UMATILLA COUNTY
est. 1862

Board of Commissioners

216 S. E. 4th 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

Tuesday, April 29, 2025, 9:00am
Umatilla County Courthouse, Room 130

A. Call to Order

B. Chair's Introductory Comments & Opening Statement

C. New Business

COMPREHENSIVE PLAN TEXT AMENDMENT #T-099-25, and ZONE MAP AMENDMENT #Z-326-25: GIRTH DOG LLC, APPLICANT / OWNER. The applicant is requesting the County to address the remanded issues from the Land Use Board of Appeals decision, LUBA No. 2023-33, relating to the County's previous application numbers: #Z-322-22, #T-092-22 and #P-135-22. The applicant requests approval 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 applicant also requests approval to mine, process and stockpile sand and gravel at the site. Applicant proposes both concrete and asphalt batch processing. The proposed site is located south of the interchange for Interstates 82 and 84, southwest of the Westland Road Interchange, just over a quarter of a mile west of Colonel Jordan Road, and south of Stafford Hansell Road. The site is identified on Assessor's Map as Township 4 North, Range 27 East, Section 36, Tax Lots 900, 1100, 1200, 1300 and 1800. The site is approximately 225 acres and is zoned Exclusive Farm Use (EFU).

D. Adjournment

UMATILLA COUNTY
BOARD OF COMMISSIONERS HEARING – APRIL 29, 2025
UMATILLA COUNTY PLAN TEXT AMENDMENT & ZONING MAP AMENDMENT
GIRTH DOG LLC, APPLICANT & OWNER
SUPPLEMENTAL FINDINGS TO ADDRESS LUBA REMAND
PACKET CONTENT LIST

COMMUNITY & BUSINESS DEVELOPMENT

LAND USE PLANNING, ZONING AND PERMITTING

CODE ENFORCEMENT

SOLID WASTE COMMITTEE

SMOKE MANAGEMENT

GIS AND MAPPING

RURAL ADDRESSING

LIAISON, NATURAL RESOURCES & ENVIRONMENT

PUBLIC TRANSIT

MEMO

TO: **Umatilla County Board of Commissioners**
FROM: **Megan Davchevski, Planning Division Manager**
DATE: **April 22, 2025**

RE: **April 29, 2025 BCC Hearing**
Comprehensive Plan Text Amendment T-099-25 &
Zone Map Amendment Z-326-25

Background Information

The request is to address the Remand issued by LUBA, No. 2023-33 on October 25, 2023. The previous application, under County permits #Z-322-22, #T-092-22 and #P-135-22 was approved by the County to add Tax Lots 900, 1100, 1200, 1300, and 1800 of Assessor's Map 4N 27 36 to the Umatilla County list of Large Significant Sites, providing necessary protections under Goal 5 including limiting conflicting uses within the impact area, applying the Aggregate Resource Overlay Zone to the subject property, and allowing mining, processing, and stockpiling of gravel and sand materials at the site. Both concrete and asphalt batch processing are requested for approval.

Neighbors in opposition of the request had appealed the County's decision to the Land Use Board of Appeals (LUBA). LUBA found that the County, in its decision, made four assignments of error. They are summarized as follows:

Second Assignment of Error – Analysis of Conflicts
LUBA concluded that the site plans and final decision failed to describe the aggregate mining and processing activities and what levels of noise, dust or other discharges that those activities will generate. "The county does not satisfy the conflicts analysis required by OAR 660-023-0180(5)(b) by assuming that all mining activities will produce some level of noise, dust, or other discharges and finding that those impacts can be minimized." Therefore, the County must make additional findings to satisfy OAR 660-023-0180(5)(b).

Third Assignment of Error – Conflict Minimization
LUBA concluded that the findings do not adequately address impacts to the adjacent Goal 5 aggregate site to the east of the subject property. Findings considering whether dust from the haul road will conflict with adjacent agricultural operations were not made by the County. "On remand, the county must identify the source and scope of conflicts from noise, dust, or other discharges from the aggregate use and explain whether and how those conflicts will be minimized."

Fourth Assignment of Error – ESEE Analysis
LUBA did not reach or decide the fourth assignment of error due to concluding that the County did not make adequate findings regarding the second and third assignments of error. Should the County's new findings regarding conflicts warrant an ESEE analysis, the County

shall conduct the ESEE analysis.

Fifth Assignment of Error – Transportation Impacts
The Applicant's provided Traffic Impact Analysis (TIA) failed to include water trucks coming and going from the site for both dust suppression and for use of the gravel washing and processing operations. LUBA concluded that water trucks were not included in the TIA trip count and that the county "must make findings addressing petitioners' evidence that the number of water truck trips will exceed four trips a week".

Sixth Assignment of Error – Reclamation Plan
LUBA concluded that the Applicant did not supply a conceptual site reclamation plan, and the Applicant's statement identifying the post-mining use was not sufficient for satisfying OAR 660-023-0180(5)(f).

Notice

Notice of the applicant's request was mailed on April 9, 2025 to nearby property owners, necessary agencies, and participants of the previous land use hearings. Notice of the April 29, 2025 Board of Commissioner hearing was published in the East Oregonian on April 16, 2025.

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. Only the above issues identified by LUBA on Remand are addressed in the Supplemental Findings of Fact and Conclusions of Law.

Supplemental Findings of Fact and Conclusions of Law

The applicant has provided additional information by submitting: a dust and noise analysis, updated Traffic Impact Analysis to account for water suppression trucks, a Mining Operations and Reclamation Plan, and identified a post-mining use with conceptual site plan.

Based on the application for the County to address the issues identified on Remand, staff have drafted Supplemental Findings of Fact and Conclusions of Law. In accordance with the findings of the applicant's analysis and plans, staff have proposed that Subsequent Conditions #2 and #4 be modified, Conditions #10 and #11 be removed to eliminate conflicts with the findings, that the new #11 (previously #13) be modified, and the Subsequent Conditions #12 through #14 be added. Changes to the Conditions of Approval are shown in italic and strikethrough text.

The Planning Commission did not review this request because this issue was Remanded to the County from LUBA.

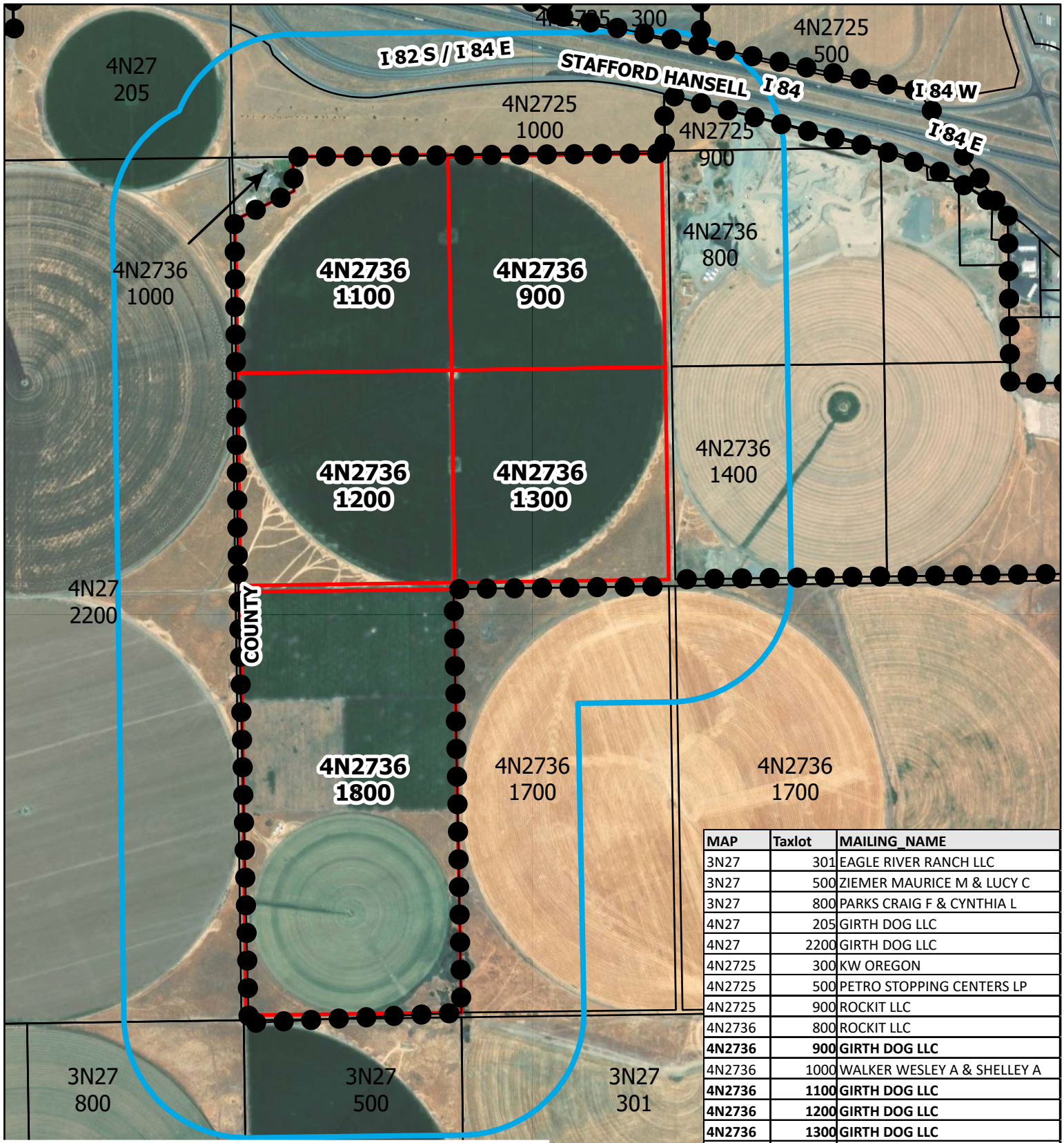
Conclusion

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 Post-Acknowledgement Amendment Application (PAPA) and allow mining and associated mining activities including the asphalt and concrete batch plants at the site. Or, the Board may find that the Applicant has not adequately addressed the Remand issues and deny the request.

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

APPLICANT: CRAIG COLEMAN
OWNER: GIRTH DOG LLC #Z-326-25 & #T-099-25

Notified Property Owners within 750 feet of Subject Parcels



MAP	Taxlot	MAILING_NAME
3N27	301	EAGLE RIVER RANCH LLC
3N27	500	ZIEMER MAURICE M & LUCY C
3N27	800	PARKS CRAIG F & CYNTHIA L
4N27	205	GIRTH DOG LLC
4N27	2200	GIRTH DOG LLC
4N2725	300	KW OREGON
4N2725	500	PETRO STOPPING CENTERS LP
4N2725	900	ROCKIT LLC
4N2736	800	ROCKIT LLC
4N2736	**900**	**GIRTH DOG LLC**
4N2736	1000	WALKER WESLEY A & SHELLEY A
4N2736	**1100**	**GIRTH DOG LLC**
4N2736	**1200**	**GIRTH DOG LLC**
4N2736	**1300**	**GIRTH DOG LLC**
4N2736	1400	ROCKIT LLC
4N2736	1700	EAGLE RIVER RANCH LLC
4N2736	**1800**	**GIRTH DOG LLC**
4N2725	1000	UMATILLA BASIN PROPERTIES LLC

Legend

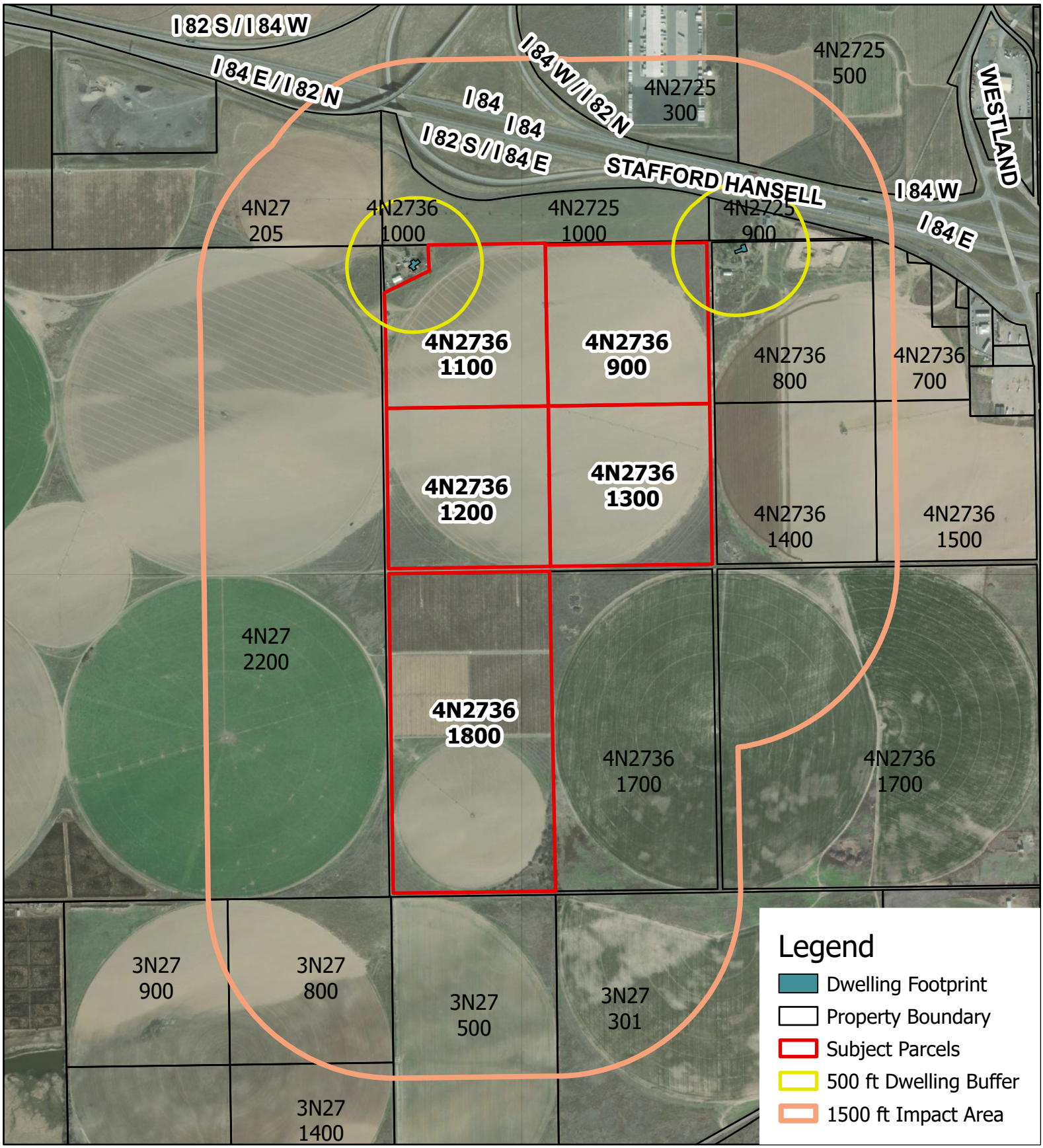
- Subject Parcels
- Property Boundary
- Zoning Boundary
- 750 ft Notice Boundary

4

0 390 780 1,560 Feet

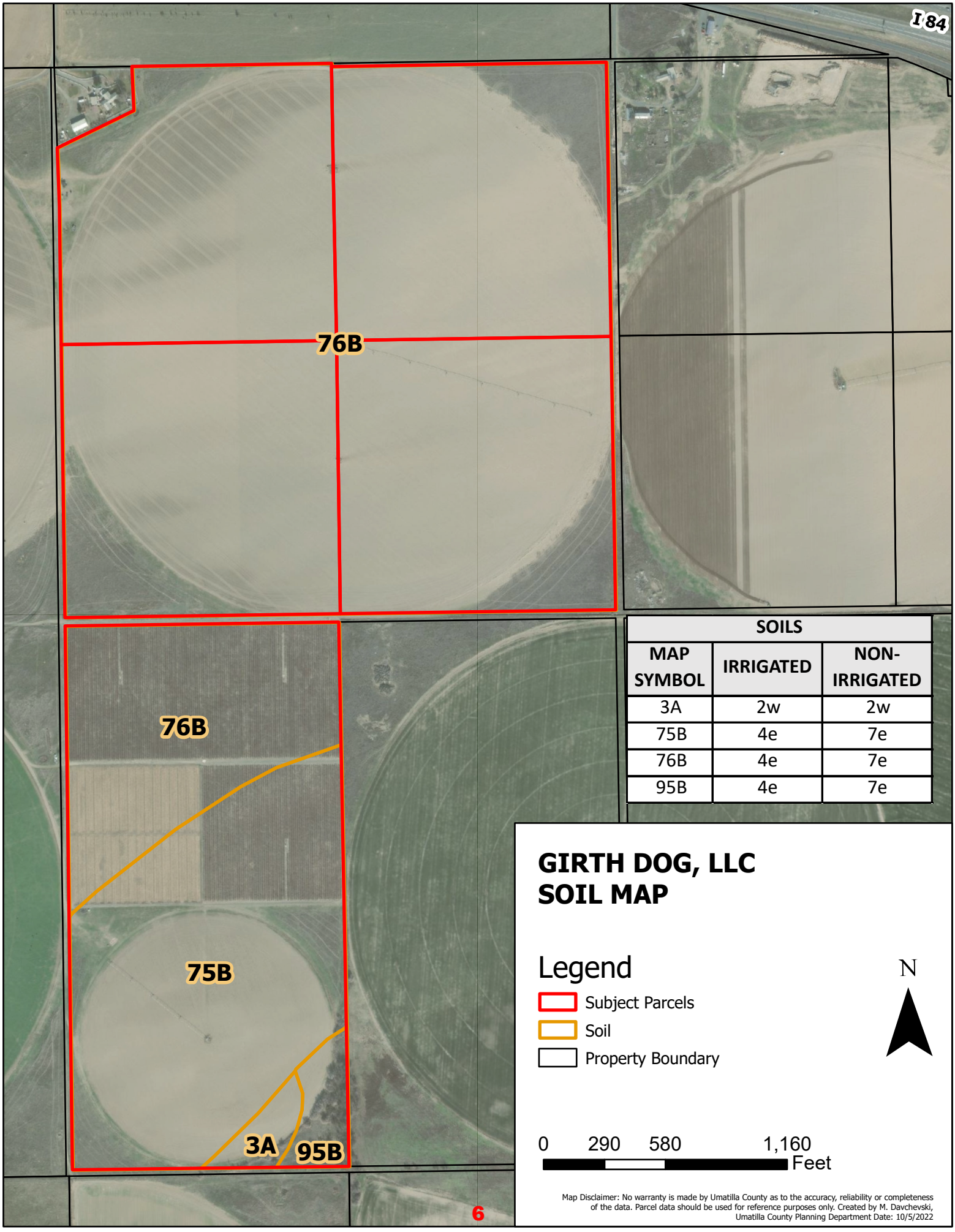
Map Disclaimer: No warranty is made by Umatilla County as to the accuracy, reliability or completeness of the data. Parcel data should be used for reference purposes only. Created by M. Davchevski, Umatilla County Planning Department
Date: 3/31/2025

GIRTH DOG LLC
1500 FT IMPACT AREA & 500 FT DWELLING BUFFER
MAP 4N 27 36, TL 900, 1100, 1200, 1300 AND 1800



Miles
0 0.13 0.25 0.5

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: 6/7/2022



SOILS		
MAP SYMBOL	IRRIGATED	NON-IRRIGATED
3A	2w	2w
75B	4e	7e
76B	4e	7e
95B	4e	7e

GIRTH DOG, LLC
SOIL MAP

Legend

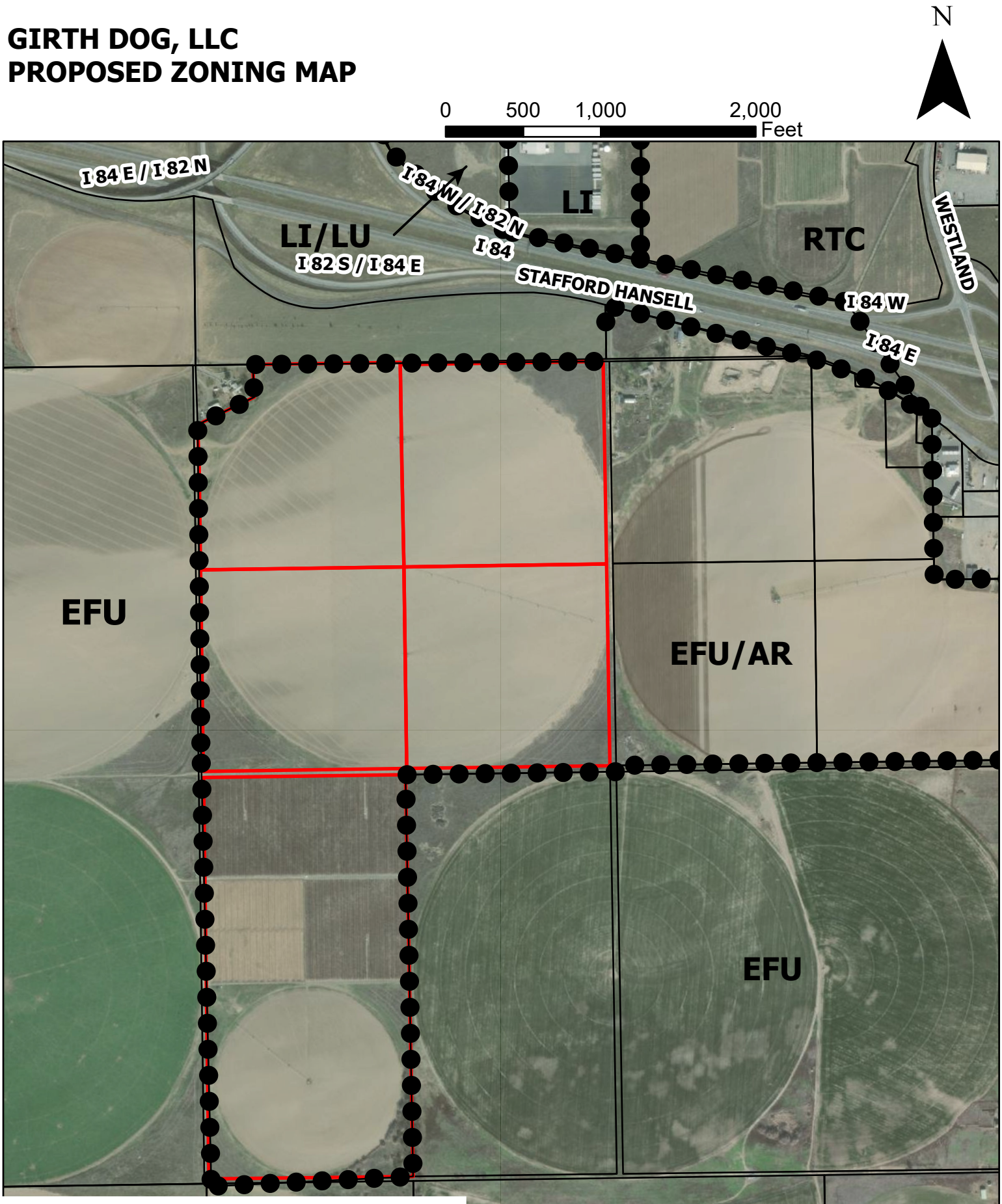
- Subject Parcels
- Soil
- Property Boundary

N

0 290 580 1,160 Feet

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: 10/5/2022

GIRTH DOG, LLC
PROPOSED ZONING MAP



Legend

- Zoning Boundary
- Property Boundary
- Subject Parcels

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: 8/26/2022

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BEFORE THE UMATILLA COUNTY BOARD OF COMMISSIONERS
ON REMAND FROM LUBA
COMPREHENSIVE PLAN TEXT AMENDMENT #T-099-25
AND ZONING MAP AMENDMENT #Z-326-25
SUPPLEMENTAL FINDINGS OF FACT AND CONCLUSIONS OF LAW

A request by Girth Dog, LLC, to amend County Ordinance 2023-04 by adopting additional findings and conclusions to apply the Aggregate Resource Overlay Zone, list the subject properties as a Large Significant Resource Site in the Comprehensive Plan and allow mining and associated activities.	APPLICANT'S PROPOSED AMENDMENT AND SUPPORTIVE FINDINGS

1. APPLICANT:	Craig Coleman, Girth Dog LLC, 33896 E Walls Road, Hermiston, OR 97838
2. CONSULTANT:	Carla McLane Consulting, LLC, 170 Van Buren Drive, Umatilla, OR 97882
3. OWNER:	Girth Dog LLC, 33896 E Walls Road, Hermiston, OR 97838
4. REQUEST:	The request is to address the Remand issued by LUBA, No. 2023-33 on October 25, 2023. The previous application, under County permits #Z-322-22, #T-092-22 and #P-135-22 (*#P-135-22 was assigned in error, this request does not require a P application number)* was approved by the County to add Tax Lots 900, 1100, 1200, 1300, and 1800 of Assessor's Map 4N 27 36 to the Umatilla County list of Large Significant Sites, providing necessary protections under Goal 5 including limiting conflicting uses within the impact area, applying the Aggregate Resource Overlay Zone to the subject property, and allowing mining, processing, and stockpiling of gravel and sand materials at the site. Both concrete and asphalt batch processing are requested for approval.
5. LOCATION:	The subject property is just south of the interchange for Interstates 84 and 82, southwest of the Westland Road Interchange, just over a quarter of a mile west of Colonel Jordan Road, and south of Stafford Hansell Road. Currently occurring on the subject property are agricultural operations under circle pivot irrigation and drip irrigation.
6. SITUS:	The proposed aggregate site does not currently have a situs address.
7. ACREAGE:	The entire site is approximately 225 acres, spread across the various tax lots.
8. COMP PLAN:	The subject property has a Comprehensive Plan designation of North/South Agriculture.

9. ZONING: The subject property is zoned Exclusive Farm Use (EFU).

10. ACCESS: The site can be accessed from Colonel Jordan Road, via Center Street, an unimproved public right of way.

11. ROAD TYPE: Center Street is an unimproved, 40-foot wide, public right of way. Colonel Jordan Road, County Road #1325, is a two-lane paved county roadway.

12. EASEMENTS: There are no access or utility easements on the subject property.

13. LAND USE: Currently there is an agricultural operation occurring with several circle pivots and drip irrigation. The applicant did not provide details on the crops grown on the subject property.

14. ADJACENT USE: An approved mining operation is directly to the east of the property and a truck stop and fueling station further to the east. The approved mining site to the east is partially excavated, with the remaining land in irrigated crop circles. Light industrial and commercial activities are further to the east across Colonel Jordan Road. To the north, across Interstate 84, are a FedEx Freight facility, a UPS Customer Center, several potato storages, and a food processing operation. Irrigated farmland is to the west, south, and east of the subject property, most under circle pivot irrigation systems. The zoning within the 1,500-foot impact area includes Exclusive Farm Use, Light Industrial, Limited Rural Light Industrial, and Light Industrial/Limited Use Overlay Zone.

15. LAND FORM: Columbia River Plateau

16. 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
3A: Adkins fine sandy loam, wet, 0 to 3 percent slopes	IIw	IIw
75B: Quincy loamy fine sand, 0 to 5 percent slopes	VIIe	IVe
76B: Quincy loamy fine sand gravelly substratum, 0 to 5 percent slopes	VIIe	IVe
95B: Taunton fine sandy loam, 1 to 7 percent slopes	VIe	IVe
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).		

17. BUILDINGS: There are no buildings on the subject property.

18. UTILITIES: The site is not served by utilities.

19. WATER/SEWER: The applicant provides there are several water rights associated with the groundwater use for gravel washing. The groundwater rights are listed on certificates #74109 (U-649), #74185 (G-10505), #79531 (G-1671), and #79530 (G-3822). Oregon Water Resources has not confirmed that these groundwater rights may be used for gravel washing.

20. FIRE SERVICE: The site is located within Umatilla County Fire District #1.

21. IRRIGATION: The site is located within Westland Irrigation District; however, the applicant has provided that the site is not served by the irrigation district.

22. FLOODPLAIN: This property is NOT in a floodplain.

23. WETLANDS: There are no known wetlands located on the subject property.

24. NOTICES SENT: Notice was sent to the Department of Land Conservation and Development (DLCD) on March 25, 2025. Notice was mailed to neighboring land owners, affected agencies and hearing participants (of the previous approval) on April 9, 2025. Notice was printed in the April 16, 2025 publication of the East Oregonian.

25. HEARING: The Umatilla County Board of Commissioners will hold a public hearing in the Umatilla County Courthouse, Room 130, 216 SE 4th St, Pendleton OR 97801 on **April 29, 2025 at 9:00 AM**.

26. AGENCIES: Umatilla County Assessor, Umatilla County Counsel, 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, Westland Irrigation District, CTUIR-Natural Resources, CTUIR-Cultural Resources, Umatilla County Fire District #1 and Umatilla Electric Cooperative

27. COMMENTS: Comments on the Remand are pending.

28. ISSUES ON REMAND: The issues identified by the Land Use Board of Appeals (LUBA) on Remand to the County are summarized below, followed by the Applicant's supplemental information and the County's supplemental findings.

The First Assignment of Error was denied.

Second Assignment of Error – Analysis of Conflicts
LUBA concluded that the site plans and final decision failed to describe the aggregate mining and processing activities and what levels of noise, dust or other discharges that those activities will generate. "The county does not satisfy the conflicts analysis required by OAR 660-023-0180(5)(b) by assuming that all mining activities will produce some level of noise, dust, or other discharges and finding that those impacts can be minimized." Therefore, the County must make additional findings to satisfy OAR 660-023-0180(5)(b).

Third Assignment of Error – Conflict Minimization
LUBA concluded that the findings do not adequately address impacts to the adjacent Goal 5 aggregate site to the east of the subject property. Findings considering whether dust from the haul road will conflict with adjacent agricultural operations were not made by the County. "On remand, the county must identify the source and scope of conflicts from noise, dust, or other discharges from the aggregate use and explain whether and how those conflicts will be minimized."

Fourth Assignment of Error – ESEE Analysis
LUBA did not reach or decide the fourth assignment of error due to concluding that the County did not make adequate findings regarding the second and third assignments of error. Should the County's new findings regarding conflicts warrant an ESEE analysis, the County shall conduct the ESEE analysis.

Fifth Assignment of Error – Transportation Impacts
The Applicant's provided Traffic Impact Analysis (TIA) failed to include water trucks coming and going from the site for both dust suppression and for use of the gravel washing and processing operations. LUBA concluded that water trucks were not included in the TIA trip count and that the county "must make findings addressing petitioners' evidence that the number of water truck trips will exceed four trips a week".

Sixth Assignment of Error – Reclamation Plan
LUBA concluded that the Applicant did not supply a conceptual site reclamation plan, and the Applicant's statement identifying the post-mining use was not sufficient for satisfying OAR 660-023-0180(5)(f).

Applicant's Intended Outcomes of the Application Process:
This submittal is intended to address those Assignments of Error from LUBA No. 2023-33 that were sustained by LUBA in their Final Opinion and Order issued on October 25, 2023.

Required Review:
- Second Assignment of Error: Analysis of Conflicts and Conflicts Minimization [OAR 660-02300180(5)(b)(A)]
- Third Assignment of Error: Conflicts Minimization – Noise, Dust, Goal 5 Sites and Agricultural Operations [OAR 660-023-0180(5)(b) and (c)]

- Fifth Assignment of Error: Transportation Impacts [OAR 660-023-0180(5)(b)(B)]
- Sixth Assignment of Error: Reclamation Plan [OAR 660-023-0180(5)(f)]

Applicant's Updated Description of the Project:
In its opinion, LUBA concluded that 1) The County made no findings on the level of noise or dust activities that will be generated by mining, crushing, stockpiling, and batching; and 2) The County did not "describe how mining activities will progress within the approved mining area (entire subject property) after being initiated." While these conclusions were made under LUBA's analysis of compliance with OAR 660-023-0180(5)(b)(A), which is discussed further below, the description of the project informs the remainder of LUBA's conclusions. Therefore, at the outset, the Applicant is providing this updated project description to inform the County's analyses as it relates to the above-listed assignments of error.

