. Comments received following the November 9<sup>th</sup> hearing, Exhibits V and W, have also been incorporated into the preliminary findings.

On November 20, 2023 Darlene Westerling provided verbal comments in opposition of the proposed request. Ms. Westerling's verbal concerns are the effects on the water table, wildlife impacts from drinking from the retention pond, air quality (specifically silica in the dust that can blow 35 miles) and noise funneled to her house from the bluff. She added that the applicant's proposed floor of 80-feet will be below her domestic well and will affect her water quality. She did not want to have to sign a non-remonstrance agreement and was concerned about the applicant's conflicting information.

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Applicant's response: Mining and blasting will not impact the water table utilized by Ms. Westerling's well because; the mine will be maintained above the water table and located at least 1,000 feet from Ms. Westerling's home site. -Mining will focus on the aggregate exposed in the natural bluff and accompanying slope, extracting basalt and sand resources that lie above an elevation of 420 feet above sea level. Ms. Westerling's home site is located at or below an elevation of 420 feet. The well log available for her well from the Oregon Water Resources Department indicates her well was installed in 2002 to a depth of 100 feet with a static water level of 23 feet below ground surface. This water level corresponds to an elevation below 400 feet and at least 20 feet below the proposed mine floor.

Stormwater ponds are a common feature at mine sites and are frequently utilized by wildlife without adverse health effects. The sand and basalt will be relatively free of fines other than that produced by blasting and crushing, and the stormwater pond will be excavated into clean sand with less than 1 percent fines based on laboratory testing, which testing has been submitted into the record by the Applicant

Based on the Air Quality Inc. report submitted by Applicant, Ms. Westerling's property will not be affected by air pollutants from the mine site. Ms. Westerling has not provided any scientific or technical information to indicate any risk of air pollutants or a violation of any regulation governing emission of air pollutants. Silica dust is ubiquitous in the outdoor environment, particularly in dry areas characterized by agriculture, animal husbandry, and rural resource development. Silica exposure risks are assessed for workers in silica-rich environments such as quartz countertop manufacturers, silica mining operations, and construction sites. Ms. Westerling lives a thousand feet from the mine and will not be exposed to adverse concentrations of respirable silica that do not otherwise exist in the natural, dry, rural environment she currently lives in.

Department of State Lands (DSL) provided a Wetland Land Use Notification response, Exhibit U. The response states that the applicant worked with DSL to adjust the site boundaries to



PRELIMINARY FINDINGS AND CONCLUSIONS

Cox Quarry, Text Amendment T-093-23 and Zoning Map Amendment. #Z-323-23

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exclude mapped wetlands. Based on the response from DSL and the site plan that avoids impacts to wetlands, county-Umatilla County can find that the application does not negatively impact a wetland.

Comments in opposition of the request largely consist of various impacts (dust, noise, blasting affects, pollution and other discharges) to existing dwellings and residents, detrimental health effects, farming activities, natural habitats, including the Goal 5 wetland and wildlife, water sources and land values. Other concerns relate to where water will be sourced from, whether or not the provided aggregate sample was adequate, traffic safety, insufficient evidence and conflicting information and statements within the application. Opponents' concerns and the applicant's response are summarized below. The comprehensive statements are available in the corresponding exhibits and audio file of the November 9, 2023 Planning Commission hearing.

**Land Values**

Opponents: Several opponents raise the issue that their land values and resale values will be affected by the proposed quarry and associated mining activities.

Applicant: Applicant provided that there is no evidence in the record to support that nearby land values would decrease. Applicant states that there will probably not be much impact on land values due to the existence of the ODOT quarry. Applicant submits a 2018 Phoenix Center study of the effects of rock quarries on property values and a critique of the study by Patricia Hite raised by project opponents. The 2018 study concludes that there is no statistical evidence that either the anticipation of or the ongoing operation of rock quarries negatively impacts home prices.

**Dust/Noise/Odor/Other Discharges and Impacts**

Opponents: Cody Basford provided oral testimony and asked if an environmental study had been conducted to analyze the potential effects on the wildlife in the wetland area such as ducks, beavers, deer, rabbits, and fish. Kyla Langley Latham stated that she has not seen activity from the existing ODOT quarry.

PRELIMINARY FINDINGS AND CONCLUSIONS

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Barbara Atwood provided oral testimony before the Planning Commission and noted that the existing Umatilla Ready Mix quarry is 1 ½ miles east of this site and her home. This site creates noise, dust and odors that affect her home and property. Although the applicant states wind is primarily from the west, Ms. Atwood states that even with westerly winds this existing aggregate operation impacts her dwelling to the east. The nearby ODOT quarry occasionally has an asphalt plant which is very smelly and affects people with allergies and asthma. She added that this quarry is not very active, however the few blasts that occur do have an effect on her horses. Ms. Atwood stated that she is a physician and this proposed operation and plant will affect residents' health, and those that are sensitive will be greatly affected. She expressed concerns about the affect on wildlife in the area such as deer and birds. She added that the dust impacts will have an impact on nearby crops; she grows alfalfa and the dust will reduce the quality of her crop, she cannot feed alfalfa or hay covered in dust to her horses. Ms. Atwood also provided written testimony (Exhibit K).

Justin Estes provided oral testimony (written testimony Exhibit P) stating that the predominant winds frequently change, the winds are westerly in the summer however they are easterly other times of the year. His property is currently affected by dust and noise from the Umatilla Ready Mix site, over 1 mile east of his property. He added that his house is located within the canyon and he believes that the noise and dust from blasting and crushing will travel down the canyon towards his house. The canyon could not provide sound mitigation, he currently hears trucks from the canyon. He is also concerned about health risks and lung diseases caused from the quarry's dust.

Other opponents echoed the above concerns and stated that the ODOT quarry is not very active and has maybe had activity twice in 18 years.

Applicant: The applicant's response (Exhibit S) states that the existing ODOT quarry north of Highway 730 "has been in place for over 30 years [and] we are not aware of a record or evidence of noise, dust or nuisance complaints about that quarry or mining operation from the surrounding community". The applicant asserts that the natural occurring basalt will provide a natural sound buffer to residences south of the wall, and will have a final benched configuration of up to 80-feet in height. The applicant states that there will always be a vertical barrier due to the existing basalt hillside that continues offsite. Additionally, there will be a top soil berm constructed along the south side of the mining area which will be comprised of organic material, seeded and mulched with native vegetation.

The applicant provided oral testimony stating that the prevailing winds are from the west, so odor from the asphalt batch plant should not be a concern. Blasting will occur a few times a year and will increase the natural barrier. The applicant added that rock crushing will occur after blasting to create stockpiles. The pit will be lower in elevation, this will lower the effects in the impact area. The applicant clarified the hours of operation will be 6am to 3pm for customer pick up and 6am to 7pm for crushing and stockpiling. Blasting and crushing will be done by a separate contractor whom will be responsible for dust and noise mitigation.

Following the Planning Commission hearing, applicant hired Air Sciences, Inc. to study air impacts from the mining and processing. Air Sciences, Inc., whose report is in the record, concluded that emissions from the rock crushing and asphalt plant would not qualify as major sources of pollutants under applicable law and regulations and that the operation will comply with the Oregon Significant

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PRELIMINARY FINDINGS AND CONCLUSIONS

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Emission Rate values.

Regarding dust, the applicant stated that they will have a water truck on site, additionally the

internal roadways will be graveled which will further reduce dust. The applicant stated they will probably have 3 to 5 trucks every half hour coming to the site, the dust will be mitigated by the onsite water truck. However, in Exhibit S the applicant states that one 5,000-gallon truck would be sufficient for a week's time. The applicant stated that runoff would be mitigated. During rebuttal testimony, the applicant asserted that there are regulations regarding dust, noise, other air discharges and odor that the applicant is required to comply with and that they will comply with all DEQ and DOGAMI regulations. The applicant ~~reinstated~~ restated that there ~~have~~ has not been a history of nuisances or complaints of the ODOT quarry, and that the ODOT quarry has not impacted dwellings, farm operations or livestock. Aerial imagery available from Google Earth indicates the ODOT quarry experienced activity in 2015 and 2017; other site activity may have occurred but was not captured by the episodic aerial records.

The applicant added that there will be a topsoil berm constructed with organic material that is seeded and mulched to help control dust from leaving the site.

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The applicant believes that the Occupational Safety and Health Administration Asphalt Fumes article referenced in Ms. Atwood's letter (Exhibit K) which details health concerns and effects from exposure to asphalt fumes is irrelevant. The applicant stated that this article references workers that are exposed to asphalt fumes, not residences at a distance from the working environment.

Since the Planning Commission hearing, applicant retained a professional air quality analysis from Air Sciences Inc., who concluded that air emissions from the proposed operation were below the Oregon Administrative Rule established threshold. The report was researched and written by a professional scientist who has the requisite credentials.

#### **Representative Aggregate Sample**

Opponents: Opponents questioned whether or not one sample was representative of the entire site. Justin Estes provided oral testimony stating that one aggregate sample could not be used to determine the quantity of sand or basalt on the large site.

Applicant: Geologist Erick Staley, representing the applicant, provided oral testimony stating that although only one sample was tested in the lab, he could physically see the basalt onsite and was confident that it met the required quality standards, he believes that his written report supports this statement. Mr. Staley added that more samples were not gathered because of the homogeneous nature of the rock exposed along the site-wide bluff and due to limited access of the site and disturbance to the area.

During rebuttal, the applicant argued that Mr. Staley is an educated expert with a certain level of expertise that should be validated for purposes of determining quantity and quality available at the site. He conducted a site visit and several field tests, including the one aggregate sample, to substantiate his conclusions that the aggregate material on the subject property meets the requirements for establishing a Goal 5 site.

Since the Planning Commission hearing, applicant's Geologist Erick Staley revisited the site and collected additional samples. The additional samples were sent to a lab that confirmed the site aggregate material meets the quality and quantity requirements for a Significant Aggregate Resource Site. That laboratory report was submitted into the record by Applicant.

PRELIMINARY FINDINGS AND CONCLUSIONS

Cox Quarry, Text Amendment T-093-23 and Zoning Map Amendment. #Z-323-23

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**Traffic**

Opponents: Various opponents questioned the safety of the amount of large trucks generated by the proposed site. The state highway currently has a speed limit of 55 miles per hour, however, trucks often go much faster than the speed limit and this will affect the safety of students on school busses, asphalt trucks take much longer to slow to a stop. Opponents state that the traffic impact analysis talked about truck trips, however, it did not have a safety component. Jenny Estes added during her oral testimony that accidents along this stretch of highway are frequent. Opponents also voiced concerns of added traffic on Edwards Road. The Applicant presented contrary evidence that there was only a single accident at the intersection of Highway 730 and Highway 207 between 2016 and 2020.

Applicant: The applicant stated that they have an ODOT highway approach permit to State Highway 730. As a condition of the approach approval, the applicant is required to construct a 6-

foot wide asphalt shoulder for a distance of 110-feet along Highway 730. During rebuttal, the applicant clarified that in the Traffic Impact Analysis, the study includes two trips for each truck, but there will not always be that many trucks coming to or from the site. The applicant highlighted that the Traffic Impact Analysis found that daily truck traffic created by the proposed site is equivalent to 15 minutes of the existing truck traffic on Highway 730.

Traffic is a legitimate concern and, as noted above, is addressed as part of the transportation standards that apply to a Goal 5 Aggregate application, all of which demonstrate compliance with applicable traffic and transportation standards based on the Traffic Impact Analysis (TIA). Expectations about negative truck impacts are alleviated based on the TIA. In fact, the TIA includes a 20-year growth projection for the highway and even then the traffic from the site is acceptable. ODOT concurred with the recommendations of the TIA and did not require a turn lane but did require a two-lane driveway and a stop sign on the private property.

In response to impacts to Edwards Road, the TIA did not analyze that intersection since it is located more than 2 miles from the subject property. The applicant does not propose using Edwards Road. The County may find that there will be no measurable impacts to Edwards Road. The Traffic Impact Analysis references crash history at the Highway 730/Highway 207 intersection. For the reporting period, 2016-2020 there was one crash at the intersection which was a roll over due to ice. See TIA page 5. The crash rates are based on reports published by ODOT. In the most recent crash rate report, dated August 2023, the Highway 730 and Highway 207 intersection shows a very low crash rate. See 2021 State Highway Crash Rate Tables (oregon.gov)

Neither Highway 730 nor Highway 207 is a designated Safety Corridor. See [https://www.oregon.gov/odot/Data/Documents/Crash\\_Rate\\_Tables\\_2021.pdf](https://www.oregon.gov/odot/Data/Documents/Crash_Rate_Tables_2021.pdf) -A safety corridor is a stretch of state highway where fatal and serious injury traffic crash rates are higher than the statewide average for similar types of roadways.

State Highway 730 is also a designated Freight Route which means it is designed and maintained with a focus of insuring large trucks as well as passenger vehicles can operate safely. Highway 207 is a designated Truck Route. Here is a link to the ODOT Freight Highway Map. [https://www.oregon.gov/ODOT/Data/Documents/Freight\\_System.pdf](https://www.oregon.gov/ODOT/Data/Documents/Freight_System.pdf) Freight System.pdf (oregon.gov)

One of the primary reasons the applicant and landowner chose this site is the proximity to a state highway and designated Freight Route. This is important for the community because the quarry operation and truck traffic will avoid impacts to residential neighborhoods and local and county roadways.

Together, there is substantial evidence in the record that perceived expectations about excess truck traffic, accident rates and safety are not founded.

### **Blasting**

Opponents: Many opponents of the site were concerned about blasting impacts on their dwellings, livestock, and the use of their properties. Concerns were shared regarding the frequency of blasting, the hours of when blasting will occur, if there will be notification, if rock will fly on their property and the effect on the wildlife that inhabit the area.

Applicant: The applicant provided oral testimony stating that blasting will occur a few times a year, there will be a pre-notification for blasting and will follow all state, county and federal regulations. The applicant shared that fly rock is dangerous and expensive, and the licensed blaster is required to manage the rock so this does not occur. The blaster will provide a blast notification so livestock could be moved from the area prior to any blasting. ~~Shaking is mitigated by increasing distance from neighboring properties and through proper blast design.~~ The applicant ~~asserted~~ explained that blasting plans are unique to the contracted blaster and are produced by the licensed blaster. Blasting and crushing will be done by a separate contractor who will be responsible for dust and noise mitigation.

Applicant submitted a blast impact report (Exhibit E) ahead of the Planning Commission hearing evaluating the likelihood for onsite blasting to affect offsite residences and other structures. That study concluded blasting conducted in conformance with regulatory standards would not result in ground-borne vibrations damaging offsite structures. Following the Planning Commission hearing, the applicant hired a licensed blaster to provide a draft blasting plan showing how a blast would be designed for the conditions at the site and would prevent offsite migration of damaging ground vibrations, further supporting the findings of the initial blast impact study. That draft blasting plan was submitted into the record by the Applicant.

The draft blasting plan provides blast designs for two scenarios at the site that would place blasting as close as possible to the nearest residential structure to the southwest: one blast atop the basalt bluff, and the other at the foot of the bluff. As such, these should be considered worst-case scenarios. The blast plan uses methods approved by ODOT and the Federal Highway Administration to determine the blast size, timing, and generated ground-vibrations. Both scenarios resulted in estimated ground vibrations well below required vibration thresholds. Considering the findings of both the blast impact study and the draft blast plan, concerns about blasting impacts to the site vicinity are addressed, are not anticipated, and are otherwise not founded by any professional evaluation in the record.

### Water Quality

One person spoke at the Planning Commission hearing and raised concerns about nitrate pollution to the groundwater. The Lower Umatilla Basin Groundwater Management Area was designated a groundwater management area in 1990 due to nitrate levels that exceed the federal (10ppm) and state (7 ppm) levels of nitrate in drinking water. The 1990 report, and subsequent reports and research, identified five sources of the nitrate contamination including agricultural operations, confined animal feeding operations (CAFO's), rural residential septic systems, land application of food processing wastewater and the washout lagoon at the Umatilla Army Depot. Neither the original report, which was relied upon as the source report for the State Environmental Quality Commission (EQC) to declare the management area, nor any subsequent studies and reports, identify mining as a source of nitrate in the LUBGWMA.

A sample of several studies is below. Based on this information, county may conclude that there is no evidence that the proposed mining operation will generate nitrate source and the groundwater quality will not be impacted.

Estimation of nitrogen sources nitrogen applied and nitrogen leached into groundwater in the Lower Umatilla Basin Groundwater Management area (lubgwma.org)

Report Template - from HQ (lubgwma.org)

Studies and Data – LUBGWMA Committee

The following exhibits have been included in the record:

**Exhibit A** - NV5 Mine Resource Evaluation Report, *Submitted with application*

**Exhibit B** - Budinger & Associates Laboratory Report dated August 24, 2022 *Submitted with application*

**Exhibit C** - Carlson Testing, Inc. Laboratory Report dated January 26, 2023 *Submitted with application*

**Exhibit D** - *September 13, 2023*, Fulcrum Geo Resources Site Plans (Figures 1-3)

**Exhibit E** - Fulcrum Geo Resources, Anticipated Impacts from Blasting, dated August 25, 2023 *Submitted with application*

**Exhibit F** - Kittelson & Associates Traffic Impact Analysis, *Submitted with application*

**Exhibit G** - Umatilla County Technical Report Map D-44

**Exhibit H** - Offsite Wetland Determination Report WD# 2022-0606, *Submitted with application*

**Exhibit I** - Offsite Wetland Determination Report WD# 2023-0095, *Submitted with application*

**Exhibit J** - Fulcrum Geo Resources DOGAMI Operating Permit, *Submitted with application*

**Exhibit K** - *November 9, 2023*, letter in opposition from Barbara Atwood M.D. (opponent).

- Exhibit L** -November 9, 2023, letter in opposition from Crystal Atwood (opponent).
- Exhibit M** -November 9, 2023, letter in opposition from Kyla Langley Latham (opponent).
- Exhibit N** - November 9, 2023, letter in opposition from Wylie Ranch and Aaron Basford (opponents).
- Exhibit O** -November 9, 2023, letter in opposition from Jenny Estes (opponent).
- Exhibit P** - November 9, 2023, letter in opposition from Justin Estes (opponent).
- Exhibit Q** -November 9, 2023, letter from Terra Electric.
- Exhibit R** - November 9, 2023, letter in opposition from Joyce Langley (opponent).
- Exhibit S** - *Submitted During Hearing November 9, 2023*, letter to Planning Commission submitted by Jennifer E. Currin (attorney for Applicant).
- Exhibit T** - *Submitted During Hearing November 9, 2023*, project site map presented by Erick Staley (geologist for Applicant).
- Exhibit U** -November 14, 2023, Response to Wetland Land Use Notification from Department of State Lands
- Exhibit V** -November 20, 2023, letter in opposition from Darlene Westerling (opponent).
- Exhibit W** -November 27, 2023, letter in opposition from Darlene Westerling (opponent).

*NOTE: The Umatilla County Development Code has not been updated with the Division 23 Rules for Aggregate. The Oregon Administrative Rules 660-023-0180 to establish a Goal 5 Large Significant Site will be directly applied per OAR 660-023-180 (9).*

**27. GOAL 5 ISSUES: Scenic, Open Space, Historic, Wildlife, and other resources.**  
In order to mine aggregate in Umatilla County, a site must either be an active insignificant site, or be listed on the Goal 5 Inventory of the Umatilla County Comprehensive Plan as a significant site. The Umatilla County Comprehensive Plan requires that "any proposed modification to the text or areas of application (maps) of the AR, HAC, CWR or NA Overlay Zones shall be processed as an amendment to this plan." Therefore, this application constitutes a Post-Acknowledgement Plan Amendment (PAPA), and is subject to the criteria listed in Oregon Administrative Rules (OAR) 660-023-0030 through 660-023-0050, and OAR 660-023-0180. As a condition of approval for operation, the applicant must acquire a DOGAMI permit and obtain approval of a reclamation plan. Copies of both the DOGAMI permit and reclamation plan must be submitted to County Planning.

**28. STANDARDS OF THE OREGON ADMINISTRATIVE RULES, DIVISION 23 FOR**



**GOAL 5 LARGE SIGNIFICANT SITES** are found in **OAR 660-023-0180 (3), (5), & (7), OAR 660-023-040, and OAR 660-023-050**. The standards for approval are provided in underlined text and the responses are indicated in standard text.

**OAR 660-023-0180 Mineral and Aggregate Resources**

(3) [Large Significant Sites] 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 sodium sulfate soundness, and the estimated amount of material is more than 2,000,000 tons in the Willamette Valley, or 100,000 tons outside the Willamette Valley;

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

(c) The aggregate site is on an inventory of significant aggregate sites in an acknowledged plan on the applicable date of this rule.

(d) Notwithstanding subsections (a) through (c) 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:

(A) 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 the date of this rule; 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 the date of this rule, unless the average width of the aggregate layer within the mining area exceeds:

(i) 60 feet in Washington, Multnomah, Marion, Columbia, and Lane counties;

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

(iii) 17 feet in Linn and Benton counties.

**Applicant Response:** The applicant retained a professional, licensed, geologist, Erick Staley, Principal Engineering Geologist with NV5 (now with Fulcrum GeoResources), to analyze the site and evaluate quality and quantity of the aggregate material, in part, for purposes of determining compliance with this standard. The attached Mine Resource Evaluation Report is also the basis for submitting application to the Oregon Department of Geology and Mineral Industries (DOGAMI) for the required mining operating permit. **Based on the January 31, 2023, mining report the site complies with this standard.** The proposed quarry area is estimated to produce 2,060,178 cubic yards of material (4,738,409 tons). Based on laboratory testing of the aggregate quality by air degradation, abrasion, and sodium sulfate soundness tests, the resource will meet ODOT specifications required to find the site "significant" per OAR 660-023-0180(3). In summary, the proposed quarry consisting of 46.7 acres, exceeds both the quantity and quality criteria for a significant aggregate site in accordance with OAR 660-023-0180(3)(a). Note: based upon the survey from

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Survey One LLC, the total mining area will be larger than originally estimated in the Jan 31 NV5 report. See attached January 31, 2023, Mine Resource Evaluation Report by Erick J. Staley, Certified Engineering Geologist.

Mr. Staley collected an additional two rock samples from the site in November 2023 and submitted the samples to Carlson Testing, Inc. for quality testing. Carlson Testing's report dated January 8, 2024, reports that the rock samples tested at 11.6% to 12.4% for loss to abrasion, 11.7% to 12.4% for air degradation, and 1.4% to 1.6% for sodium sulfate soundness. The additional rock samples pass all three ODOT test requirements for determining the site to be a significant aggregate resource, confirming the conclusions of the initial resource evaluation.

Mr. Staley also completed test pit explorations to measure the amount of sand overburden over the basalt bedrock across the bluff and found the sand to be an average of 4.3 feet thick in the test pits. Note that this average does not consider areas where no overburden occurs, and bedrock is otherwise naturally exposed. Mr. Staley calculated a more conservative estimate of the resource at the site using the test-pit average overburden of 4.3 feet – versus the 2-foot thickness initially used in the January 2023 estimate. The revision still resulted in a calculated resource quantity more than 9 times the required amount (4,565,160 versus 500,000 tons) for the site to be determined a Goal 5 "significant" site. The revised calculation, additional rock test results, and test pits data are provided by the applicant in a Revised Resource Estimate prepared by Fulcrum GeoResources and dated January 17, 2024.