In the attached Operations and Reclamation Plan, the Applicant explains that the mining operations will include mining, crushing, stockpiling and batching. The Operations and Reclamation Plan describes the ongoing mining operations, including how berms will be installed over time and interior finishing will be accomplished. Work will begin in Block 1, which is further divided into three subsections. Once Block 1 is mined out the operation will move to Block 2 to the south, then Block 3 to the north, and so forth through Blocks 4, 5, and 6. This approach allows for current farming operations to continue on the northern portion of the subject property while mining occurs to the south, closest to the access road. This approach will allow for the processing equipment, including the crusher, concrete batch plant, and the asphalt batch plant, to be placed in the bottom of the mining pit in Block 1.

Three main processes will occur at the proposed facility: aggregate mining and gravel extraction, a batch concrete plant, and a batch asphalt plant. Throughout the entire operation of the project, all of the activities that use processing equipment will be located in Block 1. During initial operations, the processing equipment will be located at ground level, and, therefore, will have the greatest potential conflict with the surrounding area. These potential conflicts are evaluated further below. As Block 1 is mined, the processing equipment will be moved into the pit, minimizing any potential conflicts.

Applicant plans to conduct most of its operations during the daytime hours (7 AM to 10 PM). The concrete batch plant may start operating in the early morning hours (starting at 4 AM in order to facilitate morning deliveries of construction materials), but no mining activities would occur before 7 AM. It is expected that the concrete batch plant would stop operations around 1 PM and the asphalt batch plant would stop operations around 5 PM. Please see the included noise analysis for more detail regarding hours of operation.

Second Assignment of Error – Analysis of Conflicts
LUBA concluded that the site plans and final decision failed to describe the aggregate mining and processing activities and what levels of noise, dust or other discharges that those activities will generate. "The county does not satisfy the conflicts analysis required by OAR 660-023-0180(5)(b) by assuming that all mining activities will produce some level of noise, dust, or other discharges and finding that those impacts can be minimized." Therefore, the County must make additional findings to satisfy OAR 660-023-0180(5)(b).

OAR 660-023-0180 Mineral and Aggregate Resources *(only those on Remand are addressed)*
Applicable criteria are provided in **bold and underlined text**.

(5)(b)(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's Response: In addition to requiring the County to make additional factual findings regarding the type of project proposed, LUBA's Final Opinion and Order determined that it is insufficient for the County to assume that all mining activities will produce some level of noise, dust, or other discharges and find that those impacts will be minimized. That is, pursuant to OAR 660-023-0180(5)(b)(A), the County must describe the mining activities and make findings that specify the level of noise or dust activities generated by the mining activities.

To address these items the Applicant is submitting an updated Operations and Reclamation Plan that describes the mining activities and how mining activities will progress within the subject property. The Applicant is also attaching two reports that describe the potential discharges from the mining activities (dust and noise) to support the County's required conflict analysis.

There are two residences within the impact area that could be sensitive to noise and dust discharges. The closest residence to the various processing activities in Block 1, residence R01, is approximately 2,300 feet to the north. An additional residence, R02, was identified approximately 3,000 feet to the northeast. R02 is noted to be on the Rock It, LLC, mine and processing parcel. Both R01 and R02 are in relative proximity to Interstate 84.

Dust:
The Technical Memorandum (the "Dust Analysis") prepared by Chad Darby and Andrew Rogers, both of Maul Foster Alongi ("MFA"), concludes that the dust generated from the proposed operations will not cause a conflict with existing and approved uses and associated activities that are sensitive to such discharges. As described in the Dust Analysis, MFA does not believe the mining operations will affect the continued successful agricultural, commercial, or industrial use of any surrounding properties.

The primary pollutant generated from the project's dust emissions is Particulate Matter ("PM"). PM is categorized by size – either 10 microns ("PM 10") or 2.5 microns ("PM 2.5" or "fine

PM"). As described in the Dust Analysis, PM 10 falls to the ground more quickly than PM 2.5. However, while PM 2.5 travels further, it is less concentrated because the travel disperses the PM. At least one study indicates that 99 percent of PM larger than PM 2.5 drops out of suspension within 1,312 feet of the point of generation.

When calculating the emission estimates for PM, MFA accounted for the particle size, the mean wind speed, and the material moisture content. As described in the analysis, most of the dust will be generated by the use of paved and unpaved roads. The majority of PM generated by operations will be coarse particles, which tend to travel shorter distances than fine PM. MFA's Dust Analysis indicates that "[fine PM] represents only 8 percent of the total PM emission factor, 0.0012 points per ton of material crushed. Similarly, the unpaved roads emission factor data…indicates that fine particulate emissions represent less than 4 percent of total particulate emissions." Dust Analysis, Att. A at 3. The estimated emissions for each process are described in MFA's Dust Analysis. *See* Dust Analysis, Att. B, tbls. 4-6.

Even though the project will generate PM, the dust generated will not conflict with the nearby dwellings because of the distance between the dwellings and the proposed operations. The majority of fugitive dust emissions will come from the haul roads, which are located over 2,300 feet from the nearest residence. Dust Analysis at 2. Because the majority of emissions are anticipated to be coarser particles, the Dust Analysis concludes that most of the dust generated by the proposed operations will settle out before reaching the Girth Dog property boundary." Dust Analysis at 1. That is, most, if not all, of the PM will settle on the Applicant's property and have no impact on the neighboring dwellings.

Because PM will either settle out before reaching the Girth Dog property boundary or be largely dispersed when it does, the dust emissions from the Project will not conflict with the nearby residences. Moreover, after Block 1 is mined and the operations are placed in the pit, disposition will occur even more rapidly and travel less far, further eliminating any potential conflict.

Noise:
The attached Technical Memorandum prepared by Mark Bastasch from Jacobs (the "Noise Analysis") concludes that the noise generated by the project will not conflict with existing and approved uses and associated activities that are sensitive to such discharges because of the location of the processing activities and their distance from the nearest noise receptor. Mr. Bastasch is a recognized expert in acoustical evaluations and holds an Acoustical Professional Engineering (PE) degree and is also Board Certified by the Institute of Noise Control Engineering.

As described in the Noise Analysis, given the presence of Interstate 84 as well as Rock It, LLC's, operations, the DEQ "Table 8" sound level limits are anticipated to be the controlling noise criteria for this area. Table 8's target daytime dBA (7 AM to 10 PM) is 55, and its nighttime dBA (10 PM to 7 AM) is 50.

At the Project site, noise levels will likely be their highest between the hours of 7 AM and 1 PM because all of the noise-producing processes will be in operation. Noise levels of the various equipment proposed for use on the site have projected sound levels of 65 to 83 dBA at 50 feet. Mr. Bastasch combined the individual sound levels to identify a combined average sound level of 87 dBA at 50 feet. He then used a standard analysis for showing how sound levels decrease over distance, to conclude that at a distance of 2,300 feet, the sound level will decrease by 33 dBA. At the nearest residence, the sound levels will be 54 dBA between 7 AM and 1 PM. This is under DEQ's daytime sound level limit.

Applicant indicated that the concrete batch plant may start operating in the early morning hours (starting around 4 am). As in the Noise Analysis, the operation of this equipment alone should comply with the DEQ's nighttime operations dBA of 50. The concrete batch plant has a sound level of 79 to 83 dBA at 50 feet. At a distance of 2,300 feet the sound level will decrease by 33 dBA, resulting in a 46 to 50 dBA. This is under DEQ's nighttime sound level limit.

While the distance alone makes the project compliance with DEQ sound level limits, any potential conflict is further reduced by the placement of processing equipment in the Block 1 pit. The Block 1 pit will act as a noise barrier and further reduce noise levels. Based on this analysis, Mr. Bastasch concludes "that a well-designed and executed project can satisfy the DEQ noise requirements."

County Findings and Conclusions: Umatilla County finds mining operations at the site will include aggregate mining and gravel extraction, a batch concrete plant, and a batch asphalt plant. As described in the Applicant's operations and reclamation plan, work will begin in Block 1. Once Block 1 is mined out the operation will move to Block 2 to the south, then Block 3 to the north, and so forth through Blocks 4, 5, and 6. At all times, the batch concrete plant and the batch asphalt plant, and any other processing will take place in Block 1. As Block 1 is mined, the processing equipment will be moved into the Block 1 pit, where it will remain for the rest of the project's operation.

Umatilla County finds that the applicant hired Maul Foster Alongi (MFA) to conduct a dust analysis for the proposed aggregate operations.

Umatilla County finds fugitive dust, often referred to as Particulate Matter, or PM, will be generated by the proposed mining operation. Mining, crushing, processing, and hauling of aggregate material and processed asphalt or concrete will generate fugitive dust at both sizes that are measured – 10 microns and 2.5 microns. At the Girth Dog site, fugitive sources include crushers, storage piles, screens, material handling transfer points, paved and unpaved road dust, and truck loadouts. Based on the Dust Analysis prepared by MFA only a very small portion of the emissions will include fine PM. Most of the PM generated by the project is larger, coarser PM. As concluded in the Dust Analysis prepared by MFA, most of the PM generated by the project will settle out before reaching the Girth Dog property boundary. It will not travel to the nearest residence, 2,300 feet away. Any PM that does reach the dwellings will be dispersed, and therefore will not be present at concentrations that can cause a conflict with the residences. After

initial operations, dust will travel even less far because the concrete batch plant, the asphalt batch plant, and any other processing related activities will take place in the Block 1 pit.

MFA's analysis concludes that dust emissions from the operations will not conflict with nearby residences or other uses. Based on the information provided by the Applicant, and the County finds that the dust generated by the proposed operation will not conflict with nearby residences.

Umatilla County finds and concludes the applicant has sufficiently addressed dust, and has provided sufficient evidence that dust is not a conflict as most if not all dust will settle on the subject property as opposed to travelling beyond the subject property.

Umatilla County finds the aggregate mining and processing operations will generate noise. The noise generating machinery and processes will be located within Block 1. The closest residence to Block 1 is approximately 2,300 feet to the north. An additional residence was identified approximately 3,000 feet to the northeast. Both residences are in relative proximity to Interstate 84. Given the presence of Interstate 84 as well as Rock It, LLC's, operations, the DEQ "Table 8" sound level limits are anticipated to be the controlling noise criteria. The target daytime dBA based on the DEQ "Table 8" limits would be 55, with early morning operations prior to 7:00 am limits of 50. At all times the Applicant's proposed operations will comply with the DEQ's sound limits. With regards to daytime noise, operation noise levels will create an average sound level of 87 dBA at 50 feet. At a distance of 2,300 feet, the sound level will decrease by 33 dBA, resulting in a sound level of 54 dBA at the nearest residence. The dBA level of 54 is below DEQ's sound levels for the area and will not conflict with the neighboring sensitive properties.

Umatilla County finds the Applicant is proposing to start operating the concrete batch plant during the early morning hours (starting around 4 am). At a distance of 2,300 feet the sound level generated by the concrete batch plant will be 46-50 dBA, below the nighttime limit of 50 dBA. Applicant is also proposing to locate the concrete batch plant, the asphalt batch plant and other processing activities in the pit created by mining Block 1 for the entire duration of the project. This should further reduce the sound levels by at least 10 dBA, making the project produce noise below the DEQ sound limits. Based on the information provided by the Applicant, the County finds that the noise generated by the proposed operation will not conflict with nearby residences.

Umatilla County finds by limiting noise levels to not exceed 50 dBA, as heard from the subject properties' boundaries, noise conflicts are mitigated. A condition of approval is imposed that at noise levels of the aggregate operation shall not exceed 50 dBA as heard from the subject properties' boundaries.

Umatilla County finds and concludes the Applicant has identified the levels of dust and noise generated by the proposed mining operations, as supported by the Acoustic Study and Dust Analysis. Dust will not conflict with neighboring properties or uses due to a majority of the dust settling before leaving the subject property. Noise levels are well below DEQ's sound levels and will not conflict with neighboring sensitive uses and properties.

(5)(b)(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's Response: In LUBA's Fifth Assignment of Error, LUBA concluded that a reasonable person would rely on the expertise of the existing operation and the amount of water it would need but that it was the Applicant's burden to establish the number of truck trips attributable to water delivery to the site. Additionally, LUBA concluded that the County must make findings addressing Petitioners' evidence that the number of water truck trips will exceed four trips a week.

The Dust Analysis discusses the number of truck trips attributable to water delivery at the site. Applicant will need at most three tanker trips per week to provide water specific to the Concrete Batch Plant. Additional water is needed to support twice daily watering of the haul roads and for use in fugitive dust management or mitigation. Attachment B to the Dust Analysis, Table 2 notes that daily watering of the haul roads for dust mitigation will require 476 trips annually for the water delivery and 714 annually for water application.

To address the impact to the Westland Road IAMP and the local transportation network, Kittelson and Associates completed an addendum to the submitted Traffic Impact Analysis (TIA), which found that the additional truck trips, based on the MFA analysis related to fugitive dust, at six trips per day "is not expected to have a significant effect on the surrounding transportation network or require offsite transportation improvements." Matt Hughart, Principal Planner with Kittelson & Associates also determined that Kittleson's findings from the October 20, 2022, Aggregate Overlay Zone/Girth Dog Pit Transportation Assessment are still valid. The TIA addendum is provided as part of the Applicant's submittal.

County Findings and Conclusions: Umatilla County finds the evidence provided by Kittelson & Associates in their Aggregate Overlay Zone/Girth Dog Pit Transportation Assessment LUBA Response Letter dated January 17, 2025, states that their analysis of traffic impacts based on the inclusion of up to six trips daily for water trucks, three inbound and three outbound, has no significant effect on the surrounding transportation network or would require offsite transportation improvements. This is consistent with the original findings and conclusions of the Traffic Impacts Analysis that was completed and submitted with the original application.

Umatilla County finds and concludes that the project will not conflict with local road access and egress.

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

County Findings and Conclusions: Umatilla County finds and concludes that there are no public airports within the Impact Area. The closest public airport is east of Hermiston and more than five miles away from the site.

(5)(b)(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's Response: In LUBA's Third Assignment of Error, LUBA held that the County had not adequately considered impacts on existing Goal 5 aggregate use when it found that since it was an existing site and had similar operations, there were no Goal 5 conflicts.

The Rock It LLC quarry is the only existing Goal 5 resource site within the impact area. It is one-half mile from the proposed operations. The road travel associated with the proposed project is located 1,600 feet from the active locations of the Rock It LLC quarry.

The dust analysis prepared by MFA describes the potential conflict with other Goal 5 resources in the impact area. It notes that most of the fugitive dust emissions will be from paved and unpaved road travel. However, there is no conflict because the emissions will be dispersed along the roadway and the road is at least 1,600 feet from the Rock It LLC quarry. Because the majority of the emissions generated will be coarse particle sizes, MFA anticipates that 99% of the particulate generated from the road dust will be deposited within a few hundred feet, nowhere near the Rock It LLC quarry. Moreover, the dust impacts will only improve over time as the batch concrete plant and batch asphalt plant are moved below grade because placing the equipment in the pit will "further reduce the impact from prevailing winds and result in particle deposition even closer to the quarry operations." Dust Analysis at 2.

LUBA's Third Assignment of Error also held that the findings did not address the alleged conflict raised by Petitioners' geologist that the dust chemical used for dust abatement can "become suspended in the air and that employees of petitioners' aggregate operation to the east of the subject property, may be exposed to those chemicals." The Applicant has voluntarily agreed not to use chemical dust abatement as a part of their normal operations and will instead apply water as described within the Dust Analysis.

County Findings and Conclusions: Umatilla County finds that while fugitive dust will be generated by the mining operation, the dust will not conflict with other Goal 5 resource sites within the impact area. As described in the Dust Analysis prepared by MFA, the majority of the dust generated will be large coarse particles. These large coarse particles are unlikely to travel more than a few hundred feet before settling. The neighboring sand and gravel operation owned by Rock It LLC will be at least 1,600 feet from the largest source of dust emissions, the paved

and unpaved roads. Umatilla County finds the given the distance that the particles travel and the proposed location of the operations, there is no conflict with the existing Goal 5 site.

Umatilla County finds the Applicant will not use chemical abatement to mitigate impacts from dust. The use of chemical abatement of dust suppression is not permitted, this limitation is captured with a subsequent condition of approval. Umatilla County finds and concludes, as demonstrated by the report conducted by MFA, there will not be impacts from dust to the Rock It LLC aggregate quarry.

Umatilla County finds and concludes LUBA's second assignment of error has been adequately addressed and resolved.

Third Assignment of Error – Conflict Minimization
LUBA concluded that the findings do not adequately address impacts to the adjacent Goal 5 aggregate site to the east of the subject property. Findings considering whether dust from the haul road will conflict with adjacent agricultural operations were not made by the County. "On remand, the county must identify the source and scope of conflicts from noise, dust, or other discharges from the aggregate use and explain whether and how those conflicts will be minimized."

(5)(b)(E) Conflicts with agricultural practices; and
Applicant's Response: In LUBA's Third Assignment of Error, LUBA found that the County did not make any findings considering whether "dust from the haul road will conflict with agricultural operations to the north and south of the haul road." LUBA determined that the County's finding that agricultural operations will not be affected because they have operated by existing aggregate sites for years was "inadequate to address the issue of whether this specific mining operation and haul road will conflict with agricultural practices within the impact area."

There are agricultural operations to the north and south of the property. The agricultural operations to the north are the same distance or further away than the existing dwellings. The agricultural operations to the south, while closer, are in the opposite direction of the prevailing winds.

As noted above, the Dust Analysis concludes that the majority of PM will settle on the Girth Dog LLC property. Because PM is unlikely to travel off of Girth Dog LLC's property, MFA concludes that the Applicant's operations will not conflict or have any impact on agricultural property uses.

In the Dust Analysis, the discussion concerning the size of PM and its travel distance provides some evidence that farming operations both to the north (a part of the neighboring aggregate operation) and the south could experience some impacts from dust. However, the Dust Analysis concludes that operations at the site will not affect the continued successful agricultural use on surrounding properties.

County Findings and Conclusions: Umatilla County finds that while fugitive dust will be generated by the mining operation, the majority of PM will not travel off of the Applicant's property. As stated by MFA in the Dust Analysis, "there is no reason to believe that fugitive dust from the proposed operations will have any impact on surrounding property uses of any kind." Dust Analysis at 4.

The issue on Remand from LUBA is specific to dust travelling from the haul roads to existing agricultural operations. The Applicant has provided that they will utilize water as dust suppression on haul roads, utilizing two water trucks per day for water application to internal haul roads and Center Street (to be renamed Noble Road).

Umatilla County imposes a condition of approval that the operator provide twice daily water application to internal haul roads and Center Street (to be renamed Noble Road) to provide dust suppression, as identified in the Dust Suppression Plan (Condition #14(f)).

Umatilla County finds and concludes that with the implementation of the dust control measures identified in the Dust Suppression Plan, and required through the Subsequent Conditions of Approval, there will be no conflicts from fugitive dust with agricultural operations located nearby the proposed aggregate location.

(5)(c) 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's Response: In LUBA's Third Assignment of Error, LUBA stated "[t]he County must identify the source and scope of conflicts from noise, dust, or other discharges from the aggregate use and explain whether and how those conflicts will be minimized." The board also concluded that the County cannot decide that certain mitigation will minimize conflicts without first specifying the predicted conflicts" and that "the County failed to find that the minimization measures are feasible and support those findings with substantial evidence.

As noted in the findings above, the Applicant believes that there are no conflicts with existing uses under (5)(b). However, to the extent the potential impacts described above rise to the level of a conflict, such conflicts will be minimized through the implementation of reasonable and practicable measures. As explained below, the Applicant is proposing several mitigation measures to further reduce the likelihood of any off-site impacts from dust and noise.

In the Dust Analysis, MFA concludes "there is no reason to believe that fugitive dust from the proposed operations will have any impact on surrounding property uses of any kind." MFA also recognizes that "Girth Dog is opting to utilize many mitigation measures and best practices that

will be effective at minimizing dust." In particular, the Applicant has agreed to:

- Install and operate a wet suppression system at the exit of the primary crusher and both cone crushers. Water suppression is expected to reduce 70- 90% of fugitive dust emissions.

- Spray water onto the storage piles at regular intervals during the dry periods of the year to increase the moisture content of stored material. This measure is expected to reduce 90% of fugitive dust emissions.

- Install and operate a wet suppression system at the primary screen and wash screen, and to the materials on the conveyor belts feeding the finish screen. This measure is expected to reduce 70-90% of fugitive dust emissions.

- As stated above, water will be applied at crushers and screens, which precedes most of the material handling transfer points. This will result in the aggregate having a higher moisture content and provides some level of fugitive dust emissions control at each transfer point.

- To reduce haul truck impacts: operate a baghouse for control of concrete silo emissions released during unloading; operate a mister at the concrete batch plant and load concrete mix into trucks that already contain the water needed for the wet mix; and when loading rock, limit the height of the rock drop to no more than 3 feet.

- To limit fugitive dust on both paved and unpaved haul roads, limit speed of all vehicles to 10 MPH on paved roads and 5 MPH on unpaved roads; implement twice daily watering of unpaved roads when temperatures are above freezing; and remove accumulated aggregate or earthy materials from paved roads. The speed limits proposed are expected to reduce fugitive road dust emissions by 44 percent.

The mitigation measures proposed by the applicant are best recognized as best practices by MFA and the industry as a whole. *See* Dust Analysis, Attachment A, at 4-7.

During the proceedings before the County, the Applicant committed to implement noise reducing mitigation measures to further reduce any potential conflict from noise. In addition to locating the batch concrete plant and batch asphalt plant in the pit in Block 1, the Applicant has agreed to:

- Build a berm along the perimeter of the site consisting of soil that was stripped prior to mining. Operations and Reclamation Plan at 2. The berms for Blocks 1-5 will be 6 feet tall and 32 feet wide. The berm for block 6 will be 4 feet tall and 32 feet wide to accommodate the request of the landowners on the northwest corner of the lot.
- Operations and Reclamation Plan at 8-14; *See also* R. at 16. As noted by Mark Bastasch, sound barriers can reduce noise by a minimum of 5 dBA, and typically reduce noise by

10 to 15 dBA. The proposed berms could decrease daytime noise from 54 dBA to 39-44 dBA, well below what is required by DEQ noise standards.

County Findings and Conclusions: Umatilla County finds the only potential conflicts identified by the County under (5)(b) were conflicts due to dust and noise. The County determined, based on the operation and evaluation of the Project that there were no conflicts with existing uses under (5)(b). Even if the potential noise and dust impacts rise to the level of conflicts under the (5)(b) analysis, the proposed measures described below minimize any conflicts with existing uses. The County imposes the below measures as conditions of approval in order to minimize conflicts.

Umatilla County finds fugitive dust will be controlled through a variety of means outlined in the MFA Dust Analysis and include the following which are proposed to be used by the Girth Dog operation:

a. Install and operate a wet suppression system at the exit of the primary crusher and both cone crushers.

b. Spray water onto the storage piles at regular intervals during the dry periods of the year to increase the moisture content of stored material.

c. Install and operate a wet suppression system at the primary screen and wash screen, and to the materials on the conveyor belts feeding the finish screen.

d. Apply water at crushers and screens, which precedes most of the material handling transfer points. This will result in the aggregate having a higher moisture content and provides some level of fugitive dust emissions control at each transfer point.

e. To reduce haul truck impacts, operate a baghouse for control of concrete silo emissions released during unloading; operate a mister at the concrete batch plant and load concrete mix into trucks that already contain the water needed for the wet mix; and when loading rock, limit the height of the rock drop to no more than 3 feet.

f. To limit fugitive dust on both paved and unpaved haul roads limit speed within the facility to 10 MPH on paved roads and 5 MPH on unpaved roads; implement twice daily watering of unpaved roads when temperatures are above freezing; and remove accumulated aggregate or earthy materials from paved roads.

g. Prepare, by an expert, an official Fugitive Dust Control Plan that includes all information as required by Oregon Administrative Rule 340-208-0210(1). The Plan shall be provided to County Planning prior to beginning mining activities.

h. Implement wind breaks such as fences and berms, and revegetate sparse areas throughout the proposed facility, wherever practical.

i. Install and maintain dust curtains around material transfer points where practical. The dust curtains will reduce air movement and restrict exposure to windy atmospheric conditions.

j. Place wind breaks or barriers (e.g., berms or walls) around the storage pile extents, where feasible, to reduce the total surface area exposed to wind.

k. Conduct daily inspections of the water systems used to control fugitive dust emissions to confirm their operation. Any corrective actions will be documented in a recordkeeping log. This log shall be provided to County Planning upon request during the Annual Review process.

l. Conduct monthly 10-minute visible emissions tests using U.S. Environmental Protection Agency Method 22 at the property boundary. This method is used to determine whether there is any observable particulate matter leaving the property. Observations and any corrective actions will be maintained at the proposed facility in a recordkeeping log. This log shall be provided to County Planning upon request during the Annual Review process.

m. Record and promptly investigate all public complaints. Observations and any corrective actions will be maintained at the proposed facility in a recordkeeping log. This log shall be provided to County Planning upon request during the Annual Review process.

Umatilla County finds requiring these control measures as subsequent conditions of approval will have a significant impact to the generation of fugitive dust and cumulatively will reduce fugitive dust impacts as outlined in the Dust Analysis conducted by MFA and satisfies the criteria.

Umatilla County finds the applicant has agreed to minimize potential conflicts from noise by installing a berm along the perimeter of the mining site. The berms for Blocks 1-5 will be 6-feet tall and 32-feet wide. The berm for Block 6 will be 4-feet tall and 32-feet wide to accommodate the request of the landowners on the northwest corner of the lot. As noted by Mark Bastasch P.E. in the Noise Analysis, installing a berm will minimize the impacts on the nearby "noise-sensitive propert[ies]" by decreasing the noise at levels at the noise sensitive properties by a minimum of 5 dBA. That is, on the property, even a minimally effective barrier would meet DEQ's daytime and nighttime dBA by reducing the project's noise levels to 49 dBA. Mr. Bastasch P.E. also states

that a well-designed berm will likely decrease the noise at the noise-sensitive properties by 10-15 dBA. Thus, the Applicant's proposed berms could decrease daytime noise from 54 dBA to 39-44 dBA, well below what is required by DEQ noise standards. While the distance alone would make the proposed operations consistent with daytime and nighttime DEQ noise standards, a berm will further minimize potential noise impacts.

Umatilla County finds and concludes imposing the condition of approval that the Applicant install berms for Blocks 1-5, being 6-feet tall and 32-feet wide, and a berm for Block 6, being 4-feet tall and 32-feet wide minimizes potential dust and noise impacts and satisfies the criterion. Umatilla County finds and concludes LUBA's third assignment of error has been adequately addressed and resolved.

Fourth Assignment of Error – ESEE Analysis
LUBA did not reach or decide the fourth assignment of error due to the second and third assignments of error. Should the new findings regarding conflicts warrant an ESEE analysis, the County shall conduct the ESEE analysis.

(5)(d) 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's Response: In LUBA's Fourth Assignment of Error, LUBA did not reach or decide whether the County had appropriate addressed OAR 660-023-0180(5)(d). LUBA determined that the County failed to specify the predicted conflicts and therefore it was premature to resolve whether the county was required to conduct an ESEE analysis.

Based on the analysis above, the Applicant believes that an ESEE analysis is not required because the County has found that there are no conflicts under (5)(b), and, even if the described impacts rise to the level of a conflict, any such conflicts are minimized by the measures proposed in the findings under (5)(c).

The Dust Analysis and Noise Analysis that have been provided outline clearly the anticipated impacts of both fugitive dust and noise, providing various measures to reduce and mitigate both. The Applicant, relying on the evidence within those memos, would assert that existing land uses, including the homes to the north and the northeast and the neighboring aggregate facility, will not be significantly adversely affected by the proposed mining operation. Both memos outline that reasonable and practicable measures can be taken to reduce any potential impacts. Those

measures include maintaining the rock crusher and batch plants in Block 1, installing berms within the facility as each Block is mined, and utilizing water to manage fugitive dust. While the duration of this mining operation is unknown it can be reasonably assumed that mining will continue for at least 25 years and probably longer based on the size of the subject property. The post-mining use has been identified as a photo-voltaic solar energy facility which is currently allowed in the Exclusive Farm Use Zone with a Conditional Use Permit. The Operations and Reclamation Plan identifies that post mining sloping of the Blocks that have been mined out will be done in such a way as to facilitate this post-mining use.

An ESEE analysis is not required. Based on the submitted evidence and the analysis provided, there are no conflicts with the homes to the north and northeast, to the agricultural operations adjoining the subject property and in the reasonable vicinity, or to the aggregate operations to the east. Even if there are conflicts, an ESEE analysis is not required, because any potential conflicts can be minimized through the mitigation measures discussed above in section (5)(c).

County Findings and Conclusions: Umatilla County finds no ESEE analysis is required because the County has found that there are no conflicts with existing uses under (5)(b). Moreover, even if the potential impacts rise to the level of a conflict, the County has found that all conflicts have been minimized to a non-significant level through the reasonable and practicable mitigation measures proposed for the analysis under (5)(d).

Umatilla County finds and concludes the analysis under (5)(b) and (5)(d) indicate that there are no significant conflicts that cannot be minimized and, therefore, an ESEE analysis is not required.

Fifth Assignment of Error – Transportation Impacts
The Applicant provided Traffic Impact Analysis (TIA) failed to include water trucks coming and going from the site for both dust suppression and for use of the gravel washing and processing operations. LUBA concluded that that water trucks were not included in the TIA trip count and that the county "must make findings addressing petitioners' evidence that the number of water truck trips will exceed four trips a week".

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

Applicant's Response: As stated in the original application, Goal 12 requires local governments to provide and encourage a safe, convenient, and economic transportation system, implemented through the Transportation Planning Rule. In 2006 Umatilla County adopted an Interchange Area Management Plan (IAMP) for the Westland Interchange which discusses the intersection of Stafford Hansell Road to Westland Road, identifying concerns with the spacing of Stafford Hansell Road from the interstate eastbound on- and off-ramps. This request is for a use that is allowed conditionally and improvements to the Stafford Hansell Road intersection, while needed, are not appropriately required of this application. Connection for the proposed

aggregate site is proposed to be from Center Street at the current intersection of Noble Road and Colonel Jordan Road, which is nearly 1,000-feet more than the 1320-feet required by the IAMP.

The included addendum to the previously submitted TIA finds that the October 20, 2022, Aggregate Overlay Zone/Girth Dog Pit Transportation assessment prepared by Kittelson & Associates is "still valid and that the proposed aggregate mining operation is not expected to have a significant effect on the surrounding transportation network or require offsite transportation improvements". Based on this work by Kittelson & Associates, the Applicant asserts that the requirements of the Transportation Planning Rule have been addressed and no further analysis under Goal 12 is required.

County Findings and Conclusions: Umatilla County finds the Applicant's updated traffic analysis indicates that the project, including the trips required for water-based dust suppression, which would be no more than three trucks per day, will not conflict with Goal 12. Umatilla County finds and concludes Goal 12 has been satisfied.

Umatilla County finds and concludes LUBA's fifth assignment of error has been adequately addressed and resolved.

Sixth Assignment of Error – Reclamation Plan
LUBA concluded that the Applicant did not supply a conceptual site reclamation plan, and the Applicant's statement identifying the post-mining use was not sufficient for satisfying OAR 660-023-0180(5)(f).

(5)(f) 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's Response: In LUBA's Sixth Assignment of Error, LUBA found that the Applicant's statement about post-operation use was not a conceptual site plan as required by OAR 660-023-0180(5)(f) and that the condition requiring coordination with DOGAMI was insufficient.