**County Findings and Conclusions:** The applicant retained the assistance of a licensed geologist with NV5 to analyze the proposed quarry site and evaluate the quality and quantity of the aggregate material. To support the application, applicant submitted a Mine Resource Evaluation report (Exhibit A), dated January 31, 2023 and two laboratory testing results. The first laboratory result is dated August 24, 2022 and was tested by Budinger & Associates (Exhibit B). The second laboratory result is dated January 26, 2023 and was tested by Carlson Testing, Inc (Exhibit C). The Budinger & Associates laboratory test found that the soil sample tested 14% for abrasion (ODOT standard maximum is 35%). The Carlson Testing, Inc. laboratory test found that the soil sample tested 10.1% for abrasion, 1.4% for air degradation (ODOT standard maximum is 30%) and 0.8% for sodium sulfate soundness (ODOT standard maximum is 12%). The proposed mining area is not comprised of Class I, II or unique soils, see attached soil map.

The NV5 geological report used AutoCAD to estimate a gross cut volume of available rock material at the proposed site. NV5 estimated, using this method, that the amount of aggregate materials at the site to be 2,125,679 cubic yards of basalt, or 4,738,409 tons. This is far more than the required 500,000 tons to be deemed a large significant site.

Umatilla County finds that the applicant retained a licensed geologist who found through quantitative methods, that the available rock materials onsite are estimated to be about 4,738,409 tons, and has the quantity of rock available to be deemed a large significant site.

In order to be considered a large significant site, the applicant must also demonstrate that a representative set of aggregate samples have been tested for quality, meeting the minimum ODOT standards for degradation, abrasion, and sodium sulfate soundness. Aggregate samples must be **representative** (emphasis added) of the proposed mining area to justify protection and

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mining activities. The applicant has submitted laboratory results for two soil samples, however, the applicant has only provided the sample location for one sample (date of collection unknown/result source unknown), see Fulcrum Geo-Resources Site Plan (Exhibit D, Figure 2). Umatilla County finds one soil sample is not representative of the entire 46.7-acre site, this is supported by the 2022 Land Use Board of Appeals (LUBA) decision, *Beath & Koopowitz vs. Douglas County*<sup>1</sup>. Additionally, the applicant did not provide which laboratory result represents the soil sample depicted on Figure 2 of Exhibit D, nor the location of the second sample.

Erick Staley, licensed engineering geologist with Fulcrum Geo-Resources, did not recommend additional samples given that the material is above ground and a single sample well exposed at the site and was representative of the aggregate material on the entire site. Bedrock is exposed not only in the vertical bluff that traverses the site but also in broad areas of surface outcrops south of the bluff. It is unusual to have so much exposed resource bedrock available at a site, which is why Mr. Staley initially only submitted the one sample for confirmation testing of what was already evident through natural exposures and field testing. However, since the Planning Commission hearing, and based on Planning staff recommendation, Mr. Staley obtained additional samples and sent them to the certified lab (Carlson Testing, Inc.) for analysis, as discussed above. The sample location shown on the site plans (Exhibit D) correspond to the rock sample tested and reported by Carlson Testing in January 2023. Fulcrum GeoResources prepared a Revised Resource Estimate report dated January 17, 2024, showing the locations of all three rock samples tested by Carlson Testing (Figure 2 in the Fulcrum report). Based on the additional samples and reports submitted by the applicant, Umatilla County finds and concludes that the applicant ~~did not has provided an adequate submit a representative set of soil-rock samples, as one identified soil sample location is not~~ representative of the 46.7-acre site regarding quality of available aggregate. This criterion is ~~not~~ satisfied.

<sup>1</sup> In LUBA No. 2022-060 (Beath & Koopowitz vs. Douglas County), LUBA concluded that describing the entire Mining Site is not adequate for identifying the location of the aggregate resources. LUBA also concluded that a single sample of gravel is not "representative" of the proposed site, and is not adequate for finding compliance of the rule. LUBA determined that the Administrative rule requires "a set of samples, meaning multiple samples" and that the sample locations must be identified on a map to be found representative.

(5) [Large Significant Sites] For significant mineral and aggregate sites, local governments shall decide whether mining is permitted. For a PAPA application involving an aggregate site determined to be significant under section (3) of this rule, the process for this decision is set out in subsections (a) through (g) of this section. A local government must complete the process within 180 days after receipt of a complete application that is consistent with section (8) of this rule, or by the earliest date after 180 days allowed by local charter.

(f) [Impact Area] The local government shall determine an impact area for the purpose of identifying conflicts with proposed mining and processing activities. The impact area shall be large enough to include uses listed in subsection (b) of this section and shall be limited to 1,500 feet from the boundaries of the mining area, except where ~~factual information indicates significant potential conflicts beyond this distance.~~ For a proposed expansion of an existing aggregate site, the impact area shall be measured from the perimeter of the proposed expansion area rather than the boundaries of the existing aggregate site and shall not include the existing aggregate site.

**Applicant Response:** In order to evaluate impacts and determine a suitable mining area, applicant promulgated GIS mapping services of county Planning Department. Based on the original map, a applicant adjusted the mining area boundary to avoid impacts to neighboring dwellings. As a result, there will be only one dwelling within the 1,500-foot impact area around the proposed 46.7 mining site. That dwelling (tax lot 600 of Map SN 29 22) will be approximately a quarter mile west of the proposed mining area. Other uses within the 1,500-foot impact area include rock bluff, state highway, farm land and grazing land. The mining will generate a small amount of dust which will be limited by DEQ air permit threshold and best management practices such as applying water for dust abatement. There is no other factual information upon which to evaluate further impacts. The county may find that application has sufficiently addressed impacts within the 1,500-foot impact area and will appropriately mitigate any dust or noise within the impact area.

**County Findings and Conclusions:** The PAPA application was submitted to the Planning Division on August 25, 2023. On September 6, 2023, staff provided an email regarding the application's completeness to the applicant and processed the application fee. On September 13, 2023, the applicant provided additional information to supplement the application. The 180<sup>th</sup> day for the County to render a decision is March 4, 2024.

The applicant has proposed a 1,500-foot impact area, measured from the boundaries of the proposed mining site. Uses beyond the 1,500-foot impact area are unlikely to be impacted by the proposed mining activities. Umatilla County finds and concludes that factual information is not present to indicate that there would be significant conflicts beyond the 1,500-foot impact area from the boundaries of the proposed mining area. Therefore, the 1,500-foot impact area is sufficient to include uses listed in (b) below.

(b) [Conflicts created by the site] The local government shall determine existing or approved land uses within the impact area that will be adversely affected by proposed mining operations and shall specify the predicted conflicts. For purposes of this section, "approved land uses" are dwellings allowed by a residential zone on existing platted lots and other uses for which conditional or final approvals have been granted by the local government. For

determination of conflicts from proposed mining of a significant aggregate site, the local government shall limit its consideration to the following:

(A) Conflicts due to noise, dust, or other discharges with regard to those existing and approved uses and associated activities (e.g., houses and schools) that are sensitive to such discharges:

**Applicant Response:** This standard requires the *local government* identify existing or approved, land uses within the impact area. Here the applicant provides the following analysis. The parcel is surrounded by lands zoned Exclusive Farm Use (EFU). There is not a *dwelling allowed by a residential zone on existing platted lots* within the 1,500-foot impact area. There is one dwelling within 1,500 on land zoned EFU. ~~An~~ Analysis of mitigation for any potential conflict with that dwelling is summarized below. Applicant is not aware of any other existing or approved land uses ~~are known~~ within the 1,500-foot impact area.

In terms of potential conflicts due to noise, dust or other discharges, this standard requires consideration of potential impact to the single dwelling. The quarry site was moved to the east, approximately a quarter mile, in order to provide a sufficient buffer to the existing home. The tall rock outcropping or escarpment itself provides a significant buffer to prevent or minimize sound and noise impacts to the adjacent home. Additionally, the mining operation will comply with all state dust and noise standards as required of DEQ and DOGAMI. The rock crusher and asphalt batch plant will secure appropriate air quality permits and will operate in compliance with those respective permits.

*September 13<sup>th</sup> Response*

The applicant will retain a licensed mining and blasting professional who will conduct those activities in such a way as to limit any offsite disturbance. Several techniques will be utilized to ensure the impact from the blasting will be absorbed on the subject parcels. This will ensure that impacts to the adjacent dwelling will be non-existent or very minimal. As noted ~~to~~ in the original application, the applicant chose to move the mining area a quarter mile east of the existing home - the purpose of this was to create a buffer or setback in order to shield the existing homesite from blasting and mining. Further, the columnar and basalt outcropping is 30-50 feet in height which creates an existing vertical buffer to protect the existing dwelling from impacts. Given the setback and location for the mining, applicant does not anticipate any off-site impacts in terms of noise or dust. The site plan attached as Figure 2 of the NV5 report shows the rock crusher plant and asphalt batch plant setup area which again, given the vertical and horizontal setback and one quarter mile distance, will create a more than adequate buffer to minimize impacts to the existing dwelling.

*November 9<sup>th</sup> Response (Exhibit SJ)*

The site currently has a rock wall and steep slope up to 60 feet tall that creates a natural barrier and sound buffer to residences south of the wall. Mining of the basalt resource will maintain this barrier as a highwall excavated to the south with a final, benched configuration up to 80 feet tall. The existing ODOT quarry, on the same tax lot and located on the north side of Highway 730, has been in place for over 30 years. Notably, [the ODOT] quarry has a mined highwall on its north, which serves as a sound barrier for residences to its north, very similar to the proposed

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mine and properties to the south. The three homes within the 1,500-foot impact area of the proposed ~~Cox-CRP Hauling~~ rock quarry are south of the ODOT quarry and are geographically much more exposed to potential impacts from the ODOT quarry (noise, dust) than the proposed ~~Cox-CRP Hauling~~ quarry.

Staff raised issue about water use. It is the opinion of experienced rock crusher operators that water use will not be an issue and can be provided from offsite sources. Doug Cox will be hiring a third party to set up and operate the rock crusher. There will be a water truck or- tank on site to provide water for dust suppression. If the operator uses a 5,000-gallon water truck, likely only a single truck per week will be at the site. Different crusher operators use different amounts of water but usually it is a trickle from a hose into one part of the rock crusher. Water for dust control around the site is also not a significant issue given that Doug will put a layer of crushed rock on the short haul route from the operations area to the highway.

Applicant acknowledges that a second dwelling is located within the 1,500 impact area, across Highway 207 to the west. See county impact area and vicinity map dated October 2023 (page 6 of December Board Packet). Since the Planning Commission hearing, CRP Hauling hired a qualified noiseair quality expert and a qualified noise expert. Both concluded that the mining, crushing and batch plant will operate within legal limits established by Oregon Department of Environmental Quality. Given the expert evaluation and the buffer design built into the mining and processing operation, Coeounty may find that there will not be air or noise impacts to the two dwellings located within the 1,500-foot impact area as well as the dwelling located just outside the 1,500 impact area.

Testimony provided during the Planning Commission hearing included concerns about noise and dust. However, that testimony was not supported by any credible evidence or professional analysis. Concerns about noise and dust from a rock quarry are common. To alleviate those concerns, applicant provided the professional noise and air quality analyseis, both of which concluded ~~by noise ander dust and that from~~ proposed operations will not violate applicable Oregon law or regulations.

Concerns about blasting have been addressed based on the applicant's employment of a licensed professional driller and blaster who will implement best management practices and will follow an approved blasting plan. The above analysis of blasting addresses this issue.

**County Findings and Conclusions:** The applicant is tasked with identifying both existing and approved land uses within the 1,500-foot impact area. Approved land uses are those that have received land use approval but may not yet be present on the ground. The Planning Division has not granted any conditional or final approvals for properties within the impact area.

Existing uses within the 1,500-foot impact area include two existing dwellings, un-irrigated rangeland, an irrigated crop circle, one Goal 5 ODOT mining site (on the subject property), a 230kV transmission line, and some irrigated pasture/rangeland. The applicant has acknowledged one dwelling, and states that the proposed mining area was moved to the east approximately a quarter mile to provide a sufficient buffer to the existing home by a 30 to 50-foot-tall rock outcropping to prevent or minimize sound and noise impacts to this dwelling. The second dwelling, not acknowledged by the applicant, is directly across Highway 207, thus, the same buffer could potentially also shield this second dwelling. Just outside of the impact area is a third dwelling, the land owners who reside in this dwelling provided testimony in opposition of the proposed quarry and stated that the quarry would have various impacts on their residence.

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Elsewhere in the application, the applicant states that blasting of the basalt rock will be required and will occur occasionally, and that noise impacts from blasting will be mitigated with the use of the existing basalt outcropping. Applicant asserts that dust will not be a conflict off-site due to the proposed mining, rock crusher and asphalt batch plant locations generally identified on the applicant's site plan (Exhibit D, Figure 2).

The applicant's provided geological report speaks largely to the available material quality and quantity for purposes of establishing a large significant Goal 5 site. The report does not evaluate potential noise, dust or blasting impacts to the existing dwellings or farming activities. Further, the applicant does not state the predicted levels of noise, dust or shaking that would impact the existing uses in the impact area. Staff recommended the applicant to provide a blasting plan to supplement the application; however, this was not provided. Applicant provided an analysis of anticipated impacts from blasting from Fulcrum Geo Resources (Exhibit E).

Fulcrum reviewed aerial imagery to identify structures that could be impacted by blasting. Fulcrum states that the blasting activities will be located at least 500-feet away from both Highway 730 and the transmission poles and towers present south of the subject property. The

Fulcrum report includes one detailed map (Exhibit D, Figure 2) to support the findings, however, the map does not specifically identify the area subject to blasting. Based on the applicant's information, basalt is on the entire site, covered by sand and gravels thus the entire site could be subject to blasting. Fulcrum's Figure 2 map (Exhibit D), received by Planning on September 13, 2023, identifies several basalt outcrops. The applicant's oral testimony on November 9<sup>th</sup>, along with the visual representation of Exhibit T identified the areas subject to blasting.

Additionally, the applicant states that the natural basalt rock outcrop will act as a buffer to blasting impacts. At the November 9<sup>th</sup> hearing, the applicant testified that as the mining activities continue, basalt walls will increase in height, essentially creating a bowl, and will continue to be a buffer to nearby uses. How blasting effects will be buffered from existing dwellings has been ~~has not been shared further explained~~ by the applicant. Fulcrum's August 25, 2023 analysis concludes that damage of offsite structures or features from controlled blasting is not anticipated. The Fulcrum analysis states the following:

"Blasting activities should be planned and conducted by appropriately experienced and licensed blasters in accordance with state and local regulations. This should include the use of blast procedures and time-delays that prevent excessive vibrations or other emissions from blasting. Blasting should be monitored using seismographs or similar equipment to collect vibration data and compare the results to regulatory damage thresholds."

Umatilla County finds that potential conflicts due to noise, dust, or other discharges with regard to those existing and approved uses and associated activities (e.g., houses and commercial uses) that are sensitive to such discharges exist within the 1,500-foot impact area. Through testimony, residents of nearby and adjacent dwellings provided clear shared concern about impacts to their residences, farm uses and wildlife in the area. Impacts from the proposed quarry and associated operations include: dust, noise, blasting effects, health effects from blasting and the asphalt batch plant, air quality, and water runoff. Specific impacts to individual property owners and existing farm operations and dwellings are detailed in written testimony (see list of Exhibits) and available in the audio recording file. The Planning Commission concluded that it needed more information about the conflicts identified by the Opponents, found that the applicant did not adequately address the identified conflicts. During the initial application and at the Planning Commission hearing. The applicant relied on the basalt walls and existing canyon basalt configuration to provide a buffer to noise, dust and blasting impacts. However, opposing testimony argued that the canyon does not adequately mitigate current noise from State Highway 730 or the existing Umatilla Ready Mix site east of this site and that dust frequently travels from the east due to frequent easterly winds. Since the Planning Commission hearing. The applicant hired licensed, qualified professionals to evaluate impacts from noise and dust. Those reports are included in the record of the Board of Commissioners did not provide supporting documentation to demonstrate that the basalt walls will mitigate dust, noise and blasting impacts and the rock crusher and asphalt batch plant will operate within Oregon Department of Environmental Quality established limits. In particular the applicant provided information that the incised nature of the mine is relevant to noise and dust from blasting. As the mine is lowered and advanced southward into the hillside, the physical barrier of the rock highwall surrounding the mine excavation will shield offsite areas from noise and dust impacts. The mining will be as deep as 80 feet from the top of the bluff, creating a tall barrier between the

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active mine and the surrounding area. Note this will not affect blast vibrations, but the applicant's team has evaluated the potential for offsite impacts from vibrations and determined blasting will not have an adverse impact or likelihood to damage structures.

In addition to the mine plan, and in accordance with the recommendations of the applicant's acoustical engineer, sound berms will be constructed along the west boundary of the site to reduce offsite noise transmission to stay below regulatory thresholds. Also, the applicant will limit their hours of crushing and processing at the site to start no earlier than 7 a.m., as recommended by the acoustical engineer.

Umatilla County finds and concludes that the applicant has ~~not identified ways to adequately proven that mitigate noise and dust will be appropriately mitigated and will comply with established legal limits, and other discharges.~~ Additionally, ~~the~~ Further, applicant has provided a ~~blasting plan to demonstrate that did not the operation will implement identify~~ best practices for blasting, ~~rather the applicant provided testimony and~~ that a licensed blaster will be onsite conducting blasting activities, ~~and the onsite blaster will not necessarily be the same for each blast.~~

Umatilla County finds that the applicant has identified the use of water for dust abatement in section (F)(c) below.

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Umatilla County finds that the applicant has clearly identified the extraction area subject to blasting ~~and~~. ~~However, the applicant did not specify that the driller, blaster will implement y~~ the best management practices, ~~that will be used by the licensed blaster. Additionally, the~~ applicant's blasting plan shows that ~~failed to determine the potential~~ blasting will occur ~~within legal limits and will not have measurable~~ effects on livestock and residences in the impact area. Umatilla County finds and concludes that ~~there are significant~~ conflicts to existing dwellings, farming operations ~~are minimized.~~

~~The applicant provided a wetland map and coordinated with Oregon Department of State Lands recommendation to have a 100-foot buffer from wetlands, and the existing Goal 5 wetland. Applicant acknowledges the existing Goal 5 significant wetland on the subject parcel. In order to minimize any impacts, applicant has designed the mining and operation to avoid impacts to the wetlands. Oregon Department of State Lands evaluated the site. Applicant requested Department of State Lands conduct a Wetland Determination Report. The proposed layout of the mining and processing and the quarry activity is in compliance with the recommendation of the Department of State Lands. Based on this county may find that the application complies with Goal 5 wetlands~~

~~Based upon the additional information submitted into the record by the Applicant following the Planning Commission hearing t~~The Umatilla County Planning Board of Commissioners ~~may find~~ that this criterion is ~~not~~ met.

(B) Potential conflicts to local roads used for access and egress to the mining site within one mile of the entrance to the mining site unless a greater distance is necessary in order to include the intersection with the nearest arterial identified in the local transportation plan. Conflicts shall be determined based on clear and objective standards regarding sight distances, road capacity, cross section elements, horizontal and vertical alignment, and similar items in the transportation plan and implementing ordinances. Such standards for trucks associated with the mining operation shall be equivalent to standards for other trucks of equivalent size, weight, and capacity that haul other materials;

**Applicant Response:** Applicant coordinated closely with Oregon Department of Transportation in selecting the best location for ingress/egress to the site ~~and the~~ access onto state highway. ~~Based on input from ODOT, an has approved an~~ Access Permit ~~application permit has been submitted.~~ The access location will minimize conflicts with traffic and will provide best site clearance. The access and roadway are approximately one-half mile away from the existing dwelling.

**County Findings and Conclusions:** Kittelson & Associates (consultant) was hired by the applicant to conduct a Traffic Impact Analysis (TIA) to support the application for establishing a Large Significant Site. The TIA (Exhibit F) found two operations will comprise separate trips at the proposed site: the mining/rock crushing operation and the asphalt batch plant. The daily trip total for both operations is 356 trips, with approximately 204 of those trips being large trucks and approximately 12 of those trips being employees of the mining operation, see Table 9 below.

**Table 9. Proposed Site Trips**

Land Use	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Total	In	Out	Total	In	Out
<b>Mining/Rock Crushing</b>							
Staff <sup>1</sup>	8	0	0	0	4	0	4
Rock Deliveries <sup>2</sup>	30	6	3	3	0	0	0
Water Deliveries <sup>2</sup>	4	2	1	1	0	0	0
Other pick-ups <sup>2</sup>	140	10	5	5	0	0	0
<b>Asphalt Batch Plant</b>							
Staff <sup>1</sup>	4	0	0	0	2	0	2
Load Deliveries <sup>2</sup>	30	4	3	3	0	0	0
Other pick-ups <sup>2</sup>	140	10	5	5	0	0	0
<b>Total</b>	<b>354</b>	<b>34</b>	<b>17</b>	<b>17</b>	<b>4</b>	<b>0</b>	<b>6</b>

<sup>1</sup> Each employee was assumed to generate 2 daily trips (1 in, 1 out). Employees are assumed arrive on site before the AM Peak Hour and were conservatively assumed to leave during the PM Peak Hour.  
<sup>2</sup> Each delivery and pick-up was assumed to generate 2 trips (1 exit for delivery/1 return from delivery or 1 entrance for pick-up/1 exit for pick-up).

State Highway 730 is an east-west truck route that connects to Interstates 82 and 84. The applicant's TIA found the peak 15-minute flow rate for the Highway 207/Highway 730 intersection to be 312 total vehicles, 112 of these vehicles were heavy trucks. Umatilla County finds the applicant's proposal includes access to a major state highway, the additional daily traffic trips generated from the mining operation are proposed at 356, which overall, will have minimal impact on both Highway 207 and 730. ODOT and County Public Works will have the opportunity to comment on the applicant's request and may request additional conditions of approval.

Umatilla County finds the applicant is required to obtain an ODOT Road Approach Permit to State Highway 730. The access shall be constructed to comply with the ODOT requirements. This will be captured as a subsequent condition of approval and may be satisfied by submitting written verification of the ODOT Road Approach Permit approval.

Umatilla County Board of Commissioners may find that the application complies with this standard.

(C) Safety conflicts with existing public airports due to bird attractants, i.e., open water impoundments as specified under OAR chapter 660, division 013;

Umatilla County finds that there are no public airports within the Impact Area. The closest public airport is to the south and more than ten miles away from the site. The proposed quarry will not create safety conflicts with the existing Hermiston Airport.

(D) Conflicts with other Goal 5 resource sites within the impact area that are shown on an acknowledged list of significant resources and for which the requirements of Goal 5 have

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been completed at the time the PAPA is initiated;

**Applicant Response:** There is one existing Goal 5 resource within the impact area, a significant aggregate resource located on the portion of tax lot 400 that is north of Highway 730. That approximately 25 acres quarry has the Aggregate Resource Overlay Zone designation. While the landowner of the subject property owns all of tax lot 400, including the Goal 5 Aggregate Resource, only the Oregon Department of Transportation is allowed to mine and use the rock material from the existing Goal 5 resource. The ODOT has an exclusive long-term lease that does not provide access for private sector use. Material from the existing rock quarry is for state highway use only and is not available to purchase by private parties. The significant resource has been mined and operated by ODOT for over 30 years. Operation of the proposed new rock quarry will be similar to operation of the existing quarry and by inference means the new use will be compatible with the existing Goal 5 resource. Worth noting is the fact that the ODOT quarry operations have not created conflicts with neighboring properties. Based on this, applicant believes the new rock quarry will not create any negative impacts for the existing Goal 5 aggregate site.

Applicant acknowledges the existing Goal 5 significant wetland on the subject parcel. In order to minimize any impacts, applicant has designed the mining and operation to avoid impacts to the wetlands. Oregon Department of State Lands evaluated the site. Applicant requested Department of State Lands conduct a Wetland Determination Report. The proposed layout of the mining and processing and the quarry activity is in compliance with the recommendation of the Department of State Lands.

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**County Findings and Conclusions:** Umatilla County finds there are two existing Goal 5 resource sites on the subject property, an aggregate resource site north of Highway 730 and a significant wetland encompassing the proposed mining area. The site north of Highway 730 is a large significant Goal 5 aggregate site managed by ODOT. Aggregate pulled from the "Diagonal Road" quarry is used on various ODOT projects. This site was added to the County's list of significant sites and subsequently approved for mining in 1982. Since this is an existing aggregate site, and is a similar operation to the applicant's request, there are no known Goal 5 conflicts associated with the existing ODOT aggregate site.

The second Goal 5 site on the subject property is Significant Wetland Drainage Area (Map D-44 in the Umatilla County Technical Report) (Exhibit G) and is classified as a 3C Goal 5 site. Resources designated as 3C require limiting conflicting uses to protect the resource, as opposed to other designations which call for preserving the resource (3A) or allow conflicting uses (3B). The Goal 5 analysis for this wetland calls for limiting conflicting uses with implementation of a 100-foot setback from wetlands and streams.

The applicant ~~acknowledges~~ ~~'s narrative fails to acknowledge~~ this Goal 5 protected drainage area; ~~therefore,~~ ~~s~~Staff have provided the following analysis:  
The Drainage Area identified on Map D-44 of the Umatilla County Technical Report represents a large area of the Cold Springs Drainage. The acknowledged wetland boundary states that exact boundaries of the drainage may require site inspection. Since the Technical Report's adoption, wetland data and mapping provided by the Department of State Lands (DSL) has become more precise and accurate. DSL provided two off-site wetland determination reports that incorporated National Wetland Inventory (NWI) data with interpretation of available aerial imagery. The December 5, 2022 Wetland Determination Report (WD 2022-0606) (Exhibit H) found there are

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wetlands present on the subject property, and that a delineation may be required. The March 17,

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<sup>2</sup> The Umatilla County Technical Report was adopted as part of the County's Comprehensive Plan in May 1980 and contains research data which formed the basis of the Comprehensive Plan's Findings and Policies with robust public involvement.

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2023 Wetland Determination Report (WD 2023-0095) (Exhibit I) found that a DSL permit is not required because the proposed mining area was modified to exclude potential wetland and waters impacts.

Opponents questioned the potential impacts to this wetland and the wildlife that this wetland supports. Specifically, dust, noise and drainage effects. Opponents requested a study to be conducted to protect the existing wildlife and if they could sustain the wetland following approval of the aggregate site. The applicant argued that wildlife can and do reside near mining activities. ~~As noted above, the applicant consulted with the Department of State Lands who employs professional wetland staff and hydrologists. The applicant has demonstrated that the quarry will operate in compliance with recommendations to DSL staff, but did not provide documentation supporting this claim.~~

The Umatilla County Board of Commissioners ~~may find that could request~~ the applicant ~~has complied with necessary regulatory requirements regarding wetland protection and mitigation, to conduct a detailed study and analysis of impacts to the wetlands and wildlife.~~

Umatilla County finds the proposed mining area was modified to eliminate potential impacts to wetlands and DSL found no wetland delineation or permitting is required.

The Technical Report states that conflicting uses should be setback a minimum of 100-feet from wetlands and streams. This policy has been codified into the Umatilla County Development Code and applies to the applicant's request.

Umatilla County finds in order to protect the Drainage Area, a 100-foot minimum setback of structures from the mapped wetlands to all mining activities is required, this setback will minimize conflicts with the Drainage Area. A subsequent condition of approval is imposed requiring the applicant to submit a detailed site plan demonstrating that all structures related to mining activities are setback a minimum of 100-feet from wetlands.

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(E) Conflicts with agricultural practices; and

**Applicant Response:** Agricultural practices within the 1,500-foot impact area of the proposed quarry area to the south and east and consist primarily of grazing with some irrigated agriculture farther to the south. The landowner of subject tax lot 400 owns most of the farmland to the south and east; consisting of rangeland that will not be adversely impacted by a quarry operation. The irrigated land farther to the south is set back from the proposed mining area, beyond the 1,500 [foot] impact area and will not be a receptor of noise or dust. The quarry location was refined to include a buffer with adjacent properties which will have the effect of minimizing impacts to adjacent farmland. Farming on adjacent properties consists primarily of grazing but also includes some hay ground. Neither of those farming operations would be sensitive to fugitive dust as would say a vineyard.

*September 13<sup>th</sup> Response*

In addition to the description provided in the original application, applicant provides the following description of existing agricultural practices: There is no farming to the east, west and north of the subject quarry. To the south of the proposed quarry is pasture ground. There are no

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known possible impacts a mining operation could create for pasture or grazing. Additionally, given the horizontal and vertical setbacks, including the 25-foot setback from the property line and the vertical topography of the mining area, applicant does not anticipate any noise or dust



will leave the subject property. The vertical and horizontal setbacks are more than adequate to guarantee noise, vibrations, traffic, chemical weed abatement (if utilized) would not drift off site, therefore assuring no offsite impacts.

Since the Planning Commission hearing, Applicant further evaluated agriculture practices within the 1,500 impact area. Dust was the impact identified during the Planning Commission hearing. Since the hearing applicant has provided an air quality study that concludes there will not be negative impacts to adjoining properties and that the quarry and mining operation will comply with applicable air quality standards. The public perception that the quarry will create negative impacts is not supported by evidence.-

**County Findings and Conclusions:** Agricultural activities in the impact area include both irrigated and non-irrigated grazing and some irrigated crop land, one pivot is within the 1,500-foot impact area. Other lands zoned EFU are considered open space and do not appear to be farmed. The applicant did not provide information regarding the type of crop grown in the pivot circle. According to aerial imagery, it appears to be in alfalfa or grass hay production. Although the applicant states that the property owner of the subject property also owns lands to the south and east, and that these properties are rangeland that will not be affected, this is false. Property directly south of the subject property (Tax Lot 500) is owned by Aaron Basford and appears to be irrigated alfalfa/hay production and irrigated grazing land. Property to the east of the subject property is owned by Umatilla Ready Mix, Inc and land within the impact area is predominately open space.

**Grazing Farm Practices:** Most grazing activities within this vicinity refer to cattle grazing. Cattle are placed in a field, often with limited fencing, to roam and consume wild or planted vegetation until ready for human consumption. Many farmers rotate their cattle across various pastures or fields to allow the foraged areas the opportunity to renew. Opponents voiced concerns over the blasting impacts to their livestock, primarily spooking and health effects.

**Alfalfa/Grass Hay Farm Practices:** Typical farming practices for alfalfa or grass hay production include herbicide application, swathing, raking and baling the forage into bales. Once cut, the crop lays on the ground for multiple days until dry enough to be baled. The cycle then starts over, and most irrigated lands in this area can yield four to six harvests a season. Barbara Atwood provided oral testimony stating that the dust generated by the mining activities and the asphalt batch plant will affect her alfalfa crop and other crops in the vicinity. She added that one cannot feed dust-infected hay to horses, and hay that contains dust, especially aggregate dust, drastically reduces the value of the crop.

The applicant claims that the ODOT site on the subject property has been operating without conflicts to nearby agricultural practices for many years, however, testimony provided during the Planning Commission hearing provided that the ODOT site is fairly inactive, and many long-time residents do not recall more than two blasting events, and an asphalt batch plant is rarely onsite. Opposing testimony raised concerns regarding blasting impacts on livestock and horses, and impacts to the existing alfalfa crops.

Based on the air quality report provided by the Applicant, and the lack of any evidence provided by opponents, Umatilla County may find that the proposed Goal 5 aggregate site will comply with applicable laws and Administrative Rules and will not conflict with nearby agricultural

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activities or practices.

(F) Other conflicts for which consideration is necessary in order to carry out ordinances that supersede Oregon DOGAMI regulations pursuant to ORS 517.780;

**Applicant Response:** Applicant has prepared and will soon file application with DOGAMI for required mining permit and license. Applicant will comply with any abatement measures

recommended by DOGAMI. No other conflicts are known to exist. Based on the above, applicant believes this quarry operation will operate in compliance with this criterion.

**County Findings and Conclusions:** Umatilla County finds that there are no other conflicts for which consideration is necessary in order to carry out ordinances that supersede Oregon DOGAMI regulations. Therefore, this criterion is not applicable.

(c) [If conflicts exist, measures to minimize] The local government shall determine reasonable and practicable measures that would minimize the conflicts identified under subsection (b) of this section. To determine whether proposed measures would minimize conflicts to agricultural practices, the requirements of ORS 215.296 shall be followed rather than the requirements of this section. If reasonable and practicable measures are identified to minimize all identified conflicts, mining shall be allowed at the site and subsection (d) of this section is not applicable. If identified conflicts cannot be minimized, subsection (d) of this section applies.

**Applicant Response:** Based on the location of the quarry and the distance of the mining from adjacent properties, applicant believes that no conflicts exist. Potential impacts to consider include fugitive dust from blasting, mining, and operation of the rock crusher. Again, applicant believes there will not be impacts based largely on the topography and distance or setback from adjoining properties within the 1,500-foot impact area and the air analysis by Air Sciences, Inc. See attached. Applicant and operators will utilize best management practices such as installation of air filters on operating equipment and water to abate dust, to ensure no off-site impacts. With respect to potential impacts from blasting applicant has included a Supplemental Narrative concerning Anticipated Impacts from Blasting, prepared by Erick Staley, Consulting Geologist, that addresses the issue in detail and supports the conclusion that no conflicts will arise from blasting activity.

*September 13<sup>th</sup> Response*

As stated in the original applications, applicant and operators will utilize best management practices (BMPs) to ensure no offsite impacts. These BMPs the applicant and operators will use include water for dust abatement and screening of rocks, in addition to compliance with required DEQ Air Contaminant Discharge Permits requirements for operating the equipment. Any potential smoke from diesel equipment will be minimized with appropriate and required mufflers. Water will be provided with a water truck; water for the truck will be procured by applicant and operator from one of many existing, legally permitted sources including but not limited to the city of Hermiston, the city of Umatilla or an industrial water sources. The Oregon Water Resources Department (OWRD) has regulatory authority on all matters related to water rights and water use. That agency regulatory authority applies in this case as well - to ensure the applicant and operators will use water from appropriate sources only. The applicant will comply with OWRD regulations and will only utilize water from appropriate sources. The applicant does not intend to drill a well.

In the September 6, 2023 letter, Planning Division Manager Megan Davchevski the following: *"Applicant states that future potential development opportunities are extremely limited and therefore restrictions on adjacent properties may not be necessary. Applicant continues to state that no conflicts have been identified, and that the county may conclude the limiting uses on*

*adjacent lands is not necessary. However, elsewhere, including the responses to (but not limited to) OAR 660- 023-040(2)(a) and (4), the applicant identifies and requests that new conflicting uses be located outside the 1,500-foot impact area. Thus, the applicant is requesting to restrict new uses, currently permissible, on other lands. Additionally, the narrative is contradictory by saying that there are no potential conflicts, however, then identifies conflicts that could exist and that should not be allowed within the 1,500-foot impact area of the proposed quarry."*

To clarify, applicant believes there will not be any offsite impacts but suggests that county limit conflicting uses as a precautionary manner. The Findings shared in this section does not discount Findings in another section. Applicant and licensed geologist believe there will not be offsite impacts but as a precautionary matter suggest county adopt language that would limit offsite conflicting uses to protect this significant aggregate resource. Factually, only County has the prerogative to impose or not impose restrictions on adjacent lands. Applicant has presented site plans with vertical and horizontal setbacks to create substantial buffers from all contiguous and adjacent properties and respectfully defers to county to determine if limitations to future uses should be imposed. Further, since the Planning Commission hearing the Applicant has submitted additional information into the record in the form of an air quality study, noise study, and a blasting plan from a licensed drilling and blasting company. This additional information, combined with the undisputed testimony and written submissions from Erick Staley, the licensed geologist assisting Applicant, demonstrates that no impacts to agriculture can be expected. Further, out of an abundance of caution, Applicant will engage in all reasonable and practical mitigation measures, including those identified as mitigation measures in the noise study, to ensure that there is not any impact on surrounding agricultural practices. The County can therefore conclude this standard is satisfied and allow mining at the site.

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**Staff Information:** For context, the quotation provided above was County Planning's response to the applicant's narrative and was provided as guidance for the applicant to submit a more robust application for review. Regrettably, conflicting responses addressing potential impacts appear throughout the application. Conflicting responses in both addressing impacts to the proposed aggregate operation from permissible uses located within the 1,500-foot impact area, and impacts by the proposed aggregate mining operation to uses located within the surrounding area. Emphasis is added with bold text. Above, applicant states:

"Based on the location of the quarry and the distance of the mining from adjacent properties, **applicant believes that no conflicts exist.** Potential impacts to consider include fugitive dust from blasting, mining, and operation of the rock crusher. Again, applicant believes there will not be impacts based largely on the topography and distance or setback from adjoining properties within the 1,500-foot impact area" and "Applicant and licensed geologist **believe there will not be offsite impacts** but as a precautionary matter suggest county adopt language that would limit offsite conflicting uses to protect this significant aggregate resource".

Applicant then requests the County to restrict all conflicting uses to outside the 1,500-foot impact area. Under the ESEE analysis, applicant states:

"The applicant requests that Umatilla County determine that future dwelling or

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residential use and other uses that would place people within the impact area, such as gathering spaces, be limited to area on adjacent parcels that is outside the 1,500- impact area. That limitation would result in limited restriction on adjacent parcels. That is, **other land uses could be permitted but the siting of those uses would need to be placed outside the 1,500-impact area**". Applicant further states, "Based on the materials submitted with this application, including the ESEE analysis, **the resource site will create little or no conflicts with existing or proposed uses within the 1,500-foot impact area**. County may consider imposing a condition of approval for future land use

applications for a conflicting use and **require new development be located outside the 1,500-foot impact area**".

~~Applicant did not explain how the proposed quarry operations would not conflict with existing uses (dwellings, farm stands, etc.), nor how these same uses, if proposed, should not be permitted within the impact area. Additionally, the applicant contradicts themselves in numerous statements regarding conflicts. Staff merely asked asked how the applicant concluded that the proposed quarry will not conflict with existing dwellings and farm uses, and still request that these same uses be located outside the 1,500-foot impact area. Presumably, the applicant is requesting these new uses to occur outside the 1,500-foot impact area because there are conflicts. It is the applicant's burden to justify measures to protect existing and proposed uses. It is then County decision makers' responsibility to determine whether or not the proposed protection measures are adequate, fair and objective. Residents and property owners within the impact area provided testimony regarding the their belief of the many conflicts that exist.~~

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~~Applicant Rebuttal: Characterizing the Applicant's responses and explanation as being contradictory is inaccurate. With respect to existing uses there are no farm stands in the area, nor is it likely that a farm stand would be proposed on properties within the 1,500 foot impact area based on the fact that farming on those parcels does not include row crops or other common produce found in farm stands. Further proof is that a majority of goods sold at the farm stand must come from the subject property or farm. - The non-impact upon dwellings is detailed in Applicant's responses, as well as in the additional documentation submitted since the Planning Commission hearing, namely the air quality report, noise study, and blasting plan. The reason that Applicant is requesting that certain new uses be outside of the 1,500 foot impact area is one of practicality, not as a way to address supposed existing conflicts. Rather, the Applicant believes that the best way to balance the interests of neighboring landowners, against Applicant's rights to operate a quarry if permitted, is to require the 1,500 setback to avoid the possible risk of a future theoretical conflict if development occurs within 1,500 feet. This balanced approach also benefits the County as it reduces the likelihood of a potential future dispute that would be brought to the County. There is nothing inconsistent with taking precautionary steps to avoid a future issue as the Applicant does here.~~

**County Findings and Conclusions:** The County has identified potential conflicts with the two existing residential dwellings and an existing Goal 5 Drainage Area (wetland site), located on the subject property.

Umatilla County finds that conflicts with the Goal 5 Drainage Area site can be mitigated with implementation of a minimum setback requirement of 100-feet from the wetlands to all mining activities, as demonstrated in (D) above.

Umatilla County finds that potential conflicts were identified within the 1,500-foot impact area. Blasting, dust and noise have the potential to conflict with the two existing dwellings, thus mitigation measures must be identified and implemented.

Applicant states that water will be applied for dust abatement. Water will be brought onsite with a water truck and procured from a legally permitted source. The Applicant provided oral testimony stating that likely two trucks would be required a week, however did not provide supporting documentation or studies to support that this would be adequate for dust suppression. Applicant's written testimony (Exhibit S) states that one water truck a week is adequate.

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Applicant has identified potential water sources as the City of Hermiston, City of Umatilla or other industrial water sources. Applicant also states that air filters will be installed on all operating equipment. The Umatilla County Planning Commission found that the applicant did not adequately address dust concerns, nor provide adequate dust mitigation measures. The Umatilla County Planning Commission found and concluded that merely complying with DEQ standards for dust mitigation is not adequate for providing clear and objective mitigation measures.

Umatilla County may find that the following two subsequent conditions of approval mitigate the conflict with dust and are imposed: that the applicant obtain all necessary permits from Oregon Water Resources Department, and that water used for dust abatement and/or rock screening be from a permitted source and that air filters be installed on all operating equipment.

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The applicant states that the natural basalt outcrop will serve as a barrier between the dwellings and potential conflicts with noise. However, opposing testimony raised concerns that the outcrop would buffer noise, rather it would assist noise in travelling offsite. Noise is governed by the Umatilla County Noise Control Ordinance, Chapter 96 and Oregon Administrative Rule 340-035-0035. Approved blasting activities, with all appropriate permits, are exempt from the noise regulations as stated in §96.04<sup>3</sup> of the Umatilla County Code of Ordinances. While approved blasting activities are exempt in the Noise Control Ordinance, general mining activities must comply with the noise regulations, Oregon Department of Environmental Quality enforces OAR 340-035-0035.

Umatilla County finds a subsequent condition of approval requiring the mining operations to comply with the DEQ Noise Standard provided in OAR 340-035-0035 is imposed.

The identified basalt outcrop begins at the south property line, about 1,500-feet from Highway 207. The outcrop then continues north-east and diminishes several times. Identified mining activities will occur north and north-west of this outcrop. The nearest dwelling is approximately 1,000 feet from the proposed mining area. Maps submitted by the applicant (Exhibit D, Figures 2 and 3) identify the extraction area as being in the entire southeast quarter of the proposed site. Buffers for the south and east site boundaries have not been identified.

The applicant consulted with Fulcrum GeoResources LLC to develop an *Anticipated Impacts from Blasting* report (Exhibit E) the Figure 2 map submitted with this report identify a basalt extraction area subject to blasting, in addition to Figure 2 of Exhibit A and Exhibit T.

Umatilla County may find that the applicant has generally identified the extraction area subject to blasting as the southeast corner of the subject property; however, the applicant did not identify blasting procedures or best practices that will be used by licensed blasters, therefore, blasting conflicts cannot be analyzed without more information.

Umatilla County finds that the applicant's supplied Fulcrum *Anticipated Impacts from Blasting* report provides guidelines for mitigating potential blasting impacts by properly planning controlled blasts, implementing blast procedures and time-delays to prevent excessive vibrations, other emissions, and by monitoring blasting to collect vibration data. A subsequent condition of approval requiring these procedures and practices could be imposed to mitigate conflicts.

Numerous property owners within the impact area provided testimony (written and oral) detailing specific impacts to their property. The applicant did not provide measures for mitigating these impacts, but instead asserted that the basalt walls and canyon would mitigate any potential impacts, despite opposing testimony stating that this would not mitigate any dust, noise or blasting effects. Opposing testimony detailed that the site and vicinity are within a canyon, and despite another quarry being over a mile to the east, noise, dust and odors travel through the canyon and to their properties.

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<sup>3</sup> Umatilla County Code of Ordinances §96.04(F) states: *Sound caused by blasting activities when performed under a permit issued by the appropriate governmental authorities and only between the hours of 9:00 a.m. to 4:00 p.m., excluding weekends.*



Umatilla County finds that the applicant's supplied Fulcrum *Anticipated Impacts from Blasting* report does not adequately address blasting impacts to existing dwellings and farm operations.

Based on the additional factual reports provided by the applicant and the fact that neighbor concerns have not been validated and based on the additional materials provides by the applicant. The Umatilla County Planning Board of Commissioners may n-found find that this criterion is not satisfied.

(d) [If conflict can't be minimized then conduct an Economic, Social, Environmental, and Energy (ESEE) analysis] The local government shall determine any significant conflicts identified under the requirements of subsection (c) of this section that cannot be minimized. Based on these conflicts only, local government shall determine the ESEE consequences of either allowing, limiting, or not allowing mining at the site. Local governments shall reach this decision by weighing these ESEE consequences, with consideration of the following:

- (A) The degree of adverse effect on existing land uses within the impact area;
- (B) Reasonable and practicable measures that could be taken to reduce the identified adverse effects; and
- (C) The probable duration of the mining operation and the proposed post-mining use of the site.

**Applicant Response:** The applicant and geologist carefully selected the layout of the quarry to minimize adverse effects of the proposed mining operation on adjacent lands. Applicant does not believe there will be impacts however, applicant will comply with reasonable and appropriate required mitigation if county or other party identifies impacts.

Since the Planning Commission hearing, applicant provided a credible air study and noise study and a blasting plan, together which demonstrate that impacts will be minimized. The opponents have not furnished any such technical or scientific information that rebuts the conclusions of Applicant's expert reports.

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**County Findings and Conclusions:** The Planning Commission found that although all identified potential conflicts could be minimized as described in (c) above, the applicant did not provide adequate supporting information detailing how conflicts would be minimized. This criterion is not applicable.

(e) [Amend Plan] Where mining is allowed, the plan and implementing ordinances shall be amended to allow such mining. Any required measures to minimize conflicts, including special conditions and procedures regulating mining, shall be clear and objective. Additional land use review (e.g., site plan review), if required by the local government, shall not exceed the minimum review necessary to assure compliance with these requirements and shall not provide opportunities to deny mining for reasons unrelated to these requirements, or to attach additional approval requirements, except with regard to mining or processing activities:

- (A) For which the PAPA application does not provide information sufficient to

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determine clear and objective measures to resolve identified conflicts;

(B) Not requested in the PAPA application; or

(C) For which a significant change to the type, location, or duration of the activity shown on the PAPA application is proposed by the operator.

**Applicant Response:** The applicant believes the mining operation will create no or very limited impacts to adjacent lands. Negative externalities are likely limited to truck traffic onto Highway 730. Lands to the north include a steep escarpment which will not be impacted by the quarry

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operation or truck traffic. Where the applicant/operators will implement best management practices and comply with all permits necessary to ensure management of dust and stormwater discharges, applicant believes further ESEE analysis is not required. If county concludes an ESEE analysis is warranted, applicant will comply with any Conditions of Approval included as part of the land use permit approval.

**County Findings and Conclusions:** The applicant is requesting mining approval. Umatilla County finds the imposed conditions of approval are clear and objective and satisfy the criteria. Further site plan review will be completed at the time the zoning permit is issued for the mining activities and will not exceed the minimum review necessary to assure compliance with the conditions of approval. Umatilla County may request the applicant to provide further ESEE analysis as rebuttal to the impacts identified by opposition.