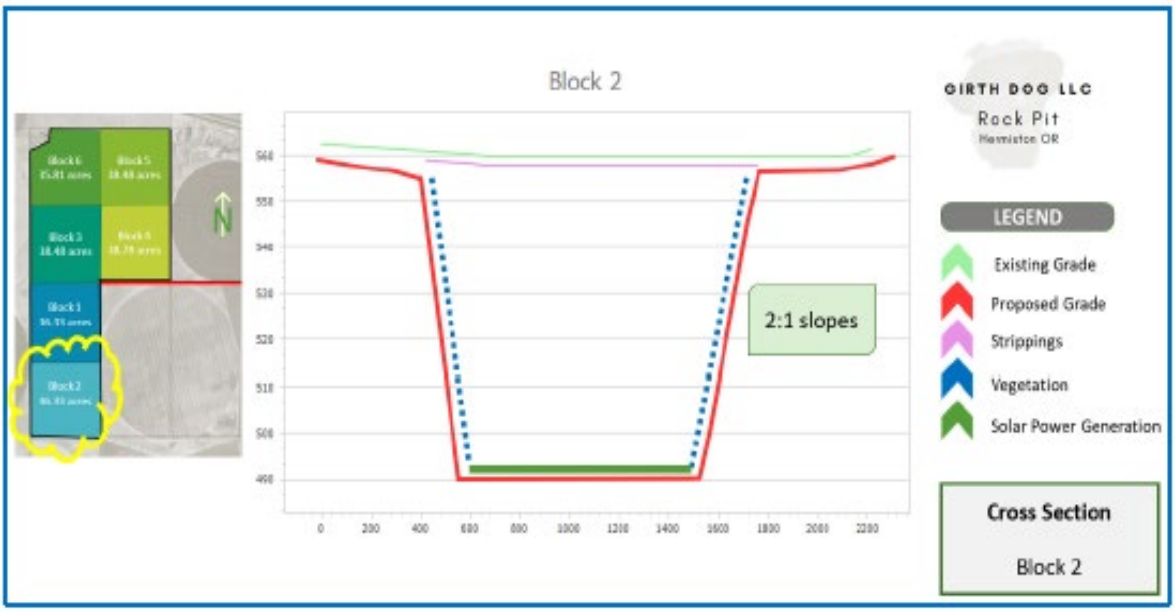
As part of the submitted Operations and Reclamation Plan the post-mining use is proposed to be a Photo-Voltaic Solar Energy Generation operation. Installed solar panels, based on today's technology, would include south facing solar panels with an energy collection battery and connection to the local transmission grid. At less than 224 acres in size, as areas of the future solar energy generation facility will be impacted by the sloped edges of the mining reclamation,

the anticipated energy output should be able to connect to the local transmission system with at most a small substation or facility to upload the generated electricity.

Application has not yet been made to DOGAMI as DOGAMI requires that an applicant have their land use approval first. There has been some initial conversation with DOGAMI, and application materials have been identified with preparation underway. Limited work will continue until the Land Use approvals are complete and deemed final.

County Findings and Conclusions: Umatilla County finds the post-mining use of a Photo-Voltaic Solar Energy Generation facility is a use allowed conditionally in the Exclusive Farm Use zone in both the State of Oregon and in Umatilla County. The submitted Operations and Reclamation Plan outline how each block of the mining area will be reclaimed to allow for the installation of the solar panels and indicates that solar power generation operations will be operational in Block 2 once mining is concluded and reclamation is complete.

The Applicant's Operations and Reclamation Plan includes a conceptual reclamation site plan that details how reclamation of the site will occur, beginning with the completion of mining in Block 2, provided below.



The Operation and Reclamation Plan (ORP) states that all processing will occur in Block 1, which will be mined first. Operations will then move to Block 2. Once Block 2 is mined reclamation of Block 2 will begin, at which point the landowner/operator will be required to obtain appropriate land use approvals for the photo-voltaic solar energy generation site and

associated facilities. Mining will then move through the subsequent blocks as provided in the ORP.

Umatilla County finds application to DOGAMI requires that land use approval be complete, which will be accomplished with final approval of this application on remand to amend the Umatilla County Comprehensive Plan to list the subject property as a "Large Significant Site" protected by Goal 5 with a post-mining use of photo-voltaic solar energy generation.

As a subsequent condition of approval, previously imposed with the 2022 approval, the operator is required to obtain DOGAMI permit approval, and provide a copy of DOGAMI's approval to County Planning. The operator is also required to maintain compliance with DOGAMI for the life of the quarry.

Umatilla County finds and concludes amending the proposed Comprehensive Plan Text Amendment to identify the post-mining use as photovoltaic solar generation, together with the conceptual reclamation site plan provided in the Applicant's ORP, satisfies the issue on Remand.

Umatilla County finds and concludes LUBA's sixth assignment of error has been adequately addressed and resolved.

29. CONCLUSION

Applicant's Conclusion:
The Applicant has provided evidence to address the issues identified in LUBA's Final Opinion and Order 2023-033 and requests that Umatilla County approve this request on remand to amend the Umatilla County Comprehensive Plan to list the subject property as a "Large Significant Site" protected by Goal 5; amend the Comprehensive Plan Map to identify the site as significant and to apply the impact area to limit conflicting uses; and amend the Zoning Map by applying the Aggregate Resource Overlay Zone to the entirety of the mining site.

County Findings and Conclusion: Umatilla County finds the applicant provided additional information by providing the dust and noise analysis, the updated Traffic Impact Analysis to account for water suppression trucks, an Operations and Reclamation Plan, and identified a post-mining use with conceptional site plan. Umatilla County finds the proposed amendment is consistent with applicable law and is necessary to resolve LUBA's order on remand. For these reasons, the County adopts the proposed amendment with these supplemental Findings of Fact and Conclusions of Law, with additional Conditions of Approval.

PRELIMINARY DECISION: APPROVED

Based upon the foregoing Findings of Fact and Conclusions of Law, where it has been demonstrated the request is necessary to resolve Land Use Board of Appeal's Order on Remand, the Applicant's request is approved.

The Girth Dog LLC aggregate site shall be added to the County's list of Goal 5 Large Significant Sites, with the protections identified in T-092-22 and Z-322-22, and is approved for mining, pending satisfaction of the Conditions of Approval.

The Conditions of Approval are as follows, new Conditions imposed with this decision are shown in *italicized* font, conflicting conditions of approval that are proposed to be removed are shown in strikethrough text:

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

1. Pay notice costs as invoiced by the County Planning Department.

2. Obtain a County Road approach permit to Colonel Jordan Road. The access approach shall comply with Road Department standards and satisfy the 1,320-foot spacing standard to the I-84/Westland Road interchange ramps.

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 County Planning Department.

    a. 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.

    b. Obtain all applicable permits for the mining operation from DEQ (air, noise, and water quality issues) before these activities begin.

2. Obtain a Zoning Permit from the Umatilla County Planning Department to finalize the approval of 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. Access to the mining operation shall be restricted from Stafford Hansell Road. Processing equipment shall be located at least 500 feet from existing dwellings, shall be located on Tax Lot 1800 and placed in the pit once opened to the finish depth. Processing equipment shall remain in this location for the duration of the aggregate operation. *Mining activities are not permitted until a County Zoning Permit has been issued.*

3. If the site were to lay inactive for a period of greater than one year, a new zoning permit must be obtained.

4. Adhere to DEQ Noise Standard as found in OAR 340-035-0035, Noise Control Regulations for Industry and Commerce. *Noise levels of the aggregate operation shall not exceed 50 dBA as heard from the subject properties' boundaries.*

5. 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.

6. Contour and revegetate the quarry for agricultural or wildlife habitat purposes during post-mining activities according to the requirements of the DOGAMI application.

7. 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.

8. Mining is only allowed as proposed in the application, and as otherwise limited in these conditions.

9. All processing of mineral and aggregate materials shall occur on Tax Lot 1800 as shown in Exhibit C, page 4.

~~10. Applicant shall minimize fugitive dust emissions from the property by application of dust abatement chemicals, water, or similar best management practices recommended by DOGAMI and DEQ for control of dust at aggregate mining sites.~~

~~11. Applicant shall ensure equipment operating on internal haul roads does not exceed 20 mph to reduce potential dust impacts.~~

10. The mining operation is restricted from utilizing Stafford Hansell Road, and access for the mining operation shall use Center Street, to be renamed Noble Road.

11. If water is used for dust abatement, water must be secured from a permitted source. *The use of chemicals shall be forbidden for the use of dust suppression and abatement.*

12. Dust must be controlled as outlined within the Dust Suppression Plan, using the following measures and regulating actions:

a) Install and operate a wet suppression system at the exit of the primary crusher and both cone crushers.

b) *Spray water onto the storage piles at regular intervals during the dry periods of the year to increase the moisture content of stored material.*

c) *Install and operate a wet suppression system at the primary screen and wash screen, and to the materials on the conveyor belts feeding the finish screen.*

d) *Apply water at crushers and screens, which precedes most of the material handling transfer points. This will result in the aggregate having a higher moisture content and provides some level of fugitive dust emissions control at each transfer point.*

e) *To reduce haul truck impacts, operate a baghouse for control of concrete silo emissions released during unloading; operate a mister at the concrete batch plant and load concrete mix into trucks that already contain the water needed for the wet mix; and when loading rock, limit the height of the rock drop to no more than 3 feet.*

f) *To limit fugitive dust on both paved and unpaved haul roads limit speed within the facility to 10 MPH on paved roads and 5 MPH on unpaved roads; implement twice daily watering of unpaved roads when temperatures are above freezing; and remove accumulated aggregate or earthy materials from paved roads.*

g) *Prepare, by an expert, an official Fugitive Dust Control Plan that includes all information as required by Oregon Administrative Rule 340-208-0210(1). The Plan shall be provided to County Planning prior to beginning mining activities.*

h) *Implement wind breaks such as fences and berms, and revegetate sparse areas throughout the proposed facility, wherever practical.*

i) *Install and maintain dust curtains around material transfer points where practical. The dust curtains will reduce air movement and restrict exposure to windy atmospheric conditions.*

j) *Place wind breaks or barriers (e.g., berms or walls) around the storage pile extents, where feasible, to reduce the total surface area exposed to wind.*

k) *Conduct daily inspections of the water systems used to control fugitive dust emissions to confirm their operation. Any corrective actions will be documented in a recordkeeping log. This log shall be provided to County Planning upon request during the Annual Review process.*

l) Conduct monthly 10-minute visible emissions tests using U.S. Environmental Protection Agency Method 22 at the property boundary. This method is used to determine whether there is any observable particulate matter leaving the property. Observations and any corrective actions will be maintained at the proposed facility in a recordkeeping log. This log shall be provided to County Planning upon request during the Annual Review process.

m) Record and promptly investigate all public complaints. Observations and any corrective actions will be maintained at the proposed facility in a recordkeeping log. This log shall be provided to County Planning upon request during the Annual Review process.

13. Prior to beginning mining activities, install berms for Blocks 1-5, being 6-feet tall and 32-feet wide.

14. Prior to beginning mining activities, install a berm for Block 6, being 4-feet tall and 32-feet wide.

UMATILLA COUNTY BOARD OF COMMISSIONERS

Dated the _____day of _____, 2025

_____
John M. Shafer, *Commissioner*

_____
Daniel N. Dorran, *Commissioner*

_____
Celinda A. Timmons, *Commissioner*

Proposed Umatilla County Comprehensive Plan Text Amendment

GIRTH DOG LLC QUARRY – on LUBA Remand
Comprehensive Plan Text Amendment T-099-25
Zoning Map Amendment #Z-326-25
Township 4N, Range 27E, Section 36, Tax Lots: 900, 1100, 1200, 1300 and 1800

This proposed amendment to the Umatilla County Comprehensive Plan is to add to the Girth Dog, LLC 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. Language proposed to address the LUBA Remand are in underline and red 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) Private, commercial pit, T4N, R27, TL 2200, T4N R27 Section 27, TLs 300

and 600 (Mining not approved, see #Z-259-97 and #T-16-066).

(15~~5~~6) Private, commercial pit, T4N, R27E, Section 36, TL 900, 1100, 1200, 1300, 1800. The approved post-mining use is photo-voltaic solar generation.

BEFORE THE LAND USE BOARD OF APPEALS
OF THE STATE OF OREGON

ROCK SOLID SAND AND GRAVEL, LLC, ROCK IT, LLC,
WADE AYLETT SR., and WADE AYLETT JR.,
Petitioners,

vs.

UMATILLA COUNTY,
Respondent,

and

GIRTH DOG, LLC,
Intervenor-Respondent.

LUBA No. 2023-033

FINAL OPINION
AND ORDER

Appeal from Umatilla County.

Andrew H. Stamp filed the petition for review and reply brief and argued on behalf of petitioners. Also on the briefs were Matthew A. Martin, T. Beau Ellis, and Vial Fotheringham LLP.

No appearance by Umatilla County.

Sarah Stauffer Curtiss filed the intervenor-respondent's brief and argued on behalf of intervenor-respondent. Also on the brief were Emily K. Schimelpfenig and Stoel Rives, LLP.

ZAMUDIO, Board Member; RYAN, Board Chair; RUDD, Board Member, participated in the decision.

REMANDED 10/25/2023

You are entitled to judicial review of this Order. Judicial review is governed by the provisions of ORS 197.850.

Opinion by Zamudio.

NATURE OF THE DECISION

Petitioners appeal a county board of commissioners decision approving amendments to the county's comprehensive plan text and map and zoning map designating the subject property a large significant aggregate site and applying an Aggregate Resource (AR) overlay.

FACTS

The subject property is composed of 225 acres and five tax lots identified as 900, 1100, 1200, 1300, and 1800.[1] The property is zoned Exclusive Farm Use (EFU) and is currently in farm use. Surrounding development includes two dwellings, commercial agricultural operations, aggregate mining and processing, Interstates 82 and 84, potato storage facilities, food processing and shipping operations, a truck stop, a FedEx freight facility, and a UPS Customer Center.[2]

Intervenor-respondent (intervenor) filed an application with the county requesting that it add the subject property to the county's list of significant aggregate sites. After a hearing, the planning commission recommended approval. The board of commissioners conducted a hearing and approved the designation of the entire property as a significant aggregate resource site, applied

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[1] The relative location of these tax lots is shown in a site plan later in this opinion.

[2] Petitioners own and operate an adjacent aggregate facility, which was approved by the county in 2022.

the AR overlay to the entire subject property, and allowed aggregate mining, stockpiling, and processing, including concrete and asphalt batching. Umatilla County Development Code (UCDC) 152.485.[3] This appeal followed.

INTRODUCTION

We set out the legal framework before proceeding to the assignments of error. Statewide Planning Goal 5 (Natural Resources, Scenic and Historic Areas, and Open Spaces) requires the county to inventory significant aggregate sites and identify and protect sites for mining and processing aggregate resources. The county must plan for use of an aggregate area after mining and processing has ceased. Goal 5 requirements are implemented through Land Conservation and Development Commission (LCDC)'s administrative rules. Counties may adopt a local Goal 5 program as part of their comprehensive plans and land use regulations. Here, the county has not adopted a Goal 5 program with respect to aggregate resources. Thus, the county directly applied the applicable LCDC administrative rules.

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[3] UCDC 152.485 provides:

> "The purpose of the AR [overlay] is to allow for the utilization of known aggregate resources in a manner that is consistent with the County Comprehensive Plan and allows the greatest flexibility to aggregate producers. The overlay zone is to provide for alternatives for the extraction and processing of aggregate resources where there will be a minimum of conflicts between existing uses, without requiring a public hearing for each use."

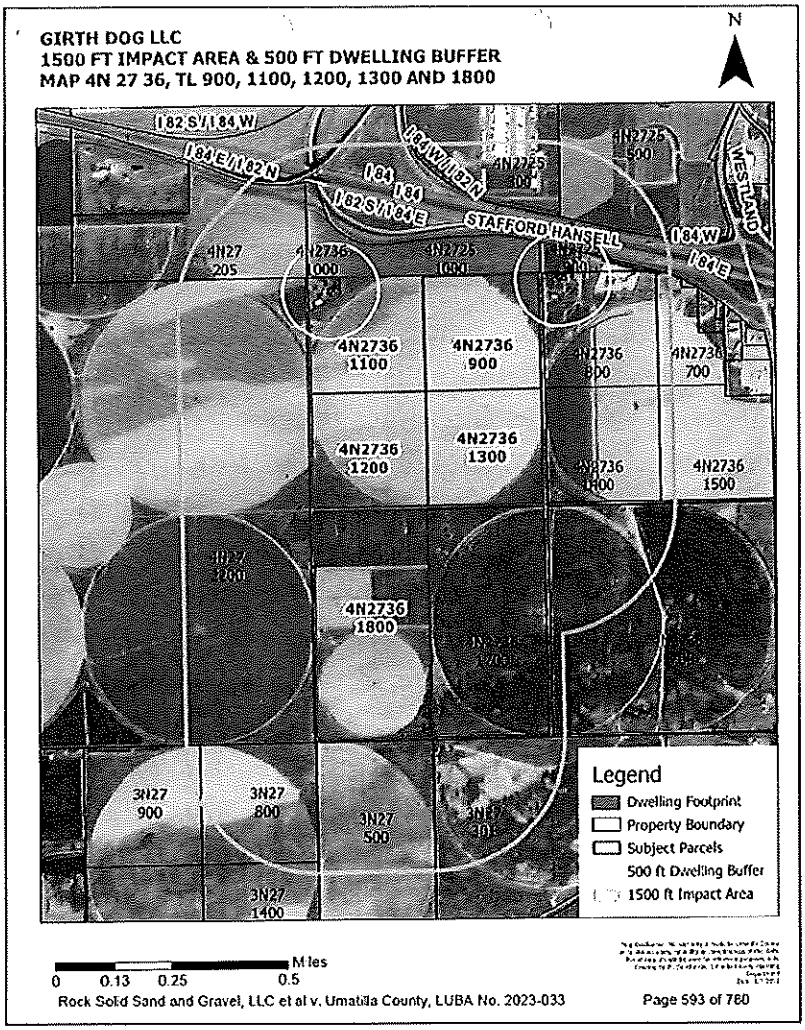
If a resource qualifies for inventory, then the county must identify conflicting land uses within an appropriate impact area, which is "limited to 1,500 feet from the boundaries of the mining area, except where factual information indicates significant potential conflicts beyond this distance." OAR 660-023-0180(5)(a); *see also* OAR 660-023-0180(5)(b) (listing predicted conflicts that local governments must consider). A "'[c]onflicting use' is a use or activity that is subject to land use regulations and that would interfere with, or be adversely affected by, mining or processing activities." OAR 660-023-0180(1)(b). For identified conflicts that are significant, the local government must seek to minimize the conflicts to an insignificant level. OAR 660-023-0180(5)(c). If that cannot be accomplished, then the local government must evaluate the economic, environmental, social, and energy (ESEE) consequences of allowing mining of the resource, limiting mining of the resource, or not allowing mining of the resource. OAR 660-023-0180(5)(d); *see* OAR 660-023-0040 (describing the ESEE process). The local government must then determine whether to allow mining, limit mining, or not allow mining. *Id.* With that general overview, we proceed to petitioners' assignments of error.

In the first three assignments of error petitioners challenge the county's conclusion that the aggregate mining and processing use will not conflict with other uses, or that any conflicts will be minimized to an insignificant level. These three assignments of error involve interrelated and overlapping legal issues and we address them in turn.

FIRST ASSIGNMENT OF ERROR

A. Impact Area

The county is required to determine an impact area for the purpose of identifying conflicts with proposed mining and processing activities. OAR 660-023-0180(5)(a). The impact area is "limited to 1,500 feet from the boundaries of the mining area, except where factual information indicates significant potential conflicts beyond this distance." *Id.* "'Mining area' is the area of a site within which mining is permitted or proposed, excluding undisturbed buffer areas or areas on a parcel where mining is not authorized." OAR 660-023-0180(1)(i). The county's decision applied the AR overlay to the subject property and it is undisputed that the county has allowed mining on the entire subject property, subject to applicable setbacks and other regulations. Therefore, the entire property is the "mining area" and the county applied a presumptive 1,500-foot impact area measured from the perimeter of the property, as depicted on the image below.



Record 593.

Petitioners argue that the county erred by limiting its conflicts analysis to 1,500 feet from the property boundary. The county found that no factual information was presented to indicate that there would be significant conflicts beyond the 1,500-foot impact area. Record 15. Petitioners point to petitioners' acoustical engineer Standlee's expert witness testimony regarding the noise associated with an asphalt batch plant. Standlee

> "noted that [intervenor] is proposing to include concrete and asphalt batch plants on the site in the future. The noise associated with an asphalt batch plant can often travel much further from the source

> than is typically found with a crushing and screening operation due to the low frequency sound associated with the plant. Under the [Department of Environmental Quality (DEQ)] noise regulations, the proposed aggregate site is considered a 'previously unused commercial or industrial site' and due to that classification, the noise radiating from the site has to be shown to not increase the ambient noise at any noise sensitive receiver by more than a specified amount. Also, under the Goal 5 rule, impacts associated with a proposed mining and processing operation is to consider impacts within a 1500 foot boundary from the site, unless there is reason to believe there may be impacts further from the site than 1500 feet. In the case of what we generally refer to as the 'DEQ ambient degradation rule,' a study needs to first determine if there is a need to consider homes further than 1500 feet from the site. In the southerly direction, the ambient noise will likely be much lower than that found at the two homes located near the freeway in the 1500-foot boundary addressed in the application. I do not see any discussion of any ambient noise study being done to show that homes further should not be addressed, even though they are outside the 1500-foot standard impact boundary defined in the Goal 5 rule. Without that study, [intervenor] cannot state that they have demonstrated that all requirements of the Goal 5 rule have been met." Record 80-81.

Petitioners argue that testimony is "factual information [that] indicates significant potential conflicts beyond" the 1,500-foot impact area. OAR 660-023-0180(5)(a).

Intervenor responds, and we agree, that Standlee's testimony does not constitute factual information that indicates significant potential conflicts beyond the 1,500-foot impact area that requires an expanded impact area analysis. Rather, Standlee opined that intervenor should conduct a study to determine whether significant impacts extend beyond the 1,500-foot area. We conclude that the

county did not misconstrue OAR 660-023-0180(5)(a) in limiting the conflicts analysis to the area within 1,500 feet around the perimeter of the property.

B. Conflicts Within the 1,500-foot Impact Area

The county must identify existing or approved uses in the impact area that may conflict with mining and "specify the predicted conflicts." OAR 660-023-0180(5)(b).[4] Within that 1,500-foot impact area, there are two existing dwellings on property adjacent to the subject property, one to the northwest and one to the northeast. There are commercial agricultural operations to the west, south, and east of the subject property. Agricultural practices on those lands include circle pivot irrigation and on-site agricultural workers. Record 8, 493. Other uses in the 1,500-foot analysis area include Interstates 82 and 84, potato storage facilities, food processing and shipping operations, a truck stop, and commercial shipping facilities. Record 8, 593.

Two other significant aggregate sites lie within the impact area. One site is adjacent to the subject property on the east owned and operated by petitioners and the other is adjacent on the west and owned by intervenor. Petitioners' site is an existing, active aggregate operation. The western designated significant

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[4] OAR 660-023-0180(5)(b) states that, "[f]or 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." We understand the described surrounding uses to be existing uses, and that no approved land uses were identified by the parties.

aggregate site has not received county approval for mining activities and is currently in irrigated crop circles. Record 20, 26.

Petitioners point out that the challenged decision variously decides that there are no conflicts and that there are potential conflicts due to noise, dust, or other discharges and that those conflicts that will be minimized so that no ESEE analysis of unminimized conflicts is required.

The county found as follows:

> "[N]o conflicts were identified within the 1,500 foot impact area. Although no conflicts have been identified within the impact area, [intervenor] has identified limited impacts from dust and stormwater that can be managed or mitigated through various voluntary measures and best management practices. During mining and processing, if approved on site, [intervenor] or its contractors will implement best management practices and, as necessary or required, obtain necessary permits in the management of dust, stormwater or other identified discharges." Record 21.

> "[A]ll potential conflicts will be minimized * * *." Record 22.

> "[Intervenor] has identified 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. Umatilla County finds with application of the management practices (including obtaining State permits) described above, in addition to the above stated subsequent conditions of approval, all potential conflicts due to noise, dust, or other discharges will be minimized within the 1,500-foot impact area." Record 18.

Petitioners assert that the county's findings regarding conflicts are internally inconsistent in a manner that requires remand for further findings.

Intervenor responds that the county identified "potential conflicts" and concluded that each identified conflict could be minimized so that existing uses in the impact area will not be adversely affected by aggregate mining and processing on the subject property. "For example, dust, noise and other discharges were discussed extensively, including noting several improvements and protocols [intervenor] provided that would minimize the potential conflicts." Intervenor-Respondent's Brief 6. Intervenor argues that we should reject petitioners' arguments regarding the "no conflicts" finding because those arguments are based on a single sentence taken out of context. Intervenor argues, and we agree, that the county identified potential conflicts within the impact area. In other words, the county agreed with intervenor's evidence that identified conflicts. Thus, we agree with intervenor that the county's "no conflict" finding does not provide an independent basis for remand. *Compare Eugene Sand and Gravel, Inc. v. Lane County*, 44 Or LUBA 50, 92, *rem'd in part on other grounds*, 189 Or App 21, 74 P3d 1085 (2003) (remanding where inconsistent findings are not adequately explained), *with Protect Grand Island Farms v. Yamhill County*, 66 Or LUBA 291, 295-96 (2012) (finding that arguments relying on isolated sentences and ignoring other relevant findings provides no basis for reversal or remand).

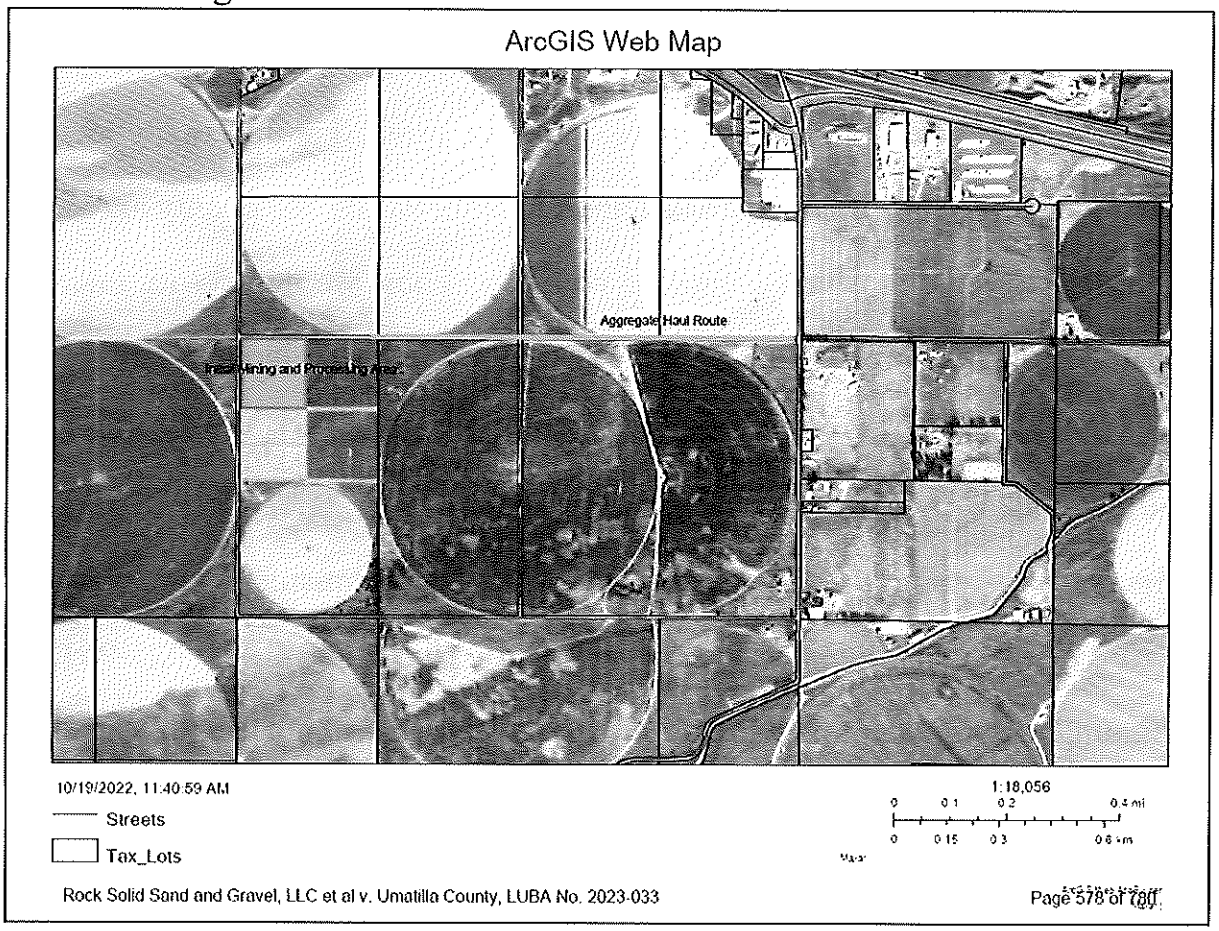
The first assignment of error is denied.

SECOND ASSIGNMENT OF ERROR

The county is required to consider "[c]onflicts 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." OAR 660-023-0180(5)(b)(A). Petitioners argue that intervenor and the county failed to identify the sources, nature, and extent of dust, noise, and other discharges, which makes it impossible for the county to properly perform the required conflicts analyses.

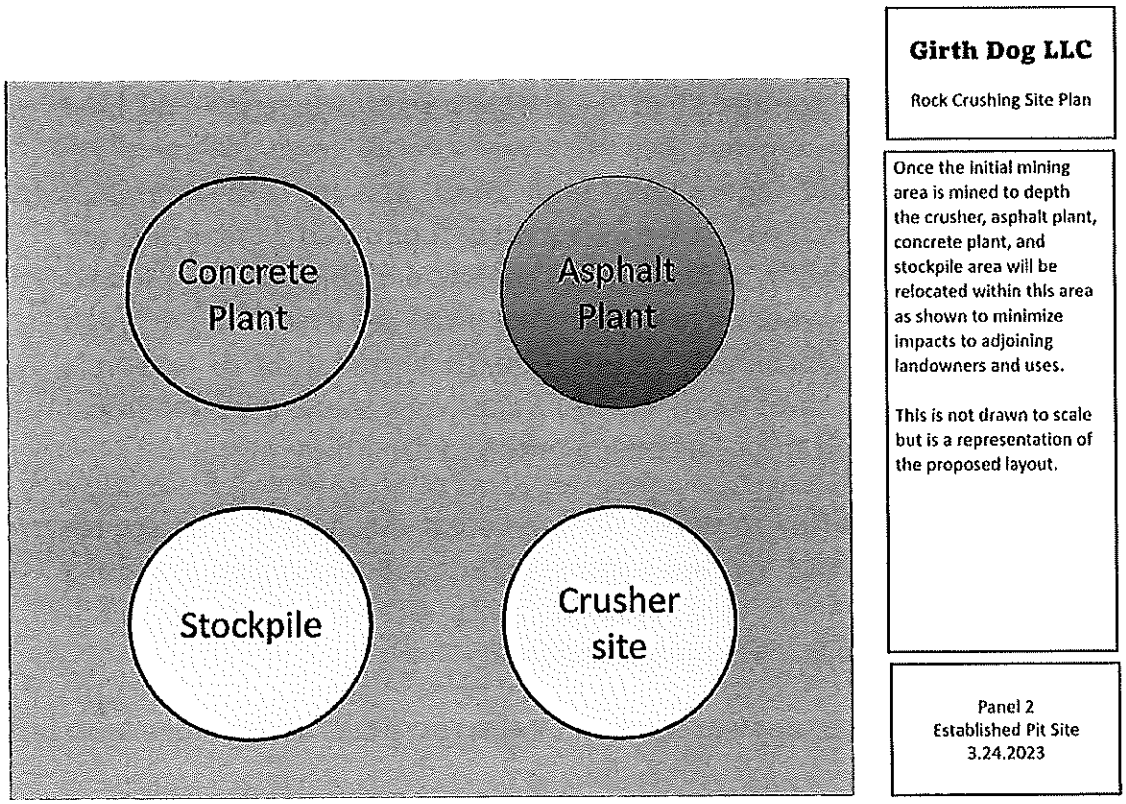
Intervenor's initial site plan depicts a red square labeled "Initial Mining and Processing Area."



Record 578. The county found that "mining will initially begin on the southern portion of [Tax Lot 1800, which] is also where processing will occur[.]" Record

16. Condition 9 requires that all processing occur on Tax Lot 1800, as shown in intervenor's initial site plan. Record 42.

Intervenor submitted a second site plan that indicates that the following activities will occur: mining, crushing, stockpiling, and asphalt and concrete batching.



Record 200. Nothing indicates what levels of noise or dust those activities will generate and the county made no findings on that issue.

Further, the decision does not describe how mining activities will progress within the approved mining area—the entire subject property—after being initiated, other than limiting processing activities to Tax Lot 1800 and applying

the mining requirements in UCDC 152.488, including compliance with Department of Geology and Mineral Industries (DOGAMI) regulations and imposing setbacks from dwellings and public roads. Record 34-36, 42. Accordingly, we assume for purposes of this decision that the county approved aggregate activities on the entire property, subject to UCDC 152.488.

OAR 660-023-0180(5)(b) provides, in part:

> "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[.]" (Emphasis added).

Petitioners argue, and we agree, that the site plans and the decision fail to describe the aggregate mining and processing activities and what levels of noise, dust, or other discharges that those activities will generate. OAR 660-023-0180(5)(b) requires the county to "specify the predicted conflicts." That analysis will necessarily require intervenor to analyze noise, dust, and other discharges generated by separate activities at different locations on the mining site and explain whether and how those activities will affect conflicting uses within the

impact area. For example, dust generated from concrete batching will likely have distinct impacts from dust generated from a haul road. Noise from mining likely will have different impacts than noise from asphalt batching. The county does not satisfy the conflicts analysis required by OAR 660-023-0180(5)(b) by assuming that all mining activities will produce some level of noise, dust, or other discharges and finding that those impacts can be minimized.

The second assignment of error is sustained.

THIRD ASSIGNMENT OF ERROR

Petitioners argue that the findings that conflicts with roads, other Goal 5 resources, and agricultural practices from the proposed mining operation have been minimized are inadequate and not supported by substantial evidence. After the county has specified the predicted conflicts under OAR 660-023-0180(5)(b), the county must "determine reasonable and practicable measures that would minimize the conflicts identified." OAR 660-023-0180(5)(c). To "minimize a conflict" means to reduce an identified conflict to a level that is no longer significant. OAR 660-023-0180(l)(g). For the types of conflicts addressed by local, state, or federal standards (such as the DEQ noise and dust standards), to "minimize a conflict" means to "ensure conformance to the applicable standard." *Id.* "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 OAR 660-023-0180(5)(c). OAR 660-023-0180(5)(c).

ORS 215.296, which we refer to as the farm impacts test, allows local governments to allow nonfarm use of agricultural land

> "only where the local governing body or its designee finds that the use will not:
>
> "(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." ORS 215.296(1).

The county found that impacts from noise, dust, and stormwater discharges can be minimized through voluntary measures, undefined "best management practices," and DEQ permitting standards. Record 17, 21, 22. Petitioners argue, and we agree, that the county cannot proceed to "determine reasonable and practicable measures that would minimize the conflicts identified" without first specifying the predicted conflicts. OAR 660-023-0180(5)(c). In other words, the county cannot move on to subsection (5)(c) without first completing subsection (5)(b). The county must first specify the predicted conflicts. The county then may determine whether specified conflicts can be minimized.

Intervenor must establish and the county must find "that proposed minimization measures [regarding the impacts of mining] are reasonable, practicable and achievable." *Eugene Sand and Gravel*, 44 Or LUBA at 76. Findings must be supported by substantial evidence. Petitioners argue, and we agree, that the county was required and failed to find that the minimization

measures are feasible, that is, achievable, and those findings must be supported by substantial evidence. With respect to those conflicts that the county finds can be minimized by compliance with state permitting standards, the county must find that meeting those standards is achievable.

With respect to noise, Condition 4 requires intervenor to adhere to the DEQ noise regulations. Record 41. Condition 9 requires processing to occur on Tax Lot 1800, which presumably is intended to place some distance between processing and the existing dwellings to mitigate noise impacts. Record 42. However, the county did not find, and there is no evidence in the record, that distance will sufficiently diminish noise to meet DEQ noise standards.[5]

Petitioners argue that the county's findings pertaining to dust conflicts are inadequate and unsupported by substantial evidence. Intervenor's proposed dust mitigation measures include chemical and water abatement. Record 17. Condition 10 requires that intervenor "minimize fugitive dust emissions from the property by application of dust abatement chemicals, water, or similar best management practices recommended by DOGAMI and DEQ for control of dust at aggregate mining sites." Record 42. Condition 11 of the decision imposes a 20 mile per hour speed limit on internal haul roads. *Id.*

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[5] A common method of establishing that DEQ standards can be met is an acoustic study, including decibel levels, distance, and comparison to DEQ standards. The record contains no such study.

With respect to the speed limit, petitioners argue, and we agree, that there is no evidence in the record to support a finding that a 20 mile per hour speed limit will reduce haul road dust to a point where that conflict is minimized. Petitioners also argue that the county misconstrued OAR 660-023-0180(5)(c) by delegating to intervenor the authority to decide whether there is a dust impact, whether it is significant, and what, if any, minimization strategy will be employed, and when, and to what degree. We agree.

Petitioners further argue that the county failed to make any findings responding to concerns raised below regarding impacts from approved dust mitigation measures, particularly traffic impacts from water trucks and impacts from chemical abatement to groundwater and nearby agricultural and aggregate workers on adjacent land within the impact area. Written testimony in the record from petitioners' consulting engineering geologist sets out potential adverse impacts that could flow from the use of chemical dust suppressants, including negative impacts to workers and groundwater. *See* Record 188-90. The geologist states that the proposed quarry is located in an area that does not have sufficient groundwater to serve approved uses of groundwater at the current and projected rates of withdrawal. Record 189. The testimony posits that "widespread use of chemical dust suppressants could reduce the volume of water infiltrating to the underlying aquifer." *Id.* The testimony further states that the chemicals could infiltrate the underlying ground-water resource. The county did not address these issues in the findings.

Petitioners point out that the county's reliance on DEQ permitting with respect to dust fails to address all dust conflicts that might arise from the approved activities. Petitioners explain that DEQ air quality permits are only required for "sources." *See* OAR 340-216-0020(2). A "source" is a discrete facility that produces regulated emissions, such as a rock crushing site or batch plant. *See* OAR 340-200-0020(165) (defining "source" as "any building, structure, facility, installation or combination thereof"); OAR 340-216-8010 (requiring sources performing batch processing and rock crushing to obtain a basic air contaminant discharge permit). Digging and hauling are not regulated sources of dust. Thus, petitioners argue, an air contaminant discharge permit will not regulate dust generated from those activities. In short, the findings fail to adequately identify sources, scope, and severity of the dust generating activities and do not demonstrate that dust conflicts will be minimized.

The county is required to identify and consider "[c]onflicts 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 [post-acknowledgement plan amendment] is initiated." OAR 660-023-0180(5)(b)(D). Petitioners argue, and we agree, that the findings do not adequately address impacts to petitioners' adjacent Goal 5 aggregate use, which is located to the east of the subject property. The county found that "[s]ince this is an existing aggregate site, and is a similar operation to [intervenor's] request, [the county] finds there are no Goal 5 conflicts." Record 20.

Petitioners' consulting engineering geologist identified a potential adverse impact from the use of chemical dust suppressants, explaining that "dust suppressants that adhere to soil particles can be re-entrained into the air with strong winds, potentially adding contaminants to the air in addition to particulate matter." Record 189 (internal quotation marks omitted). The findings explain that "[p]revailing winds are from the southwest moving any dust or emissions from the aggregate site away from agricultural lands towards an area that is used predominantly for various commercial and industrial uses." Record 21. Petitioners' aggregate operation is in that area, to the east of the aggregate site, and includes employees working outside. Record 75. The findings do not address the alleged conflict raised by the consulting geologist, that is, that dust control chemicals may become suspended in the air and that employees of petitioners' aggregate operation to the east of the subject property, may be exposed to those chemicals. *Norvell v. Portland Area LGBC*, 43 Or App 849, 852-53, 604 P2d 896 (1979) (findings must address and respond to specific issues relevant to compliance with applicable approval standards that were raised in the proceedings below).

The county is required to identify and consider conflicts with agricultural practices within the impact area. OAR 660-023-0180(5)(b)(E). The county did not make any findings considering whether dust from the haul road will conflict with agricultural operations to the north and south of the haul road. Petitioners below argued that dust from the haul road will negatively impact vegetation. The

findings do not address this issue. Intervenor responds that the county found that the aggregate operation was "not expected to conflict with nearby agricultural activities or practices" because "[n]earby existing aggregate sites have been operating without conflicts to nearby agricultural practices for many years." Record 21. We agree with petitioners that this general finding is inadequate to address the issue of whether this specific mining operation and haul road will conflict with agricultural practices within the impact area.

In summary, the county's findings concluding that all of the predicted conflicts will be minimized are inadequate. On remand, the county must identify the source and scope of conflicts from noise, dust, or other discharges from the aggregate use and explain whether and how those conflicts will be minimized.

The third assignment of error is sustained.

FOURTH ASSIGNMENT OF ERROR

If identified conflicts cannot be minimized, then the county must determine the ESEE consequences of either allowing, limiting, or not allowing mining at the site. OAR 660-023-0180(5)(d). Petitioners argue that the county erred by failing to conduct an ESEE analysis.

We conclude that the county failed to specify the predicted conflicts and erred in concluding that all conflicts will be minimized. On remand, the county must make new findings regarding conflicts and minimization measures. Accordingly, it would be premature for us to resolve whether the county is required to conduct an ESEE analysis.

We do not reach or decide the fourth assignment of error.

FIFTH ASSIGNMENT OF ERROR

Statewide Planning Goal 12 (Transportation) requires that post-acknowledgment plan amendments that have a significant effect on a transportation facility comply with further requirements of the transportation planning rule, OAR 660-012-0060. Similarly, to approve aggregate mining on a site, the county must consider whether significant conflicts with local roads exist and can be minimized. The county must consider:

> "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[.]" OAR 660-023-0180(5)(b)(B).

Intervenor is required to submit "[a] traffic impact assessment [(TIA)] within one mile of the entrance to the mining area pursuant to section (5)(b)(B) * * *[.]" OAR 660-023-0180(8)(c).

Intervenor submitted a TIA dated August 5, 2022. Record 630-705. The TIA estimates that the aggregate operation will add 170 daily trips to the transportation system under a "worst-case development scenario for the site." Record 641-42. The TIA explains that "there are no comparable land uses in the

standard reference Trip Generation Manual." Record 641. The TIA traffic estimates are based on discussions with intervenor and other aggregate operators in the region. The 170 daily trips are assumed to be generated by four sources: rock crushing; concrete batching; asphalt batching; and 15 total staff working at the site. *Id.*; Record 685-86.

Based on that TIA, the county found that the requirements of both Goal 12 and OAR 660-023-0180(5)(b)(B) were satisfied. The county found that the mining operation will add less than 250 daily trips on local roads and, thus, is not anticipated to have a significant effect on the local transportation network. Record 40. It relied on this finding to conclude that the proposal complies with the county's transportation Goal 12 planning obligations. Similarly, the county found that increased traffic from the mining site would not conflict with uses in the impact area under OAR 660-023-0180(5)(b)(B). Record 18-19.

Petitioners argued below that intervenor has no recognized water right that allows it to pump groundwater at the mining site to use for gravel washing and dust suppression. Intervenor argued in response that it could seek to change the legal use of its agricultural water rights to aggregate uses and could undertake certain aggregate activities without water. In the alternative, intervenor proposed trucking water from the Port of Morrow to the mining site for dust mitigation. Petitioners observe that the TIA was completed before intervenor proposed to

truck in water from off-site.[6] Petitioners argue that the county's findings relying on the TIA are not supported by substantial evidence because the TIA fails to account for the unknown number of water truck trips between the Port of Morrow and the subject property.

Intervenor points to two documents in the record and argues that they constitute substantial evidence that water trucking will not produce significant truck trips to the site so as to undermine the TIA analysis and conclusions. The first is a letter from intervenor's planning consultant stating as follows: "If water is hauled in it would not be more than one or two trucks per week to address limited dust mitigation as part of the rock crushing operation. No change in the [TIA] is warranted as four trips per week would not change the analysis." Record 241. Second, is a declaration from an Eastern Oregon aggregate operator stating:

> "[W]ater is used in the mining and processing of rock for several purposes including: dust mitigation on roads and other traveled surfaces, the control of dust created during the crushing of rock, and to wash rock prior to processing to concrete.
>
> "Dust on roads and other traveled surfaces can be mitigated with water but chemical mitigation can also be used. Until sufficient water is available at the proposed site, chemical abatement will be used to manage this fugitive dust.
>
> "Dust mitigation during the process of crushing rock does require water but not a significant amount to achieve the desired results. The

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[6] Intervenor's traffic consultant's supplemental letter does not address the water truck issue. Record 483-84.

> intent is to contain fugitive dust which can be accomplished with less water than it takes to water a lawn. In similar operations of this type, dust mitigation has been accomplished with approximately 80 gallons of water an hour." Record 249 (internal numbering omitted).

Petitioners point out that intervenor's planning consultant did not establish any expertise on the use of water for dust suppression. In contrast, petitioners operate an aggregate mining site that uses water for dust suppression and testified that, at petitioners' site, up to three trucks operate up to 24 hours per day to control dust in the mining pit and on haul roads. Record 303-04. Petitioners argued to the county that the amount of water required to control dust would require more than four truck trips per week. Moreover, water for washing aggregate for concrete batching will require either transporting the aggregate off-site or more water truck trips to the site. Record 304. The county did not make any findings addressing this conflicting evidence and instead relied on the TIA.

Intervenor responds that petitioners' testimony regarding the volume of trucking trips required is insufficient to contradict the TIA's conclusions because petitioners did not provide their own expert traffic analysis. We find that petitioners' testimony is based on experience and expertise in aggregate mining and water truck dust abatement and is evidence that a reasonable person would rely upon.

Intervenor responds that the trips related to dust suppression "are ancillary or accessory" to the primary mining use and, thus, accounted for in the TIA. Intervenor-Respondent's Brief 28. Intervenor further argues that, even if the TIA does not account for trips associated with dust suppression, the TIA was

sufficiently conservative that any error in failing to account for dust suppression truck trips was harmless.

Petitioners argue, and we agree, that it is intervenor's burden to establish the number of truck trips attributable to water delivery to the site. We agree with petitioners that the TIA does not address water truck trips in the trip count estimate. We also agree with petitioners that the county must make findings addressing petitioners' evidence that the number of water truck trips will exceed four trips a week. Thus, the county's finding that the requirements of both Goal 12 and OAR 660-023-0180(5)(b)(B) are satisfied are inadequate.

The fifth assignment of error is sustained.

SIXTH ASSIGNMENT OF ERROR

OAR 660-023-0180(5)(f) requires:

> "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. * * * Local governments shall coordinate with DOGAMI regarding the regulation and reclamation of mineral and aggregate sites, except where exempt under ORS 517.780."

Intervenor was required to submit a conceptual site reclamation plan as part of their application. OAR 660-023-0180(8)(b).

Intervenor did not submit a conceptual site reclamation plan. Instead, intervenor explained that it was "considering the installation of a photovoltaic solar energy generation facility as a post-mining use," and that "[o]ther post-mining uses * * * could also be considered." Record 23. The county found that

OAR 660-023-0180(5)(f) was satisfied because intervenor identified a post-mining use that the county may allow. Record 23.

Petitioners argue that intervenor's statement about how intervenor is considering using the site after the aggregate use has ceased is insufficient to constitute a conceptual site reclamation plan. We also understand petitioners to argue that the county failed to determine the post-mining use as required by OAR 660-023-0180(5)(f).

Intervenor responds that intervenor's statement regarding considering a potential post-mining use constitutes a conceptual site reclamation plan. While "conceptual" implies an abstract or generic notion, as contrasted with a concrete or certain design, we agree with petitioners that intervenor's statement is not a conceptual site reclamation plan.

Intervenor further argues that the county's obligation is satisfied because the county included a condition of approval requiring intervenor to "obtain approval from DOGAMI for the reclamation plan and submit a copy of the reclamation plan to the Planning Department." Record 41. OAR 660-023-0180(5)(f) requires the county to coordinate with DOGAMI regarding the regulation and reclamation of mineral and aggregate sites. The rule does not delegate to DOGAMI the county's obligation to review a conceptual site reclamation plan, determine the post-mining use, and provide for that use in the comprehensive plan and land use regulations. We agree with petitioners that the decision misconstrues OAR 660-023-0180(5)(f) and OAR 660-023-0180(8)(b).

The sixth assignment of error is sustained.

The county's decision is remanded.

UMATILLA COUNTY

Megan Davchevski <megan.davchevski@umatillacounty.gov>

Coleman/Girth Dog Aggregate - LUBA Remand Submittal

mclane@eoni.com <mclane@eoni.com> Thu, Jan 30, 2025 at 7:09 PM
To: Megan Davchevski <megan.davchevski@umatillacounty.net>, planning@umatillacounty.gov
Cc: Sarah Stauffer Curtiss <sarah.curtiss@stoel.com>, "Schimelpfenig, K." <emily.schimelpfenig@stoel.com>, Craig Coleman <craig@ordnancebrewing.com>, Bob Coleman <bob@ordnancebrewing.com>, Robert Waldher <robert.waldher@umatillacounty.net>

Megan,
Good morning!

Attached please find the submittal for the Girth Dog Aggregate application based on the LUBA Remand. The included documents are:

1. The application narrative addressing the 4 assignments of error that were remanded.
2. An Operations and Reclamation Plan.
3. A Technical Memorandum addressing noise completed by Jacobs Engineering.
4. A Technical Memorandum addressing dust completed by MFA.
5. An Addendum to the TIA completed by KAI.

Based on your earlier email we anticipate an invoice for the remand application and that you will add to that billing costs for printing of the application materials. As I understand it you will also bill for the public notice costs associated with the formal public hearing before the Board of Commissioners. If you would please send that billing to Craig Coleman, copied on this message, providing copies to at least Bob Coleman and myself it would be appreciated.

Should you want to have a meeting with our team do reach out as we are more than willing to walk you through any questions you may have about what we responded to in the LUBA Final Opinion and Order or the materials that are included in this submission. It is also appreciated if you could keep us informed of the timing for the public hearing before the Board of Commissioners. I also want to share that if you would desire any assistance with the Findings or other decision materials we are willing to assist.

Thanks for acknowledging receipt of this email with five attachments.

Cordially,
Carla

5 attachments

Application Narrative - FINAL (Jan. 29, 2025)(127570398.7).docx
64K

Girth Dog Operations & Reclamation Plan (Jan. 29_ 2025).pdf
1375K

Jacobs Noise Technical Memorandum(127672001.1).pdf
1601K

Kittelson Traffic Assessment Update(127679730.1).pdf
136K

MFA Fugitive Dust Technical Memorandum(127672012.1).pdf
2324K

On Remand from the Land Use Board of Appeals, an application to Amend the Umatilla County Comprehensive Plan to list the subject property as a "Large Significant Site" protected by Goal 5, amend the Comprehensive Plan Map to identify the site as significant and to apply the impact area to limit conflicting uses; and amend the Zoning Map by applying the Aggregate Resource Overlay Zone to the entirety of the mining site.

In LUBA No. 2023-033, LUBA reviewed Six Assignments of Error. This narrative and the submitted attachments address those Assignments of Error that LUBA sustained and remanded to Umatilla County for further review.

Applicant/Owner: Craig Coleman
Girth Dog LLC
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541-314-8568
craig@ordnancebrewing.com

Intended Outcomes of the Application Process:
This submittal is intended to address those Assignments of Error from LUBA No. 2023-33 that were sustained by LUBA in their Final Opinion and Order issued on October 25, 2023.

Required Review:
- Second Assignment of Error: Analysis of Conflicts and Conflicts Minimization [OAR 660-02300180(5)(b)(A)]
- Third Assignment of Error: Conflicts Minimization – Noise, Dust, Goal 5 Sites and Agricultural Operations [OAR 660-023-0180(5)(b) and (c)]
- Fifth Assignment of Error: Transportation Impacts [OAR 660-023-0180(5)(b)(B)]
- Sixth Assignment of Error: Reclamation Plan [OAR 660-023-0180(5)(f)]

Updated Description of the Project:
In its opinion, LUBA concluded that 1) The County made no findings on the level of noise or dust activities that will be generated by mining, crushing, stockpiling, and batching; and 2) The County did not "describe how mining activities will progress within the approved mining area (entire subject property) after being initiated." While these conclusions were made under LUBA's analysis of compliance with OAR 660-023-0180(5)(b)(A), which is discussed further below, the description of the project informs the remainder of LUBA's conclusions. Therefore, at the outset, the Applicant is providing this updated project description to inform the County's analyses as it relates to the above-listed assignments of error.

In the attached Operations and Reclamation Plan, the Applicant explains that the mining operations will include mining, crushing, stockpiling and batching. The Operations and Reclamation Plan describes the ongoing mining operations, including how berms will be installed over time and interior finishing will be accomplished. Work will begin in Block 1, which is further divided into three subsections. Once Block 1 is mined out the operation will move to Block 2 to the south, then Block 3 to the north, and so forth through Blocks 4, 5, and 6. This approach allows for current farming operations to continue on the northern portion of the subject property while mining occurs to the south, closest to the access road. This approach will allow for the processing equipment, including the crusher, concrete batch plant, and the asphalt batch plant, to be placed in the bottom of the mining pit in Block 1.

Three main processes will occur at the proposed facility: aggregate mining and gravel extraction, a batch concrete plant, and a batch asphalt plant. Throughout the entire operation of the project, all of the activities that use processing equipment will be located in Block 1. During initial operations, the processing equipment will be located at ground level, and, therefore, will have the greatest potential conflict with the surrounding area. These potential conflicts are evaluated further below. As Block 1 is mined, the processing equipment will be moved into the pit, minimizing any potential conflicts.

Applicant plans to conduct most of its operations during the daytime hours (7 AM to 10 PM). The concrete batch plant may start operating in the early morning hours (starting at 4 AM in order to facilitate morning deliveries of construction materials), but no mining activities would occur before 7 AM. It is expected that the concrete batch plant would stop operations around 1 PM and the asphalt batch plant would stop operations around 5 PM. Please see the included noise analysis for more detail regarding hours of operation.

OAR 660-023-0180 Mineral and Aggregate Resources (only those on Remand are addressed)

(5)(b)(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;

In addition to requiring the County to make additional factual findings regarding the type of project proposed, LUBA's Final Opinion and Order determined that it is insufficient for the County to assume that all mining activities will produce some level of noise, dust, or other discharges and find that those impacts will be minimized. That is, pursuant to OAR 660-023-0180(5)(b)(A), the County must describe the mining activities and make findings that specify the level of noise or dust activities generated by the mining activities.

To address these items the Applicant is submitting an updated Operations and Reclamation Plan that describes the mining activities and how mining activities will progress within the subject property. The Applicant is also attaching two reports that describe the potential discharges from the mining activities (dust and noise) to support the County's required conflict analysis.

There are two residences within the impact area that could be sensitive to noise and dust discharges. The closest residence to the various processing activities in Block 1, residence R01, is approximately 2,300 feet to the north. An additional residence, R02, was identified approximately 3,000 feet to the northeast. R02 is noted to be on the Rock It, LLC, mine and processing parcel. Both R01 and R02 are in relative proximity to Interstate 84.

Dust:
The Technical Memorandum (the "Dust Analysis") prepared by Chad Darby and Andrew Rogers, both of Maul Foster Alongi ("MFA"), concludes that the dust generated from the proposed operations will not cause a conflict with existing and approved uses and associated activities that are sensitive to such discharges. As described in the Dust Analysis, MFA does not believe the mining operations will affect the continued successful agricultural, commercial, or industrial use of any surrounding properties.

The primary pollutant generated from the project's dust emissions is Particulate Matter ("PM"). PM is categorized by size – either 10 microns ("PM 10") or 2.5 microns ("PM 2.5" or "fine PM"). As described in the Dust Analysis, PM 10 falls to the ground more quickly than PM 2.5. However, while PM 2.5 travels further, it is less concentrated because the travel disperses the PM. At least one study indicates that 99 percent of PM larger than PM 2.5 drops out of suspension within 1,312 feet of the point of generation.

When calculating the emission estimates for PM, MFA accounted for the particle size, the mean wind speed, and the material moisture content. As described in the analysis, most of the dust will be generated by the use of paved and unpaved roads. The majority of PM generated by operations will be coarse particles, which tend to travel shorter distances than fine PM. MFA's Dust Analysis indicates that "[fine PM] represents only 8 percent of the total PM emission factor, 0.0012 points per ton of material crushed. Similarly, the unpaved roads emission factor data...indicates that fine particulate emissions represent less than 4 percent of total particulate emissions." Dust Analysis, Att. A at 3. The estimated emissions for each process are described in MFA's Dust Analysis. *See* Dust Analysis, Att. B, tbls. 4-6.

Even though the project will generate PM, the dust generated will not conflict with the nearby dwellings because of the distance between the dwellings and the proposed operations. The majority of fugitive dust emissions will come from the haul roads, which are located over 2,300 feet from the nearest residence. Dust Analysis at 2. Because the majority of emissions are anticipated to be coarser particles, the Dust Analysis concludes that most of the dust generated by the proposed operations will settle out before reaching the Girth Dog property boundary." Dust Analysis at 1. That is, most, if not all, of the PM will settle on the Applicant's property and have no impact on the neighboring dwellings.

Because PM will either settle out before reaching the Girth Dog property boundary or be largely dispersed when it does, the dust emissions from the Project will not conflict with the nearby residences. Moreover, after Block 1 is mined and the operations are placed in the pit, disposition will occur even more rapidly and travel less far, further eliminating any potential conflict.

Noise:
The attached Technical Memorandum prepared by Mark Bastasch from Jacobs (the "Noise Analysis") concludes that the noise generated by the project will not conflict with existing and approved uses and associated activities that are sensitive to such discharges because of the location of the processing activities and their distance from the nearest noise receptor. Mr. Bastasch is a recognized expert in acoustical evaluations and holds an Acoustical Professional Engineering (PE) degree and is also Board Certified by the Institute of Noise Control Engineering.

As described in the Noise Analysis, given the presence of Interstate 84 as well as Rock It, LLC's, operations, the DEQ "Table 8" sound level limits are anticipated to be the controlling noise criteria for this area. Table 8's target daytime dBA (7 AM to 10 PM) is 55, and its nighttime dBA (10 PM to 7 AM) is 50.

At the Project site, noise levels will likely be their highest between the hours of 7 AM and 1 PM because all of the noise-producing processes will be in operation. Noise levels of the various equipment proposed for use on the site have projected sound levels of 65 to 83 dBA at 50 feet. Mr. Bastasch combined the individual sound levels to identify a combined average sound level of 87 dBA at 50 feet. He then used a standard analysis for showing how sound levels decrease over distance, to conclude that at a distance of 2,300 feet, the sound level will decrease by 33 dBA. At the nearest residence, the sound levels will be 54 dBA between 7 AM and 1 PM. This is under DEQ's daytime sound level limit.

Applicant indicated that the concrete batch plant may start operating in the early morning hours (starting around 4 am). As in the Noise Analysis, the operation of this equipment alone should comply with the DEQ's nighttime operations dBA of 50. The concrete batch plant has a sound level of 79 to 83 dBA at 50 feet. At a distance of 2,300 feet the sound level will decrease by 33 dBA, resulting in a 46 to 50 dBA. This is under DEQ's nighttime sound level limit.

While the distance alone makes the project compliance with DEQ sound level limits, any potential conflict is further reduced by the placement of processing equipment in the Block 1 pit. The Block 1 pit will act as a noise barrier and further reduce noise levels. Based on this analysis, Mr. Bastasch concludes "that a well-designed and executed project can satisfy the DEQ noise requirements."

Proposed findings based on this evidence are as follows:

1. Mining operations at the site will include aggregate mining and gravel extraction, a batch concrete plant, and a batch asphalt plant. As described in the Applicant's operations and reclamation plan, work will begin in Block 1. Once Block 1 is mined out the operation will move to Block 2 to the south, then Block 3 to the north, and so forth through Blocks 4, 5, and 6. At all times, the batch concrete plant and the batch asphalt plant, and any other processing will take place in Block 1. As Block 1 is mined, the processing equipment will be moved into the Block 1 pit, where it will remain for the rest of the project's operation.

2. Fugitive dust, often referred to as Particulate Matter, or PM, will be generated by the proposed mining operation. Mining, crushing, processing, and hauling of aggregate material and processed asphalt or concrete will generate fugitive dust at both sizes that are measured – 10 microns and 2.5 microns. At the Girth Dog site, fugitive sources include crushers, storage piles, screens, material handling transfer points, paved and unpaved road dust, and truck loadouts. Based on the Dust Analysis prepared by MFA only a very small portion of the emissions will include fine PM. Most of the PM generated by the project is larger, coarser PM. As concluded in the Dust Analysis prepared by MFA, most of the PM generated by the project will settle out before reaching the Girth Dog property boundary. It will not travel to the nearest residence, 2,300 feet away. Any PM that does reach the dwellings will be dispersed, and therefore will not be present at concentrations that can cause a conflict with the residences. After initial operations, dust will travel even less far because the concrete batch plant, the asphalt batch plant, and any other processing related activities will take place in the Block 1 pit. Based on the information provided by the Applicant, and the County finds that the dust generated by the proposed operation will not conflict with nearby residences.

3. The Project will generate noise, but the noise will not conflict with the nearby dwellings. As described above, the noise generating machinery and processes will be located within Block 1. The closest residence to Block 1 is approximately 2,300 feet to the north. An additional residence was identified approximately 3,000 feet to the northeast. Both residences are in relative proximity to Interstate 84. Given the presence of Interstate 84 as well as Rock It, LLC's, operations, the DEQ "Table 8" sound level limits are anticipated to be the controlling noise criteria. The target daytime dBA based on the DEQ "Table 8" limits would be 55 with early morning operations prior to 7:00 am would be 50. At all times the Applicant's proposed operations will comply with the DEQ's sound limits. With regards to daytime noise, operation noise levels will create an average sound level of 87 dBA at 50 feet. At a distance of 2,300 feet, the sound level will decrease by 33 dBA, resulting in a sound level of 54 dBA at the nearest residence. That dBA is below DEQ's sound levels for the area and will not conflict with the neighboring sensitive properties.

Applicant is proposing to start operating the concrete batch plant during the early morning hours (starting around 4 am). At a distance of 2,300 feet the sound level generated by the concrete batch plant will be 46-50 dBA, below the nighttime limit of 50 dBA. Applicant is also proposing to locate the concrete batch plant, the asphalt batch plant and other processing activities in the pit created by mining Block 1 for the entire duration of the project. This should further reduce the sound levels by at least 10 dBA, making the project produce noise below the DEQ sound limits. Based on the information provided by the Applicant, the County finds that the noise generated by the proposed operation will not conflict with nearby residences.

(5)(b)(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;

In LUBA's Fifth Assignment of Error, LUBA concluded that a reasonable person would rely on the expertise of the existing operation and the amount of water it would need but that it was the Applicant's burden to establish the number of truck trips attributable to water delivery to the site. Additionally, LUBA concluded that the County must make findings addressing Petitioners' evidence that the number of water truck trips will exceed four trips a week.

The Dust Analysis discusses the number of truck trips attributable to water delivery at the site. Applicant will need at most three tanker trips per week to provide water specific to the Concrete Batch Plant. Additional water is needed to support twice daily watering of the haul roads and for use in fugitive dust management or mitigation. Attachment B to the Dust Analysis, Table 2 notes that daily watering of the haul roads for dust mitigation will require 476 trips annually for the water delivery and 714 annually for water application.

To address the impact to the Westland Road IAMP and the local transportation network, Kittelson and Associates completed an addendum to the submitted Traffic Impact Analysis (TIA), which found that the additional truck trips, based on the MFA analysis related to fugitive dust, at six trips per day "is not expected to have a significant effect on the surrounding transportation network or require offsite transportation improvements." Matt Hughart, Principal Planner with Kittelson & Associates also determined that Kittleson's findings from the October 20,2022, Aggregate Overlay Zone/Firth Dog Pit Transportation Assessment are still valid. The TIA addendum is provided as part of the Applicant's submittal.

Proposed findings based on this evidence are as follows:

1. The evidence provided by Kittelson & Associates in their Aggregate Overlay Zone/Girth Dog Pit Transportation Assessment LUBA Response Letter dated January 17, 2025, states that their analysis of traffic impacts based on the inclusion of up to six trips daily for water trucks, three inbound and three outbound, has no significant effect on the surrounding transportation network or would require offsite transportation improvements. This is consistent with the original Traffic Impacts Analysis that was completed and submitted with the original application. The County finds that the project will not conflict with local road access and egress.