(t) [Post mining uses] Where mining is allowed, the local government shall determine the post-mining use and provide for this use in the comprehensive plan and land use regulations. For significant aggregate sites on Class I, II and Unique farmland, local governments shall adopt plan and land use regulations to limit post-mining use to farm uses under ORS 215.203, uses listed under ORS 215.213(1) or 215.283(1), and fish and wildlife habitat uses, including wetland mitigation banking. Local governments shall coordinate with DOGAMI regarding the regulation and reclamation of mineral and aggregate sites, except where exempt under ORS 517.780.

**Applicant Response:** The mining site is comprised of soil types that are not Class I, II or unique soils. Applicant engaged services of Erick Staley, C.E.G. with NV5. to design and develop a mining and reclamation plan, attached to this application. The mining and reclamation plan is also submitted to DOGAMI for their review and regulation and permitting. Post mining land use will be grazing. Applicant will comply with all post-mining requirements required of DOGAMI including reclamation and restoration of lands for post mining use. The applicant will restore the site to standards imposed by DOGAMI which will also be consistent with post-mining farm uses such as grazing, as identified in ORS 215.283. Applicant understands that Umatilla County will coordinate with DOGAMI as part of county land use review.

**County Findings and Conclusions:** The applicant has identified grazing as a post mining land use, which is an outright use in the EFU zone. Applicant has also submitted a reclamation plan for DOGAMI review and has provided a copy of the submittal in support of the application (Exhibit J). Umatilla County finds the applicant has identified a possible post-mining use that is allowed under ORS 215.283. Umatilla County finds this criterion is satisfied.

(g) [Issuing a zoning permit] Local governments shall allow a currently approved aggregate processing operation at an existing site to process material from a new or expansion site without requiring a reauthorization of the existing processing operation unless limits on such processing were established at the time it was approved by the local government.

**Applicant Response:** Applicant finds this criterion is not applicable as this is a new site.

**County Findings and Conclusions:** The applicant is requesting approval of a new mining site. Umatilla County finds this criterion is not applicable.

(7) [Protecting the site from other uses/conflicts] Except for aggregate resource sites determined to be significant under section (4) of this rule, local governments shall follow the standard ESEE process in OAR 660-023-0040 and 660-023-0050 to determine whether to allow, limit, or prevent new conflicting uses within the impact area of a significant mineral and aggregate site. (This requirement does not apply if, under section (5) of this rule, the local government decides that mining will not be authorized at the site.)

**Applicant Response:** Applicant is proposing a significant aggregate resource under section (4) of this rule. Applicant requests county designate the resource as a significant resource and protect the resource from conflicting uses. Applicant believes that future potential development opportunities are extremely limited and therefore restrictions on adjacent properties may not be necessary. That is, given all adjacent land is zoned EFU, only a limited list of non-farm agricultural uses is permissible by existing local and state law. Development on land to the south and southeast is already restricted due to the presence of high voltage transmission lines and associated easements. Land to the north includes a steep rock bluff which cannot be developed. Land to the west includes State Highway 207 and further west a small remnant of tax lot 400 where future development is not likely given the parcel size and zoning. Land to the east is grazing land that may continue without any restriction.

Where no conflicts have been identified, county may conclude that limiting uses on adjacent lands is not necessary. Given that the quarry will not negatively impact farming uses on adjacent lands county may find that limitations are not necessary. One dwelling is located adjacent to the quarry area but approximately 1,500 feet distance from the quarry.

**County Findings and Conclusions:** The applicant has provided an ESEE analysis. The analysis supports a decision to limit new conflicting uses within the impact area to assure protection of the aggregate site, however the applicant has failed to demonstrate that other criteria of approval are satisfied. The applicant's provided ESEE analysis follows.

**660-023-0040 ESEE Decision Process**

(1) Local governments shall develop a program to achieve Goal 5 for all significant resource sites based on an analysis of the economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit a conflicting use. This rule describes four steps to be followed in conducting an ESEE analysis, as set out in detail in sections (2) through (5) of this rule. Local governments are not required to follow these steps sequentially, and some steps anticipate a return to a previous step. However, findings shall demonstrate that requirements under each of the steps have been met, regardless of the sequence followed by the local government. The ESEE analysis need not be lengthy or complex, but should enable reviewers to gain a clear understanding of the conflicts and the consequences to be expected. The steps in the standard ESEE process are as follows:

- (a) Identify conflicting uses:

**Applicant Response:** The subject property and other property within 1,500 feet to the west, south, southeast, and east is zoned Exclusive Farm Use (EFU) which allows a variety of farm related uses including dwellings if certain criteria are met. The contiguous parcels currently contain dwellings and would not qualify for additional dwellings. All existing dwellings are located outside the 1,500-impact area, except for the dwelling located on tax lot 600.

Where tax lot 600 is a small, pre-existing, non-conforming parcel zoned EFU additional dwellings would not be permissible. Other uses on adjacent lands that could be permitted, include a list of uses permitted with standards ORS 215.283(1) and uses permitted conditionally ORS 215.283(2). Those uses require land use review by Umatilla County and if qualified or permitted could be sited on adjacent parcels but outside the 1,500 foot area that could create a conflict with an aggregate operation. Any potential conflict that might arise would be a new use that would permit a place where people are living or working. The parcels are large enough so that future uses could be sited outside the 1,500-impact area.

Land to the north is zoned EFU and contains a large escarpment. All other property within the 1,500-foot impact area is zoned EFU and those lands are primarily range land. Tax lot 600 is contiguous to tax lot 400 and contains a dwelling. That dwelling is located 1,500 feet from the quarry area. Given the parcel size and soil types it is not likely other adjacent parcels in the EFU Zone would qualify to meet the standards for siting a farm dwelling.

**County Findings and Conclusions:** Conflicting uses have been evaluated and provided below. Identified conflicting uses are: winery, farm stand, home occupations, churches, dwellings, schools, parks, playgrounds, community centers, boarding and lodging facilities and various commercial uses related to agriculture. This criterion is satisfied.

(b) Determine the impact area:

**Applicant Response:** The impact area is a 1,500-foot buffer extending from the aggregate site boundary.

**County Findings and Conclusions:** The identified 1,500-foot buffer is sufficient according to the maximum distance allowed by Oregon Revised Statute.

(c) Analyze the ESEE consequences; and

Item (c) is addressed below.

(d) Develop a program to achieve Goal 5.

Item (d) is addressed below.

(2) Identify conflicting uses. Local governments shall identify conflicting uses that exist, or could occur, with regard to significant Goal 5 resource sites. To identify these uses, local governments shall examine land uses allowed outright or conditionally within the zones applied to the resource site and in its impact area. Local governments are not required to

consider allowed uses that would be unlikely to occur in the impact area because existing permanent uses occupy the site. The following shall also apply in the identification of conflicting uses:

**Applicant Response:** Applicant concludes that other uses on adjacent land, all of which is zoned EFU, will be limited to farming and natural resource use. The proposed mining will not conflict with natural resource use. Given parcel size, soil type, easements, and the existing high voltage transmission line, non farm development is very unlikely to be permissible under UCDO or state law other than uses already present on adjacent properties. Nonetheless, applicant provides an analysis of potential conflicting uses. Under this provision, applicant identifies conflicting uses that could occur, in proximity to the mining site. The table below includes potential uses that could create conflicts within the 1500-foot impact of the entire parcel even though the proposed mining site is smaller than the parcel area.

Potential conflicting uses found in the Umatilla County Development Code are outlined in the **Table 1**, below. This criterion is satisfied.

**Table 1 - Potential Conflicting Uses**

Potential Conflicting Uses		
Zoning	Code Sections	Potential Conflicting Uses
EFU	152.056 Uses Permitted 152.058 Zoning Permit  152-059 Land Use Decisions or 152.060 Conditional Uses	No conflicting uses identified. Replacement Dwellings, Winery, Farm Stand, Home Occupations. Churches, Dwellings, Schools, Parks, Playgrounds, Community Centers, Hardship Dwellings, Boarding and Lodging Facilities, Various Commercial Uses Related to Agriculture.

**Umatilla County Findings:** The applicant has identified potential conflicting uses within EFU zone and the 1500-foot impact area. Umatilla County finds potential conflicts exist and are evaluated below.

(a) If no uses conflict with a significant resource site, acknowledged policies and land use regulations may be considered sufficient to protect the resource site. The determination that there are no conflicting uses must be based on the applicable zoning rather than ownership of the site. (Therefore, public ownership of a site does not by itself support a conclusion that there are no conflicting uses.)

**Applicant Response:** The uses listed in the table above will be mitigated with existing UCDO setbacks. Applicant finds that any of the potential conflicting uses are highly unlikely given the restrictive EFU Zoning. However, county could adopt a Goal 5 protection program to protect the aggregate resource and require that would include only a single standard - requiring that any new non-farm development be allowed outside the 1,500-impact area. That would both protect the Goal 5 resource and not limit future land uses on adjacent parcels.

**County Findings and Conclusions:** Potential conflicting uses taken from the Umatilla County Development Code that could be adversely affected by mining on the proposed Goal 5 expansion area are identified above. Therefore, this criterion is not applicable.

(h) A local government may determine that one or more significant Goal 5 resource sites are conflicting uses with another significant resource site. The local government shall determine the level of protection for each significant site using the ESEE process and/or the requirements in OAR 660-023-0090 through 660-023-0230 (see OAR 660-023-0020(1)).

**Applicant Response:** There is an existing Goal 5 aggregate resource site directly to the east of the proposed quarry. This Goal 5 site is a large significant aggregate resource. Approval of the proposed quarry would not impact the existing quarry.

Umatilla County may find that the only significant Goal 5 site within the impact area is an existing aggregate operation, which is not identified as a conflicting use since the proposed use being evaluated is also aggregate mining. The ESEE analysis is evaluated below.

**County Findings and Conclusions:** There are two existing Goal 5 sites within the 1,500-foot impact area, both Goal 5 sites are on the subject property. The Goal 5 site north of Highway 730 is a large significant aggregate site and is mined by ODOT. Since this is an existing aggregate site, and is a similar operation to the applicant's request, there are no known conflicts.

The other Goal 5 site is on most of the subject property and is a significant wetland in the Umatilla County Technical Report. This significant wetland is designated as a 3c in the Technical Report, the 3c designation states that the site is significant and warrants protection from conflicting uses. The identified protection in the Technical Report is to limit conflicting uses with a 100-foot setback for structures and sewage disposal systems.

Umatilla County finds one significant Goal 5 site within the impact area is an existing aggregate operation, which is not identified as a conflicting use since the proposed use being evaluated is also aggregate mining. The other Goal 5 site, a significant wetland, has been protected and conflicts with this site are evaluated and can be mitigated under OAR 660-023-0180(3)(d) above. The ESEE analysis is evaluated below.

(3) Determine the impact area. Local governments shall determine an impact area for each significant resource site. The impact area shall be drawn to include only the area in which allowed uses could adversely affect the identified resource. The impact area defines the geographic limits within which to conduct an ESEE analysis for the identified significant resource site.

**Applicant Response:** The impact area for an aggregate site is 1,500 feet, as specified by OAR 660-023-0180(5)(a). Based on the list of potential conflicting uses identified in **Table 1**, above, Umatilla County may conclude that the 1,500-foot impact area is sufficient for conducting the ESEE analysis.

**County Findings and Conclusions:** The 1,500-foot impact area specified in OAR 660-023-0180(5)(a) is adequate for determining impacts for the proposed aggregate site. Umatilla

County finds and concludes the 1,500-foot impact area is adequate for conducting the ESEE analysis.

**(4) Analyze the ESEE consequences.** Local governments shall analyze the ESEE consequences that could result from decisions to allow, limit, or prohibit a conflicting use. The analysis may address each of the identified conflicting uses, or it may address a group of similar conflicting uses. A local government may conduct a single analysis for two or more resource sites that are within the same area or that are similarly situated and subject to the same zoning. The local government may establish a matrix of commonly occurring conflicting uses and apply the matrix to particular resource sites in order to facilitate the analysis. A local government may conduct a single analysis for a site containing more than one significant Goal 5 resource. The ESEE analysis must consider any applicable statewide goal or acknowledged plan requirements, including the requirements of Goal 5. The analyses of the ESEE consequences shall be adopted either as part of the plan or as a land use regulation.

**Applicant Response:** The applicant requests that Umatilla County determine that future dwelling or residential use and other uses that would place people within the impact area, such as gathering spaces, be limited to area on adjacent parcels that is outside the 1,500-impact area. That limitation would result in limited restriction on adjacent parcels. That is, other land uses could be permitted but the siting of those uses would need to be placed outside the 1,500-impact area.

Land uses that have potential to pose a conflict with the quarry include wineries, farm stands, mass gatherings, agri-tourism activities, churches, commercial activities in conjunction with farm use that could encourage gathering, private and public parks, golf courses, community centers, destination resorts, living history museums, residential homes, room and board operations, and schools. Again, those uses could occur on adjacent parcels but be sited outside the 1,500-impact area.

Mining at the quarry located north of Highway 730 has operated in this area without any significant conflicts for more than 30 years.

Table 1 shows uses allowed in the EFU zone within the 1,500-foot impact area. For purposes of the ESEE analysis, these potential conflicting uses can be grouped into two types of similar uses:

- Dwellings (typically includes farm dwellings, non-farm dwellings, lot of record dwellings, replacement dwellings, hardship dwellings, home occupations, room and board operations)
- Public/Private Gathering Spaces (typically includes wineries, churches, community centers, private and public parks and playgrounds, living history museums, golf courses, public or private schools, various commercial uses related to agriculture)

**County Findings and Conclusions:** As shown in Table 1, above, the local government has determined several outright and permitted uses that are allowed by the different zones within the



1,500-foot impact area. For purposes of the ESEE analysis, these potential conflicting uses can be grouped into two types of similar uses:

- Dwellings (typically includes farm dwellings, non-farm dwellings, lot of record dwellings, replacement dwellings, hardship dwellings, home occupations, room and board operations)
- Public/Private Gathering Spaces (typically includes wineries, churches, community centers, private and public parks and playgrounds, living history museums, golf courses, public or private schools, various commercial uses related to agriculture)

The applicant's ESSE Analysis follows:

ESEE consequences related to review criteria for dwellings and gathering spaces in the 1,500-foot impact area surrounding the proposed quarry			
	<i>Prohibit dwellings and gathering spaces</i>	<i>Condition the placement of new dwellings and gathering spaces</i>	<i>No change to review standards for dwellings and gathering spaces</i>
Economic Consequences	<p><b>Consequences related to new use on neighboring properties.</b>                      There may be some negative economic impact to neighboring property owners if new dwellings or gathering places were allowed within 1,500 feet of the quarry boundary. Where the adjacent parcels are large a new dwelling could be permitted but restricted to locate outside the 1,500-impact area.</p> <p><b>Consequences related to not allowing quarry operation.</b> The economic benefit of preserving the applicant's ability to operate the mining site has an economic impact through direct employment and by providing aggregate and asphalt to development in West Umatilla County.</p>	<p><b>Consequences related to new use on neighboring properties.</b> The economic impact to neighboring property owners would be neutral given that new development may occur on the larger parcels, but the specific siting would be limited to area outside the 1,500-impact area.</p>	<p>A 500kV transmission <del>line</del> <u>and</u> towers is located on parcels to the south. Development is not allowed under and adjacent to the transmission line. New development is likely already limited to areas outside of the 1,500 area.</p>
	<i>Prohibit dwellings and gathering spaces</i>	<i>Condition the placement of new dwellings and gathering spaces</i>	<i>No change to review standards for dwellings and gathering spaces</i>
Social Consequences	<p><b>Consequences related to new use on neighboring properties.</b> Restricting the placement of a dwelling to an area outside 1,500 feet of the quarry boundary would have a negative social consequence. This would be similar if gathering spaces were also prohibited. The social consequences stem from a landowner's desire to have</p>	<p><b>Consequences related to new use on neighboring properties.</b> The social impact to neighboring property owners would be neutral if acceptance of the mining activity were added as a condition of approval for new dwellings and uses related to social gatherings within 1,500 feet of the quarry boundary. Options available to property-owners would not be</p>	<p><b>Consequences related to new use on neighboring properties.</b> The social impact to neighboring property owners would be neutral if new dwellings and social gathering spaces within 1,500 feet of the quarry boundary were allowed under existing county and state review standards.</p>

	<p>reasonable options and flexibility when making choices about what they can and cannot do on their land.</p> <p><b>Consequences related to limitation of quarry.</b>                  Development and other construction and maintenance projects in the region would be delayed or limited if access to the quarry is not allowed.</p>	<p>reduced. Dwellings and gathering spaces that meet county and state standards criteria would be allowed.</p> <p><b>Consequences related to loss of quarry.</b>                  Various development and construction projects in the region that would utilize the aggregate material in the proposed quarry may have to forgo their development which could impact social activities including those that would benefit recreation and tourism.</p>	<p><b>Consequences related to loss of quarry.</b>                  Various development and construction projects in the region that would be served with aggregate material in the proposed quarry would be delayed or possibly even cancelled.</p>
	<i>Prohibit dwellings and gathering spaces</i>	<i>Condition the placement of new dwellings and gathering spaces</i>	<i>No change to review standards for dwellings and gathering spaces</i>
Environmental Consequences	<p><b>Consequences related to new use on neighboring properties.</b>                  None identified.</p> <p><b>Consequences related to not allowing quarry operation.</b>                  Limiting access to this quarry would have a net negative environmental impact as it would increase distance to haul material to new development thus increasing vehicle emissions from truck travel.</p>	<p><b>Consequences related to new use on neighboring properties.</b>                  Environmental consequence would be negligible given that development from under transmission lines already limits development within the 1,500 setback area.</p> <p><b>Consequences related to loss of quarry.</b>                  Efficient development practices include obtaining aggregate material from a quarry close to the project site. There will be some environmental benefit from fewer vehicle emissions when truck travel is minimized.</p>	<p><b>Consequences related to new use on neighboring properties.</b>                  A negative environmental consequence may be increased noise if new dwellings and social gathering spaces were allowed in the impact area.</p> <p><b>Consequences related to loss of quarry.</b>                  There may be some negative environmental consequence if new uses in the impact area oppose mining activity and pose an obstacle to the use of this site. Efficient development practices include obtaining aggregate material from a quarry close to the project site. Vehicle emissions will increase if trucks must travel further to access material.</p>
	<i>Prohibit dwellings and gathering spaces</i>	<i>Condition the placement of new dwellings and gathering spaces</i>	<i>No change to review standards for dwellings and gathering spaces</i>

Energy Consequences	<p><b>Consequences related to new use on neighboring properties.</b> None identified.</p> <p><b>Consequences related to loss of quarry access.</b> Consequences related to loss of quarry access. Efficient development practices include obtaining aggregate material from a quarry close to the project site. There will be some negative energy consequences from additional fuel use if truck travel is increased due to loss of access to this quarry.</p>	<p><b>Consequences related to new use on neighboring properties.</b> None identified.</p> <p><b>Consequences related to loss of quarry.</b> Efficient development practices include obtaining aggregate material from a quarry close to the project site. There will be some negative energy consequences from additional fuel use if truck travel is increased due to loss of access to this quarry.</p>	<p><b>Consequences related to new use on neighboring properties.</b> None identified.</p> <p><b>Consequences related to loss of quarry.</b> Efficient development practices include obtaining aggregate material from a quarry close to the project site. There will be some negative energy consequences from additional fuel use if truck travel is increased due to loss of access to this quarry.</p>
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**(5) Develop a program to achieve Goal 5.** Local governments shall determine whether to allow, limit, or prohibit identified conflicting uses for significant resource sites. This decision shall be based upon and supported by the ESEE analysis. A decision to prohibit or limit conflicting uses protects a resource site. A decision to allow some or all conflicting uses for a particular site may also be consistent with Goal 5, provided it is supported by the ESEE analysis. One of the following determinations shall be reached with regard to conflicting uses for a significant resource site:

- (a) A local government may decide that a significant resource site is of such importance compared to the conflicting uses, and the ESEE consequences of allowing the conflicting uses are so detrimental to the resource, that the conflicting uses should be prohibited.
- (b) A local government may decide that both the resource site and the conflicting uses are important compared to each other, and, based on the ESEE analysis, the conflicting uses should be allowed in a limited way that protects the resource site to a desired extent.
- (c) A local government may decide that the conflicting use should be allowed fully, notwithstanding the possible impacts on the resource site. The ESEE analysis must demonstrate that the conflicting use is of sufficient importance relative to the resource site, and must indicate why measures to protect the resource to some extent should not be provided, as per subsection (b) of this section.

**Applicant Response:** Based on the materials submitted with this application, including the ESEE analysis, the resource site will create little or no conflicts with existing or proposed uses within the 1,500-foot impact area. County may consider imposing a condition of approval for future land use applications for a conflicting use and require new development be located outside the 1,500-foot impact area. County could require a waiver of remonstrance with language stating that the applicant accepts normal mining activity at this significant aggregate site and restricts a landowner's ability to pursue a claim for relief or cause of action alleging injury from the aggregate operation. A waiver of non-remonstrance is not a taking subject to compensation as it does not prevent future development nor reduces property value. Instead, a waiver merely requires a party to agree that, should they choose to develop within the defined 1,500 impact area, they cannot later raise an objection to the operation of the resource site. As a practical matter this waiver is likely to be of little consequence because, given the limitations on

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development in the area, both practical and regulatory, it is very unlikely that any conflicting uses will be proposed or developed within the impact area. By way of example, a farmstand for selling of produce is extraordinarily unlikely within the 1,500 impact area given that such a farmstand would be located along Highway 730, which is designated as a truck route and there is no apparent location within the impact area where any such development could even be placed. Further evidence that a farm stand is highly unlikely is based on the fact that EFU-zoned parcels within the 1,500 impact area do not grow products that are typically sold at farm stands, e.g. produce, flowers, honey, etc. and the minimum siting requirements for a farm stand requires the majority of good sold at a farm stand be grown on the subject farm.

wetlands and public/private gathering spaces) are important compared to each other. Applicant is requesting that new conflicting uses be prohibited within the 1,500-foot impact area. ~~However, this could be considered "taking" from property owners of lands within the impact area.~~ Other quarry sites (new and expansions) have requested that new conflicting uses, identified in the ESEE analysis, be allowed with a recorded waiver of remonstrance. The waiver precludes the landowner's ability to pursue a claim for relief or cause of action against the aggregate operation. Therefore, Umatilla County finds that if the site could be approved, that proposed conflicting uses within the 1,500-foot impact area should be required to sign a waiver of remonstrance for the life of the Cox Quarry and is adequate to achieve Goal 5.

A condition of approval is imposed that any land use application for a proposed conflicting use within the 1,500-foot impact area requires a waiver of remonstrance prior to final approval. The waiver shall include language stating that the applicant accepts normal mining activity at this significant aggregate site and restricts a landowner's ability to pursue a claim for relief or cause of action alleging injury from the aggregate operation.

Umatilla County finds that the waiver of remonstrance requirement for proposed conflicting uses along with the mitigation measures proposed by the applicant are adequate to minimize conflicts for future uses that potentially locate within the mining impact area. The criterion is satisfied.