(5)(b)(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;

In LUBA's Third Assignment of Error, LUBA held that the County had not adequately considered impacts on existing Goal 5 aggregate use when it found that since it was an existing site and had similar operations, there were no Goal 5 conflicts.

The Rock It LLC quarry is the only existing Goal 5 resource site within the impact area. It is one-half mile from the proposed operations. The road travel associated with the proposed project is located 1,600 feet from the active locations of the Rock It LLC quarry.

The dust analysis prepared by MFA describes the potential conflict with other Goal 5 resources in the impact area. It notes that most of the fugitive dust emissions will be from paved and unpaved road travel. However, there is no conflict because the emissions will be dispersed along the roadway and the road is at least 1,600 feet from the Rock It LLC quarry. Because the majority of the emissions generated will be coarse particle sizes, MFA anticipates that 99% of the particulate generated from the road dust will be deposited within a few hundred feet, nowhere near the Rock It LLC quarry. Moreover, the dust impacts will only improve over time as the batch concrete plant and batch asphalt plant are moved below grade because placing the equipment in the pit will "further reduce the impact from prevailing winds and result in particle deposition even closer to the quarry operations." Dust Analysis at 2.

LUBA's Third Assignment of Error also held that the findings did not address the alleged conflict raised by Petitioners' geologist that the dust chemical used for dust abatement can "become suspended in the air and that employees of petitioners' aggregate operation to the east of the subject property, may be exposed to those chemicals." The Applicant has voluntarily agreed not to use chemical dust abatement as a part of their normal operations and will instead apply water as described within the Dust Analysis.

Proposed findings based on this evidence are as follows:

1. As described above, it is determined that while fugitive dust will be generated by the mining operation, the dust will not conflict with other Goal 5 resource sites within the impact are. As described in the Dust Analysis prepared by MFA, the majority of the dust generated will be large coarse particles. These large coarse particles are unlikely to travel more than a few hundred feet before settling. The neighboring sand and gravel operation owned by Rock It LLC will be at least 1,600 feet from the largest source of dust emissions, the paved and unpaved roads. Given the distance that the particles travel and the proposed location of the operations, there is no conflict with the existing Goal 5 site.
2. The Applicant will not use chemical abatement to mitigate impacts from dust.

(5)(b)(E) Conflicts with agricultural practices; and

In LUBA's Third Assignment of Error, LUBA found that the County did not make any findings considering whether "dust from the haul road will conflict with agricultural operations to the north and south of the haul road." LUBA determined that the County's finding that agricultural operations will not be affected because they have operated by existing aggregate sites for years was "inadequate to address the issue of whether this specific mining operation and haul road will conflict with agricultural practices within the impact area."

There are agricultural operations to the north and south of the property. The agricultural operations to the north are the same distance or further away than the existing dwellings. The agricultural operations to the south, while closer, are in the opposite direction of the prevailing winds.

As noted above, the Dust Analysis concludes that the majority of PM will settle on the Girth Dog LLC property. Because PM is unlikely to travel off of Girth Dog LLC's property, MFA concludes that the Applicant's operations will not conflict or have any impact on agricultural property uses.

In the Dust Analysis, the discussion concerning the size of PM and its travel distance provides some evidence that farming operations both to the north (a part of the neighboring aggregate operation) and the south could experience some impacts from dust. However, the Dust Analysis concludes that operations at the site will not affect the continued successful agricultural use on surrounding properties.

Proposed findings based on this evidence are as follows:

1. It is determined that while fugitive dust will be generated by the mining operation, the majority of PM will not travel off of the Applicant's property. As stated by MFA in the Dust Analysis, "there is no reason to believe that fugitive dust from the proposed operations will have any impact on surrounding property uses of any kind." Dust Analysis at 4. The County finds that there will be no conflicts with agricultural operations located adjacent to the proposed aggregate location from fugitive dust.

(5)(c) 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.

In LUBA's Third Assignment of Error, LUBA stated "[t]he County must identify the source and scope of conflicts from noise, dust, or other discharges from the aggregate use and explain whether and how those conflicts will be minimized." The board also concluded that the County cannot decide that certain mitigation will minimize conflicts without first specifying the predicted conflicts" and that "the County failed to find that the minimization measures are feasible and support those findings with substantial evidence.

As noted in the findings above, the Applicant believes that there are no conflicts with existing uses under (5)(b). However, to the extent the potential impacts described above rise to the level of a conflict, such conflicts will be minimized through the implementation of reasonable and practicable measures. As explained below, the Applicant is proposing several mitigation measures to further reduce the likelihood of any off-site impacts from dust and noise.

In the Dust Analysis, MFA concludes "there is no reason to believe that fugitive dust from the proposed operations will have any impact on surrounding property uses of any kind." MFA also recognizes that "Girth Dog is opting to utilize many mitigation measures and best practices that will be effective at minimizing dust." In particular, the Applicant has agreed to:

- Install and operate a wet suppression system at the exit of the primary crusher and both cone crushers. Water suppression is expected to reduce 70- 90% of fugitive dust emissions.
- Spray water onto the storage piles at regular intervals during the dry periods of the year to increase the moisture content of stored material. This measure is expected to reduce 90% of fugitive dust emissions.
- Install and operate a wet suppression system at the primary screen and wash screen, and to the materials on the conveyor belts feeding the finish screen. This measure is expected to reduce 70-90% of fugitive dust emissions.
- As stated above, water will be applied at crushers and screens, which precedes most of the material handling transfer points. This will result in the aggregate having a higher moisture content and provides some level of fugitive dust emissions control at each transfer point.
- To reduce haul truck impacts: operate a baghouse for control of concrete silo emissions released during unloading; operate a mister at the concrete batch plant and load concrete mix into trucks that already contain the water needed for the wet mix; and when loading rock, limit the height of the rock drop to no more than 3 feet.
- To limit fugitive dust on both paved and unpaved haul roads, limit speed of all vehicles to 10 MPH on paved roads and 5 MPH on unpaved roads; implement twice daily watering of unpaved roads when temperatures are above freezing; and remove accumulated aggregate or earthy materials from paved roads. The speed limits proposed are expected to reduce fugitive road dust emissions by 44 percent.

The mitigation measures proposed by the applicant are best recognized as best practices by MFA and the industry as a whole. *See* Dust Analysis, Attachment A, at 4-7.

During the proceedings before the County, the Applicant committed to implement noise reducing mitigation measures to further reduce any potential conflict from noise. In addition to locating the batch concrete plant and batch asphalt plant in the pit in Block 1, the Applicant has agreed to:

- Build a berm along the perimeter of the site consisting of soil that was stripped prior to mining. Operations and Reclamation Plan at 2. The berms for Blocks 1-5 will be 6 feet tall and 32 feet wide. The berm for block 6 will be 4 feet tall and 32 feet wide to accommodate the request of the landowners on the northwest corner of the lot. Operations and Reclamation Plan at 8-14; *See also* R. at 16. As noted by Mark Bastasch, sound barriers can reduce noise by a minimum of 5 dBA, and typically reduce noise by 10 to 15 dBA. The proposed berms could decrease daytime noise from 54 dBA to 39-44 dBA, well below what is required by DEQ noise standards.

Proposed findings based on this evidence are as follows:

1. The only potential conflicts identified by the County under (5)(b) were conflicts due to dust and noise. The County determined, based on the operation and evaluation of the Project that there were no conflicts with existing uses under (5)(b). Even if the potential noise and dust impacts rise to the level of conflicts under the (5)(b) analysis, the proposed measures described below minimize any conflicts with existing uses.

2. Fugitive dust can be controlled through a variety of means outlined in the MFA Dust Analysis and include the following which are proposed to be used by the Girth Dog operation:
    a. Install and operate a wet suppression system at the exit of the primary crusher and both cone crushers.
    b. Spray water onto the storage piles at regular intervals during the dry periods of the year to increase the moisture content of stored material.

c. Install and operate a wet suppression system at the primary screen and wash screen, and to the materials on the conveyor belts feeding the finish screen.
d. Apply water at crushers and screens, which precedes most of the material handling transfer points. This will result in the aggregate having a higher moisture content and provides some level of fugitive dust emissions control at each transfer point.
e. To reduce haul truck impacts, operate a baghouse for control of concrete silo emissions released during unloading; operate a mister at the concrete batch plant and load concrete mix into trucks that already contain the water needed for the wet mix; and when loading rock, limit the height of the rock drop to no more than 3 feet.
f. To limit fugitive dust on both paved and unpaved haul roads limit speed within the facility to 10 MPH on paved roads and 5 MPH on unpaved roads; implement twice daily watering of unpaved roads when temperatures are above freezing; and remove accumulated aggregate or earthy materials from paved roads.

These control measures all have an impact to the generation of fugitive dust and cumulatively will reduce fugitive dust with impacts outlined in the Dust Analysis.

3. Applicant has agreed to minimize potential conflicts from noise by installing a berm along the perimeter of the mining site. The berms for Blocks 1-5 will be 6 feet tall and 32 feet wide. The berm for block 6 will be 4 feet tall and 32 feet wide to accommodate the request of the landowners on the northwest corner of the lot. As noted by Mark Bastasch P.E. in the Noise Analysis, installing a berm will minimize the impacts on the nearby "noise-sensitive propert[ies]" by decreasing the noise at levels at the noise sensitive properties by a minimum of 5 dBA. That is, on the property, even a minimally effective barrier would meet DEQ's daytime and nighttime dBA by reducing the project's noise levels to 49 dBA. Mr. Bastasch P.E. also states that a well-designed berm will likely decrease the noise at the noise-sensitive properties by 10-15 dBA. That is, Applicant's proposed berms could decrease daytime noise from 54 dBA to 39-44 dBA, well below what is required by DEQ noise standards. While the distance alone would make the proposed operations consistent with daytime and nighttime DEQ noise standards, a berm will further minimize potential impacts.

(5)(d) 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.

In LUBA's Fourth Assignment of Error, LUBA did not reach or decide whether the County had appropriate addressed OAR 660-023-0180(5)(d). LUBA determined that the County failed to specify the predicted conflicts and therefore it was premature to resolve whether the county was required to conduct an ESEE analysis.

Based on the analysis above, the Applicant believes that an ESEE analysis is not required because the County has found that there are no conflicts under (5)(b), and, even if the described impacts rise to the level of a conflict, any such conflicts are minimized by the measures proposed in the findings under (5)(c).

The Dust Analysis and Noise Analysis that have been provided outline clearly the anticipated impacts of both fugitive dust and noise, providing various measures to reduce and mitigate both. The Applicant, relying on the evidence within those memos, would assert that existing land uses, including the homes to the north and the northeast and the neighboring aggregate facility, will not be significantly adversely affected by the proposed mining operation. Both memos outline that reasonable and practicable measures can be taken to reduce any potential impacts. Those measures include maintaining the rock crusher and batch plants in Block 1, installing berms within the facility as each Block is mined, and utilizing water to manage fugitive dust. While the duration of this mining operation is unknown it can be reasonably assumed that mining will continue for at least 25 years and probably longer based on the size of the subject property. The post-mining use has been identified as a photo-voltaic solar energy facility which is currently allowed in the Exclusive Farm Use Zone with a Conditional Use Permit. The Operations and Reclamation Plan identifies that post mining sloping of the Blocks that have been mined out will be done in such a way as to facilitate this post-mining use.

An ESEE analysis is not required. Based on the submitted evidence and the analysis provided, there are no conflicts with the homes to the north and northeast, to the agricultural operations adjoining the subject property and in the reasonable vicinity, or to the aggregate operations to the east. Even if there are conflicts, an ESEE analysis is not required, because any potential conflicts can be minimized through the mitigation measures discussed above in section (5)(c).

Proposed findings based on this evidence are as follows:

1. No ESEE analysis is required because the County has found that there are no conflicts with existing uses under (5)(b). Moreover, even if the potential impacts rise to the level of a conflict, the County has found that all conflicts have been minimized to a non-significant level through the reasonable and practicable mitigation measures proposed for the analysis under (5)(c). The analysis under (5)(b) and (5)(c) indicate that there are no significant conflicts that cannot be minimized and, therefore, require an ESEE analysis.

(5)(f) 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.

In LUBA's Sixth Assignment of Error, LUBA found that the Applicant's statement about post-operation use was not a conceptual site plan as required by OAR 660-023-0180(5)(f) and that the condition requiring coordination with DOGAMI was insufficient.

As part of the submitted Operations and Reclamation Plan the post-mining use is proposed to be a Photo-Voltaic Solar Energy Generation operation. Installed solar panels, based on today's technology, would include south facing solar panels with an energy collection battery and connection to the local transmission grid. At less than 224 acres in size, as areas of the future solar energy generation facility will be impacted by the sloped edges of the mining reclamation, the anticipated energy output should be able to connect to the local transmission system with at most a small substation or facility to upload the generated electricity.

Application has not yet been made to DOGAMI as DOGAMI requires that an applicant have their land use approval first. There has been some initial conversation with DOGAMI, and application materials have been identified with preparation underway. Limited work will continue until the Land Use approvals are complete and deemed final.

Proposed findings based on this evidence are as follows:

1. The post-mining use of a Photo-Voltaic Solar Energy Generation facility is a use allowed conditionally in the Exclusive Farm Use zone in both the State of Oregon and in Umatilla County. The submitted Operations and Reclamation Plan outline how each block of the mining area will be reclaimed to allow for the installation of this proposed post-mining use and indicates that solar power generation operations will be operational in Block 2 once mining is concluded and reclamation is complete.
2. Application to DOGAMI requires that land use approval be complete which final approval of this application on remand to amend the Umatilla County Comprehensive Plan to list the subject property as a "Large Significant Site" protected by Goal 5; amend the Comprehensive Plan Map to identify the site as significant and to apply the impact area to limit conflicting uses; and amend the Zoning Map by applying the Aggregate Resource Overlay Zone to the entirety of the mining site will accomplish.

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

As stated in the original application, Goal 12 requires local governments to provide and encourage a safe, convenient, and economic transportation system, implemented through the Transportation Planning Rule. In 2006 Umatilla County adopted an Interchange Area Management Plan (IAMP) for the Westland Interchange which discusses the intersection of Stafford Hansell Road to Westland Road, identifying concerns with the spacing of Stafford Hansell Road from the interstate eastbound on- and off-ramps. This request is for a use that is allowed conditionally and improvements to the Stafford Hansell Road intersection, while needed, are not appropriately required of this application. Connection for the proposed aggregate site is proposed to be from Center Street at the current intersection of Noble Road and Colonel Jordan Road, which is nearly 1,000-feet more than the 1320-feet required by the IAMP.

The included addendum to the previously submitted TIA finds that the October 20, 2022, Aggregate Overlay Zone/Girth Dog Pit Transportation assessment prepared by Kittelson & Associates is "still valid and that the proposed aggregate mining operation is not expected to have a significant effect on the surrounding transportation network or require offsite transportation improvements". Based on this work by Kittelson & Associates, the Applicant asserts that the requirements of the Transportation Planning Rule have been addressed and no further analysis under Goal 12 is required.

Proposed findings based on this evidence are as follows:

1. Applicant's updated traffic analysis indicates that the project, including the trips required for water-based dust suppression, will not conflict with Goal 12.

Conclusion:

The Applicant has provided evidence to address the issues identified in LUBA's Final Opinion and Order 2023-033 and requests that Umatilla County approve this request on remand to amend the Umatilla

County Comprehensive Plan to list the subject property as a "Large Significant Site" protected by Goal 5; amend the Comprehensive Plan Map to identify the site as significant and to apply the impact area to limit conflicting uses; and amend the Zoning Map by applying the Aggregate Resource Overlay Zone to the entirety of the mining site.

Attachments:

- Fugitive Dust Impacts from Proposed Sand and Gravel Quarry
- Girth Dog Sand and Gravel Mine – Assessment of Predicted Sound Levels
- Updated traffic analysis
- Operations and Reclamation Plan

Mining

The gravels were deposited during the repeated Missoula floods at the end of the last Ice Age, approximately 10,000 years ago. The deposit at the site consists of well-graded gravels varying from ½-inch to greater than 5 inches in diameter. Using surrounding well logs in the area, the deposit appears to be approximately 80 feet thick.

The surrounding landscape is undulating and slopes to the south. The surrounding landscape is primarily irrigated farmland.

The potential for stormwater runoff is low with relatively low surface gradients, highly permeable soils, and low annual rainfall (11 inches). Any turbid water that may occur from mining activities within the pit cannot run offsite. The pit is the lowest point in the surrounding landscape and does not daylight.

The site will operate on a year-round basis. Annual operations begin in the winter when the overburden and topsoil are stripped and stored. Removing the overburden at this time of year, when there is moisture in the soil, reduces the potential for off-site impacts from dust. Each Block has an average of 2 feet of topsoil/subsoil. The soil will be stored in berms at the perimeter of the site (Block 1 will be split into 3 sections of operations, then Block 2 will be one segment of operations and so on). Loaders work along the base of the highwall and mine to an elevation that is 50 to 80 feet below the surrounding surface.

All pit run will be excavated and no blasting is necessary. The pit run will be excavated with an excavator and/or loader and loaded into yard trucks. The rock is trucked out of the pit and processed and stockpiled in the operations area.

Mining operations are run as needed, depending on the weather and market conditions. For the remainder of the year, rock, concrete, and asphalt sales are supplied out of the stockpiles.

Mining will maintain a setback of at least 50 feet from the project boundary. The setbacks will remain undisturbed and will not be used for reclamation slope stability. Soil that has been stripped from the phases prior to mining will be stored in berms in the setback. For reclamation purposes, the berms will be removed and soil spread on the pit slope.

Facilities

The mining operations will include a crushing plant with conveyors. Once the mining operations reach the permitted floor elevation, the plant will be permanently placed in Block 1. The various rock stockpiles including sand and other crushing byproducts will be maintained in Blocks 1 and 2 according to the crushing product requirements. The concrete batch plant and the asphalt batch plant will also be permanently placed in Block 1.

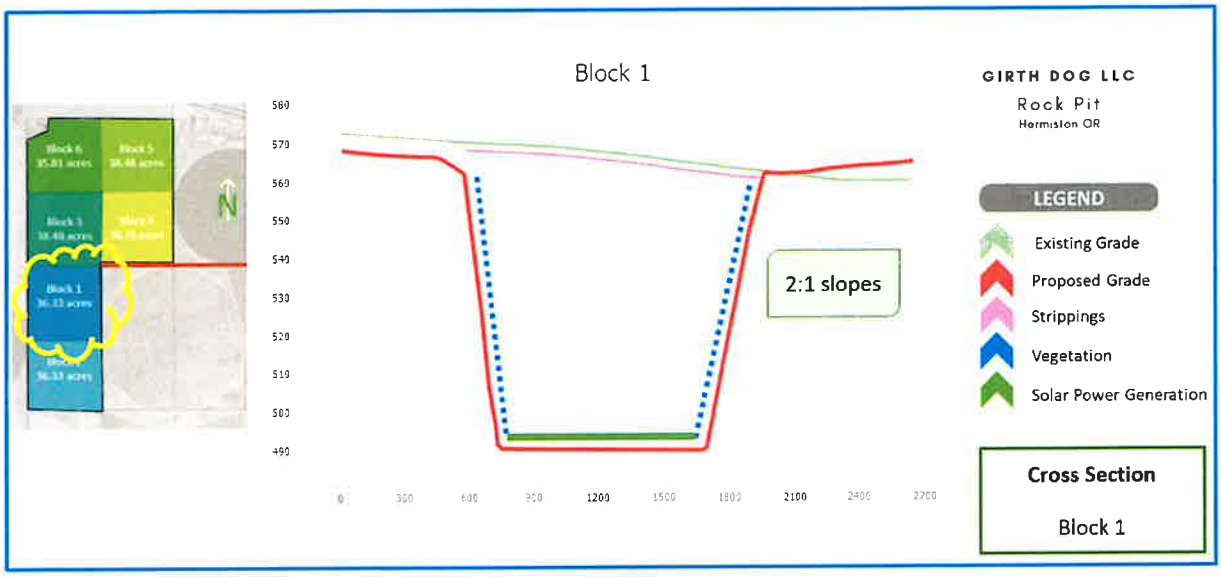
Reclamation

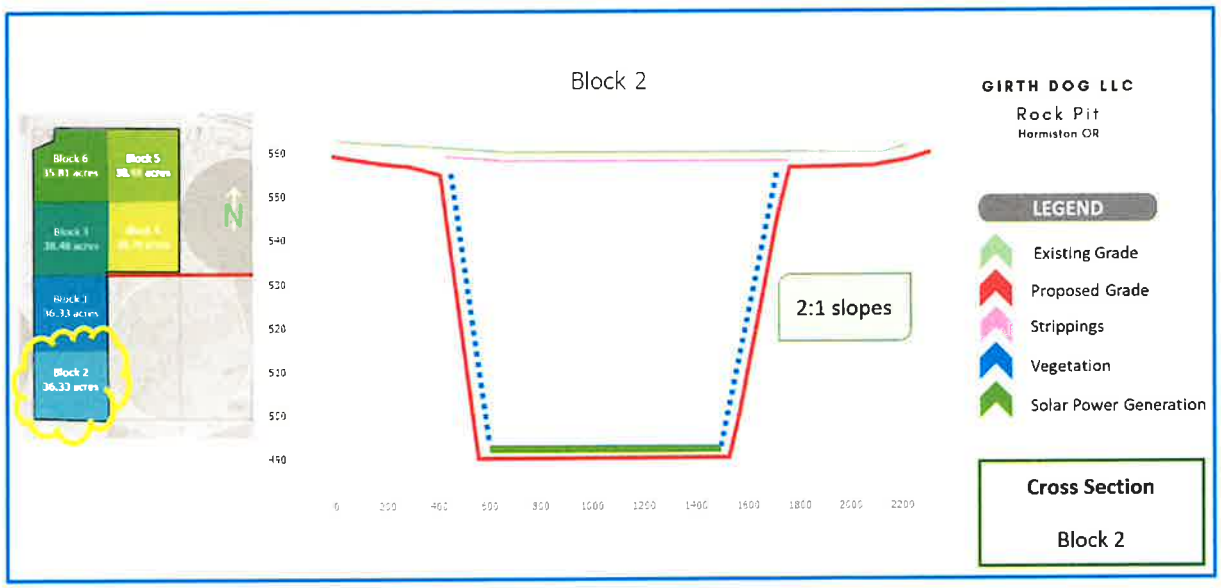
As mining progresses, the mined areas will be cleaned of any debris. No machinery or mining debris will be stored in the pit. No over-sized rock is anticipated to be encountered. If mining does encounter oversized rock, the rock will be buried within the slope backfill.

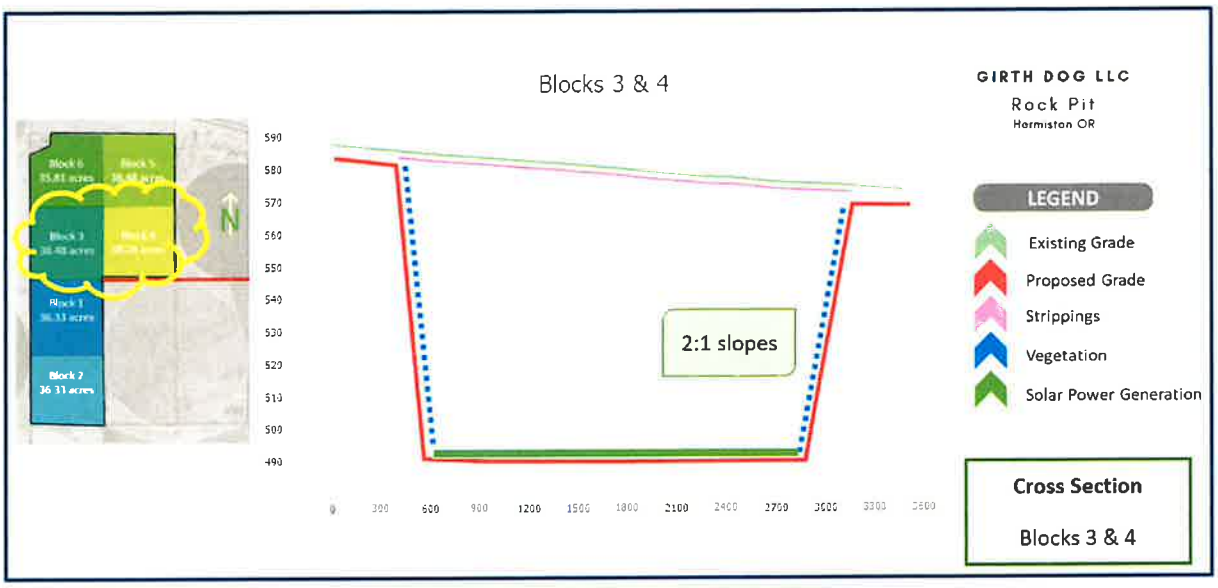
The stored overburden and topsoil will be used to reclaim the pit sidewalls and mine floor. The overburden will be placed on the slopes in lifts, compacting the soil enough to provide slope stability. The face of the slope will be seeded in cereal rye.

Girth Dog Rock Pit's post-operations use will be Photovoltaic Solar Energy Generation Operations. The pit floor will be sloped for drainage appropriate for the site's reclaimed

use of solar power generation. As mining progresses, the operator anticipates reclaiming approximately 1 acre per year. Cross Sections following on pages 3 and 4.






Blocks 3 & 4
GIRTH DOG LLC
Rock Pit
Hermiston OR
LEGEND
Existing Grade
Proposed Grade
Strippings
Vegetation
Solar Power Generation
2:1 slopes
Cross Section
Blocks 3 & 4
N
Block 6
35.81 acres
Block 5
Block 3
Block 4
Block 1
36.33 acres
Block 2
36.33 acres
590
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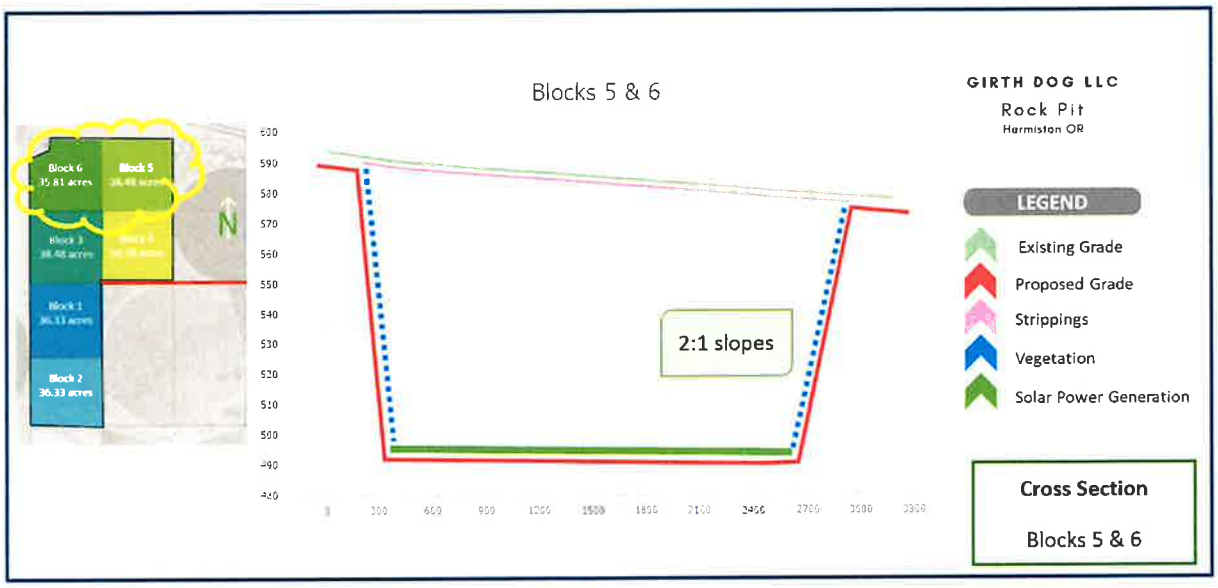
Blocks 5 & 6
GIRTH DOG LLC
Rock Pit
Hermiston OR
LEGEND
Existing Grade
Proposed Grade
Strippings
Vegetation
Solar Power Generation
2:1 slopes
Cross Section
Blocks 5 & 6
N
Block 6
35.81 acres
Block 5
Block 3
Block 4
Block 1
36.33 acres
Block 2
36.33 acres
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600
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1200
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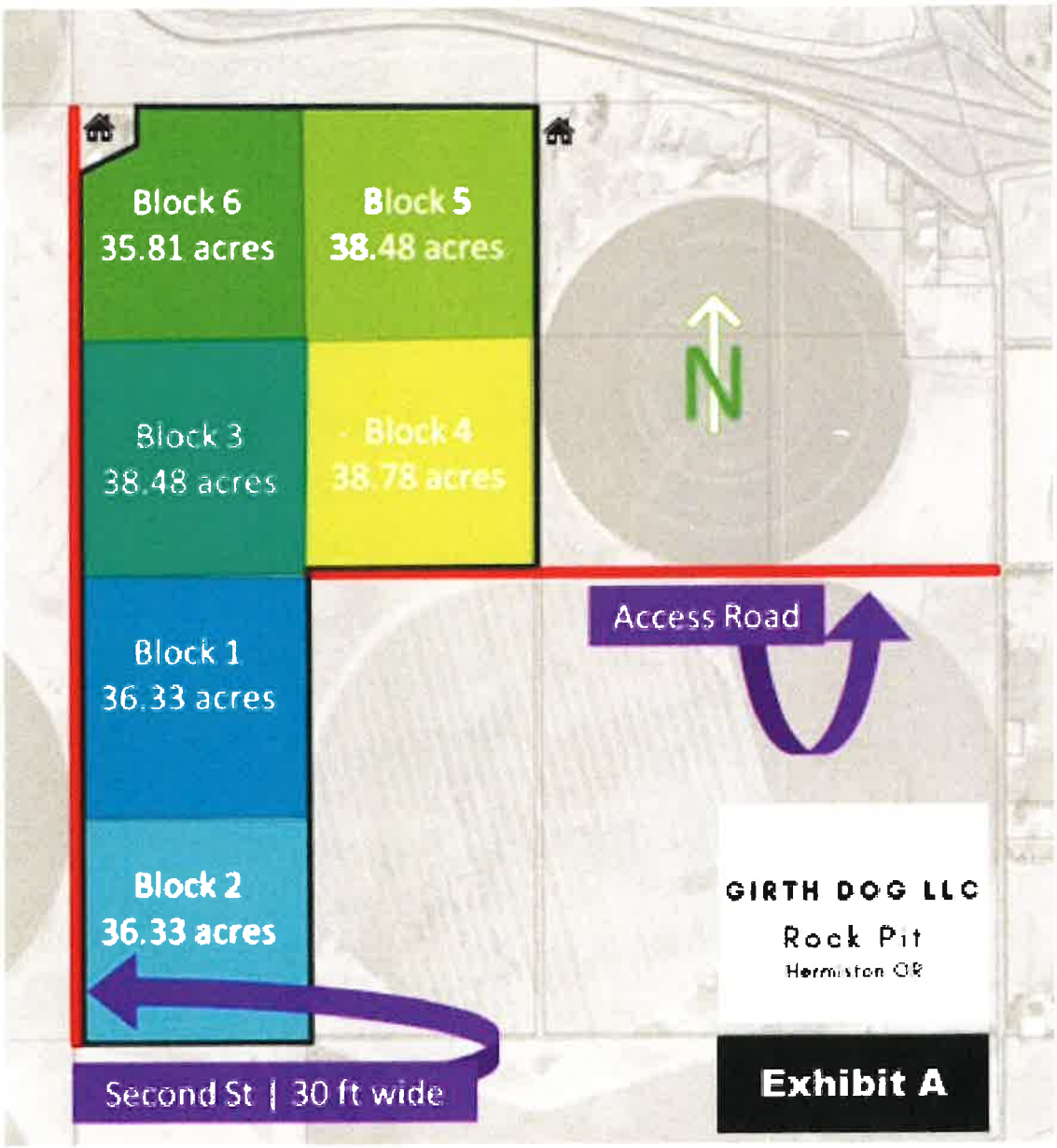
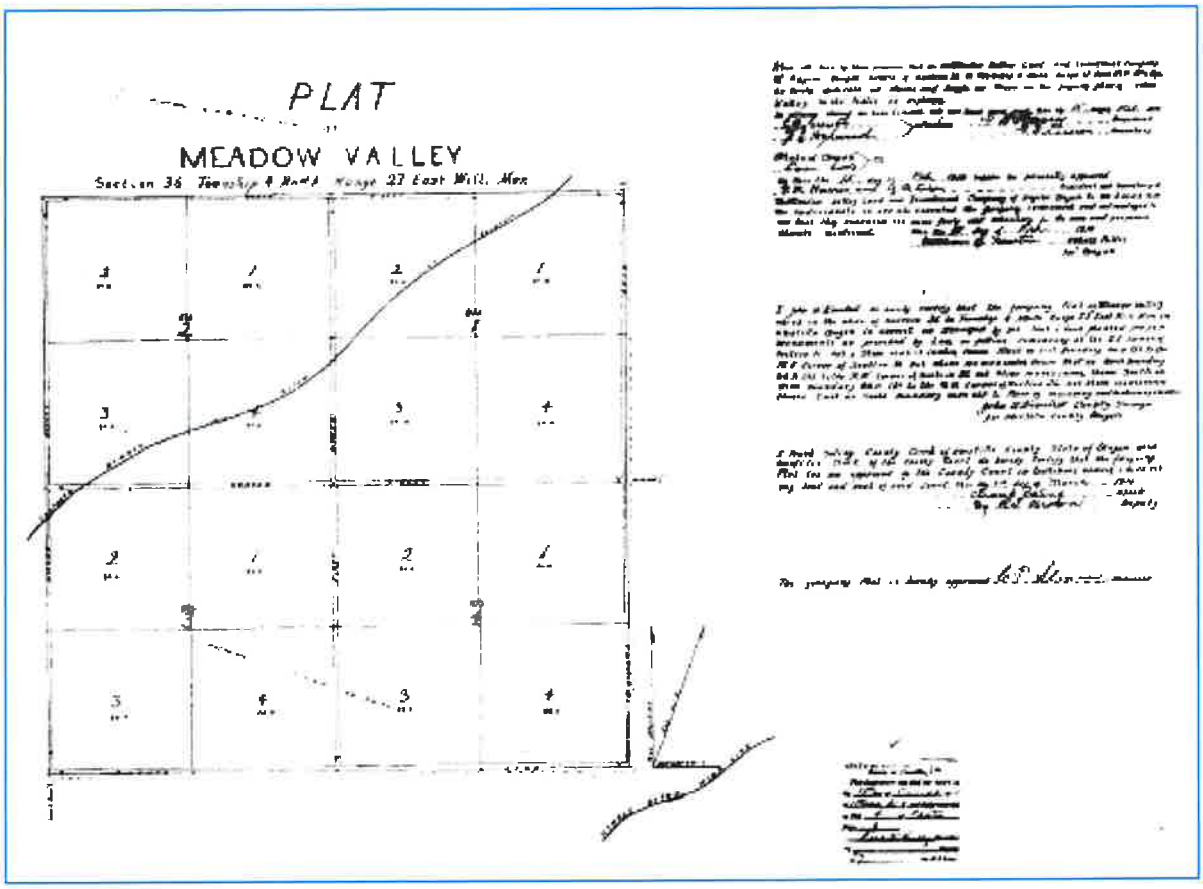
The Girth Dog Rock Pit is broken out into six (6) sections, as shown on Exhibit A.

Exhibit A shows:

1. Order of operations Blocks 1 through 6.
2. The perimeter of the Girth Dog mine site.
3. The access road from Colonel Jordan Road.
4. Second Street (30-foot width) from the Meadow Valley Addition recording in 1910.
5. The two dwellings (shown with black house icon) west of Block 6 and east of Block 5.

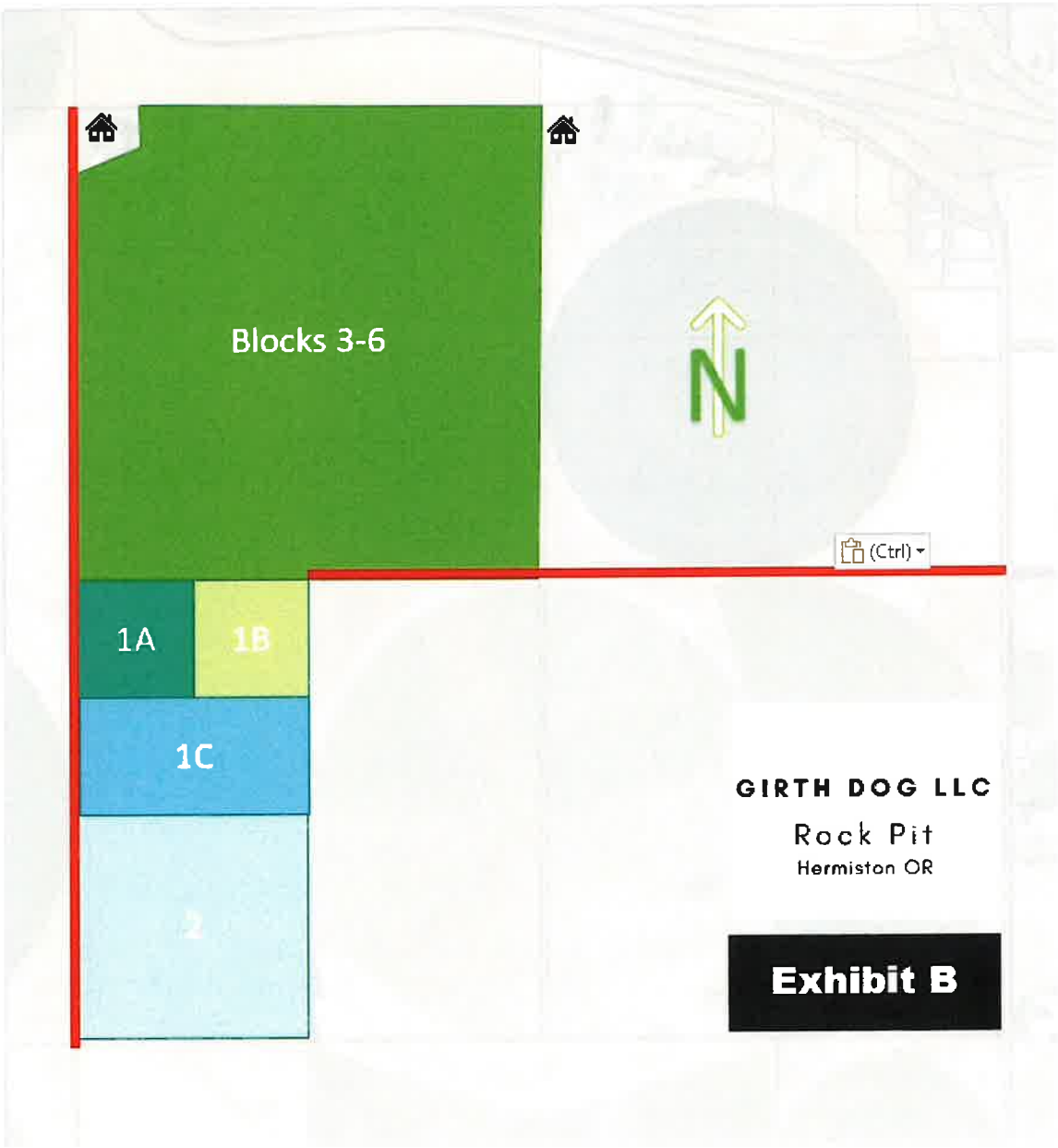


Please see the recording and County information for the Second Street. The print quality is rough – it was recorded in 1910.



Production Location

Production will start with Block 1A and 1B (See Exhibit B). These areas will be stripped of approximately 2 feet (24 inches) of soil to the rock/gravels. The area of stripping will be approximately 18.2 acres (Block 1A and 1B are 9.1 acres or 395,634 SF each). The quantity strippings will be 29,300+/- CY for Blocks 1A and 1B.

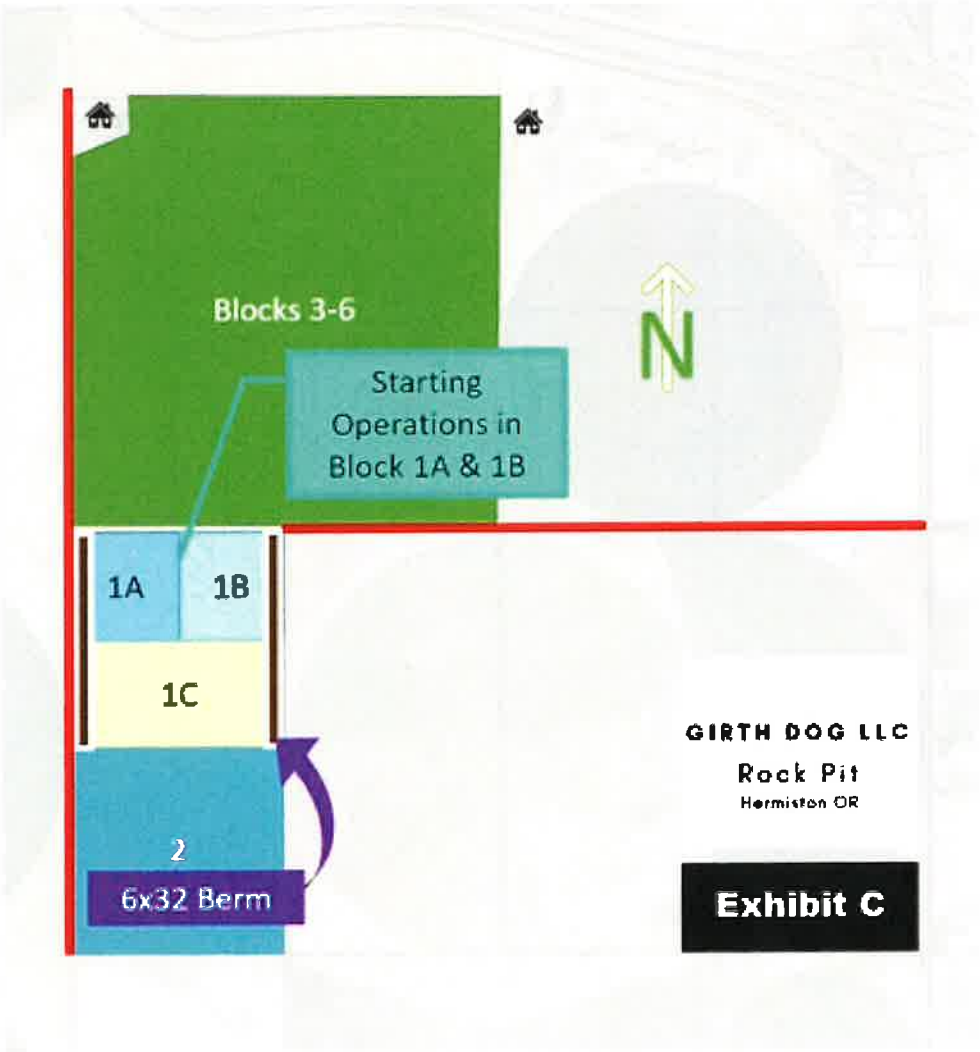


Block 1A and 1B | Berms and Reclamation

The stripping soil will be used to build the berm – 6 feet tall, 32 feet wide with one exception on Block 6, the landowners on the northwest corner do not want a tall berm built, so we will build a 4-foot-tall berm and 32 feet wide, also this will be built 100 feet from their home. There is also a home located at the northeast corner of block 5. This berm will be built 100 feet from the dwelling but will be the typical 6 feet tall, 32 feet wide.

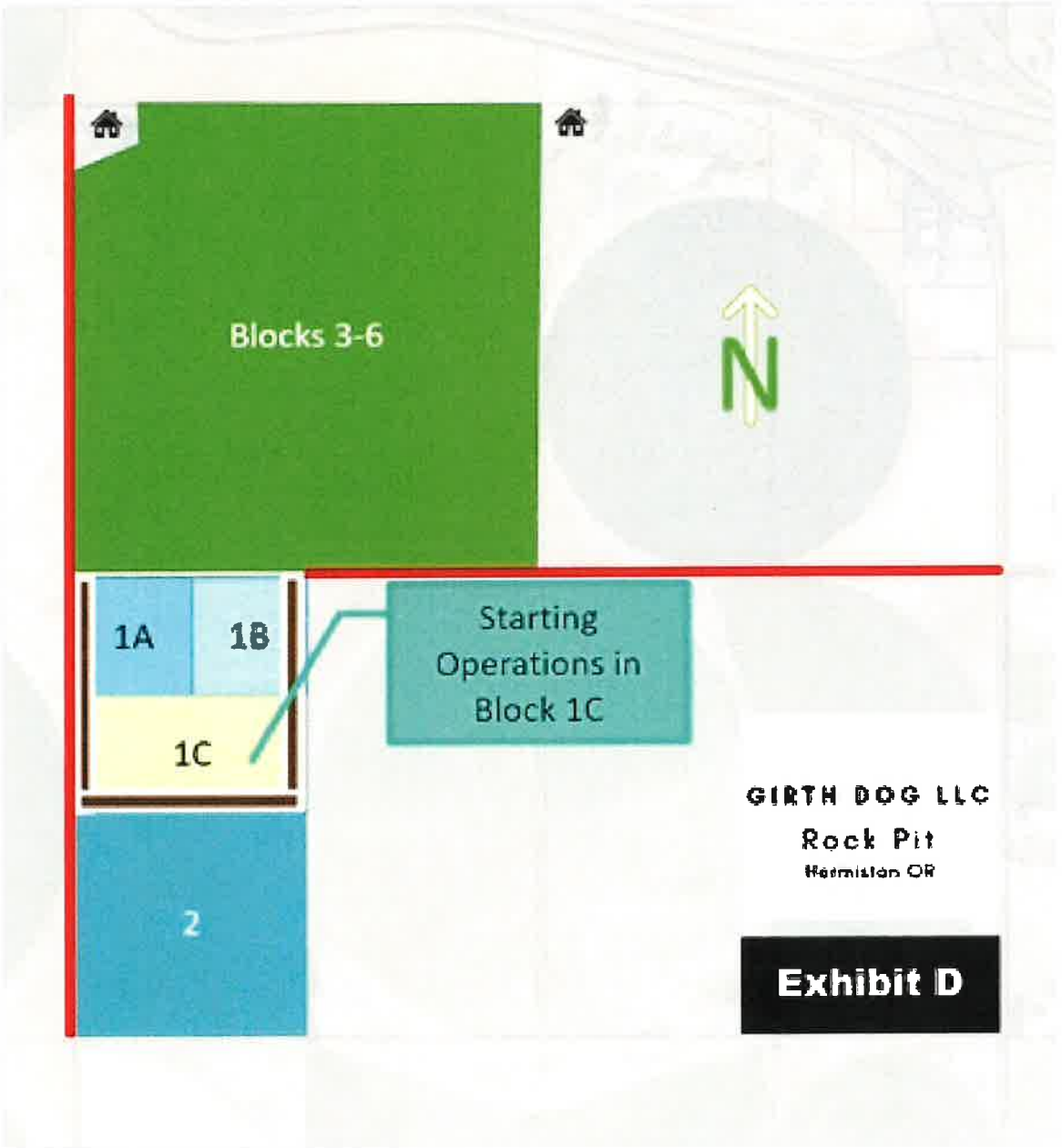
The berm will be built along the west of Blocks 1A and 1C east side of Blocks 1B and 1C as shown in Exhibit C.

All stockpiled soils will be used for reclamation of slopes and floor. All excess will be placed on the south end of Block 1.



Block 1C | Berms and Reclamation

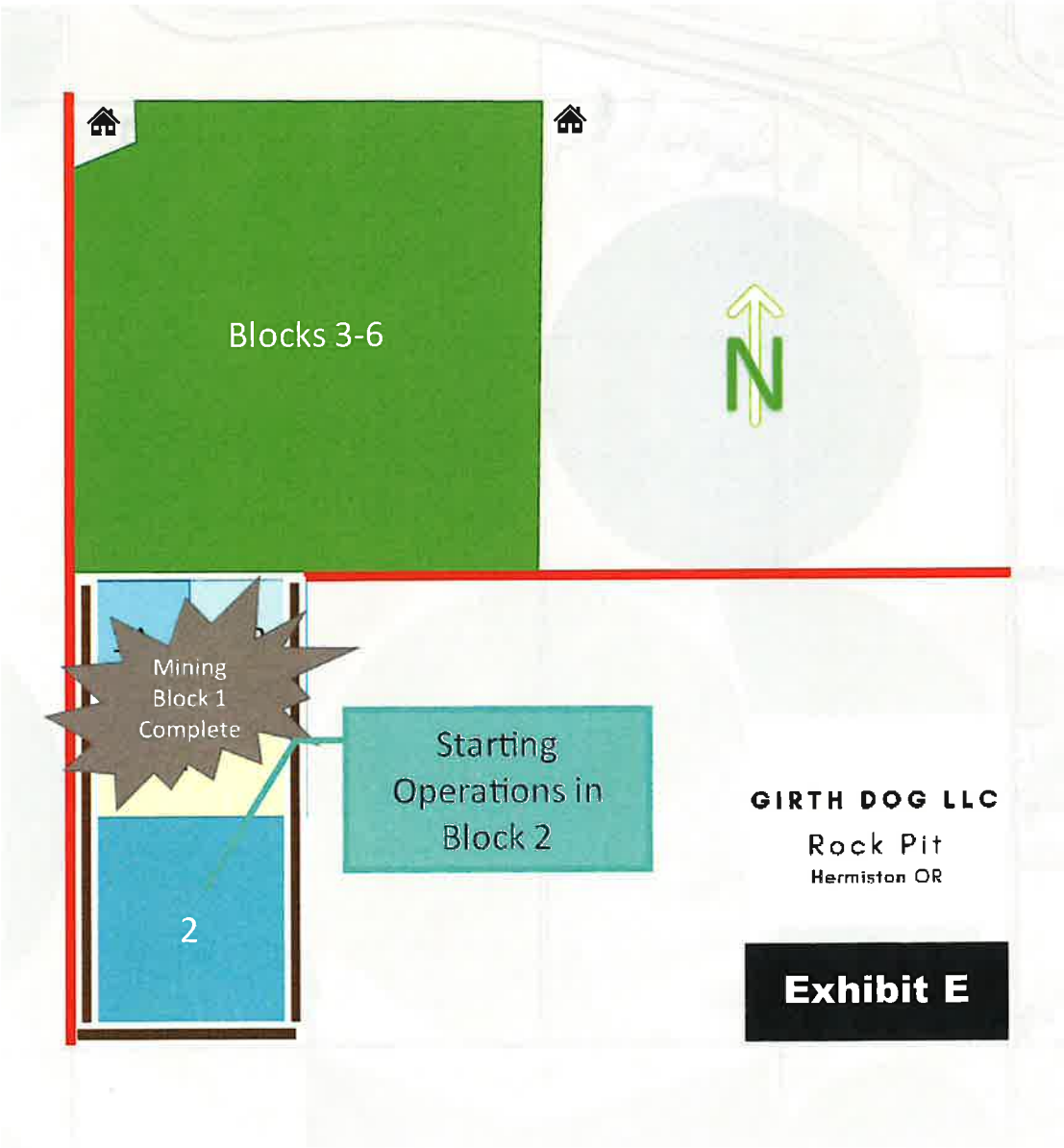
When expansion is required, we will move to Block 1C or the second half of Block 1. The stripped soils of approximately 58,600 CY at 2 feet (24 inches) plus the remaining stockpile from 1A & 1B will be placed at the south end of Block 1 and on the slopes of 1A and 1B for reclamation. (See Exhibit D).



Block 2 | Berms and Reclamation

After mining is completed in Block 1, we shall move to Block 2 and follow the same process (See Exhibit E):

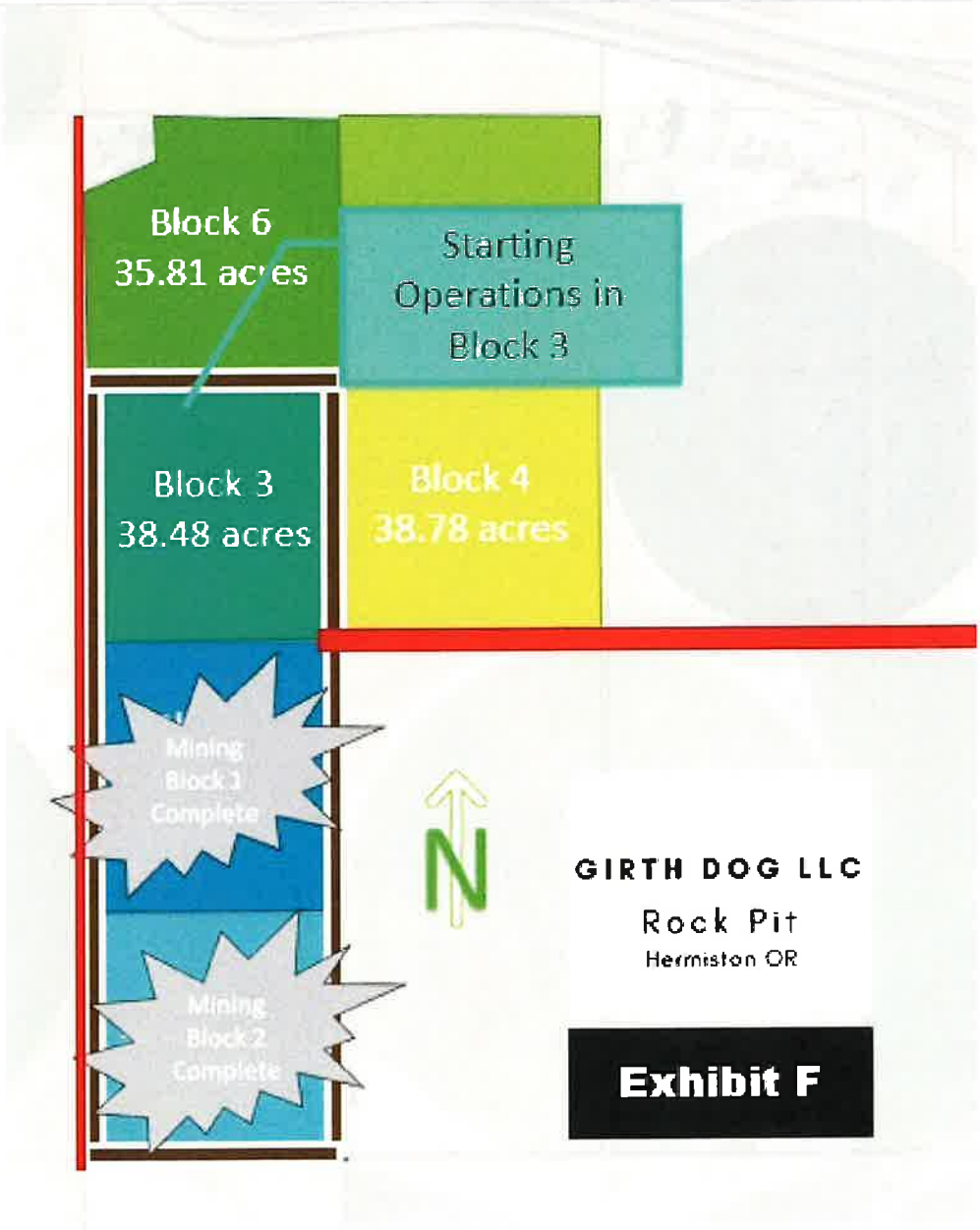
- Strip 2 feet of soil (117,225 CY)
- Build berms (6 feet tall by 32 feet wide)
- Excess stockpiled soils will be used to reclamation slopes and mine floors.



Block 3 | Berms and Reclamation

Following the mining completion of Block 2, our operations will move to Block 3 with the same process of operations as we did in Blocks 1-2 (See Exhibit F):

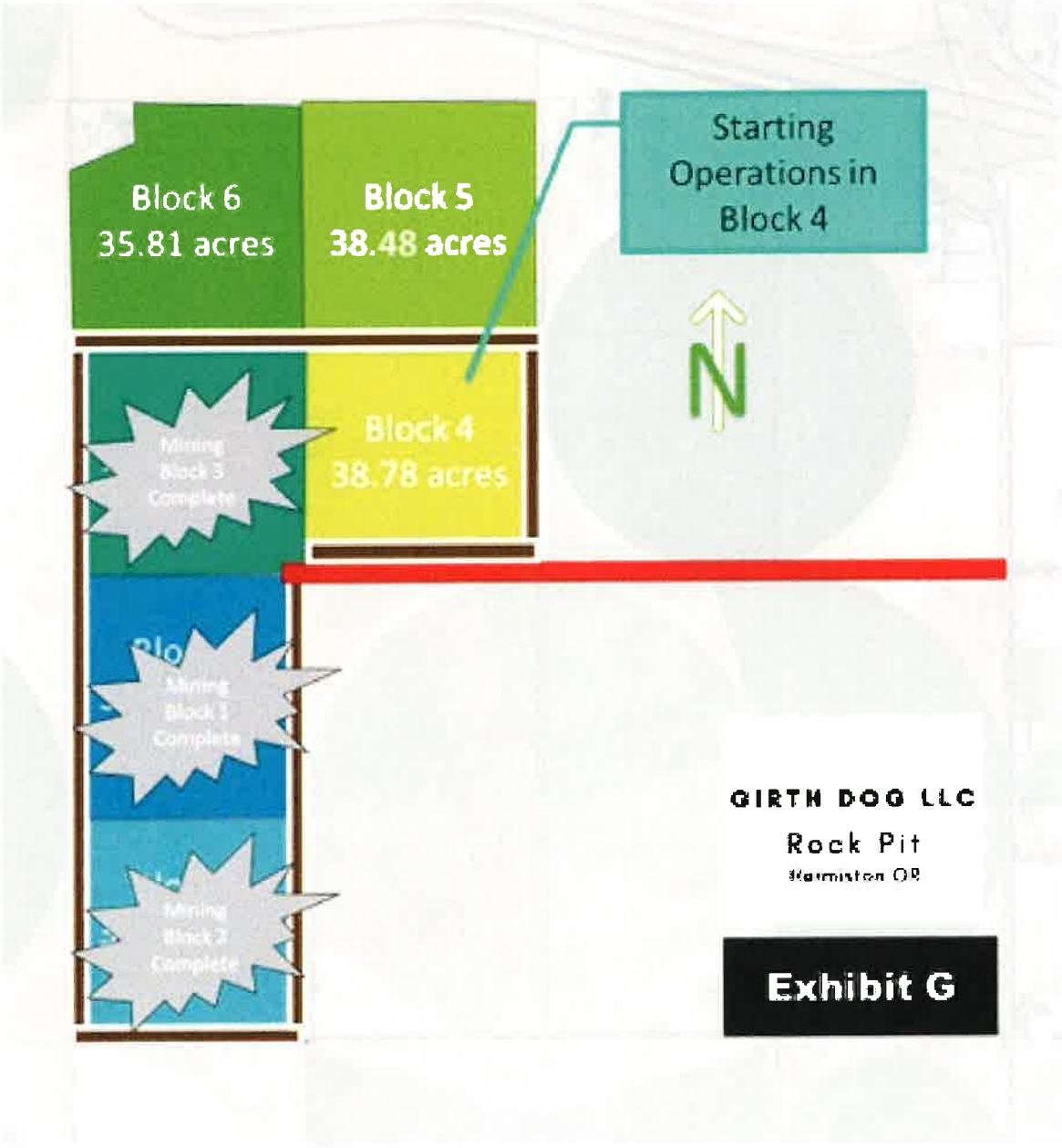
- Strip 2 feet of soil (124,160 CY)
- Build berms (6 feet tall by 32 feet wide)
- Excess stockpiled soils will be used to reclamation slopes and mine floors.



Block 4 | Berms and Reclamation

Following the mining completion of Block 3, our operations will move to Block 4 with the same process of operations as we did in Blocks 1-3 (See Exhibit G):

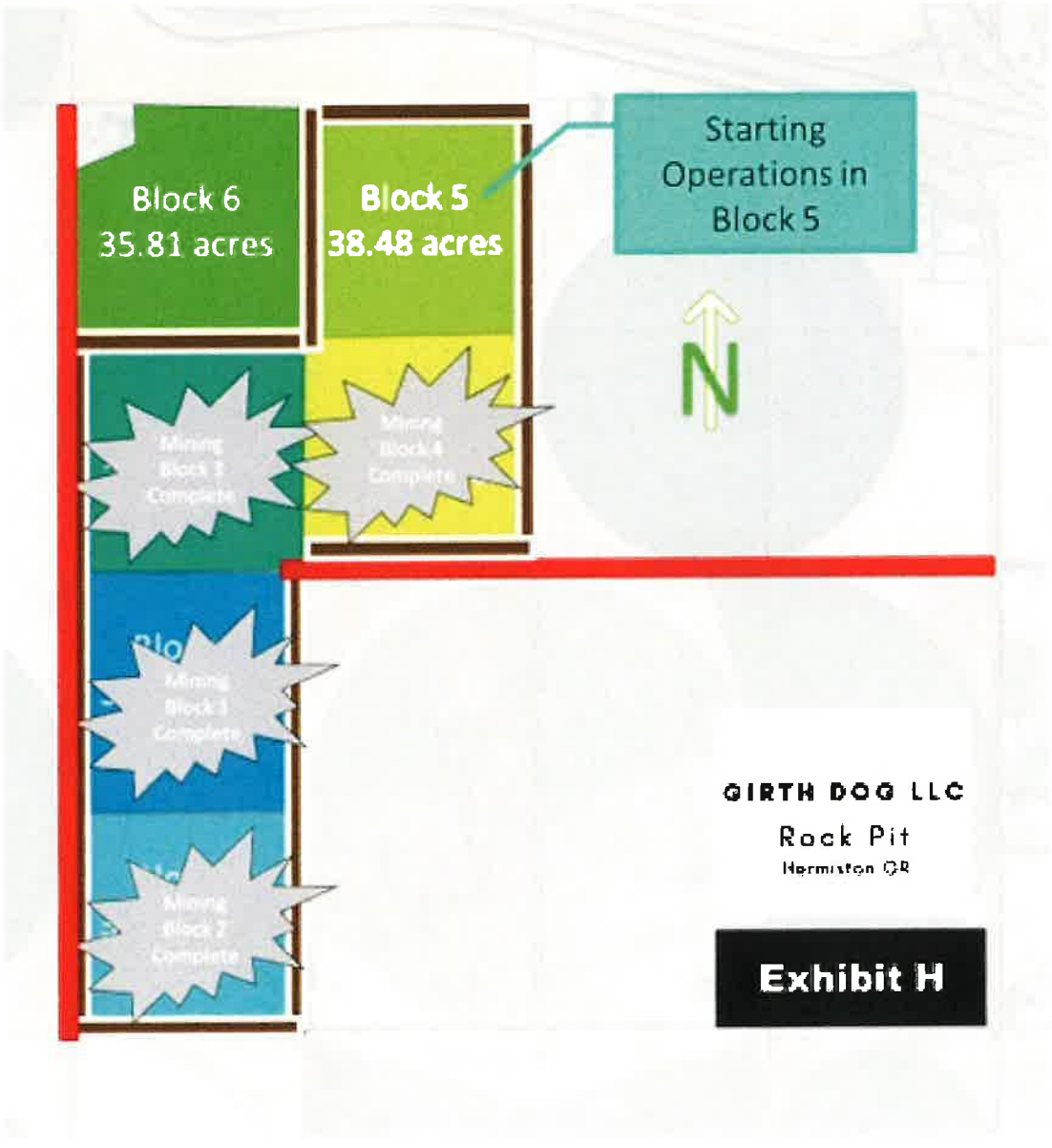
- Strip 2 feet of soil (125,130 CY)
- Build berms (6 feet tall by 32 feet wide)
- Excess stockpiled soils will be used to reclamation slopes and mine floors.