#### **660-023-0050 Programs to Achieve Goal 5**

(1) For each resource site, local governments shall adopt comprehensive plan provisions and land use regulations to implement the decisions made pursuant to OAR 660-023-0040(5). The plan shall describe the degree of protection intended for each significant resource site. The plan and implementing ordinances shall clearly identify those conflicting uses that are allowed and the specific standards or limitations that apply to the allowed uses. A program to achieve Goal 5 may include zoning measures that partially or fully allow conflicting uses (see OAR 660-023-0040(5) (b) and (c)).

**Applicant Response:** Umatilla County may find that Policy 41 of the Umatilla County Comprehensive Plan may be amended to list the quarry as a significant aggregate resource site.

The Umatilla County Zoning Map may be amended to apply the Aggregate Resource (AR) Overlay Zone to the subject property. In addition, county may apply a 1,500-foot buffer around the AR Overlay Zone which will be shown on the Zoning Map to acknowledge that conflicting uses (dwellings and public/private gathering spaces) may be limited.

Finally, as noted previously, county may require a condition of approval for any land use application that could present a conflict within the 1,500-foot impact area.

**County Findings and Conclusions:** Umatilla County finds that if the request is approved, Policy 41 of the Umatilla County Comprehensive Plan shall be amended to list the Cox

Quarry as a significant aggregate resource site.

The Umatilla County Zoning Map will be amended to apply the Aggregate Resource (AR) Overlay Zone to the subject property. In addition, a 1,500-foot buffer around the AR Overlay Zone will be shown on the Zoning Map to acknowledge that conflicting uses (dwellings and public/private gathering spaces) are limited.

As noted previously, a condition of approval is imposed that any land use application for a proposed conflicting use within the 1,500-foot impact area requires a waiver of remonstrance prior to final approval. The purpose of this condition is not to disallow these activities, but to ensure that applicants for these types of uses be made aware of the mining operation and waive their rights to remonstrate against aggregate mining activities allowed by this decision. This would be consistent with current Umatilla County Development Code provisions found at 152.063(D) that are applicable to permitted mining activities. This criterion is met.

(2) When a local government has decided to protect a resource site under OAR 660-023-0040(5)(b), implementing measures applied to conflicting uses on the resource site and within its impact area shall contain clear and objective standards. For purposes of this division, a standard shall be considered clear and objective if it meets any one of the following criteria:

- (a) It is a fixed numerical standard, such as a height limitation of 35 feet or a setback of 50 feet;
- (b) It is a nondiscretionary requirement, such as a requirement that grading not occur beneath the dripline of a protected tree; or
- (c) It is a performance standard that describes the outcome to be achieved by the design, siting, construction, or operation of the conflicting use, and specifies the objective criteria to be used in evaluating outcome or performance. Different performance standards may be needed for different resource sites. If performance standards are adopted, the local government shall at the same time adopt a process for their application (such as a conditional use, or design review ordinance provision).

**Applicant Response:** Applicant requests that Umatilla County find it valuable to limit conflicting uses within the 1,500-foot impact area for the life of the quarry in order to achieve Goal 5. Applicant also requests the Umatilla County Zoning Map be amended to apply the Aggregate Resource (AR) Overlay Zone to the 46.7-acre property. In addition, a 1,500-foot buffer around the AR Overlay Zone will be shown on the Zoning Map to acknowledge that conflicting uses (dwellings and public/private gathering spaces) are limited. Finally, applicant requests a condition of approval be imposed on any land use application for a proposed conflicting use within the 1,500-foot impact area requires a waiver of remonstrance prior to final approval.

**County Findings and Conclusions:** Umatilla County finds that proposed conflicting uses within the 1,500-foot impact area are required to sign a waiver of nonremonstrance to achieve Goal 5. The purpose of this condition is not to disallow these activities, but to ensure that applicants for these types of uses be made aware of the mining operation and also waive their rights to remonstrate against aggregate mining activities allowed by this decision. This is

consistent with Umatilla County Development Code provision 152.063(D) which is applicable to the permitted mining activities.

If approved, the Umatilla County Zoning Map will be amended to apply the Aggregate Resource (AR) Overlay Zone to the subject property. In addition, a 1,500-foot buffer around the AR Overlay Zone will be shown on the Zoning Map to acknowledge that conflicting uses (dwellings and public/private gathering spaces) are limited.

Umatilla County finds a condition of approval is imposed that any land use application for a proposed conflicting use within the 1,500-foot impact area requires a waiver of nonremonstrance prior to final approval. This criterion is satisfied.

(3) In addition to the clear and objective regulations required by section (2) of this rule, except for aggregate resources, local governments may adopt an alternative approval process that includes land use regulations that are not clear and objective (such as a planned unit development ordinance with discretionary performance standards), provided such regulations:

- (a) Specify that landowners have the choice of proceeding under either the clear and objective approval process or the alternative regulations; and
- (b) Require a level of protection for the resource that meets or exceeds the intended level determined under OAR 660-023-0040(5) and 660-023-0050(1).

Umatilla County finds that this request is related to aggregate resources. Therefore, this criterion is not applicable.

**29. STANDARDS OF THE UMATILLA COUNTY DEVELOPMENT CODE FOR ESTABLISHING AN AR OVERLAY ZONE are found in Sections 152.487 and 152.488.**

The following standards of approval are underlined and the findings are in normal text.

**152.487 CRITERIA FOR ESTABLISHING AN AR OVERLAY ZONE:** Section 152.487 of the Umatilla County Development Code lists required criteria the Planning Commission must consider for establishing an AR Overlay Zone. Criteria are listed and underlined. Evaluation responses are provided in normal text.

(A) At the public hearing the Planning Commission shall determine if the following criteria can be met:

- (1) The proposed overlay would be compatible with the Comprehensive Plan;

**Applicant Response:** The Umatilla County Comprehensive Plan and Technical Report apply to this application that seeks to protect the proposed aggregate site under Goal 5 as a significant site. Applicant requests county apply the Aggregate Resource Overlay Zone to the mining site, and to allow mining and processing on the site.

*Comprehensive Plan Finding 38: Extraction of non-renewable aggregate and mineral resources requires ongoing exploration, reclamation, separation from adjacent incompatible land uses and*

access.

*Comprehensive Plan Policy 38.*

*(a) The County shall encourage mapping of future agencies sites, ensure their protection from conflicting adjacent land uses, and required reclamation plans.*

*(b) Aggregate and mineral exploration, extraction, and reclamation shall be conducted in conformance with the regulations of the Department of Geology and Mineral Industries.*

*(c) The County Development Ordinance shall include conditional use standards and other provisions to limit or mitigate conflicting uses between aggregate sites and surrounding land uses.*

The applicant is seeking protection of the aggregate site by the application of the Aggregate Resource Overlay Zone and protection from encroaching and conflicting uses by mapping of the buffer area. The applicant hired a certified geologist to evaluate the site and prepare a map of the extraction and reclamation area for the Department of Geology and Mineral Industries. Based on this the application can be found to comply with Comprehensive Plan Policy 38.

*Finding 41: Several aggregate sites were determined to be significant enough to warrant protection from surrounding land uses in order to preserve the resource.*

Umatilla County [may] find that the applicant's request for limitations of conflicting residential and social gathering spaces would be required only in very limited circumstance but that they would be reasonable to provide protection of a significant Goal 5 resource.

The applicant's application and professional geology report demonstrate that the inventory of aggregate material at [the site] meets ODOT quality specifications and exceeds the 500,000 tons minimum. The application complies with quality and quantity standards in OAR 660-023-0180(3).

There are no residences or properties zoned for residential use within 1,000 feet of the proposed overlay.

The mining area will have some natural screening with trees and other vegetation between the mining area and Highway 730. Some of the mining operation may be visible from state Highway 730 but not from other vistas.

Based on the above, the applicant requests that the Comprehensive Plan be updated to include the proposed quarry in order to preserve the resource, in compliance with Finding 41.

**County Findings and Conclusions:** The Umatilla County Comprehensive Plan and Technical Report apply to the applicant's request. The existing ODOT site, also located on the subject property, north of Highway 730 has been added to the Comprehensive Plan Aggregate Resource Large Significant Site inventory indicating that the site is significant and warrants protection. This ODOT aggregate site has also been approved for mining activities. The applicant's request seeks to similarly protect the proposed aggregate site under Goal 5 as a significant site, to apply the Aggregate Resource Overlay Zone to the mining site, and to allow mining and processing (including an asphalt batch plant) on the site.



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Comprehensive Plan Findings and Policies are also applicable. Finding 38 states, "Extraction of non-renewable aggregate and mineral resources requires ongoing exploration, reclamation, separation from adjacent incompatible land uses and access." The accompanying policy is also applicable:

- Policy 38. (a) The County shall encourage mapping of future agencies sites, ensure their protection from conflicting adjacent land uses, and required reclamation plans.
- (b) Aggregate and mineral exploration, extraction, and reclamation shall be conducted in conformance with the regulations of the Department of Geology and Mineral Industries.
- (c) The County Development Ordinance shall include conditional use standards and other provisions to limit or mitigate conflicting uses between aggregate sites and surrounding land uses.

The applicant is seeking protection of the aggregate site by the application of the Aggregate Resource Overlay Zone and protection from encroaching and conflicting uses by mapping of the buffer area to best achieve both this Finding and Policy.

Finding 41 is also applicable and states, "Several aggregate sites were determined to be significant enough to warrant protection from surrounding land uses in order to preserve the resource." Based on this application, the applicant requests that the accompanying Policy be updated to list the Cox Quarry.

Umatilla County finds that the applicant's request for application of the AR Overlay zone and limitations of conflicting new residential and social gathering space uses is reasonable under the Goal 5 protection program and appears to be compatible with the Umatilla County Comprehensive Plan. This criterion is met.

(2) There is sufficient information supplied by the applicant to show that there exists quantities of aggregate material that would warrant the overlay;

The Umatilla County Planning Commission found that the applicant's PAPA application and laboratory reports demonstrated that the inventory of aggregate material at the Cox Quarry is estimated at 4,738,409 tons which exceeds the minimum 500,000 tons minimum required for a significant Goal 5 aggregate site, however, their quantity and quality analyses was further was not verifiable with a after the Planning Commission hearing. Applicant's licensed engineering geologist, Erick Staley conducted additional sampling and testing and provided the additional representative set of samples, as only one aggregate sample, was provided, as See above and attached report from licensed geologist Erick Staley, found above. This criterion is not met.

(3) The proposed overlay is located at least 1,000 feet from properties zoned for residential use or designated on the Comprehensive Plan for residential;

Umatilla County finds that there are no properties zoned for residential use within 1,000 feet of the proposed overlay. This criterion is met.

(4) Adequate screening, either natural or man-made, is available for protecting the site from surrounding land uses.

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**Applicant Response:** ~~No response~~ As noted above, applicant and geologist carefully selected the subject property and location in part based on the tall basalt wall that provides a natural barrier. Further, applicant has provided professional air and sound analysis to prove the operation will comply with Oregon air quality and noise standards. Additional measures to protect mining on the site do not appear to be necessary. This criterion is met.

**County Findings and Conclusions:** The proposed quarry will be sited south of Highway 730 and east of Highway 207. The proposed mining area will be set back from the two highways, and the existing wetlands and shrubbery will provide some screening. The Planning Commission found and concluded that the applicant did not meet all criteria of approval, thus adequate screening was not addressed. The County Board of Commissioners may find that additional screening is required along the site boundaries and may impose an additional condition of approval.

(5) The site complies with Oregon Administrative Rules (OAR) 660-023-0180.

The Umatilla County Planning Commission found that several standards found in (OAR) 660-023-0180 were not met by the proposed mining operation, as provided above. ~~This criterion is not satisfied.~~ Since the Planning Commission hearing, Applicant provided an air report and noise report, both of which concluded the mining operation will meet the established requirements found in Oregon law. Further, applicant has provided a blasting plan and has agreed to employ a blasting and drilling professional who will operate in compliance with mining and Oregon Occupational Safety and Health Standards. Given that concerns about impacts are focused on perceived, and unsupported, impacts from air and noise and given that applicant has documented that air and noise discharges will be in compliance with Oregon law and standards. Further, to the extent that the conflicts identified by the opponents require mitigation, the construction of a berm, and the limitation on the hours of operation proposed by Applicant will further limit any potential impacts from noise and dust. The site will not conflict with agricultural practices either as the scientific studies, and the construction of the berm will mitigate any potential impact (which impact has not actually been established) to the agricultural practices in the area, namely pasturing of horses, cattle, and the raising of alfalfa. The County Board of Commissioners may find that the application complies with OAR 660-023-0180.

**152.488 MINING REQUIREMENTS:** Section 152.488 of the Umatilla County Development Code lists mining requirements for aggregate sites under the AR Overlay Zone. Criteria are listed and underlined. Evaluation responses are provided in standard text.

(A) All work done in an AR Overlay Zone shall conform to the requirements of DOGAMI or its successor, or the applicable state statutes.

**Applicant Response:** Applicant's geologist has prepared an application to DOGAMI and the application will be submitted concurrently with the land use application. Applicant will comply with all mining and reclamation required by DOGAMI.

**County Findings and Conclusions:** Umatilla County finds and concludes that the applicant shall provide to the Umatilla County Planning Division a copy of the DOGAMI operating permit and, as a condition of approval, will be required to obtain all necessary State Permits before commencing mining activities.

(B) In addition to those requirements, an aggregate operation shall comply with the following standards:

- (1) For each operation conducted in an AR Overlay Zone the applicant shall provide the Planning Department with a copy of the reclamation plan that is to be submitted under the

PRELIMINARY FINDINGS AND CONCLUSIONS

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county's reclamation ordinance:

**Applicant Response:** See attached reclamation plan prepared for DOGAMI permits.

**County Findings and Conclusions:** Umatilla County finds that the reclamation plan requirements must meet the standards of DOGAMI and that a copy of the approved reclamation plan is to be submitted to the Planning Division. A subsequent condition of approval is imposed requiring the applicant to submit a copy of the DOGAMI approved reclamation plan to Planning, the condition of approval satisfies the criterion.

- (2) Extraction and sedimentation ponds shall not be allowed within 25 feet of a public road or within 100 feet from a dwelling, unless the extraction is into an area that is above the grade

of the road, then extraction may occur to the property line;

**Applicant Response:** The applicant will mine the aggregate resource leaving a 25-foot buffer area around the perimeter of the subject property. There is one home on property adjacent to the proposed mining area, located to the south and west of the mining site. Mining will not be done within 100 feet of the home. There are no other homes within the 1,500-foot impact area. Sedimentation pond will be more than 25 feet from any county roads. See attached mining plan and site plan.

**County Findings and Conclusions:** Umatilla County finds and concludes that the applicant has submitted a site plan demonstrating that extraction and sedimentation ponds are not within 25-feet of a public road or within 100-feet of a dwelling. A subsequent condition of approval imposing that this site plan accompany the final zoning permit satisfies the criterion.

- (3) Processing equipment shall not be operated within 500 feet of an existing dwelling at the time of the application of the Overlay Zone. Dwellings built after an AR Overlay Zone is applied shall not be used when computing this setback.

**Applicant Response:** The nearest dwelling is located to the south and west of the quarry area. Although the property lines abut, the dwelling will be approximately 1,500 feet from the mining area. Additionally, processing equipment will be sited in such a way as to create a further and more physical buffer.

**County Findings and Conclusions:** Umatilla County finds as a condition of approval, the applicant shall provide a site plan demonstrating that processing equipment will be sited to retain the 500-foot setback to the existing dwellings. Umatilla County concludes imposition of this condition of approval satisfies the criterion.

- (4) All access roads shall be arranged in such a manner as to minimize traffic danger and nuisance to surrounding properties and eliminate dust.

**Applicant Response:** The parcel has direct access to Highway 730 and has applied to ODOT to move the access for the purpose of minimizing congestion and conflicts with traffic. A new road on the parcel will be constructed to standard.

**County Findings and Conclusions:** Umatilla County finds that the proposed Cox Quarry site has frontage along both Highway 730 and Highway 207. The applicant has indicated that Highway 730 will be utilized for access. A new access point will need to be approved and constructed to Highway 730 to support the mining activity. A subsequent condition of approval is imposed that the applicant obtain access permit approval from ODOT to Highway 730. Internal haul roads shall be constructed to minimize traffic danger and nuisance to surrounding properties and eliminate dust. Umatilla County finds and concludes a subsequent condition of approval requiring haul roads to be constructed to minimize traffic danger and nuisance to surrounding properties and eliminate dust satisfies the criterion.

**30. ANALYSIS OF STATEWIDE PLANNING GOALS 1 THROUGH 14.**

**Goal 1 Citizen Involvement:** *To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.*

**Applicant Response:** Umatilla County's Comprehensive Plan and Umatilla County Development Ordinance includes robust provisions for citizen involvement program, including notice of Planning Commission and Board of Commissioners public hearings and opportunity for persons to participate in the hearings. This combined legislative and quasi-judicial request will be publicly noticed and heard at two public hearings where citizens will be afforded opportunity to participate in person and/or in writing.

**County Finding:** Umatilla County finds that the applicant's request will go through the public hearing process and therefore complies with Statewide Planning Goal 1 (Citizen Involvement).

**Goal 2 Planning:** *To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.*

**Applicant Response:** By following UCDO and ORS notice and hearing requirements this request is in compliance with Goal 2.

**County Finding:** Umatilla County finds that through this amendment process, the applicant's request complies with the County's Comprehensive Plan and Development Code and therefore complies with Statewide Planning Goal 2 (Planning).

**Goal 3 Agricultural Lands:** *To preserve and maintain agricultural lands.*

**Applicant Response:** The application and materials demonstrate that the proposed quarry will be compatible with uses allowed in the EFU zone while also allowing mining of a Goal 5 significant site. The only potential impact for agricultural lands is dust, which, as noted above, will not negatively impact farming practices and will comply with Department of Environmental Quality air standards as found in the Air Sciences Inc. Air study. Any minor fugitive dust will be mitigated with water on the rock crusher as well as for dust control and air filters on equipment. An aggregate operation is consistent with Oregon Revised Statute 215.203, designating the zoning as Exclusive Farm Use (EFU). That is, rock quarries are allowed on land zoned EFU provided the resource is designated as a significant Goal 5 resource which is confirmed above, under the Goal 5 process which is precisely the request here.

Additionally, most quarries in Oregon are located on EFU zoned land and are also surrounded agricultural lands zoned EFU. This further demonstrates that quarries are compatible with agricultural practices. The exception is farm land with vineyards which is not the case here.

~~Where there is any doubt about compatibility with agricultural lands, above the application shows that only minor dust has the potential to impact farm and the applicant proposes to use dust abatement and filtering to prevent impacts. No place in Oregon, as is true here, has the application found the proposed quarry use been is contrary to preservation of agricultural lands in the area.~~

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Oregon law and Oregon's Statewide Planning Program does not prioritize Statewide Planning Goals and has developed Administrative Rules with clear and objective standards in order to permit a variety of uses. In this case, the application has complied with OAR 660-023 and the aggregate site is found to be a significant for permitting Goal 5 resource. ~~s-While meeting the Goal 5 standardsstandards. Ceounty may find that the use is appropriate and can be found to be allowed while~~ balancing impacts to farmland, ~~if any.~~ The applicant has demonstrated that Goal 3 farmland will be protected while allowing the designation and development of a Goal 5 aggregate resource at this location. Statewide Planning Goals 3 and 5 are complimentary at this location.

**County Finding:** Umatilla County Board of Commissioners may finds that the applicant's request ~~is appears to not~~ be consistent with Statewide Planning Goal 3 (Agricultural Lands) as demonstrated throughout this document. Potential conflicts with the proposed mining operation and existing agricultural operations were analyzed and identified by the County ~~and~~ ~~Applicant~~ Applicant and found to be compatible with farm use. Where any anticipated impact from noise or dust was expressed as a concern by ~~and~~ the public during testimony, applicant submitted scientifically based evidence that noise and dust will not negatively impact farming. Farmers within the ~~Landowners who are not engaged in commercial farming but live in the~~ vicinity provided testimony stating that the proposed aggregate site and associated mining activities, including the asphalt batch plant, will have a negative impact on their existing farm crops (namely alfalfa hay), and livestock. The applicant ~~did not~~ provided noise and air analysis to the contrary. ~~mitigation measures for impacts to farming activities.~~ The proposed site is not located on high value farmland soils, nor is it removing productive farmland. As the applicant has provided, aggregate extraction and associated mining activities are allowed in the EFU zone, thus, a Goal Exception to Statewide Planning Goal 3 is not required. Where there is no scientific evidence that the quarry operation will negatively impact farming, and, where applicant has provided scientific analysis to prove adjacent lands, including farmland, will not be negatively impact, ~~however, due to the impacts on nearby farming operations,~~ Umatilla County may find that the application complies with Statewide Planning ~~concludes the request is not compliant with~~ Goal 3.

**Goal 4 Forest Lands:** *To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.*

**Applicant Response:** There are no forest lands in this region of the county and no forest lands impacted by this request.

**County Finding:** Umatilla County finds that Statewide Planning Goal 4 (Forest Lands) does not directly apply to the applicant's request.

**Goal 5 Open Spaces, Scenic and Historic Areas, and Natural Resources:** *To protect natural resources and conserve scenic and historic areas and open spaces.*

**Applicant Response:** The application and materials demonstrate the aggregate site is a significant resource and should be protected to allow mining. The existing Goal 5 aggregate site located north of Highway 730 is not available to private sector. The site contains wetlands listed on the National Wetlands Inventory map. A wetland delineation was reviewed by Department of

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State Lands. The quarry and mining area was configured to avoid impacts to wetlands.

**County Finding:** As demonstrated throughout this document, other Goal 5 resources are present on the subject property: a significant wetland and an ODOT aggregate site. The ODOT site will not be impacted by the proposed quarry site. ~~However, impacts to the Goal 5 wetland will be minimized based on the review and evaluation of qualified Department of State Lands staff and applicants compliance with DLS staff recommendations. There are no known goal 5 and associated wildlife resources on the subject parcel therefore mitigation of impacts is not required. Nonetheless, Applicant does not believe the operation will negatively impact wildlife. Proof is found in the fact that many quarry operators see large game, upland birds and waterfowl travers quarry sites, are not clear and could not be determined.~~ The applicant provided ESEE analysis demonstrates the importance and benefit of establishing the proposed Goal 5 site.

Umatilla County finds and concludes that the applicant's request is to apply Goal 5 protection to the aggregate resources on the site. The request has been reviewed under the necessary Goal 5 process and ~~does not appear to be~~ consistent with Statewide Planning Goal 5 (Open Spaces, Scenic and Historic Areas, and Natural Resources).

**Goal 6 Air, Water and Land Resources Quality:** *To maintain and improve the quality of the air, water and land resources of the state.*

**Applicant Response:** The application and materials demonstrate that proposed mining will or can comply with applicable federal and state environmental standards for air and water quality. Additionally, applicant will utilize best management practices.

**County Finding:** Umatilla County finds that the applicant's request ~~does not~~ adequately addresses air, water and land resource quality. The applicant submitted a professional and scientific air and noise analysis. ~~The applicant stated that they~~ will obtain necessary permits and implement best practices to be consistent with Statewide Planning Goal 6 (Air, Water and Land Resource Quality). ~~However, the applicant has did not addressed all air quality issues raised by opponents and will implement, nor share the proposed best management practices to prevent off site air and noise impacts, as demonstrated throughout this document.~~ Umatilla County may find that the application complies with Statewide Planning Goal 6.