Block 5 | Berms and Reclamation

Following the mining completion of Block 4, our operations will move to Block 5 with the same process of operations as we did in Blocks 1-4 (See Exhibit H):

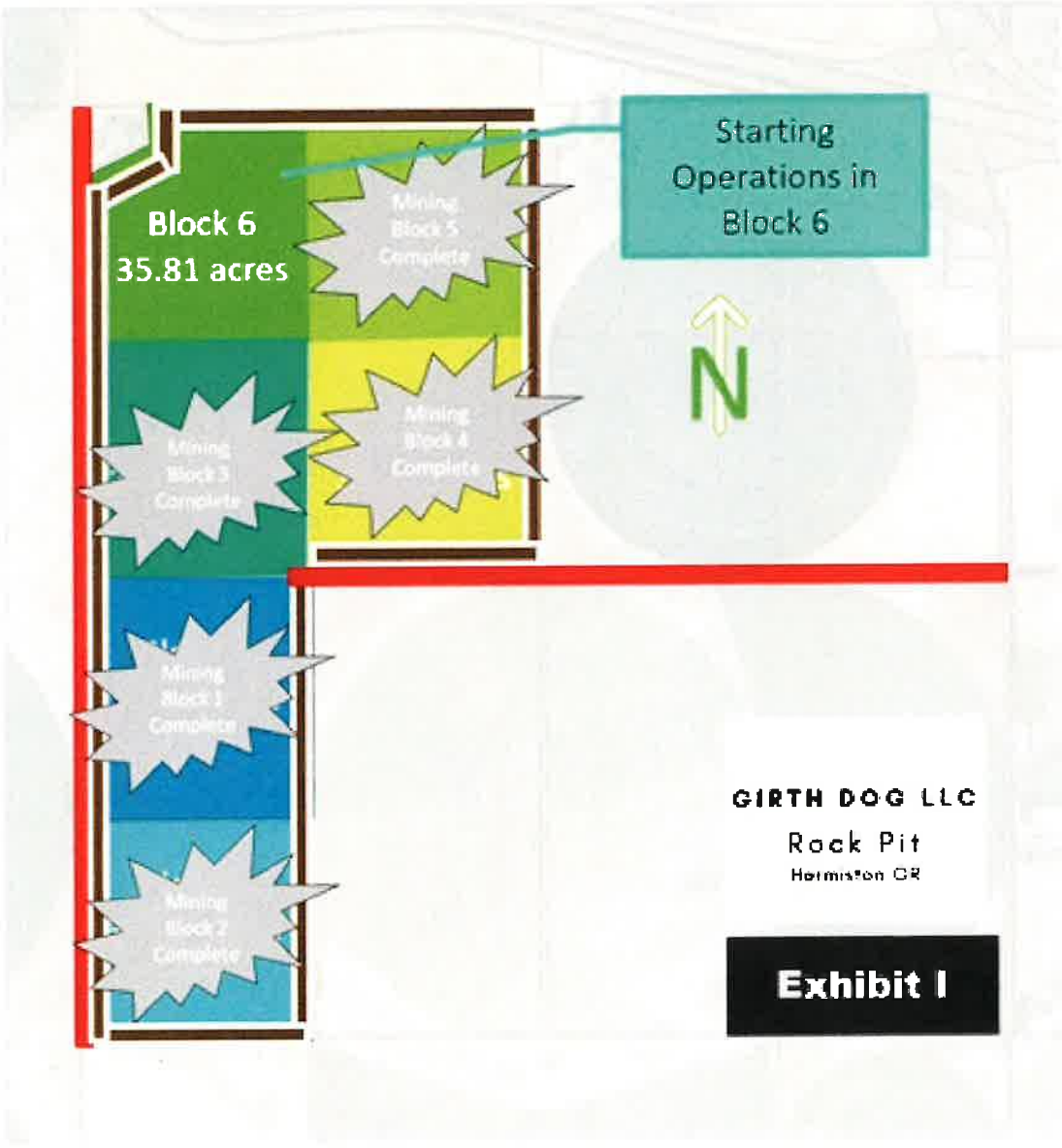
- Strip 2 feet of soil (124,160 CY)
- Build berms (6 feet tall by 32 feet wide)
- Excess stockpiled soils will be used to reclamation slopes and mine floors.



Block 6 | Berms and Reclamation

Following the mining completion of Block 5, our operations will move to Block 6 with the same process of operations as we did in Blocks 1-5 (See Exhibit I):

- Strip 2 feet of soil (115,550CY)
- Build berms (6 feet tall by 32 feet wide) on the west and north sides.
- Build berms (4 feet tall by 32 feet wide) on the parcel boundary of the Walker parcel in the northwest corner of Block 6 per the Walker's request.
- Excess stockpiled soils will be used to reclamation slopes and mine floors.



At this point, all six blocks will have been mined properly sloped at 2:1, the mine floors will be reclaimed with soil, and solar power generation operations will have been operational since Block 2 completion. The equipment in Block 1 will be removed, and then solar power generation operations can commence on Block 1.

~ the end ~

Girth Dog Sand and Gravel Mine – Assessment of Predicted Sound Levels

Date: December 9, 2024
Project name: Girth Dog Sand and Gravel Mine
Attention: Girth Dog, LLC
Sarah Curtis/Stoel Rives
Prepared by: Mark Bastasch, P.E. (OR), INCE Bd. Cert./Jacobs
Version: Final

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1. Introduction

1.1 Purpose

Jacobs was retained to review the Girth Dog, LLC (Girth Dog) proposed sand and gravel quarry concrete and asphalt batch plants near Hermiston, Oregon. The purpose of the review was to identify options available to Girth Dog for minimizing sound levels in accordance with the Oregon Department of Environmental Quality (DEQ) noise rule (OAR 340-035).

1.2 Reviewer Qualifications

This review was conducted by Mark Bastasch. Mr. Bastasch has more than 20 years of experience conducting acoustical evaluations and working with multimedia environmental permitting and design teams. He is one of approximately 20 individuals in the State of Oregon who holds an Acoustical Professional Engineering (P.E.) degree and is also Board Certified by the Institute of Noise Control Engineering. Mr. Bastasch was appointed by the Oregon State Board of Examiners for Engineering and Land Surveyors to develop and grade the P.E. exam in Acoustics. He is a member of the Acoustical Society of America and participates in American National Standards Institute (ANSI) standards development activities. Mr. Bastasch is a member of the U.S. National Committee Technical Advisory Group (TAG) to the technical committee with a focus on wind turbines. He served as a U.S. representative to the International Organization for Standards during its recent update to the calculation standard for sound propagation outdoors.

Mr. Bastasch's acoustical permitting and design experience extends throughout the U.S. power and infrastructure sectors and he has supported multiple design and engineer, procure, construct (EPC) efforts both domestically and internationally, each of which has fully complied with applicable regulatory limits. Internationally he served as lead acoustical consultant on Australia's largest coal seam, gas-fueled, air-cooled, combined-cycle power plant and domestically on Power Engineering's Best Gas-fired Project for 2013 (the Empire Generating Project in Rensselaer, New York). In Oregon, Mr. Bastasch has worked on numerous energy and infrastructure projects for both public and private clients. Additionally, he supported the joint Oregon DEQ and Oregon Department of Energy rulemaking proceedings that modified the Oregon Noise Rule to specifically address wind energy facilities.

2. Project Overview

Jacobs understands that the proposed facility will have three main processes: aggregate mining and gravel extraction, a batch concrete plant, and a batch asphalt plant. Aggregate from the mine will be

moved by a front-end loader or excavator and dropped into a hopper of the primary crusher. Crushed rock will then be screened consistent with required product specifications and subsequently stored in piles prior to being relocated to either the batch concrete or asphalt plants by front end loader. Power for the proposed facility will be supplied by a diesel-fueled generator. The process area, portable crushing site, aggregate stockpile, and topsoil stockpile locations are depicted on Figure 1. Note that Figure 1 is a plan or aerial view which does not depict that the location of these facilities will be below grade, in the hole excavated by the sand and gravel mine. When such excavations result in blocking the line-of-sight between the noise source and the noise receiver, they act as a noise barrier to further reduce the level of noise at the receiver beyond the reduction afforded by distance alone.

The closest residence, R01, to the various processing activities on Parcel 1800 is over approximately 2,300 feet to the north. An additional residence, R02, was identified approximately 3,000 feet to the northeast. R02 is noted to be immediately adjacent to or on the Rock It, LLC, mine and processing parcel. Both R01 and R02 are in relatively close proximity to Interstate 84. Additional residences that are not depicted on Figure 1 are over approximately 4,000 feet away to the west and south.

3. Acoustical Overview

Decibels cannot be directly added arithmetically (for example, 50 dBA plus 50 dBA does not equal 100 dBA). When two sources of equal level are added together, the result will always be 3 dB greater (for example, 50 dBA plus 50 dBA equals 53 dBA, and 70 dBA plus 70 dBA equals 73 dBA). If the difference between the two sources is 10 dBA, the level (when rounded to the nearest whole dB) will not increase (for example: 40 dBA plus 50 dBA equals 50 dBA, and 60 dBA plus 70 dBA equals 70 dBA).

The decrease in sound level caused by distance from any single sound source normally follows the inverse square law; that is, the sound pressure level changes in inverse proportion to the square of the distance from the sound source. In a large open area with no obstructive or reflective surfaces, it is a general rule that at distances greater than approximately the largest dimension of the noise-emitting surface, the sound pressure level from a single source of sound drops off at a rate of 6 dB with each doubling of the distance from the source. Sound energy is absorbed in the air as a function of temperature, humidity, and the frequency of the sound. This attenuation can be up to 2 dB over 1,000 feet. The drop-off rate will also vary based on terrain conditions and the presence of obstructions in the sound's propagation path. These factors are considered in the development of acoustical models.

The sound level attributable to project activities at any particular location will primarily depend on the sound level of the source, the distance between the source and the receiver, and any minimization measures that apply to the source, the path between the source and receiver, or the receiver itself. Distance often provides the primary and greatest reduction in sound level in sparsely populated areas. When compared to the source sound level reference distance of 50 feet, the sound level at 2,300 feet would be reduced by 33 decibels. That is, activities that yield 80 dBA when evaluated at 50 feet would be reduced by distance alone to 47 dBA (80 – 33 = 47). For comparison purposes, a sound level reduction of 10 dB is considered half as loud and 20 dBA would be one-quarter as loud. At a distance of 3,000 feet, the distance reduction would be 36 dBA and at 4,000 feet it would be 38 dBA. Sound barriers, acoustical enclosures, and/or acoustical silencers and mufflers would provide additional reductions beyond those afforded by distance alone. A typical minimum sound barrier reduction would be 5 dBA for a barrier or berm that just blocks the line-of-sight between the source and receiver while more typical reductions for a well-designed barrier would be expected to exceed 10 dBA and may approach or exceed 20 dBA. Acoustical enclosures, silencers, and mufflers may be designed to provide substantially greater levels of additional sound reduction.

4. Oregon DEQ Sound Regulations

Noise standards promulgated by DEQ are contained in OAR 340-035-0035, Noise Control Regulations for Industry and Commerce (DEQ Noise Rules). The DEQ Noise Rules provide two types of noise limits for new industrial or commercial noise sources on a previously unused site.[1] Specifically, OAR 340-035-0035(1)(b)(B)(i) limits the increase over existing ambient levels to 10 dBA while ensuring that a given project does not exceed the levels identified in Table 8 of the OAR.

Table 1 contains the "Table 8" statistical noise limits referenced in the DEQ Noise Rules. The lowest sound level limits are established for the L_{50} metric (the L_{50} is the median, where 50 percent of the hourly measurement interval is above this level and 50 percent is below).

Table 1. New Industrial and Commercial Noise Source Standards (Oregon DEQ "Table 8" Limits)

Statistical Descriptor	Daytime (7 a.m. – 10 p.m.) (dBA)	Nighttime (10 p.m. – 7 a.m.) (dBA)
L_{50}	55	50
L_{10}	60	55
L_1	75	60

Source: OAR 340-35-0035, Table 8.
https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=318370

Given the presence of Interstate 84 as well as Rock It, LLC's, operations, the DEQ "Table 8" sound level limits are anticipated to be the controlling noise criteria. In addition, OAR 340-035-0035(1)(f) establishes standards that regulate octave band sound pressure levels and audible discrete tones. Such standards can be applied by DEQ when it believes the limits discussed above do not adequately protect the health, safety, or welfare of the public.

OAR 340-035-0035(5) provides exemptions for emergency equipment, warning devices not operating continuously for more than 5 minutes, sounds that originate on construction sites, and sounds created in construction or maintenance of capital equipment.

The noise limits apply at "appropriate measurement points" on "noise-sensitive property." The "appropriate measurement point" is defined in the DEQ Noise Rules under OAR 340-35-0035(3)(b) as whichever of the following is farther from the noise source:

- 25 feet (7.6 meters) toward the noise source from that point on the noise-sensitive building nearest the noise source
- That point on the noise-sensitive property line nearest the noise source

"Noise-sensitive property" is defined in OAR 340-35-0015(38) as "real property normally used for sleeping, or normally used as schools, churches, hospitals, or public libraries. Property used in industrial or agricultural activities is not noise-sensitive property unless it meets the foregoing criteria in more than an incidental manner."

[1] A "previously unused industrial or commercial site" is defined in OAR 340-035-0015(47) as property which has not been used by any industrial or commercial noise source during the 20 years immediately preceding commencement of construction of a new industrial or commercial source on that property.

5. Project Sound Levels

Heavy equipment sound levels were published in the Federal Highway Administration's (FHWA's) *Roadway Construction Noise Model* (FHWA 2006) and the Federal Transmit Administration's *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018). The report data represent one of the most recent and comprehensive tabulation of noise from common pieces of heavy equipment associated with construction. FHWA data indicate that a concrete batch plant is expected to yield a sound level of 83 dBA at 50 feet while a front-end loader would be 80 dBA at 50 feet. Generator sound levels are identified as 82 dBA at 50 feet, though substantially lower sound levels may be achieved with custom enclosures and silencers (e.g., 55 dBA at 50 feet). Asphalt plant sound levels are not published by FHWA; however, data from others indicate sound levels of approximately 76 dBA at 50 feet and that an attenuated asphalt plant, incorporating burner and stack silencers as well as acoustical cladding, was approximately 65 dBA at 50 feet (URS 2014; WBM 2017).

Data collected at an aggregate mine with rock processing, concrete batch plant operations (referred to as Ready Mix Plant) and an asphalt plant are in general agreement with these levels (LSA Associates, Inc. 2006). Concrete batch plant sound levels were measured as 79 dBA at 50 feet; rock processing was reported as ranging between 76 to 79 dBA at 50 feet including some background noise; and asphalt plant operations varied between 74 to 78 dBA at 50 feet and aggregate mining yielded 77 dBA at 50 feet.

Based on the published sound levels stated above, it is reasonable to assume a reference sound level of 83 dBA at 50 feet from the concrete batch plant, 79 dBA at 50 feet from the rock processing plant, 76 dBA at 50 feet from the asphalt plant, 60 dBA at 50 feet from a generator, and two front-end loaders each at 80 dBA at 50 feet, results in a combined average sound level of 87 dBA at 50 feet. As discussed above, distance attenuation to 2,300 feet provides a 33 dBA reduction, resulting in 54 dBA at 2,300 feet. This is less than the "Table 8" daytime criteria of 55 dBA. A minimally effective barrier would be expected to provide at 5 dBA reduction which would yield 49 dBA, less than the "Table 8" nighttime criteria of 50 dBA while a well-designed barrier would be expected to provide a reduction of 10 to 15 dBA. Implementation of additional noise minimization measures, such as shielding by terrain when the equipment is located within the excavated hole, addition of well-designed noise barriers, and installation of enclosures, silencers, or mufflers, would be expected to further reduce sound levels. As detailed engineering and design progresses, equipment layout and specifications are developed, and project-specific vendor submittals are reviewed, the project will develop appropriate minimization measures to meet the DEQ noise requirements.

Planned nighttime operations are limited, consisting primarily of early mornings hours (potentially a 4 a.m. start for the concrete batch plant) to facilitate morning deliveries of construction materials. No operations are planned past 10 p.m. with the concrete batch plant expected to stop operations around 1 p.m. while the asphalt batch plant would stop operations around 5 p.m. Active mining operations would primarily be limited to daytime hours, particularly when working near noise-sensitive uses. Based on simultaneous daytime operations of the rock processing, concrete, and asphalt batch plants reference sound level of 87 dBA at 50 feet and implementing a well-designed barrier to achieve a 10 dBA reduction, 77 dBA at 50 feet yields an expected processing sound level of 44 dBA at the closest sensitive receptor, 2,300 feet away. Based on the published data for aggregate mining of 77 dBA at 50 feet, an acoustical buffer of 700 feet from noise-sensitive receptors is expected to maintain a sound level that complies with the "Table 8" limit of 55 dBA. Barriers, particularly those that would naturally occur as mining proceeds to a depth that the equipment is in a hole and naturally shielded, would allow this buffer distance to progressively decrease. For example, once equipment is operating at a depth at which the inherent shielding afforded by the excavation provides a 10 dBA reduction, aggregate mining activities are expected to yield 55 dBA at a distance of 200 feet.

6. Conclusion

Based on published sound data for similar operations and experience in evaluating reductions from barriers as well as other standard acoustical minimization measures, it is reasonable to conclude that a well-designed and executed project can satisfy the DEQ noise requirements. As detailed engineering and design progresses, equipment layout and specifications are developed, and project-specific vendor submittals are reviewed, the project will develop appropriate minimization measures to meet the DEQ noise requirements. In other words, there are multiple measures that the facility could implement to minimize any potential conflicts from noise.

7. References

Federal Highway Administration (FHWA). 2006. *Roadway Construction Noise Model.*

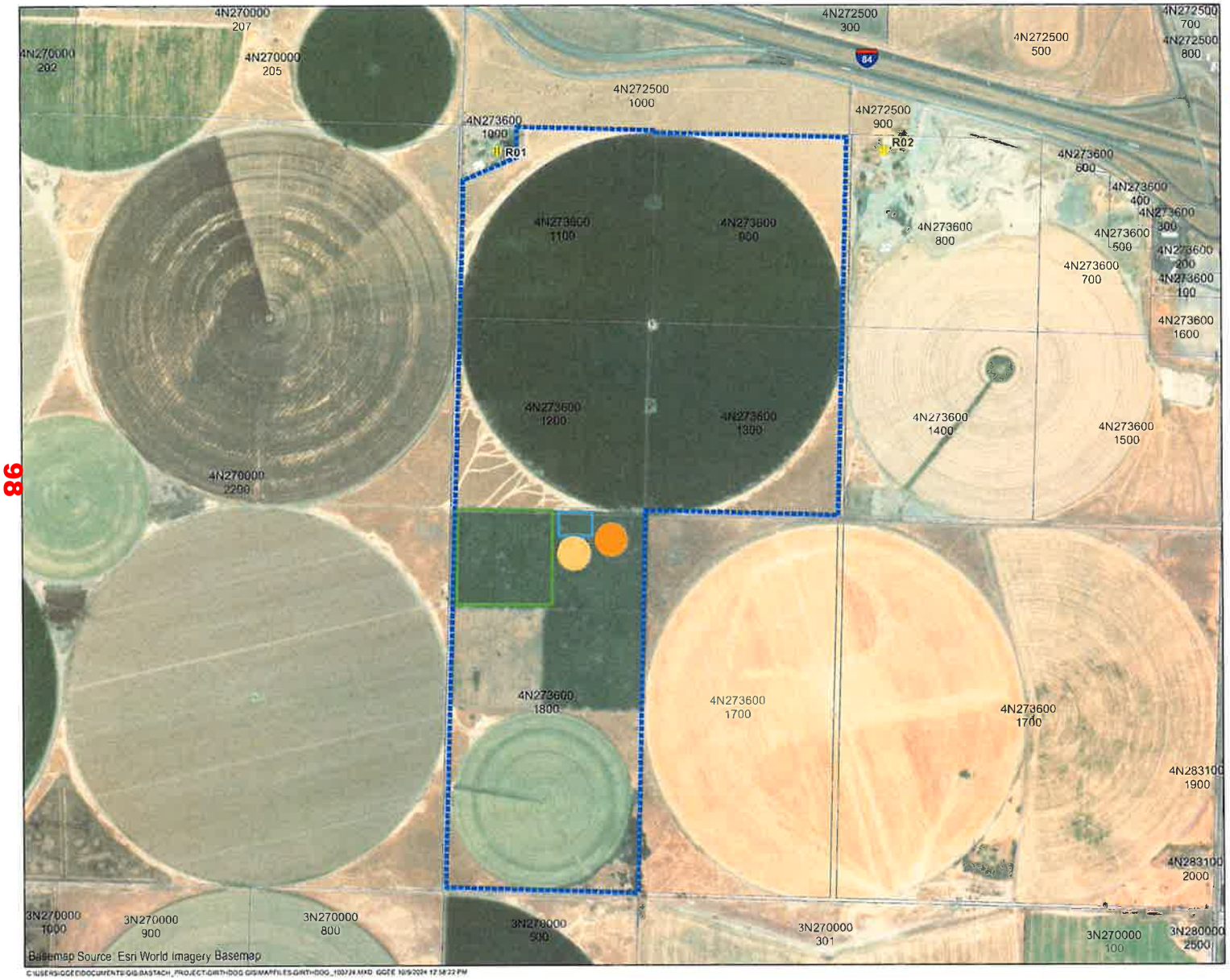
Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual.* FTA Report No. 0123. September.

LSA Associates, Inc. 2006. *Noise Impact Analysis – Sanger-Centerville Project.* October. https://www2.co.fresno.ca.us/4510/4360/environmental/7-4Sanger-CentervilleDraftEIR-Appendices/Appendix%20J%20-%20Noise%20Assessment.pdf.

URS. 2014. *Noise Assessment: St. Mary's Airport Construction Compound.* January. https://www.scilly.gov.uk/sites/default/files/planning-apps/planning-application-p/14/004/P-14-004%20Noise%20Assessment.pdf.

Walker Beak Mason Partnership (WBM). 2017. *Installation and Operation of an Asphalt Plant Concrete Batching Plant, Gully Waste Processing Ancillary Development and Access Plots 6 & 7, North Quay Road, Newhaven.* https://apps.eastsussex.gov.uk/environment/planning/applications/register/documents/datawright%20saved%20documents/scannedinfo/planning/lw-789-cm(eia)/part%208a%20noise%20assessment.pdf.

Figure



86

Figure 1
Nearby Sensitive Receptors
Girth Dog LLC
Hermiston, Oregon
Umatilla County

Jacobs

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January 17, 2025

Project #: 28044

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

RE: Aggregate Overlay Zone/Girth Dog Pit Transportation Assessment LUBA Response Letter

BACKGROUND

Kittelson & Associates, Inc. prepared a detailed transportation assessment to support a proposed plan amendment and zone map amendment for a new aggregate mining operation. This report titled *Aggregate Overlay Zone/Girth Dog Pit Transportation Assessment* and was submitted to Umatilla County and dated August 5, 2022.

In 2023, the aggregate mining plan amendment and zone map amendment application was appealed to Oregon's Land Use Board of Appeals (LUBA). As part of LUBA's No. 2023-033 response, it was correctly found that the October 20, 2022 *Aggregate Overlay Zone/Girth Dog Pit Transportation Assessment* did not address or account for water truck trips in the trip count estimate. This letter is therefore a response to that finding and a formal quantification/documentation of water truck trips.

WATER DELIVERIES

As part of the October 20, 2022 *Aggregate Overlay Zone/Girth Dog Pit Transportation Assessment*, detailed discussions were had with the applicant and operators of other aggregate operations in the region to quantify the daily trip making potential of the proposed aggregate mining operation. While this effort resulted in a detailed and relatively conservative estimate of daily trip making characteristics, water deliveries to the site were not accounted for. To address this omission, Kittelson has reviewed the October 25, 2024 *Fugitive Dust Impacts from Proposed Sand and Gravel Quarry* report authored by Maul Foster Alongi. In this report, it was determined that the proposed site will need water deliveries to support operations of the concrete batch plant (water for sand washing) and to provide on-site dust mitigation (road watering to control dust generated by the movement of on-site vehicles). Using the professional estimates provided in this report, the average number of daily water tanker trucks were found to equate to a maximum of 3 truck deliveries per day. This quantification is summarized below.

Concrete Batch Plan – Water for Sand Washing

- 230 Annual Water Tanker Trucks (operating 44 weeks/year and 7 days/week)
  - ((230 annual water deliveries/44 weeks))/7 weekdays = ~1 water tanker truck per day

Overall Site – Water for Spraying Roadways

- 476 Annual Water Tanker Trucks (operating 52 weeks/year and 7 days/week)
  - ((476 annual water deliveries/52 weeks))/7 weekdays = ~2 water tanker trucks per day

For consistency with the overall trip generation used in the transportation assessment, a revised daily and weekday peak hour trip generation estimate has been provided in Table 1.

Table 1 – Revised Daily and Peak Hour Trip Generation Estimate

Land Use	Daily Trips	Weekday AM Peak Hour (7:55-8:55 AM)			Weekday PM Peak Hour (4:15-5:15 PM)		
		Total	In	Out	Total	In	Out
Rock Crushing							
- Staff[1]	16	0	0	0	0	0	0
- Rock Deliveries[2]	80	8	4	4	8	4	4
Concrete Batch Plant							
- Staff[1]	4	0	0	0	0	0	0
- Load Deliveries[2]	30	2	1	1	0	0	0
- Water Deliveries for sand washing[3]	2	2	1	1	0	0	0
Asphalt Batch Plant							
- Staff[1]	4	0	0	0	2	0	2
- Load Deliveries[2]	30	0	0	0	2	1	1
Administration/Misc. Operations							
- Staff[1]	6	3	3	0	3	0	3
- Misc. Deliveries/Visitors	10	2	1	1	2	1	1
- Water Deliveries for road watering	4	2	1	1	0	0	0
Total	**176**	**19**	**10**	**7**	**17**	**6**	**11**

[1] Each employee was assumed to generate 2 daily trips (1 in, 1 out)
[2] Each delivery was assumed to generate 2 daily trips (1 exit for delivery, 1 return from delivery)
[3] Each water delivery was assumed to generate 2 daily trips (1 for entry to the site, 1 for exit from the site)

As shown in Table 1, three water truck deliveries per day will result in six additional daily trips (3 inbound water tanker trucks and 3 outbound water tanker trucks). Assuming the three deliveries are spread throughout a typical work day, it is likely that only one water tanker truck will occur during one of the study peak study periods. Given this minimal increase in site-generated trips, the findings from the October 20, 2022 *Aggregate Overlay Zone/Girth Dog Pit Transportation Assessment* and still valid and the proposed aggregate mining operation is not expected to have a significant effect on the surrounding transportation network or require offsite transportation improvements.

Please let us know if you have any questions.

Sincerely,
KITTELSON & ASSOCIATES, INC.

Matt Hughart

Matt Hughart, AICP
Principal Planner

MAUL FOSTER ALONGI
6 Centerpointe Drive, Suite 360 | Lake Oswego, OR 97035 | 971 713 3590 | www.maulfoster.com

October 25, 2024

Project No. M2671.01.001

Girth Dog, LLC
29730 Stafford Hansel Rd.
Hermiston, Oregon 97838

Re: Fugitive Dust Impacts from Proposed Sand and Gravel Quarry

Girth Dog, LLC,

Maul Foster & Alongi, Inc. (MFA) was retained to prepare an analysis of fugitive dust impacts and prepare a fugitive dust plan for the Girth Dog, LLC (Girth Dog) proposed sand and gravel quarry and concrete and asphalt batch plants near Hermiston, Oregon (proposed operations). Attached you will find a technical memorandum estimating emissions for your proposed operations and recommending a number of mitigation measures and best management practices. After a careful review of your proposed operations, their proposed scale, and location, and assuming implementation of the recommended mitigation measures, MFA does not believe the site will affect the continued successful agricultural, commercial, or industrial use of any surrounding properties for the following reasons.

Size of Particulate

In the attached Fugitive Dust Mitigation Memo MFA has quantified the maximum fugitive dust emissions from the proposed operations, assuming mitigation measures are deployed, and described the type and size of particulate emissions that can be expected. Given that the fugitive dust emissions will be relatively coarse (see discussion in attached memo), it is expected that most of the dust generated by the proposed operations will settle out before reaching the Girth Dog property boundary. Any remaining fugitive dust will be widely dispersed and likely to stay suspended in the atmosphere for up to several miles. Dispersion will significantly reduce the concentration of particulate at any one location. Dispersion for the proposed operations is aided by two aspects of the operations plan, the distance to property boundary from the sources of emissions and the spread of the emission sources around the property. For instance, paved and unpaved road dust emissions take place across the property and those emissions will not have the same effect at the same downwind receptors because the location of emissions is always changing. Road dust emissions account for over 70 percent of the estimated fugitive dust emissions from the proposed operations. Due to the deposition of the majority of particulate on the Girth Dog property, MFA does not expect any emissions to be noticeable on surrounding properties.

Scale of Operations

While the proposed property for operations is quite large, the scale of the quarry operations is relatively small. The maximum annual amount of quarried rock is projected to be 117,710 tons. This will serve rock sales as well as the proposed concrete and asphalt batch plants. By contrast, there

are other quarries in the area with much greater throughput. For instance, Rock It LLC, crushed 330,497 tons of rock in 2023 as reported to the Oregon Department of Environmental Quality. Rock It LLC sits directly adjacent to Interstate 84 with one location adjacent to the Girth Dog, LLC property boundary. While anecdotal, to MFA's knowledge there have not been any fugitive dust issues associated with Rock It LLC, even at a scale that is almost three times larger than the proposed operations. As a result, it is MFA's opinion that the much smaller proposed operations will not have any issues with offsite dust impacts to agricultural, industrial or commercial property uses.

Location of Operations

According to the Western Regional Climate Center, the historical prevailing wind for Hermiston, Oregon is from the west southwest to south.[1] This means the wind will predominantly disperse fugitive dust from the proposed operations to the north and east northeast. The Rock It LLC quarry operation is located in this path, but over one-half mile from the proposed operations area, meaning that nearly all fugitive dust will deposit on Girth Dog property. Additionally, the primary source of fugitive dust emissions, the paved and unpaved road travel, will occur at least 1,600 feet from the active locations of the Rock It LLC quarry and be well dispersed along the roadway. Ninety nine percent of the particulate generated from the road dust is expected to be deposited within a few hundred feet due to the coarse particle size. While anecdotal, it should be noted that the Rock It LLC quarry northeast of the proposed operations is a little over 100 feet from the neighboring Greyhound bus station and Chevron gas station. If this quarry is able to operate in such close proximity to commercial operations on neighboring properties it is unlikely that the Girth Dog operations will have an impact when sources of dust are located more 1,600 -2,800 feet away.

Improvement Over Time

While it is MFA's professional opinion that, with implementation of the recommended mitigation, there will not be offsite impacts from the proposed operations at any time, it should be noted that the facility equipment will be moving further below grade over time as the quarry deepens. This will further reduce the impact of prevailing winds and result in particle deposition even closer to the quarry operations.

Potential for Improvement if Needed

In the attached technical memorandum, MFA has outlined a number of mitigation measures and best practices that will significantly reduce the generation of fugitive dust emissions. As previously stated, it is MFA's professional opinion that these mitigation measures will prevent noticeable offsite impacts. The following is a list of mitigation measures that will be employed by the proposed operations:

- Install and operate a wet suppression system at exit of the primary crusher and both cone crushers. (70-90 percent reduction in emissions)
- Spray water onto the storage piles at regular intervals during the dry periods of the year to increase the moisture content of the stored material. (90 percent reduction in emissions)
- Install and operate a wet suppression system at the primary screen and wash screen, and to the materials on the conveyor belts feeding the finish screen. (70-90 percent reduction in emissions)

[1] Western Regional Climate Center, data from 1992-2002 for Hermiston, Oregon, https://wrcc.dri.edu/Climate/comp_table_show.php?stype=wind_dir_avg

- Operate a baghouse for control of concrete silo emissions released during unloading. (99 percent emission control)
- Operate a mister at the concrete batch plant and load concrete mix into trucks that already contain the water needed for the wet mix.
- During loading of rock, the facility will limit the height of the rock drop distance into the customers trucks to no more than 10 feet.
- Add concrete mix into trucks that already contain water.
- Limit the speed of all vehicles to no greater than 10 miles per hour on paved roads and 5 miles per hour on unpaved roads. Speed limit signs will be posted along roads throughout the proposed facility. Speed control at the facility is expected to reduce fugitive road dust emissions by 44 percent.
- The proposed facility will implement twice daily watering during days where there is no precipitation, and the temperature is greater than 32 degrees Fahrenheit, to unpaved roads. Water will be applied by a truck driving around the proposed facility. Twice daily watering of the unpaved roads is expected to reduce fugitive road dust emissions by up to 74 percent
- The proposed facility will promptly remove aggregate or earthy materials accumulated on paved roads within the proposed facility property boundary as necessary. This control strategy is expected to reduce fugitive road dust emissions on paved roads by up to 90 percent.