**Goal 7 Areas Subject to Natural Hazards and Disasters:** *To protect people and property from natural hazards.*

**Applicant Response:** Natural hazards known in this general vicinity include wildfire and flooding. The property is not located in a designated flood zone as designated by the Federal Emergency Management Agency. The property is not subject to flooding. While there is no evidence of wildfire on the property, wildfires are generally known to occur. The subject property is not located in a high-risk wildfire area according to the 2021 Umatilla County Natural Hazard Mitigation Plan (NHMP WF-2). Operation of the quarry would not create additional challenges to wildfire mitigation.

**County Finding:** The subject property is not within the FEMA mapped floodplain, nor is it prone to flooding. Wildfires are generally known to occur along the Highway 730 corridor, however, the property is not located in a high-risk wildfire area in Umatilla County's 2021 Natural Hazard Mitigation Plan. Operation of the quarry would likely not create additional



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challenges to wildfire mitigation. Umatilla County finds that Statewide Planning Goal 7 (Areas Subject to Natural Hazards and Disasters) does not directly apply to this request.

**Goal 8 Recreation Needs:** *To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.*

**Applicant Response:** The application does not impact recreational opportunities.

**County Finding:** Umatilla County finds that the applicant's request appears to be consistent with Statewide Planning Goal 8 (Recreation Needs) and Goal 8 does not directly apply to this request.

**Goal 9 Economy:** *To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon 's citizens.*

**Applicant Response:** The approval of a new aggregate site will provide economic benefit to the region by increasing the supply of rock and asphalt for new development, repair and construction of roads and other uses. Currently, given the level of development in West Umatilla and North Morrow Counties there is a deficit of aggregate and asphalt. The new quarry will create 3-4 new

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jobs in the area. Overall, the new quarry will have positive effect on the local and regional economy. Applicant further provides that the major industrial development in the travelshed area of the proposed quarry includes data centers which have a very high need for aggregate and asphalt. The subject Goal 5 proposal will foster Goal 9 objectives.

**County Finding:** Umatilla County finds that the applicant's request will provide an economic benefit to the region, as described in the ESEE analysis, and will increase the supply of rock and asphalt for development. Therefore, the request appears to be consistent with Statewide Planning Goal 9 (Economy).

**Goal 10 Housing:** *To provide for the housing needs of citizens of the state.*

**Applicant Response:** Approval of this site would increase supply of aggregate and asphalt used in housing construction such as for roads and infrastructure.

**County Finding:** Umatilla County finds housing is not a direct consideration of this request, however, the requested activities will allow for aggregate to be available for use in the housing and commercial construction business. Thus, the request is consistent with Statewide Planning Goal 10.

**Goal 11 Public Services:** *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.*

**Applicant Response:** The proposed quarry does not have a direct impact on Goal 11 however, it would provide rock and asphalt resources necessary for infrastructure development.

**County Finding:** Umatilla County finds that the applicant's request appears to support Statewide Planning Goal 11 (Public Services).

**Goal 12 Transportation:** *To provide and encourage a safe, convenient and economic transportation system.*

**Applicant Response:** Applicant has submitted an Access Permit application to ODOT to relocate the existing driveway to a location that will minimize congestion and be better suited for vision clearance. Additionally, the relocated access and internal roadway will avoid impacts to wetlands. Traffic from the mining area will vary based on the time of year. At peak applicant estimates 12 trucks per day and two to three employee vehicles. Average Daily Trips will be under the 250 trips identified within the Umatilla County Development Code UCDC 152.019(B)(2)(a) and Transportation System Plan (TSP) as the trigger for requiring a Traffic Impact Study. However, county staff indicated they could not deem the application complete without a traffic impact analysis. Applicant then employed Kittelson and Associates, Inc. to conduct a transportation impact analysis which is attached. The TIA concludes that "the proposed Aggregate Resources Overlay Zone and mining and asphalt operation is not anticipated to result in a significant impact to the transportation network or require offsite mitigation." Kittelson & Associates recommended two conditions which the applicant supports.

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- Construct a new site access roadway connection to US 730. A STOP (R1-1) sign should be installed on the northbound approach to US 730 in accordance with ODOT and County standards and the Manual on Uniform Traffic Control Devices (MUTCD) in conjunction with site development.
- To provide and maintain adequate intersection sight distance at the site access road connection to US 730, locate any proposed signage or landscaping appropriately such that the minimum intersection sight distance can be maintained.

Based on the TIA and the above, the application can be found to be in compliance with the county Transportation System Plan, County Development Code 152.019(B) and Goal 12.

**County Finding:** Umatilla County finds as part of this application approval process; the applicant will be required to construct a new access point to serve the proposed mining operation that complies with ODOT requirements. The applicant submitted a Traffic Impact Analysis (Exhibit F) which found that the proposed mining operations will add approximately 356 daily trips on local roads, which overall will have minimal impact on both Highway 207 and Highway 730. The current 15-minute traffic count for the intersection of these two state highways is nearly equivalent to the average daily trips of the mining operation. Therefore, the proposed mining operation is not anticipated to have a significant effect on the local transportation network. Umatilla County finds that the applicant's request appears to support Statewide Planning Goal 12 (Transportation).

**Goal 13 Energy:** *To conserve energy.*

**Applicant Response:** Application does not directly affect energy conservation, however, by approving this new quarry and mining operation truck hauling can be reduced which in turn decreases energy consumption.

**County Finding:** Umatilla County finds that the addition of this site on the Goal 5 Aggregate Resource inventory will reduce the hauling distances of aggregate trucks for projects in the vicinity. Decreasing hauling distances reduces fossil fuel consumption. Therefore, the applicant's request appears to be consistent with Statewide Planning Goal 13 (Energy).

**Goal 14 Urbanization:** *To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.*

**Applicant Response:** The proposed quarry and mining operation is a rural use. Goal 14 does not apply.

**County Finding:** Mining operations are not necessarily an urban land use and are typically located outside of urban areas. Umatilla County finds that Statewide Planning Goal 14 (Urbanization) is not specifically applicable to this request.

**PLAN AMENDMENT TO ADD THE SITE TO THE SIGNIFICANT RESOURCES INVENTORY**  
**PAPA DECISION: IS HEREBY APPROVED. DENIAL**

**BASED UPON THE FINDINGS OF FACT AND CONCLUSIONS OF LAW, THE**

**REQUEST TO AMEND THE COMPREHENSIVE PLAN TO ADD THIS SIGNIFICANT SITE TO THE COUNTY'S INVENTORY OF SIGNIFICANT SITES AND ESTABLISH AN AGGREGATE RESOURCE OVERLAY TO THE CRP HAULING SITE IS ~~APPROVED.~~**DENIED.****

**DECISION TO ALLOW MINING: ~~APPROVED~~**DENIAL****

**BASED UPON THE FINDINGS OF FACT AND CONCLUSIONS OF LAW, THE REQUEST TO ALLOW MINING OF THE COX SITE IS ~~APPROVED.~~**DENIED.****

~~THE PLANNING COMMISSION FOUND THAT THE FOLLOWING CRITERIA OF APPROVAL WERE NOT MET BY THE APPLICANT:~~

- ~~1. OAR 660-023-130 (3)(a) A representative set of samples of aggregate material in the deposit on the site~~
- ~~2. OAR 660-023-130 (5) (b) [Conflicts created by the site]~~
- ~~3. OAR 660-023-130 (5) (c) [If conflicts exist, measures to minimize]~~
- ~~4. UCDC 152.487(A)(2) There is sufficient information supplied by the applicant to show that there exists quantities of aggregate material that would warrant the overlay~~
- ~~5. UCDC 152.487(A)(5) The site complies with Oregon Administrative Rules (OAR) 660-023-0180.~~

**~~IF THE SITE COULD BE APPROVED, IT WOULD AS APPROVED, THE USE WILL BE SUBJECT TO THE FOLLOWING CONDITIONS:~~**

**MINING ACTIVITIES ARE NOT ALLOWED UNTIL A COUNTY ZONING PERMIT HAS BEEN ISSUED**

Precedent Conditions: The following precedent conditions must be fulfilled prior to final approval of this request:

- ~~1. Obtain approval for the Post Acknowledgement Plan Amendment (PAPA) request to list the site as a Large Significant Aggregate Site in the Comprehensive Plan, and apply the Aggregate Resource (AR) Overlay Zone.~~
2. Pay notice costs as invoiced by the County Planning Division.

Subsequent Conditions: The following subsequent conditions must be fulfilled following final approval of this request:

1. Obtain all ~~other~~ federal and state permits necessary for development. Provide copies of these permit approvals to the Planning Division.
  - a. Obtain an ODOT road approach permit to Highway 730. Provide a copy of the access approval to the Planning Division.
  - b. Obtain all applicable permits for the mining operations from DOGAMI before these activities begin. Applicant will obtain approval from DOGAMI for the reclamation plan and submit a copy of the reclamation plan to the Planning Department.
  - c. Obtain all applicable permits for the mining operation ~~from DEQ (air, noise, and water quality issues)~~ before ~~these mining~~ activities begin.
2. Submit a blasting plan to the Planning Division explaining how blasting impacts will be mitigated. The plan shall detail blast procedures, how the procedures will be implemented, how time-delays will be utilized and implemented, and monitoring procedures including how vibration data will be collected. The blasting plan shall be implemented for all blasting activities for the life of the Cox Quarry.
3. Obtain a Zoning Permit from Umatilla County Planning Division to finalize the approval of mining the aggregate site. The site plan shall demonstrate that the extraction and sedimentation ponds are not located within 25-feet of a public road or within 100-feet from a dwelling. Processing equipment shall not be located within 500-feet of an existing dwelling. Additionally, all structures related to mining activities shall be setback a minimum of 100-feet from wetlands.
4. The applicant and its contractors shall implement best management practices, including obtaining necessary permits to manage dust, stormwater and other discharges.
- ~~5. If the site were to lay inactive for a period of greater than two years, a new zoning permit must be obtained. A new zoning permit must be obtained if construction is not commenced within the time limitations set out in UCDC 152.025.~~
- ~~6.5~~ Adhere to DEQ Noise Standard as found in OAR 340-035-0035, *Noise Control Regulations for Industry and Commerce*.
- ~~7.6~~ Develop internal haul roads in a manner that minimize traffic danger and nuisance to surrounding properties and eliminate dust.
- ~~8.7~~ If cultural artifacts are observed during ground-disturbing work, that work must cease in the development area until the find is assessed by qualified cultural resource personnel from the State Historic Preservation Office and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). Once qualified cultural resource personnel from SHPO and CTUIR are satisfied, the ground-disturbing work may continue.

~~9.8.~~ Contour and revegetate the quarry for agricultural or wildlife habitat purposes during post-mining activities according to the requirements of the DOGAMI application.

~~10.9.~~ Any land use application for a proposed conflicting use within the 1,500-foot impact area requires a waiver of remonstrance prior to final approval. The waiver shall include language stating that the applicant accepts normal mining activity at this significant aggregate site and restricts a landowner's ability to pursue a claim for relief or cause of action alleging injury from the aggregate operation.

**UMATILLA COUNTY BOARD OF COMMISSIONERS**

Dated the \_\_\_\_\_ day of \_\_\_\_\_, 202~~4~~3

\_\_\_\_\_  
Celinda A. Timmons, *Commissioner*

\_\_\_\_\_  
John M. Shafer, *Commissioner*

\_\_\_\_\_  
Daniel N. Dorran, *Commissioner*

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STATE OF OREGON  
**WATER SUPPLY WELL REPORT**  
 (as required by ORS 537.765)

UMAT  
 54508

WELL I.D. # L 49855  
 START CARD # 140893

Instructions for completing this report are on the last page of this form.

(1) LAND OWNER Well Number  
 Name Darlene Westerting  
 Address 34316 Diagonal Rd  
 City Hermiston State OR Zip 97838

(2) TYPE OF WORK  
 New Well  Deepening  Alteration (repair/recondition)  Abandonment

(3) DRILL METHOD:  
 Rotary Air  Rotary Mud  Cable  Auger  
 Other \_\_\_\_\_

(4) PROPOSED USE:  
 Domestic  Community  Industrial  Irrigation  
 Thermal  Injection  Livestock  Other \_\_\_\_\_

(5) BORE HOLE CONSTRUCTION:  
 Special Construction approval  Yes  No Depth of Completed Well 99'  
 Explosives used  Yes  No Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE			SEAL			Sacks or pounds
Diameter	From	To	Material	From	To	
10	0	23	Benite	0	23	19 SLS
6	23	100				

How was seal placed: Method  A  B  C  D  E  
 Other Dry granular  
 Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

(6) CASING/LINER:

Casing:	Diameter	From	To	Gauge	Material			
					Steel	Plastic	Welded	Threaded
	6	11	99'		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Drive Shoe used  Inside  Outside  None  
 Final location of shoe(s) +100 99'

(7) PERFORATIONS/SCREENS:

Perforations Method \_\_\_\_\_  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour

Yield gal/min	Drawdown	Drill stem at	Time
40		25	1 hr.

Pump  Bailer  Air  Flowing  Artesian

Temperature of water 57° Depth Artesian Flow Found \_\_\_\_\_  
 Was a water analysis done?  Yes By whom \_\_\_\_\_  
 Did any strata contain water not suitable for intended use?  Too little  
 Salty  Muddy  Odor  Colored  Other \_\_\_\_\_  
 Depth of strata \_\_\_\_\_

(9) LOCATION OF WELL by legal description:  
 County Umatilla Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Township 5 N or S Range 29 E or W. WM.  
 Section 22 NE 1/4 2E 1/4  
 Tax Lot 1000 Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) SAME

(10) STATIC WATER LEVEL:  
23 ft. below land surface. Date 4-9-02  
 Artesian pressure \_\_\_\_\_ lb. per square inch Date \_\_\_\_\_

(11) WATER BEARING ZONES:  
 Depth at which water was first found 23

From	To	Estimated Flow Rate	SWL
23	99	40	23

(12) WELL LOG:  
 Ground Elevation \_\_\_\_\_

Material	From	To	SWL
Brown Sand	0	45	23
Black Sand	45	60	
Sandy Gravels	60	99	
Black Basalt	99	100	

**RECEIVED**

APR 22 2002

WATER RESOURCES DEPT.  
 SALEM, OREGON

AUG 30 2004

WATER RESOURCES DEPT.  
 SALEM, OREGON

Date started 4-9-02 Completed 4-10-02

(unbonded) Water Well Constructor Certification:  
 I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.  
 WWC Number \_\_\_\_\_  
 Signed \_\_\_\_\_ Date \_\_\_\_\_

(bonded) Water Well Constructor Certification:  
 I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.  
 WWC Number 259  
 Signed [Signature] Date 4-12-02

ORIGINAL - WATER RESOURCES DEPARTMENT FIRST COPY - CONSTRUCTOR SECOND COPY - CUSTOMER

UMATILLA COUNTY  
 COMMUNITY DEVELOPMENT



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Exhibit AD

January 30, 2024

Umatilla County Board of Commissioners  
216 SE Fourth Street  
Pendleton, OR 97801

RECEIVED

JAN 25 2024

UMATILLA COUNTY  
COMMUNITY DEVELOPMENT

RE: Rock Quarry Application for Doug Cox  
Applications T-09-23 and Z-323-23

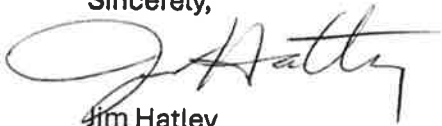
Commissioners -

Please consider my support for the rock quarry application filed by Doug Cox. I have known Doug for 22 years and I believe in the quality and integrity of his work. As a contractor, Doug has the highest standards.

There is a real need for aggregate material in West Umatilla County. The quarry at the intersection of Highway 730 and Highway 207 is ideally situated for all of the development occurring in that part of the county.

Doug will operate the rock quarry with the same high standards he employs in his other contracting work. I urge you to approve Doug's application.

Sincerely,



Jim Hatley

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# Exhibit AE

January 30, 2024

**RECEIVED**

**JAN 30 2024**

**UMATILLA COUNTY  
COMMUNITY DEVELOPMENT**

Umatilla County Board of Commissioners  
216 SE Fourth Street  
Pendleton, OR 97801

RE: Rock Quarry Application for Doug Cox  
Applications T-09-23 and Z-323-23

Commissioners –

Please consider my support for the rock quarry application filed by Doug Cox. I have worked with Doug in many levels, off and on since 1991. I strongly believe in the quality and integrity of his work. As a contractor, Doug maintains a high standard of integrity combined with a work ethic that sees everything through. I have not seen Doug ignore a concern or not come up with a plan to address a concern in his work. He is very professional and communicates well.

There is a real need for aggregate material in West Umatilla County. The quarry at the intersection of Highway 730 and Highway 207 is ideally situated for all of the development occurring in that part of the county.

Doug will operate the rock quarry with the same high standards he employs in his other contracting work. I urge you to approve Doug's application.

Sincerely,



Denny Whitsett

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January 23, 2024

Exhibit AF

RECEIVED

FEB 05 2024

UMATILLA COUNTY  
COMMUNITY DEVELOPMENT

Umatilla County Board of Commissioners  
216 SE Fourth Street  
Pendleton, Oregon 97801

RE: Rock Quarry Applications T-09-23 and Z-323-23--Doug Cox

Commissioners,

I am writing to express support for the proposed new rock quarry and operations in the Hermiston area. This venture will bring several benefits to our community, including job opportunities, economic growth and infrastructure development. Most importantly, it will support the industrial building development that is underway today.

As a past earthwork contractor and present aggregate trucking business owner, I know firsthand the demand for both aggregate and asphalt throughout the year. The area is growing at a rate that surpasses aging infrastructure that requires replacement. The demand for these resources is essential to contractors in the area to complete projects efficiently, on time and to retain profit margins. Recently, there has been an additional concrete plant and multiple volumetric mixing trucks established in the area to address the increasing demand. There is an unmet asphalt need geographically in our region, especially when the two existing plants are not operating, and for contractors doing asphalt patching.

The responsible extraction of resources is crucial for meeting construction demands. A well-regulated, efficient quarry will contribute positively to our local economy. I have known Doug for over 13 years, he will meet or exceed industry standards and will utilize industry experts and their recommendations to operate a reputable business. Being in the industry, he knows firsthand how the quality level of these materials affects contractors and their longevity of the work performed.

Being a county resident that lives near this proposed area, I agree that this is a prime location with quality material to be extracted. Doug has worked tirelessly and in conjunction with industry experts to address questions and requirements pertaining to these applications. I trust that your careful consideration of environmental and community impact factors will lead to a decision that is favorable for Mr. Doug Cox and balances progress and sustainability.

Respectfully,



Kristy Inman  
TC Excavation LLC

# **DRAFT MINUTES**

**COMPREHENSIVE PLAN TEXT  
AMENDMENT #T-093-23  
ZONE MAP AMENDMENT #Z-323-23**

**DOUG COX, APPLICANT  
RANDY RUPP, OWNER**

The applicant requests to establish a new aggregate site, add the site to the Umatilla County Comprehensive Plan list of Goal 5 protected Large Significant Sites, and apply the Aggregate Resource (AR) Overlay Zone to the entire quarry site. The proposed site is located south of Highway 730 and east of Highway 207, south of the Hat Rock community. The site is identified on assessor's map as Township 5 North, Range 29 East, Section 22, Tax Lot 400. The site is approximately 46.7 acres and is zoned Exclusive Farm Use (EFU). The criteria of approval are found in Oregon Administrative Rule 660-023-0040 – 0050, 660-023-0180 (3), (5) and (7), and Umatilla County Development Code (UCDC) Section 152.487 – 488.

**UMATILLA COUNTY  
PLANNING COMMISSION HEARING  
November 9, 2023**

**DRAFT MINUTES**  
**UMATILLA COUNTY PLANNING COMMISSION**  
**Meeting of Thursday, November 9, 2023, 6:30pm**

\*\*\*\*\*

**COMMISSIONERS**

**PRESENT:** Suni Danforth, Chair, Don Wysocki, Vice Chair, John Standley, Emery Gentry and Ann Minton

**COMMISSIONER**

**PRESENT VIA ZOOM:** Kim Gillet

**COMMISSIONERS**

**ABSENT:** Tammie Williams, Tami Green, and Sam Tucker

**PLANNING STAFF:**

Robert Waldher, Community Development Director, Megan Davchevski, Planning Manager, Tierney Cimmiyotti, Planner, and Shawna Van Sickle, Administrative Assistant

\*\*\*\*\*

*NOTE: THE FOLLOWING IS A SUMMARY OF THE MEETING. RECORDING IS AVAILABLE AT THE PLANNING OFFICE.*

**CALL TO ORDER**

Chair Danforth called the meeting to order at 6:34PM and read the Opening Statement.

**NEW HEARING**

**COMPREHENSIVE PLAN TEXT AMENDMENT #T-093-23, and ZONE MAP AMENDMENT #Z-323-23: DOUG COX, APPLICANT / RANDY RUPP, OWNER.** The applicant requests to establish a new aggregate site, add the site to the Umatilla County Comprehensive Plan list of Goal 5 protected Large Significant Sites, and apply the Aggregate Resource (AR) Overlay Zone to the entire quarry site. The proposed site is located south of Highway 730 and east of Highway 207, south of the Hat Rock community. The site is identified on assessor’s map as Township 5 North, Range 29 East, Section 22, Tax Lot 400. The site is approximately 46.7 acres and is zoned Exclusive Farm Use (EFU). The criteria of approval are found in Oregon Administrative Rule 660-023-0040 – 0050, 660-023-0180 (3), (5) and (7), and Umatilla County Development Code (UCDC) Section 152.487 – 488.

Chair Danforth called for any abstentions, bias, conflicts of interest, declarations of ex parte contact or objections to jurisdiction. No reports were made.

Chair Danforth called for the Staff Report.

**STAFF REPORT**

Mrs. Megan Davchevski, Umatilla County Planning Division Manager, stated the applicant is requesting to add a portion of Tax Lot 400 on Assessor’s Map 5N 29 22 to the Umatilla County



list of Large Significant Sites, providing necessary protections under Goal 5 including limiting conflicting uses within the impact area, and applying the Aggregate Resource Overlay Zone to the proposed site. The applicant is requesting approval for occasional blasting, extraction, operation of a rock crusher, scale, office, stockpile areas and an asphalt batch plant. The proposed Goal 5 site is a 46.7-acre portion of TL 400, which is 109.65-acres.

Mrs. Davchevski stated the proposal, if approved, would add this site as a large significant site onto the County's Goal 5 inventory of significant sites. The applicant desires to establish the 46.7-acre Large Significant Site with protections under Goal 5 and to allow mining (including blasting), processing, stockpiling and operation of an asphalt batch plant.

Mrs. Davchevski wanted to note that aggregate may be mined in limited quantities with a conditional use permit in the EFU zone. The Umatilla Ready Mix site to the east of this proposed site was approved with a conditional use permit. However, when an applicant requests protection under Statewide Planning Goal 5 it is because the applicant desires to extract more materials than allowed under a conditional use permit, because they recognize that the site has a significant inventory of both quality and quantity of aggregate materials and because they desire protections from conflicting uses. Therefore, the bar for approval of Goal 5 sites versus sites under a conditional use permit are much higher.

Mrs. Davchevski said notice of the applicant's request was mailed on October 20, 2023 to nearby property owners and agencies. The applicant requests all conflicting uses to be limited to outside the 1,500-foot impact area. Staff determined this would limit allowed uses for nearby properties. For this reason, the notice boundary was extended from the required 750-feet to also include properties within the 1,500-foot impact area. Notice of the Planning Commission and Board of Commissioner hearings was published in the East Oregonian on October 28, 2023.

Mrs. Davchevski stated that the criteria of approval can be found in Oregon Administrative Rule 660-023-0040 – 0050, 660-023-0180 (3), (5) and (7), and Umatilla County Development Code (UCDC) Section 152.487 – 488.

Mrs. Davchevski explained staff were unable to determine that several criteria of approval were satisfied based on the information supplied by the applicant. Additionally, the applicant contradicts themselves in numerous statements regarding conflicts. She states it is the applicant's burden to justify measures to protect existing uses. It is then the County decision maker's responsibility to determine whether the proposed protection measures are adequate, fair and objective. The applicant also does not provide the analysis required to inform a decision to allow, limit, or prohibit future new uses within the impact area.

Mrs. Davchevski shared that the applicant would have the opportunity to address the criteria and supply additional information to the Planning Commission. Staff had previously requested this information from the applicant, however it was not provided. The questionable criteria of approval include the following.

OAR 660-023-0182 (3), states an aggregate resource site shall be considered significant if adequate information regarding the quantity, quality and location of the resource... The applicant provided two lab reports and identified one aggregate sample location. Based on the information provided, staff could not conclude that a representative set of aggregate samples were provided.

OAR 660-023-0182 (5)(b)(A), [Conflicts created by the site] Determine conflicts from proposed mining of a significant aggregate site... due to noise, dust or other discharges... Applicant provides blasting of the basalt rock will be required and will occur occasionally, and noise impacts from blasting will be mitigated with the existing basalt outcropping. The Applicant provided an analysis of anticipated impacts from blasting from Fulcrum Geo Resources (Exhibit E). The Fulcrum report includes one detailed map (Figure 2) to support the findings, however, the map does not specifically identify the area subject to blasting. Based on the applicant's information, basalt is on the entire site, covered by sand and gravels thus the entire site would be potentially subject to blasting, although this is unclear. Fulcrum's Figure 2 map, received by Planning on September 13, 2023, identifies several basalt outcrops. The applicant provides that the basalt outcrops will serve as a natural barrier to protect existing uses from the mining activities. However, if the applicant also intends to mine these basalt outcrops, the natural barrier will eventually diminish. Because the areas subject to blasting are unclear, impacts caused by blasting cannot be determined.

OAR 660-023-0182 (5)(c), [If conflicts exist, measures to minimize] The local government shall determine reasonable and practicable measures that would minimize the conflicts identified under subsection (b) of this section. The applicant consulted with Fulcrum GeoResources LLC to develop an Anticipated Impacts from Blasting report (Exhibit E) the Figure 2 map submitted with this report identifies a basalt extraction area subject to blasting, however the map was provided to Planning staff as a grayscale. It is difficult to determine where the proposed blasting area is located. Figure 2 of Exhibit A identifies the basalt extraction area as the southeast corner of the proposed site. The applicant will have the opportunity to clarify the proposed blasting area.

Mrs. Davchevski explained the Planning Commission may find the applicant's supplied Fulcrum Anticipated Impacts from Blasting report adequately addresses blasting concerns and provides guidelines for mitigating potential blasting impacts by properly planning controlled blasts, implementing blast procedures and time-delays to prevent excessive vibrations, other emissions, and by monitoring blasting to collect vibration data. A subsequent condition of approval requiring these procedures and practices could be imposed to mitigate conflicts. Subsequent Condition #2 has been added to the preliminary findings for consideration.

UCDC 152.487 (A) (4) Adequate screening, either natural or man-made, is available for protecting the site from surrounding land uses. As stated above, the applicant relies on the existing basalt outcrops to provide screening of the site. However, the applicant does not address whether they intend to extract these outcrops. Additionally, the applicant does not offer an

additional screening should the basalt outcrops be mined. The Planning Commission may find that additional screening is required along the site boundaries and may impose an additional condition of approval.

Mrs. Davchevski explained additionally that the Planning Commission may find the request satisfies these criteria. These findings must be based on facts in the record. There have been two recent LUBA decisions providing clear expectations of applicants requesting Goal 5 protections for a Large Significant Aggregate Resource Site: LUBA No. 2022-060 (Beath & Koopowitz vs. Douglas County) and LUBA No. 2023-033 (Rock Solid Sand & Gravel & Aylett vs. Umatilla County). In the Douglas County case, LUBA found that describing the entire Mining Site is not adequate for identifying the location of the aggregate resources. LUBA also concluded a single sample of gravel is not “representative” of the proposed site, and is not adequate for finding compliance of the rule. LUBA determined the Administrative rule requires “a set of samples, meaning multiple samples” and that sample locations must be identified to be found representative.

Mrs. Davchevski stated in the Umatilla County case, LUBA found the levels of noise, dust or other discharges generated by the aggregate mining and processing activities must be identified and analyzed. The analysis should detail discharges by separate activities at different locations and explain how the activities will affect conflicting uses within the impact area. Until this analysis is completed, measures for minimizing conflicts cannot be identified.

Mrs. Davchevski explained the process of approval by the County involves review by the County Planning Commission with a recommendation to the Board of County Commissioners (BCC). The decision includes a set of Precedent and Subsequent Conditions of approval. The Planning Commission is tasked with determining if the application satisfies the criteria of approval, based on the facts in the record. Staff have provided Preliminary Findings of Fact and Conclusions of Law based on the applicant’s supplied information. The criteria that could not be conclusory determined as satisfied include statements about potential Planning Commission findings and state “the Planning Commission may find”. These statements will be amended to reflect the findings made by the Planning Commission this evening.

Mrs. Davchevski concluded by stating following the Planning Commission’s recommendation, the Board of County Commissioner’s must also hold a public hearing(s) and decide whether or not to adopt the proposed amendments. A public hearing before the Board of County Commissioner’s is scheduled for December 6, 2023.

Mrs. Davchevski noted staff had received several written comments today from notified property owners. These comments have been emailed to the Planning Commissioners and applicant, hard copies are also available. She requested they be entered into the record as Exhibits K through S.

Chair Danforth had a question for staff regarding what was listed in the application on page 192 in the packet. Farm was not selected as a listed structure of facility that might be disturbed within 1500 feet of the permit area.

Mrs. Davchevski explained this was the applicant's DOGAMI application and the applicant would be the best to answer questions regarding this application since it was a supplemental form added to the packet.

Chair Danforth called Mr. Cox and his representatives to allow for applicant testimony.

**Applicant Testimony:** Mr. Doug Cox, 78376 Lincton Mountain Rd, Weston, OR 97886; Ms. Jennifer Currin, PO Box 218, Pendleton, OR 97838; Mr. Erick Staley, 17600 Pacific Hwy, Marylhurst, OR 97036

Ms. Currin opened her testimony by introducing herself as an attorney with Corey, Byler and Rew in Pendleton, Oregon. She introduces her support of the applicant, Mr. Doug Cox, and asked for the Planning Commission to approve the application as submitted. She additionally notes a supplement letter addressing some of the concerns brought forth by staff tonight. She provided additional background information for all to hopefully help supplement the record. This letter was entered into the record as Exhibit S.

Ms. Currin stated she believes after hearing all the testimony and material tonight the Planning Commissioners will decide this isn't a close case and to approve because of the quality of the application. She stated this site is in a particularly good location. Being close to a highway, but not near a lot of residences, and it will not have an impact on transportation. Mr. Cox had a transportation study completed to show no adverse impacts to neighbors. Along with the quality of resources, so much so that another quarry in the same area is operated by ODOT, and there is a need for aggregate.

Ms. Currin explained Mr. Cox is a business owner that's been working tirelessly now for a year to meet the criteria and the Planning Commission will see he meets or exceeds the criteria at every level. She stated most of the complaints filed today do not address complaints made regarding the criteria. Mr. Cox must meet certain criteria. She stated complaints are not based on criteria not met, but about concerns they were not happy about. She asked the Planning Commission to remember the criteria when reviewing the complaints.

Ms. Currin states the applicant's goal is to minimize the impact to the environment and all of Mr. Cox's proposal today will do that along with providing a great service to the community. Mr. Cox is a hometown guy and grew up in Hermiston. He began by digging ditches and continues to make a living digging ditches. He wants what is best for this community, and he is doing this by working in construction for 30-40 years. She added we need aggregate. This is a service for our communities. She states the applicant will meet the criteria as described by staff.

Mr. Cox stated he owns and operates CRP & Hauling and is co-owner of Sign-Co Construction, both companies are based out of Hermiston, Oregon. He adds he has been in the construction business for almost 35 years. Recently it has continued to be tough on contractors around the Hermiston to get aggregate. The town is growing rapidly and through experience in this industry he has seen those changes, especially getting materials to build sites. He states himself, along with his business partner, drive for their company and the amount of time spent to get product is overwhelming.

Mr. Cox emphasized the needs of the community and this particular aggregate source is excellent and in a great location. He also brought up his communications with local county officials and their needs for sources and this parcel is ideal for their needs as well.

Ms. Currin also wanted to highlight Randy Rupp is the landowner of this tax lot and he is here in support today. She introduced Erick Staley, a licensed certified engineering geologist, whom Mr. Cox hired. He has evaluated this aggregate site and is using his education and expertise to help the Planning Commission understand why this is an ideal location. She added Mr. Staley will share information about this site and address concerns from staff. She stated he will use Google Maps to share his perspective on this quarry and the steep bluff providing a buffer with horizontal and vertical barriers.

Mr. Erick Staley began by introducing himself. He is a Certified Engineering Geologist in Oregon and he's consulted on mining sites for 23 years, across more than 20 states. His experience lends to understanding resources, doing the geologic research, on-site reconnaissance, evaluating resources, and doing a drill program where appropriate. Mr. Staley stated Mr. Cox hired him to look at the site, evaluate it for volume estimation, and create a mining plan that meets state and/or local regulations. As well as help maximize the use of resources on the site.

Mr. Staley stated the site is located at the southeast corner of State Highway 730 and State Highway 207. Mr. Staley shared his computer screen to Google Earth and demonstrated, in blue, where the subject property is located, including the proposed mining area. He stated additional factors to consider include the presence of wetlands, which are shown in green on the screen. The wetlands were determined in coordination with the Department of State Lands (DSL). He stated initially DSL identified the wetland conflicts and the applicant adjusted the mining plan to avoid the wetlands, which resulted in agreement with DSL.

Mr. Staley stated additional benefits to this site include the presence of a basalt outcrop. Mr. Staley identified the basalt outcrops as the area on screen in magenta (Exhibit T). This bluff transects the property as well as the few isolated knobs of the basalt bed rock, which are visible when walking the site and can be viewed on an aerial as well. Additional outcrops off the property to the south were discovered as well, which are indicated in pink on Exhibit T. He stated these are effective indications of an extensive basalt flow that's on the property and in the area.

Mr. Staley indicates on the screen regarding another basalt flow on the north side of State Highway 730 that has a similar bluff edge. Mr. Staley demonstrated what the topography is like in this area, as he changed view to show the westerly angle. A steep slope comes down past the bluffs then levels off into a relatively flat area south of the wetlands. He described the deposit as primarily basalt bedrock, but accumulation of sand is present to the north. The area is effectively enclosed by natural topography on the north and south and it extends abundantly east and west, which is an important aspect for this site.

Mr. Staley discussed how they would develop a mine plan with the existing topography. He showed a wetland buffer, indicated in green on Exhibit T. A 25-foot buffer was added as an appropriate setback with coordination from DSL. Additionally, a permit boundary, indicated in red. DOGAMI will require all mining operations to occur within this area. Operations include extraction and processing of the basalt, extraction and processing of the sand, forming stockpiles, the asphalt batch plant, and stormwater management. He stated County Staff questioned why there was only one sample obtained from this site. He indicated where the sample was retrieved as a white dot on Exhibit T. He stated according to his expertise, this site is more unusual where there is a transection of basalt exposed across the site. Indications of basalt further off the property indicates the resource is extensive. He stated he knows of a LUBA case regarding a sand and gravel only site, that had one sample and was remanded. Mr. Staley has been involved with projects where Goal 5 designations were done without any drill or sampling because of similarities in the surrounding area. This site is important because not only does it have a natural outcrop around and across the site, but there's also mining in the vicinity that meets the criteria.

Mr. Staley explained that ODOT has a pit to use for their own material, and their base rock must pass classifications. He performed a hammer test, which tests how many strikes are needed to break the material. They analyze exposure, fresh material, weatherization, clay filled partings, and degradation of material. Which he did not see. With the findings he felt the material was very high quality and submitted a report even though they only had one confirmation sample.

Mr. Staley demonstrated, in orange, where the extraction will occur on Exhibit T. He stated the 38-acre permit boundary would allow for both basalt extraction and sand extraction on the lower slopes. The gap between the orange (extraction) and the red (permit boundary) is a 25-foot setback, in accordance with DOGAMI. DOGAMI requested a setback between the extent of the mining and the ultimate property boundary to account for any over blast or error in placement of that edge. He added a comment, included in the blast report, stating blasting would occur where the salt outcrops and the cliffs bluff and approximately 100 feet north.

Mr. Staley again stated the magenta area, on Exhibit T, is where they anticipate blasting to occur. This area includes the bluff, south of the bluff, and a marginal area that may have shallow sand. The yellow area indicates where sand extraction will occur. The proposed finished mine floor is where the slope comes down.

Mr. Staley pulled up a similar document for the mine plan on screen and demonstrated the basalt outcrops in magenta, sample location in white, wetlands in green, so those are all similar with the previous map. New features on this are some stormwater management ponds the applicant plans to build into the site. He stated an access road will come off Highway 730, which will go over a culvert for the outlet out of the wash indicated on screen. He stated it will come around the site outside the wetland buffer and then come down to the operations area in the southwest. He added there will be a ditch, along the roadway, that captures drainage coming off the site and lead through a series of check dams to the infiltration pond.

Mr. Staley showed Exhibit D, Site Plans, located on page 72 in the packet and explained the site plan. He continued to show the next topographic map representing the floor of the site sitting at 420 feet above mean sea level. Side elevations range from 480 to 500 feet. Which showed an approximately 60 to 80-foot-high wall key for containment or formation of barriers of the operation to the surrounding area. He described the topography will ultimately look like a benched excavation. Reduction of materials will take time to mine and will probably operate for decades. He stated currently there's a bluff, initial mining will include drilling and blasting up top, but as soon as it's incised those benches will be lowered from mining activity. Especially the operations area shown will always exist behind the either natural or man-made steep slope that forms a barrier for noise and dust from the site.

Ms. Currin directed a statement at Mr. Staley. Asking if the staff notes indicated the applicant intends to mine those basalt outcrops, the natural barrier will eventually diminish. Was he stating that is not the case and it will increase?

Mr. Staley answered it will indeed increase the vertical barrier as mining continues. Blasting will occur a few times a year and it is unnecessary to be more frequent. Only some of those blasts will be above the basalt outcrops. Blasting only takes seconds, where drilling can take a matter of days. Mining will be down over the edge of the slope and contained within, or downslope of the vertical barrier.

Mr. Staley stated based on his expertise there must be enough hard rock to warrant the effort, and close to transport for marketing. The aggregate site must have the appropriate logistics to support the type of mining needed and where it can be found. They want it to be as close as possible to a highway, disrupt the least number of neighbors, and have decent amount of material. He assures this site has all of those, which is not very common. It has a very short route from the site to the highway and has a very large amount of high-quality material.

Commissioner Gentry asked about the sample site and whether drilling was used to procure the sample or if a representative sample from the surface was obtained? Mr. Staley answered he took a representative sample from the cliff, which is 30 to 50 vertical feet. He mentioned it had a pretty good thickness exposed which indicates it has had some degree of weathering by being exposed to the surface conditions and passed all the tests performed. Commissioner Wysocki

asked what the chain of custody for that sample was. Mr. Staley responded that he retrieved the sample and then transported it to the lab, Carlson testing, in Tigard.

Commissioner Standley requested the applicant speak about the concerns received regarding impacts to neighbors from the rock pit and asphalt batch plant. Ms. Currin responded stating there is speculation that property values will drop. She reiterated the area already has a rock quarry used by ODOT which has operated there for many years, likely before some of these farm properties were established. Commissioner Standley asked Ms. Currin when the ODOT quarry was approved. Mr. Cox stated it was established in 1935.

Commissioner Standley mentioned this land has been zoned as Exclusive Farm Use (EFU) since 1972 onward. Ms. Currin reiterated the ODOT quarry has operated for many years and the neighbors have not submitted complaints about the site. Chair Danforth asked if blasting occurs at the ODOT site. Mr. Staley responded yes, there would be no way to mine this area without blasting.

Commissioner Standley asked about the asphalt batch plant, are there additional benefits other than creating asphalt. Asphalt plants create odor, and he asked if there be any ill effects from it? Mr. Staley responded the site is confined and with predominantly west winds it would have minimal impact to individuals living nearby, which would also reduce sound impacts.

Commissioner Standley asked what the hours of operation would be for this site. Per the packet it was listed as 6am to 3pm for commercial access. He wanted to know what operating times would be for work taking place inside the pit. Mr. Cox stated industry standard is from 6am until between 5pm to 7pm. Crushing rock would take place for three weeks after blasting to form stock piles, and then sale of the stock piles would happen thereafter. Mr. Staley commented and agreed with Mr. Cox who stated he will bring in another company to perform the drilling, blasting and crushing and forming of stock piles.

Commissioner Standley asked the applicant again to clarify a more precise operating time, and to explain activities for asphalt processing. Mr. Cox stated the proposed hours are 6am to 7pm. He tried to investigate hours of operation for the nearby ODOT quarry and could not find them. He stated once stock piles are created the commercial hours will be 6am to 3pm. Mr. Staley stated the site must receive approval and DOGAMI permit before purchases like a boiler can be made. General assumptions are made based on the business plan proposal, but until all approvals and permits are received they really can't make guarantees.

Commissioner Gentry asked if any problems have arisen regarding obtaining access permits with Oregon Department of Transportation (ODOT). Mr. Cox stated he has his access permit granted from ODOT. The permit requires a buffer lane of asphalt to widen the road for trucks to enter and exit. Commissioner Gentry asked about the wetlands and any concerns with the wetland regulations. Mr. Staley stated if the fill is under 50 cubic yards Department of State Lands (DSL) will approve. Commissioner Minton requested information regarding any run-off into the current



wetlands. Mr. Staley responded a buffer is required. If they abide by the buffer and maintain the floor of the site, run-off will go into the ditch and not into the wetland.

Commissioner Standley asked if a pre-blasting notification will be sent to residents nearby. Mr. Cox responded a notification 48 hours prior to any blasting activities is required. All rules will be followed. He went into detail about his business with construction and the need for following rules and dealings with the public.

Commissioner Standley stated he wants to get all the information answered. The hope is that the neighbors' concerns can be answered ahead of time and the applicant needs to address those concerns before a decision can be made. Chair Danforth reminded Commissioner Standley and the other commissioners that they are giving a recommendation to the County Commissioners.

Chair Danforth asked a question regarding the wetland setback on the site plan, which stated it was 50-feet. Mr. Staley stated the setback is 25-feet. Chair Danforth brought forth the regulation listed on page 20 in the packet, stating the Goal 5 analysis for this wetland calls for limiting conflicting uses with implementation of a 100-foot setback from wetlands and streams. Mr. Staley stated that is in the Technical Report from 1980 from Umatilla County. Mrs. Davchevski stated the standard is also in the Umatilla County Development Code that all wetlands must have setbacks 100 feet from conflicting uses, but this wetland is also a Goal 5 protected wetland as listed in the 1980 Technical Report. Mr. Staley asked about the conflicting uses stated. Mrs. Davchevski answered it just references mining activities associated with mining, including stockpiling and ponds. Mr. Staley stated they can change the site plan to accommodate that standard.

Chair Danforth requested more information regarding the probability of the location or check dams for runoff. She asked if there was a firm plan, and if any existing fault lines run through this property. Mr. Staley responded the plans made for mining sites are more dynamic, monitoring standards and other things dictate the design and adjustments must occur over time. He stated no active faults run through this property that have been mapped by the United States Geological Survey (USGS).

Chair Danforth asked about the DOGAMI application, referring to page 192 in the packet, and why farm was not checked as a Structure, Facilities or Surface Disturbances within 1,500 feet of the permit area. Mr. Staley responded it may have been an oversight and could be corrected since the application will not be processed until the site passes the local process first. Chair Danforth added she wanted a clear representation of the application.

Commissioner Standley asked about the next section of the DOGAMI application, does the answer regarding 1,100 feet "...from the nearest structure not owned by the permittee", does that represent an outbuilding, property line or home. He asked what type of different effect does blasting have on a structure housing animals but not people. Mr. Staley demonstrated on the computer the structure the application referred to. He stated generally the structures represent

those occupied by people or a critical structure, like a school. He was able to show the nearest outbuilding on-screen.

Commissioner Standley asked about the amount of dust that might be created while crushing takes place and with 10-15 trucks a day into the site. He asked how many loads they would have, and the dust created during a typical busy day, what would neighbors expect. Mr. Cox answered likely five trucks every half-hour. There would be a water truck on site, which can and will be permitted should it need to. He plans to adhere to all the standards for air quality.

Chair Danforth asked about their plans to mitigate runoff in the site area and the aggregate samples. Mr. Staley explained why they chose one sample site instead of several samples across different areas in the proposed site. Access to the site was difficult at this time of year due to recent snowfall. He used LIDAR imagery and looked at hill shade elevations demonstrating prior scouring of the basalt flats and locations of the sand deposits.

Chair Danforth had questions regarding the terminology used regarding the buffer zone and asked if mining would diminish the basalt outcrop over time. Mr. Staley and Ms. Currin both answered stating there would always be a vertical barrier and referred to the mining of this site as a side hill excavation.

Chair Danforth asked why a supplemental blasting plan was not provided as part of the application to Planning staff. Mr. Staley stated this would be something added by a licensed blaster involved and could be provided but those plans are prepared depending on what approach the blaster takes with design and there are strict criteria to follow.

Commissioner Wysocki asked what the volume of basalt was and its thickness. Mr. Staley responded a maximum depth of 80 feet from the mine floor to the top of the vertical cliff, referring to the area on-screen in purple. They have ability to expand about 25 acres.

Commissioner Standley asked about the two different types of applications and differences in Large Goal 5 sites and the limit of aggregate that can be mined each year. Mrs. Davchevski answered there are less criteria and more limits on the amount of aggregate mined each year. She believes the amount mined yearly cannot exceed 500,000 tons for the smaller site. Discussions went on with Commissioner Gentry, Commissioner Wysocki and Mrs. Davchevski regarding the differences between small and large Goal 5 sites.

Commissioner Wysocki asked if Mr. Staley had identified what stratigraphic unit of basalt his specimen sample was. Mr. Staley said he did but was unable to confirm at that time.

Commissioner Gentry asked what the maximum production and projected lifespan of this site. Mr. Staley stated it has the capability of being a large significant site. Rock volume is estimated at 2 million cubic yards, approximately 4.7 million tons, which can be found on page 13 in the findings.

Commissioner Wysocki asked Mr. Cox which county officials were in support of this project. Mr. Cox answered Tom Fellows, the Umatilla County Roadmaster.

Commissioner Standley asked Mr. Cox if the nearby rock source to the east was still producing quite a bit of product. Mr. Cox said he is unsure how they operate and quantity. He shared his business plan includes newer equipment to have shorter periods of time for blasting and crushing. The other quarry has outdated equipment and is said to run for longer periods of time per a local landowner.

Commissioner Standley asked about regulations regarding the other site mentioned to staff and what inventory might exist. Mrs. Davchevski stated the site was grandfathered in and a conditional use permit was granted for their batch plant in the early 1990s.

Ms. Currin mentioned existing dwellings have operated well within the area surrounding the ODOT quarry. She stated this proposed location is better since it has those buffers along the north face, as well as south and west.

**Neutral:** Casie Hull, 34287 Diagonal Rd, Hermiston, OR 97838. Ms. Casie Hull asked what other property this landowner has with exposed basalt that could be used for mining.

**Opponents:** Cody Basford, 33869 E. Progress Rd, Hermiston, 97838. Mr. Cody Basford asked if his submitted comment had been received. Mrs. Davchevski answered the document noted as Exhibit N was provided to the Planning Commissioners.

Mr. Basford read his statement submitted, Exhibit N, before the Planning Commissioners.

**Opponents:** Kyla Latham, 82532 Salmon Point Ln, Hermiston, 97838. Ms. Kyla Latham read her statement submitted as comment, Exhibit M.

She also added the site would disrupt the wildlife on the land and could cause traffic problems along Highway 730 and Diagonal Road. She added it would cause the area to have increase of dust, foul smells, and poor air quality. Chair Danforth asked where her property was located, and she demonstrated on the map her property is located on 5N 29 22 Tax Lot 1300 and 5N 29 Tax Lot 4600. Mrs. Davchevski with further clarification, relayed to Ms. Latham that her property is not included in the site boundary. Chair Danforth and Commissioner Gentry asked if Ms. Latham was aware which boundaries now impact her home and she stated she understood the map better now. Additionally, Chair Danforth asked if she has been impacted by the ODOT quarry nearest her property. Ms. Latham said no, she hardly witnesses any activity.

Commissioner Standley asked if any of the comments this evening put her mind at ease. Ms. Latham stated if anything it has made her more concerned, due to traffic. Commissioner Standley reiterated some of the things covered, including transportation and signage, hours of operation and wind prevailing to the west, so dust would move from where they live. Chair Danforth also

asked if she had any farm buildings within that area. Ms. Latham stated she only has pivots and circles in that area.

**Opponents:** Joyce Langley, PO Box 577, Umatilla, OR 97882. Ms. Joyce Langley shared her concerns regarding the traffic report that Highway 730 is very busy, along with Diagonal Road and onto Salmon Point Lane. She expressed concerns with farmers and their equipment entering, exiting the road on an already very busy area.

**Opponents:** Barbara Atwood, 33679 E. Progress Rd, Hermiston, OR 97838. Ms. Barbara Atwood stated her property is southwest of the proposed site. She expressed concern regarding the impact of noise. The quarry one and one-half miles from their farm is very noisy. Even though there are west prevailing winds they still smell odors from the jobsite. She noted the ODOT quarry had an asphalt grinding or recycling machinery and it was quite odiferous. She expressed her family has allergies, and her daughter has asthma. She states that she is a physician and has history of patients having severe sensitivity to dust and strong smells.

Ms. Atwood also mentioned worries about her land value decreasing. She is getting older and worries if the noise, traffic, and unsightly area cause loss of money on any future sale. They enjoy the ability to see the wildlife running through their property. She also expressed how they have tolerated the ODOT quarry because it isn't very active. She mentioned they were not aware of the quarry East of their property until the last several years when it started becoming more active.

Commissioner Standley asked what her property is zoned. Ms. Atwood responded her property is zoned EFU. They raise animals and utilize their farming property. She worries about the horses she raises and how easily spooked they can be. At times have ran through fences in the past with disturbances like fireworks, so she can only imagine how blasting might affect them and her alfalfa. She indicated that the dust could impact the quality of the farm products including alfalfa and hay. She is unable to feed those dusty crops to her livestock.

**Opponents:** Justin & Jenny Estes, 34214 Diagonal Rd, Hermiston, OR 97838. Mr. Justin Estes expressed concerns about how the determination of tonnage based on the one sample taken. He also spoke about how he has worked as a ranch hand from the age of twelve and now currently forty-nine, he has worked hard to get what he has. He spoke about the ODOT quarry and how infrequent it has operated noticeably over the past 18 years he has owned his property. He also referenced the other quarry located 1.4 miles from his house and the amount of dust produced from it. He doesn't agree with the comments made stating the site is confined, he differs in opinion and believes it is more of a canyon and dust won't be confined. Chair Danforth interrupted to question which quarry was close to his home. Mr. Estes answered it was the Umatilla Ready Mix site.

Mr. Estes also brought up the comment regarding predominant west winds during the summer time. He mentioned during this time of year those change and get pushed their direction instead.

He expressed additional concerns regarding the placement of the rock crusher and the noise that would be produced from that site. Discussion went on regarding the property owner's acreage with basalt and stated Mr. Rupp owns 20,000 acres to the east and asked why that property can't be mined. Mr. Estes spoke in length regarding the road, his inability to move his mailbox to the side of road nearest his property and was refused citing USPS safety for their drivers. He mentioned links to studies in his comment, Exhibit P, regarding EPA studies with effects of silica and prolonged exposure. He also mentioned concern for the false statements he states Staff brought forward.

Mrs. Jenny Estes stated she wants to highlight the study regarding traffic counts, she questioned the safety portion of the operation. She added this area is very busy and if trucks are entering the roadway at a slow rate of speed how is that going to effect other travelers and their safety. She does not want to take away his ability to mine rock, but states there is a lot of land to the south that could be a good location further away from the eight homes that existing in this area.

**Opponents:** Steve White, 33551 E. Progress Rd, Hermiston, OR 97838. Mr. Steve White stated he lives west of Dr. Atwood, and south of the Estes'. He stated his complaints are redundant and wanted to share his silence should not be mistaken for agreeing with this proposal. He added he has a lot of the same concerns being brought forth by others.

Chair Danforth asked how long Mr. White has lived in the area. Mr. White responded by stating he has lived in his current home for 11 years, and in the Hermiston, area combined over 20 years. His wife is unable to attend tonight but has resided in Hermiston for several years. They are concerned with the traffic report and stated 356 trips per day would be a large nuisance.

**Opponents:** Brandon Hayden, 81255 N. Golda Rd, Hermiston, OR 97838. Mr. Brandon Hayden shares a lot of the same concerns by others stated this evening. He stated he lives approximately one and one-half miles away from the proposed site. Chair Danforth asked him which direction. Mr. Hayden indicated closer to Progress Road. Chair Danforth asked if that was more to the west. Mr. Hayden confirmed. He mentioned he only recently learned about this notice. He stated he would like to see what studies were used to determine the impact radius. He would also like to see the supportive information from those who do agree with this proposed site to understand both sides.

**Opponents:** Rob Curry, 33779 Diagonal Rd, Hermiston, OR 97838. Mr. Rob Curry stated he lives at mile marker one headed into town. His biggest concern is the safety aspect. He has kids who ride the school bus just prior to 7am each school day. He describes a situation regarding a loaded dump truck traveling at 55 to 60 miles-per-hour in the fog and danger presented if sight is diminished and stopping can't happen quickly in those conditions. He added the Edwards area is already accident prone and adding a potential 300 plus trucks, where is the safety factor in this all.

**Public Agencies:** None

**Applicant Rebuttal:** Mr. Doug Cox, 78376 Linton Mountain Rd, Weston, OR 97886; Ms. Jennifer Currin, Attorney for applicant, PO Box 218, Pendleton, OR 97838; Mr. Erick Staley, 17600 Pacific Hwy, Marylhurst, OR 97036

Ms. Currin stated many consistent themes were heard by opposition testimony. She asked that focus be placed on this particular site and not other issues or matters between Mr. Cox and other property owners. Ms. Currin stated herself, Mr. Cox and Mr. Staley have addressed the issues regarding dust, noise, safety concerns and criteria must be met before any work (blasting or otherwise) can begin. She reiterated Mr. Cox will do all that is necessary to abide by the provisions, statutes, and safety criteria is always followed. Ms. Currin repeated some information from Ms. Kyla Latham's testimony regarding a misunderstanding of the maps boundaries and that has been interpreted correctly now. Ms. Currin referenced Ms. Latham's statement written in Exhibit M.

Ms. Currin stated she also heard comments in the audience regarding information presented and those individuals may have not been fully informed about this site and what even some of the maps might mean. She commented about studies brought forth from testimony regarding reduction of property values as much as 30% when rock pits are established nearby. She questioned if those studies are relevant to this region, if they are in Eastern Oregon. Ms. Currin continued to state factors specific to this area and whether multiple quarries are nearby. She questioned if those are facts brought up in this mentioned study of reduced property values.

Ms. Currin explains many concerns shared by Ms. Barbara Atwood regarding odor and air quality. She stated Ms. Atwood does not have a history of complaints regarding the already existing sites filed with Umatilla County. She stated Ms. Atwood has continued to live on her property long-term and raise horses despite the nearby quarries. She added the concerns have been noted but believes most of this to be speculation and asks the Planning Commissioners to consider all Mr. Cox has done to meet the criteria for this proposed site. Ms. Currin added Mr. Staley, who was hired by Mr. Cox, was able to provide the information about studies regarding the topography, testing done on-site, and why only one sample was tested on multifactorial analysis. She asked that Mr. Staley have creditability based on his expertise and the information he presented tonight.

Mr. Cox discussed the traffic study that he paid for and wanted to speak about the 365 trips mentioned. Mr. Staley corrected him by mentioning the trips listed on the study per truck being two trips. Mr. Cox recalled a statement about 15-minute intervals and trucks from the proposed site would be traveling from many routes and not always on Diagonal Road. Mr. Staley referenced the 15-minute traffic stated it was from the Staff Report. Mrs. Davchevski stated the information used was from the Traffic Impact Analysis submitted by the applicant is located on page 93 in the packet, referencing 'Table 7 – Aggregate Mining/Asphalt Batch Plant Trip Generation Estimates' and daily trips section outlining 356 trips.

Mr. Cox mentioned a concern expressed by opposition testimony this evening. He was required to have a survey of the property to start the process. He hired someone to do the fence around the property and this worker was stopped by the Basford's. Mr. Cox contacted the Basford family and brought forth information about the fence line and location being over the property line into the proposed site. He personally, has never removed any fencing. Mr. Cox stated he agreed to put up the fence over the bluff, but not until the proper permit is granted and he can access the area. He further explained the area can only be accessed by foot or ATV. Chair Danforth asked why the area is inaccessible by truck. Mr. Cox answered there is no access.

Mr. Cox added he does not have a permit from ODOT yet. Once all approvals are granted he intends to build an actual road off from Highway 730 and safely unload a low-boy. He stated currently there is no safe area to unload equipment on that property, he would have to unload across the road and drive across. He further explained this is one of the reasons he has been unable to return to build the fence because access is very limited. He wanted to add he is a very friendly and neighborly person. Mr. Cox continued to speak about his neighborly nature and how he intends to keep everyone's interest in mind.

Ms. Currin stated she hopes decisions are based upon fencing or surveying in this case. She commented regarding testimony by Mrs. Hull and Mrs. Estes speaking about ownership of property by the same landowner. Ms. Currin asked to have Mr. Staley speak to those comments. Mr. Staley stated he was unsure how much additional land is available to the landowner. He explained this site was an ideal location not only because of the basalt, but due to proximity of transportation, and other factors mentioned prior. He added the landowner could find something similar, it's possible but it may not be in the best location to serve this market. From his understanding, the landowner has had multiple parties approach him stating interest in the aggregate resource. However, the landowner would be the best resource to speak to that subject.

Ms. Currin added Mr. Rupp does have other property, but this property was the most economical and reduced the amount of environmental impacts. Mr. Cox added he attempted to use the ODOT rock pit but was unable to. Chair Danforth asked if they had tried to look further east. Mr. Cox said no, that area was not looked at.

Mr. Staley approached the concern about blasting occurring close to other properties and flying rock during a blast. He stated fly rock is very dangerous and if such an incident occurred there would be reports of this. He added blasters motivation is to perform safely, otherwise fines and loss of license could occur.

Commissioner Standley stated they can't mitigate the ground shaking; any vibration could startle animals and can't be controlled. Mr. Staley stated shaking can be controlled by distance. Animals could be taken elsewhere if property owners think they may be affected. This is mitigated by providing notice 48-hours ahead of time. Commissioner Standley asked where the owner is supposed to move the animals or simply place earmuffs on them. Mr. Staley stated most

animals are tolerant of blasting, and he could cite many examples of ranches right next to functioning quarries that have not been affected. He mentioned a site on the west side of Washington, in Lewis County where a deer raises one or two fawns yearly and they always return. This quarry continues to blast, and the animals are always there or return.

Mr. Staley further discussed why fly rock is detrimental to any project; loss of money, because the process is expensive and if charges are not deep enough you are repeating the process to fracture the rock for processing. Fly rock is a waste and operators don't want to pay for that, beyond controlling regulations and safety. He added dust will be managed with construction of a top soil berm material at the edge of the property. Mr. Staley stated the goal is to maintain topsoil which consists of organic material for future revegetation of the site. The berms must be stabilized against erosion, will be seeded with mulch added to keep the berm intact.

Mr. Staley stated regarding testimony made about storage of fuel and oil, DEQ would be involved with standards and criteria for storage of hydrocarbons like these. Either double walls or exterior containment can be used as a secondary measure in case of tank ruptures. Commissioner Standley shared those types of things need to be known to the Planning Commission. Commissioner Standley further explained previous approvals have been questioned due to the lack of questions asked regarding containment, hours of operation and what standards for this operation. Commissioner Standley added more information to firm up these details so there is no question to their operations or out of compliance. He referenced page 79 in the packet, Mr. Staley's report in Exhibit E, *Fulcrum Geo Resources, Anticipated Impacts from Blasting*, "No warranty or other conditions, express or implied, should be understood." He interpreted you can but can't guarantee everything, like blasting errors can be made during an operation can affect EFU zoned property and was his concern.

Mr. Staley stated is difficult to publish any professional report without limitations, it is a requirement he must follow because his insurance requires it. Commissioner Standley, Mr. Staley and Ms. Currin further discussed the rules outlined to meet criteria. They referred to previous statements about aggregate testing and what criteria have been met based on facts, expertise and evidence.

Chair Danforth stated she wanted to give attention to the concerns from the affected neighbors of this proposed site. She directed a question towards Mr. Cox's statement, will he lease the project to someone else. Mr. Cox stated he will hire someone to do the blasting and crushing, their equipment would be brought on-site to drill, blast, and crush. That would be the extent of their use on-site. Mr. Cox will be responsible for piling the aggregate, operations of the scale house, loading material. Chair Danforth asked if the contractor would be responsible for the dust abatement. Mr. Cox added yes, but he would also be responsible. Chair Danforth added our county is primarily complaint driven and it would be on the neighbors to complain to get something resolved, and it would be more neighborly to mitigate that, so complaints don't take



place. Mr. Cox added he wants to make sure that is done. Mr. Cox added during blasting there will be a water truck on site to address dust issues.

Mr. Staley spoke about the concerns on traffic. He referenced the *Preliminary Findings and Conclusions* on page 46 of the packet, under goal 12 County Finding, “The applicant submitted a Traffic Impact Analysis (Exhibit F) which found that the proposed mining operations will add approximately 356 daily trips on local roads, which overall will have minimal impact on both Highway 207 and Highway 730. The current 15-minute traffic count for the intersection of these two state highways is nearly equivalent to the average daily trips of the mining operation.” Mr. Staley added this was one of the reasons they didn’t feel there would be much impact on traffic because the 15-minute traffic count is equivalent to the trips per day of the aggregate site.

Ms. Currin lastly referred to Exhibit K submitted by Dr. Barbara Atwood, citing her quote regarding OSHA and asphalt fumes, Dr. Atwood cites health concerns. Ms. Currin stated the document does not reflect OSHA standards for exposure regulating of asphalt fumes, and this information is not relevant to this case. She hoped the Planning Commission requires discerning factors made on complaints like the requirements imposed on Mr. Cox and his business CRP & Hauling.

Chair Danforth closed the hearing for deliberation.

Chair Danforth adopted the following exhibits into the record:

Exhibit K; November 8, 2023, Letter to Planning Commission submitted by Dr. Barbara Atwood

Exhibit L; November 8, 2023, Letter to Planning Commission submitted by Crystal Atwood

Exhibit M; November 9, 2023, Letter to Planning Commission submitted by Kyla Langley Latham

Exhibit N; November 9, 2023, Letter to Planning Commission submitted by Wylie Ranch and Aaron Basford

Exhibit O; November 9, 2023, Letter to Planning Commission submitted by Jenny Estes

Exhibit P; November 9, 2023, Letter to Planning Commission submitted by Justin Estes

Exhibit Q; November 9, 2023, Letter to Planning Commission submitted by Casie and Michael Hull (Terra Electric, LLC)

Exhibit R; November 9, 2023, Letter to Planning Commission submitted by Joyce Langley

Exhibit S; Submitted during November 9, 2023 hearing, additional information provided by Jennifer E. Currin (Attorney for Doug Cox, CRP & Hauling)

Exhibit T; Submitted during November 9, 2023 hearing, Project Site map presented by Erick Staley (Geologist for Doug Cox, CRP & Hauling)

### **DELIBERATION & DECISION**

Commissioner Gentry started by stating he does not know much about mining and geology. From his perspective he believes they have done their due diligence with finding this site and wouldn't move forward if they didn't think it was a significant site with adequate aggregate supply.

Commissioner Standley shared that many concerns were stated this evening. He talked about hours of operation, impact to neighbors and how to mitigate concerns. He added this is a large significant site and has impact on neighbors. He asked if Mr. Cox is going to regulate the concerns, if he is going to hire someone, who will that be. Commissioner Standley asked the other commissioners if anyone is familiar with asphalt batch plants and odors from these plants. Chair Danforth answered she has one near her home and thankfully cannot smell it very often.

Commissioner Standley added he has experience hauling asphalt and doesn't care for the smell. Chair Danforth stated she lives near a mine that blasts and she feels the blasting. Commissioner Standley spoke about a pit in Pilot Rock, there are not many concerns related to animals because it's located in the Urban Growth Boundary (UGB).

Chair Danforth stated she would have no opposition on this project except for the proximity of neighbors. She added the zoning classification for area around this site as well. This approval would require property owners to sign paperwork regarding Goal 5 protection and restrictions put in place. She further explained how this presents more of a conflict for her because it is permanent. She mentioned a previous case that was approved by the Planning Commission was recently remanded by LUBA (Land Use Board of Appeals) because adequate soil samples were not obtained. She finished by stating she does not feel enough due diligence was done, she respected Mr. Staley's experience and expert opinion, but felt more could have been done with testing.

Commissioner Minton asked Chair Danforth about the zoning changes she talked about. Chair Danforth explained the previous statement and that the non-remonstrance agreements affect all the surrounding properties in the impact area. She added the properties would still be zoned EFU.

Mrs. Davchevski asked to clarify this information. She stated the properties would remain zoned EFU, but within the 1,500-foot impact area, the applicant identifies conflicting uses they are wanting to protect against for the aggregate site. She added the conflicting uses include

dwellings, wineries, farm stands, gathering spaces which are all allowed in EFU zone, but would conflict with the aggregate operations. She further explained if an applicant wants to establish one of these proposed uses they would have to sign a non-remonstrance agreement if it is included on the Goal 5 approval. Mrs. Davchevski stated the applicant has requested conflicting uses not be allowed at all in the 1,500-foot impact area. She expressed the Planning Commission would have the choice to recommend or not recommend this limitation to the Board of Commissioners. She ended by stating the non-remonstrance agreement states property owner's will not sue the aggregate operations for impacting their new use because it came after the aggregate operation was established. Mrs. Davchevski demonstrated the impact area on the map, page 6 in the packet.

Chair Danforth stated she does not favor the imposition of this restriction on the neighboring properties. She stated the sound does not dissipate much from this area because it is against a canyon, not an open space where the sound is drowned out. Commissioner Standley added further discussion regarding nearby facilities to his own home that he hears on a regular basis.

Commissioner Wysocki countered Chair Danforth's comment and stated he wouldn't identify this area as a canyon.

Mrs. Davchevski clarified there are two decisions for recommendation. First, is there a significant amount of resources that meet the requirements to deem it significant. Second, if it is significant to approve mining at the site.

Commissioner Minton asked if enough information has been gathered to approve a significant site.

Chair Danforth stated she does not feel there is enough information gathered to determine the first point, therefore the second point would not be met.

Commissioner Minton stated she wished there were more samples taken to give them a fuller picture.

Commissioner Standley made a motion to recommend denial of the Doug Cox Comprehensive Text Plan Amendment #T-093-23 and Zoning Map Amendment #Z-323-23, to the Board of Commissioners based on evidence in the record and with the following addition Findings of Fact: Concerns weren't mitigated enough based on shared concerns on impacts by the neighbors, including dust, noise, and blasting. Hours of operation not clearly defined, nor how the asphalt batch plant would be managed. Proximity to neighbors and effects on those properties. Proposed restrictions were not adequately addressed. Lack of soil samples taken to verify quantity and quality of aggregate. How much topsoil exists and would be taken off the property. Noise impacts because of the canyon and wind direction were not addressed.

Commissioner Minton seconded the motion. Motion failed with a vote of 3:3.

Further Deliberation ensued. Clarifications were made by Mrs. Davchevski regarding how the vote can proceed. Chair Danforth agreed they cannot determine, based on testimony and evidence, if there is enough resource to call this site significant. Commissioner Standley added that if they collectively are asking these questions that others are going to question it further above the Planning Commissioners. He further expressed how he hoped the application could have been continued so more information could be gathered by the applicant to address more of the detailed issues, like aggregate samples. Commissioner Standley stated even the smallest of parts in this application will be looked at under magnifying glass.

Chair Danforth added there has been a LUBA case, seen before the Planning Commission, sent back because lack of soil analysis. She stated this case made her rethink methods and request more due diligence.

Commissioner Minton added she could make a good argument on both sides of this proposal. Commissioner Standley stated he has no personal feelings about rock pits. He discussed previous points made prior regarding concerns made by neighbors.

After additional discussion a secondary vote was called.

Commissioner Minton made a new motion to recommend denial of the Doug Cox Comprehensive Text Plan Amendment #T-093-23 and Zoning Map Amendment #Z-323-23, to the Board of Commissioners based on evidence in the record and citing the same above Findings of Fact.

Commissioner Standley seconded the motion. Motion carried with a vote of 5:1 recommending denial to the Board of County Commissioners.

The Planning Commission found the following criteria of approval were not met by the applicant:

1. OAR 660-023-130 (3)(a) A representative set of samples of aggregate material in the deposit on the site
2. OAR 660-023-130 (5) (b) [Conflicts created by the site]
3. OAR 660-023-130 (5) (c) [If conflicts exist, measures to minimize]
4. UCDC 152.487(A)(2) There is sufficient information supplied by the applicant to show that there exists quantities of aggregate material that would warrant the overlay
5. UCDC 152.487(A)(5) The site complies with Oregon Administrative Rules (OAR) 660-023-0180.

## **OTHER BUSINESS**

Mrs. Davchevski provided an update regarding long-term Planning projects. They anticipate a work session in February to discuss new animal density standards and to discuss Senate Bill 1013 which was passed by Legislature. She stated our office has received request to consider adoption of Senate Bill 1013 to permit Recreation Vehicles (RVs) as accessory dwellings in residential zoning. She added the Planning Commission would look at developing standards around the Senate Bill or pursue allowing RVs as accessory dwellings.

## **ADJOURNMENT**

Chair Danforth adjourned the meeting at 9:44PM.

Respectfully submitted,

Shawna Van Sickle,

Administrative Assistant