The following is a list of facility-wide best practices that will be employed by the proposed operations to assist in minimizing fugitive emissions:

- Prepare an official Fugitive Dust Control Plan that includes all information as required by Oregon Administrative Rule 340-208-0210(1).
- Implement wind breaks such as fences and berms, and revegetate sparse areas throughout the proposed facility, wherever practical.
- Install and maintain dust curtains around material transfer points where practical. The dust curtains will reduce air movement and restrict exposure to windy atmospheric conditions.
- Place wind breaks or barriers (e.g., berms or walls) around the storage pile extents, where feasible, to reduce the total surface area exposed to wind.
- Conduct daily inspections of the water systems used to control fugitive dust emissions to confirm their operation. Any corrective actions will be documented in a recordkeeping log.
- Conduct monthly 10-minute visible emissions tests using U.S. Environmental Protection Agency Method 22 at the property boundary. This method is used to determine whether there is any observable particulate matter leaving the property. Observations and any corrective actions will be maintained at the proposed facility in a recordkeeping log.
- Record and promptly investigate all public complaints. Observations and any corrective actions will be maintained at the proposed facility in a recordkeeping log.

In conclusion, there is no reason to believe that fugitive dust from the proposed operations will have any impact on surrounding property uses of any kind. Girth Dog is opting to utilize many mitigation

measures and best practices that will be effective at minimizing dust. If you have any questions about the conclusions of our analysis, please reach out to Chad Darby at (503) 523-7142.

Chad Darby
Principal Air Quality Consultant

Andrew Rogers, CCM
Air Quality Meteorologist

Attachments

Limitations

A—Fugitive Dust Mitigation Memorandum

Limitations

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

Attachment A

Fugitive Dust Mitigation Memorandum

MAUL FOSTER ALONGI

Technical Memorandum

To:	Craig Coleman	Date:	October 25, 2024
From:	Maul Foster & Alongi, Inc.	Project No.:	M2671.01.002
Re:	Fugitive Dust Mitigation Memorandum		

Girth Dog, LLC (Girth Dog) retained Maul Foster & Alongi, Inc. (MFA) to prepare a Fugitive Dust Mitigation memo (fugitive dust plan) for their proposed quarry and batch concrete and asphalt plants (proposed facility) located at 29730 Stafford Hansel Road in Hermiston, Oregon. This fugitive dust plan includes emission estimates of particulate matter (PM) and control strategies to mitigate fugitive particulate emissions from equipment and roadways at the proposed facility.

Facility Background

MFA understands there will be three main processes at the proposed facility: Aggregate mining and gravel extraction, a batch concrete plant, and a batch asphalt plant. During the aggregate mining and graveling process, aggregate from the mine will be moved by a front end loader or excavator and dropped into a hopper prior to entering the primary crusher. Crushed rock exiting the primary crusher will be conveyed to initial screening. Screened overs (e.g., larger diameter rocks) will be conveyed to two sets of cone crushers and a finishing screen to further reduce the aggregate to an acceptable size, depending on the required product specification. Crushed rock passing through the screening processes, will be dropped into storage piles prior to being relocated to either the batch concrete or asphalt plants by front end loader. Power for the proposed facility will be supplied by a Caterpillar 3512 diesel-fueled generator.

Unders from the initial screening (referred to as "scalp") will be transferred by front end loader to the batch concrete plant where it will be sorted, via a washing screen, into three distinct storage piles depending on the aggregate size, at the batch concrete plant. The three storage piles will be designated for ¾-inch minus diameter round rock, ¼-inch minus diameter pea gravel, and sand. Stored material will be moved into holding bins by a front end loader prior to entering a weigh hopper via a conveying belt. The weighed material will be conveyed to a final hopper where it will be mixed with cement powder and unloaded into concrete mixing trucks containing water prior to being delivered to offsite customers. Portland cement will be delivered to the proposed facility by haul truck and stored in a silo near the truck loadout area. Exhaust generated during filling of the cement silo and the batch concrete plant will be routed to a downstream baghouse control device.

Unders from the finishing screen will be sorted into one of four storage piles; (1) small (less than ¼-inch diameter aggregate), medium (¼-inch to ¾-inch diameter aggregate), large (¾-inch to 1-¼-inch diameter aggregate), or specialty rock (size varies). Due to the nature of the batch process, only one size of aggregate will be produced at any given time. Aggregate from the small, medium, or large diameter aggregate storage piles will be moved, via front end loader, to the asphalt plant. Specialty rock will be picked up directly by customers.

Aggregate will be kept in separate storage piles at the asphalt plant. A front end loader will be used to transfer the stored aggregate into one of three hoppers, depending on the size diameter. A fourth hopper will be used for extra aggregate, as needed. Aggregate from the hoppers will be conveyed to a mixing drum where heated asphalt oil will be added. The asphalt oil will be heated by an electric-powered generator. A recycled oil-fired heater will be used to heat the mixing drum. Exhaust from the mixing drum will be routed to a downstream baghouse prior to existing the atmosphere. After mixing is complete, the resulting asphalt mixture will be conveyed into a storage silo above a truck loadout area. Asphalt will be dropped into a haul truck as needed and shipped offsite to customers.

Process flow diagrams identifying the sources of potential fugitive emissions from the proposed facility are provided in Attachment A to this memo.

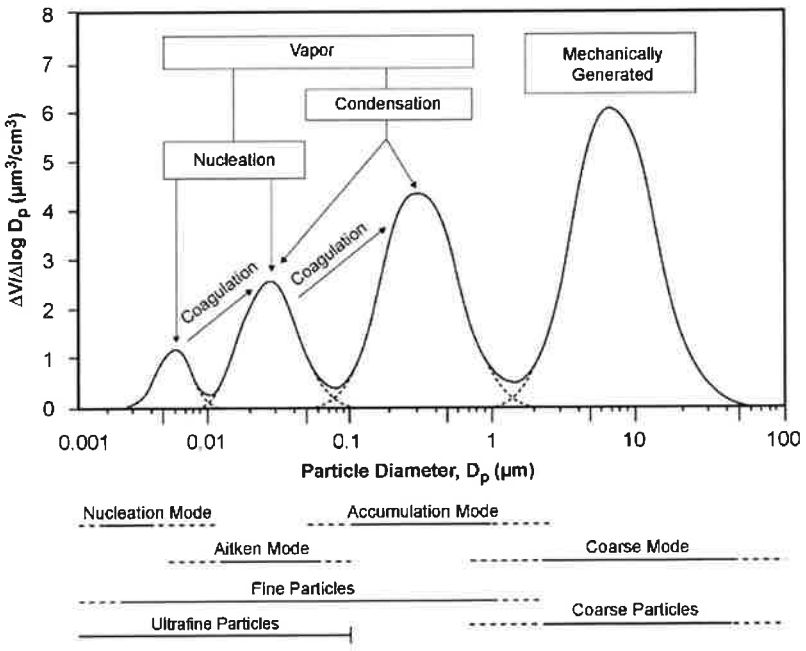
Background on Particulate Matter and Deposition

Particulate Matter Generation

The primary pollutant generated from sand and gravel quarry operations and cement and asphalt batch plants is PM. From a regulatory and health perspective particulate emissions are categorized by size–PM, the total of all particulate matter, PM with an aerodynamic diameter less than 10 microns (PM_{10}) and PM with an aerodynamic diameter less than 2.5 microns ($PM_{2.5}$). As discussed in more detail below, coarse particulate (PM_{10} and larger) tends to settle out on the ground relatively close to the source, whereas fine particulate ($PM_{2.5}$) can travel for miles, but in doing so is subjected to significant dispersion.

Fugitive PM at a quarry is typically generated by mechanical forces such as digging, scraping, and crushing, which tend to produce larger, coarse particulate (see figure 1).

Figure 1[1]



[1] US EPA, Air Quality Criteria for Particulate Matter, Volume I of II, 2004. Figure 2-6.

When particulate emissions are primarily generated by mechanical forces, only a small fraction of the total PM emitted is fine PM. This is reflected in emission factors for quarrying activities published in the United States Environmental Protection Agency (EPA) AP-42: Compilation of Air Emission Factors. AP-42 Table 11.19.2-2 of Chapter 11 (Mineral Products Industry) provides emission factors for crushed stone processing operations. The fine particulate ($PM_{2.5}$) emission factor for tertiary crushing controlled by wet suppression is 0.0001 pounds of $PM_{2.5}$ per ton of material crushed. This represents only 8 percent of the total PM emission factor, 0.0012 pounds per ton of material crushed. Similarly, the unpaved roads emission factor data in AP-42 Chapter 13.2.2 indicates that fine particulate emissions (0.15 pounds per vehicle mile traveled [lbs/VMT]) represent less than 4 percent of total particulate emissions (4.9 lbs/VMT).

Particulate Transport

The size of the particulate generated by quarrying activities is significant because larger, coarse particulate is more likely to settle out of suspension relatively close to the source of generation, and the smaller, fine particulate will likely settle out of suspension over a much farther distance, and larger area. As stated previously, only 8 percent of particulate emissions generated by crushing activities are considered "fine" and likely to travel beyond a few hundred feet from the point of generation. The farther emissions are carried from the point of generation, the more disperse these emissions become. This dispersion over a large area tends to reduce the dust experienced at any single downwind location.

Data prepared for the United States Department of Agriculture Forest Service as part of a study[2] on the transport and deposition of road dust emissions supports the argument that the amount of coarse dust that is windblown will rapidly decrease with distance from the source of generation. This study concluded that, even without the application of particulate mitigation measures, for low-level releases of emissions (similar to emission sources at a quarry):

- 99 percent of the large particulate (larger than PM_{10}) dropped out of suspension within 70 meters (230 feet) of the point of generation
- 99 percent of coarse particulate (between PM_{10} and $PM_{2.5}$) dropped out of suspensions within 400 meters (1,312 feet) of the point of generation
- 99 percent of fine particulate (at and below $PM_{2.5}$) dropped out of suspension within 19,000 meters (11.8 miles) of the point of generation

Because this study was done to represent deposition near forested areas, these distances may increase in less vegetated areas. However, deposition begins occurring from the point of release. In the case of the proposed facility, as the quarrying activities deepen into the ground and becomes more sheltered from the prevailing winds, the physical configuration in which the quarry is situated will likely increase the potential for rapid deposition of coarse particulate. Moreover, as discussed below, particulate mitigation measures can significantly decrease the amount of windblown particulate from the source of generation.

Emission Estimates

MFA identified several proposed sources and activities with the potential to generate fugitive emissions of PM, PM_{10}, and $PM_{2.5}$, commonly referred to collectively as "particulates" or "dust" throughout the remainder of this memo. These fugitive sources include the following:

[2] Kuhns, Hampden et. al. Examination of Dust and Air-Borne Sediment Control Demonstration Projects, Nov 5, 2010.

- Rock crushers
- Storage piles
- Classifier screens
- Material handling transfer points
- Paved and unpaved road dust
- Truck Loadouts

Proposed fugitive source particulate emission estimates are presented in the emissions inventory shown in Attachment B.

Fugitive Dust Control Strategies

Rock Crushing

The proposed facility will use three rock crushers; one primary crusher and two cone crushers to reduce the size of mined aggregate as needed. The crushing process will result in fugitive dust emissions depending on the moisture content of the mined aggregate. The particulate emissions from rock crushing are summarized as follows:

Source	PM (ton/yr)	PM_{10} (ton/yr)	$PM_{2.5}$ (ton/yr)
Rock Crushing	3.45	1.73	0.10

Dust suppression techniques for rock crushing are generally limited to applying water to aggregate while it is being processed. Water suppression has been shown to reduce fugitive dust emissions from 70 to 90 percent (WRAP, 2006). To reduce the amount of fugitive dust emissions from the crushing process, the facility will do the following:

- Install and operate a wet suppression system at exit of the primary crusher and both cone crushers.

Storage Piles

There will be a total of 11 outdoor storage piles at the proposed facility. Fugitive dust emissions will be generated from storage piles due to wind erosion. The amount of fugitive dust emissions is primarily driven by the size and moisture content of the stored material, and the total surface area exposed to the wind (WRAP, 2006). The particulate emissions from storage piles are summarized as follows:

Source	PM (ton/yr)	PM_{10} (ton/yr)	$PM_{2.5}$ (ton/yr)
Storage Piles	0.25	0.12	0.0177

To reduce the potential for fugitive dust emissions, the proposed facility will use best available control measures including the following:

- Spray water onto the storage piles at regular intervals during the dry periods of the year to increase the moisture content of the stored material.

These combined best control measures will result a 90 percent reduction (WRAP, 2006) in fugitive dust emissions from the storage piles

Classifier Screens

Several classifier screens will be used to separate and direct aggregate by size to the appropriate processing area. There will be three classifier screens at the proposed facility: two (primary and finish screens) will be part of the mining and gravel extraction operation, and one (wash screen) will be used at the batch concrete plant. Fugitive dust emissions will be generated during screening. The amount of fugitive dust emissions is driven by the moisture content of the screened material (WRAP, 2006). The particulate emissions from screening are summarized as follows:

Source	PM (ton/yr)	PM_{10} (ton/yr)	$PM_{2.5}$ (ton/yr)
Screening	0.24	0.0805	0.0399

Applying water as a dust suppressant has the potential to reduce fugitive dust emissions between 70 to 90 percent. To reduce fugitive dust emissions from screening activities, the proposed facility will:

- Install and operate a wet suppression system at the primary screen and wash screen, and to the materials on the conveyor belts feeding the finish screen.

Material Handling Transfer Points

Material handling conveying systems and front end loaders will be used to transport materials across the proposed facility. There will be a total of 23 material transfer drop points at the proposed facility, including 7 transfer points at the mining and gravel extraction operation, 9 transfer points at the concrete batch plant, and 7 transfer points at the asphalt plant. Fugitive dust emissions may be generated at each material transfer drop point.

The amount of fugitive dust emissions is related to the moisture content of the handled material, and the wind speed at the time of the transfer (WRAP, 2006). The particulate emissions from material handling drop points are summarized as follows:

Source	PM (ton/yr)	PM_{10} (ton/yr)	$PM_{2.5}$ (ton/yr)
Material Handling	14.19	6.71	1.02

To reduce the potential for fugitive dust emissions, the proposed facility will implement the following control measures:

- As noted above, water will be applied to aggregate at the crushers and classifier screens. The crushers and classifier screens precede most of the material handling transfer points at the proposed facility. As a result, the aggregate will have a higher moisture content downstream of the crushers and classifier screens. This higher moisture content will provide some level of control of fugitive dust emissions at each downstream transfer point.

Haul Truck Loading/Unloading

Haul Trucks will be used to transport batched concrete, asphalt, and crushed rock offsite, and deliver supplemental cement to the batch concrete plant. Fugitive dust emissions may be generated during the haul truck unloading and loading at the specialty rock and batch concrete plant. Asphalt loading at the batch asphalt plant is unlikely to generate fugitive dust emissions as the aggregate will be entrained in asphalt oil.

The amount of fugitive dust emissions is related to the moisture content of the handled material, the height of the transfer point, and the wind speed at the time of the transfer (WRAP, 2006). Supplemental cement will be dry, but will be unloaded directly to a storage silo via a fully enclosed truck. Displaced cement air in the silo during unloading will be exhausted to a baghouse prior to exiting

to the atmosphere. The baghouse will provide a minimum 99 percent control of silo emissions. Finished product at the batch concrete plant will go through a mister prior to being dropped into a pre-watered cement mixing truck. Crushed rock at the mining and gravel extraction operations will be loaded into customer vehicles via a front end loader. The specialty rock will have a moderate moisture content due to watering conducted at various locations (i.e., crushing, screening) earlier in the process.

The particulate emissions from haul truck loading/unloading are summarized as follows:

Source	PM (ton/yr)	PM_{10} (ton/yr)	$PM_{2.5}$ (ton/yr)
Truck loading/unloading	3.25	0.88	0.88

To reduce the potential for dust emissions, the proposed facility will implement the following control measures:

- Operate a baghouse for control of concrete silo emissions released during unloading.
- Operate a mister at the concrete batch plant and load concrete mix into trucks that already contain the water needed for the wet mix.
- During loading of rock, the facility will limit the height of the rock drop distance into the customers trucks to no more than 3 feet (EPA, 2022).

Paved/Unpaved Haul Roads

Haul trucks and front end loaders traveling over paved and unpaved roads can generate fugitive road dust emissions. The particulate emissions from paved and unpaved roads are summarized as follows:

Source	PM (ton/yr)	PM_{10} (ton/yr)	$PM_{2.5}$ (ton/yr)
Paved roads	11.3	2.25	0.55
Unpaved roads	39.3	12.0	1.34

Control techniques that limit fugitive road dust emissions include surface treatments such as watering, implementing vehicle speed limits, and promptly removing aggregate accumulated on roads (WRAP, 2006). To reduce the potential for fugitive road dust emissions, the proposed facility will implement each of these control measures as follows:

- The proposed facility will limit the speed of all vehicles to no greater than 10 miles per hour on paved roads and 5 miles per hour on unpaved roads. Speed limit signs will be posted along roads throughout the proposed facility. Speed control at the facility is expected to reduce fugitive road dust emissions by 44 percent (WRAP, 2006).
- The proposed facility will implement twice daily watering during days where there is no precipitation and the temperature is greater than 32 degrees Fahrenheit to unpaved roads. Water will be applied by a truck driving around the proposed facility. Twice daily watering of the unpaved roads is expected to reduce fugitive road dust emissions by up to 74 percent (WRAP, 2006) Paved roads will not be subject to watering.
- The proposed facility will promptly remove aggregate or earthy materials accumulated on paved roads within the proposed facility property boundary as necessary. This control strategy is expected to reduce fugitive road dust emissions on paved roads by up to 90 percent (WRAP, 2006).

Facility-Wide Best Practices

The proposed facility will implement several best work practices to limit fugitive dust emissions. These best work practices include the following:

- Prepare an official Fugitive Dust Control Plan that includes all information as required by Oregon Administrative Rule 340-208-0210(1).
- Implement wind breaks such as fences and berms, and revegetate sparse areas throughout the proposed facility, wherever practical.
- Install and maintain dust curtains around material transfer points where practical. The dust curtains will reduce air movement and restrict exposure to windy atmospheric conditions.
- Place wind breaks or barriers (e.g., berms or walls) around the storage pile extents, where feasible, to reduce the total surface area exposed to wind.
- Conduct daily inspections of the water systems used to control fugitive dust emissions to confirm their operation. Any corrective actions will be documented in a recordkeeping log.
- Conduct monthly 10-minute visible emissions tests using U.S. Environmental Protection Agency Method 22 at the property boundary. This method is used to determine whether there is any observable particulate matter leaving the property. Observations and any corrective actions will be maintained at the proposed facility in a recordkeeping log.
- Record and promptly investigate all public complaints. Observations and any corrective actions will be maintained at the proposed facility in a recordkeeping log.

Conclusion

MFA looks forward to working with Girth Dog on the proposed facility. Should there be any questions about this fugitive dust mitigation memo, please contact Chad Darby at (503) 523-7142.

Attachments

References

Limitations

Tables

A—Process Flow Diagram Figures

B—Emissions Inventory

References

EPA. 2022. Fugitive Dust Control Measures and Best Practices. U.S. Environmental Protection Agency Region 5: Chicago, Il. January.

WRAP. 2006. *WRAP Fugitive Dust Handbook.* Western Regional Air Partnership. September.

Limitations

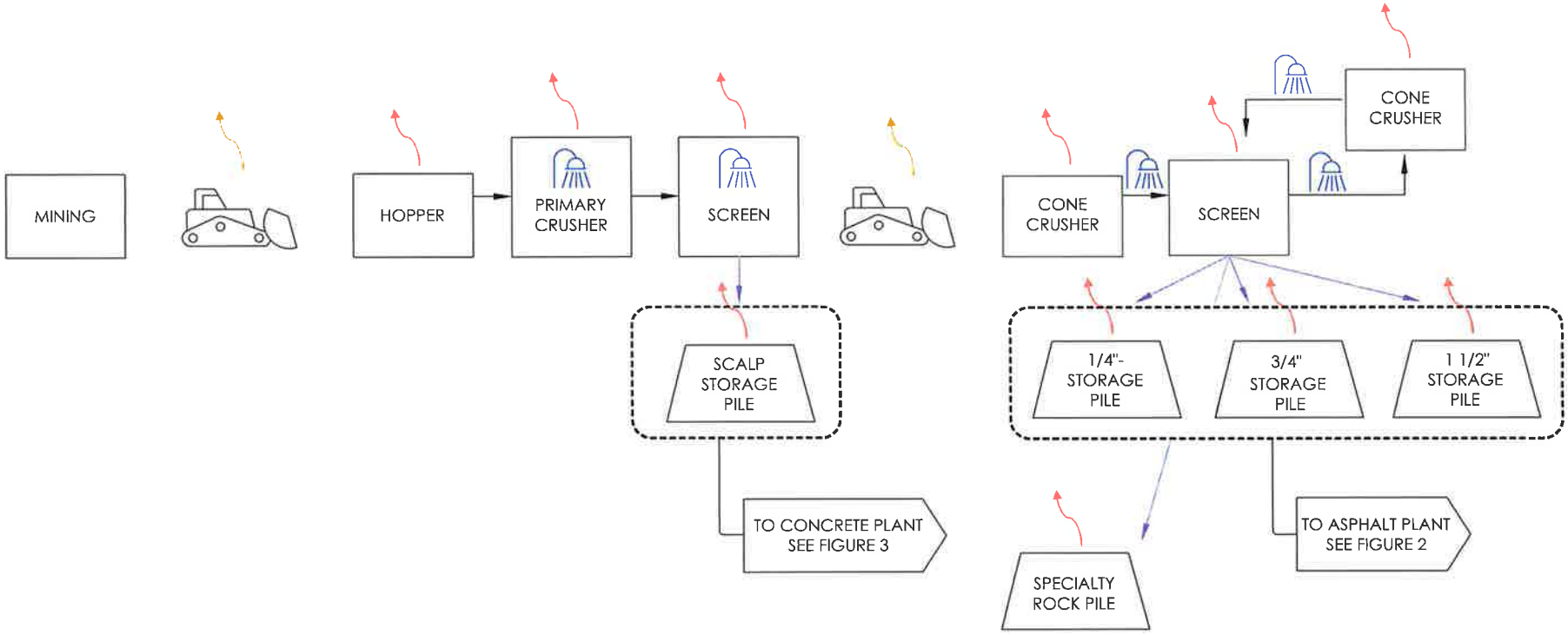
The services undertaken in completing this technical memorandum were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This technical memorandum is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this technical memorandum apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this technical memorandum.

Attachment A

Process Flow Diagram Figures

MAUL FOSTER ALONGI



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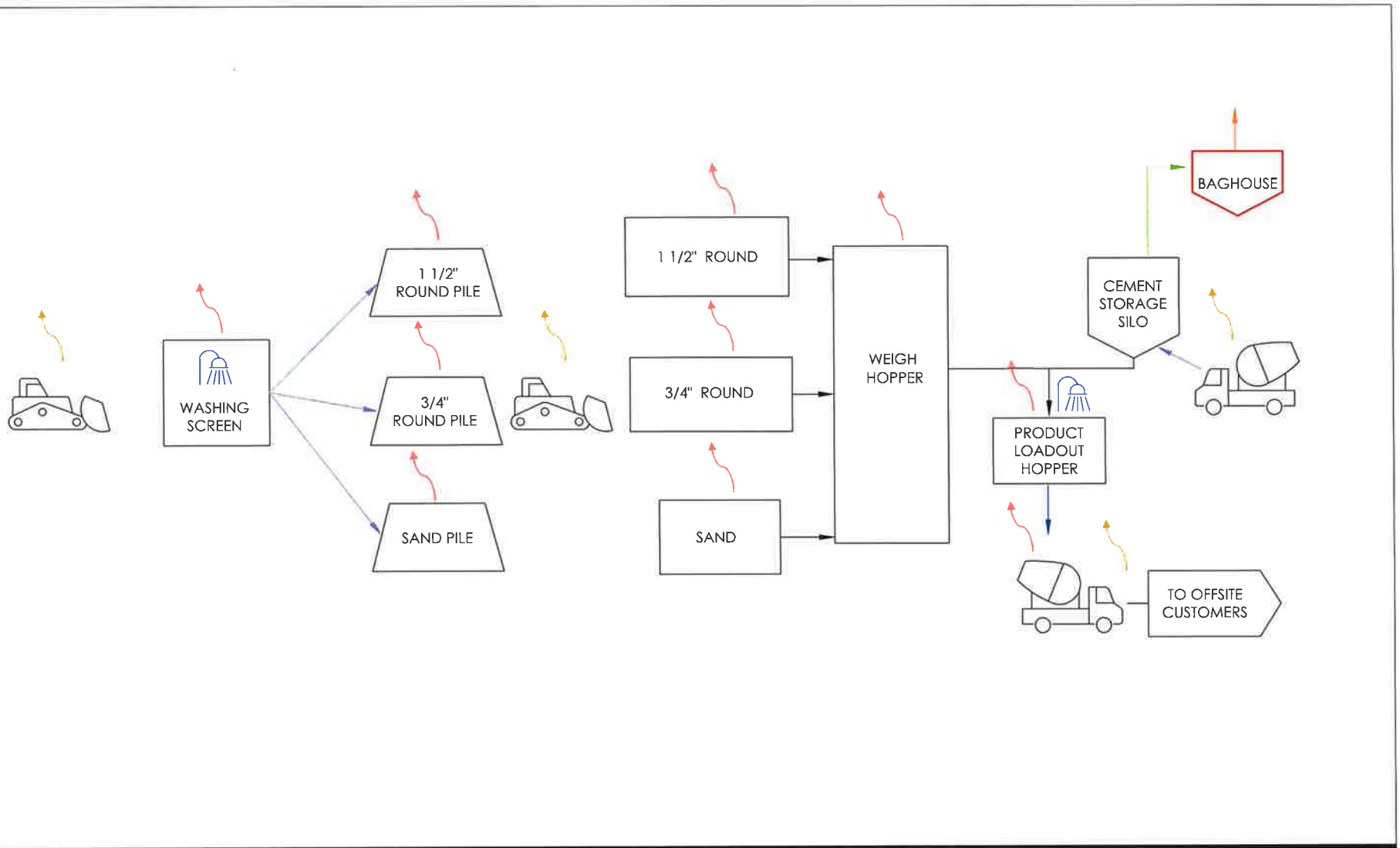
LEGEND:
- CONVEYOR BELT
- RAW MATERIALS
- EARTH MOVING VEHICLE
- WATER APPLICATION
- FUGITIVE EMISSIONS TO ATMOSPHERE
- FUGITIVE ROAD DUST EMISSIONS TO ATMOSPHERE

ATTACHMENT 1
MINING AND GRAVEL OPERATION
GIRTH DOG, LLC
HERMISTON, OREGON



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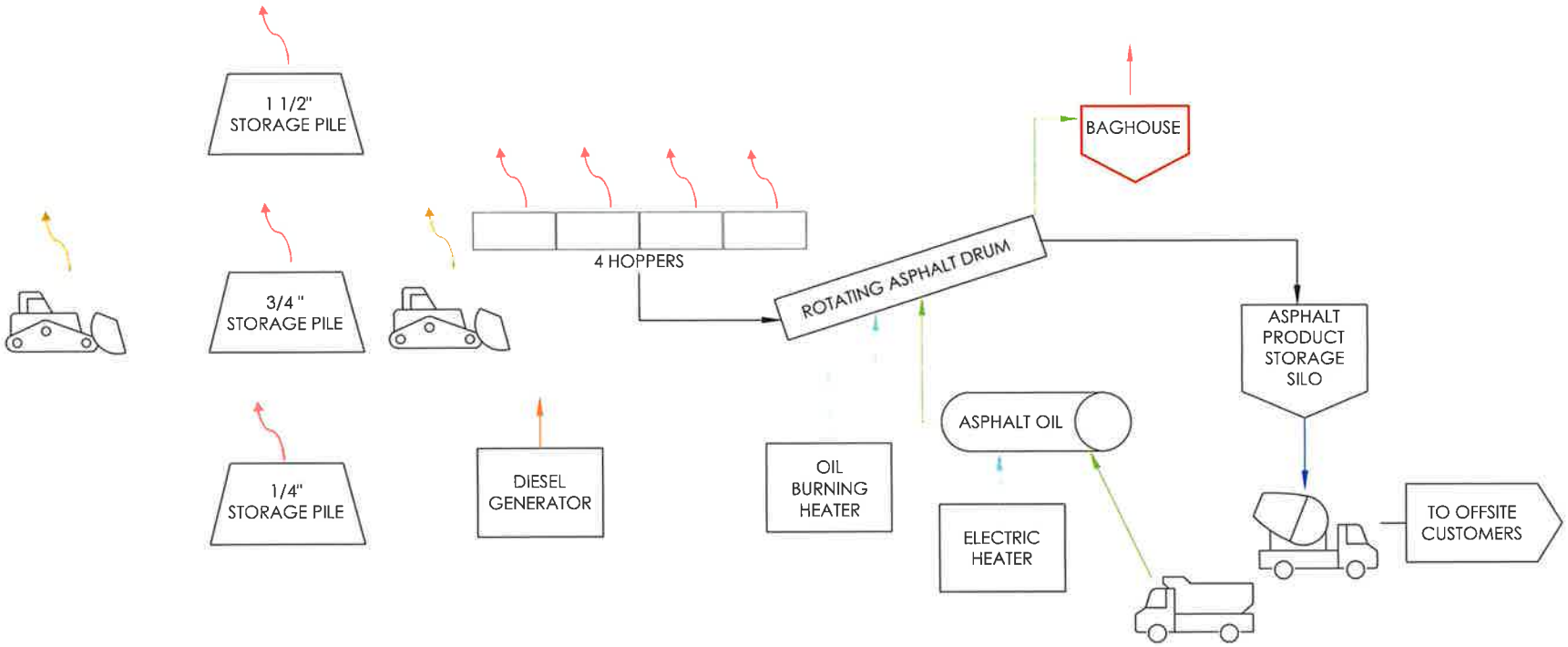
LEGEND:
- CONVEYOR BELT
- RAW MATERIALS
- PRODUCT
- POINT SOURCE EMISSION TO ATMOSPHERE
- FUGITIVE EMISSIONS TO ATMOSPHERE
- CONTROL DEVICE
- WATER APPLICATION
- EARTH MOVING VEHICLE
- FUGITIVE ROAD DUST EMISSIONS TO ATMOSPHERE

ATTACHMENT 1
CONCRETE PLANT
GIRTH DOG, LLC
HERMISTION, OREGON



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LEGEND:
- CONVEYOR BELT
- ASPHALT OIL
- HEATED AIR
- PRODUCT
- POINT SOURCE EMISSION TO ATMOSPHERE
- FUGITIVE EMISSIONS TO ATMOSPHERE
- FUGITIVE ROAD DUST EMISSIONS TO ATMOSPHERE
- CONTROL DEVICE
- EARTH MOVING VEHICLE

ATTACHMENT 1
ASPHALT PLANT
GIRTH DOG, LLC
HERMISTION, OREGON

Attachment B

Emissions Inventory

MAUL FOSTER ALONGI

Table 1
Process Inputs
Girth Dog, LLC — Hermiston, Oregon

Parameter	Annual Process Throughputs [1]	
Mining and Gravel Operations		
Days of Operation	240	(days/yr)
Total Rock Throughput	117,710	(tons/yr)
Rock throughput (Specialty)	17,890	(tons/yr)
Rock throughput (Concrete)	51,960	(tons/yr)
Rock throughput (Asphalt)	47,860	(tons/yr)
Batch Concrete Plant		
Days of Operation	216	(days/yr)
Portland Cement	8,375	(tons/yr)
Concrete Produced	65,610	(tons/yr)
Concrete Produced	32,400	(cubic-yards/yr)
Batch Asphalt Plant		
Days of Operation	175	(days/yr)
Asphalt Produced	52,200	(tons/yr)
Asphalt Oil Usage	1.10	(MMgal/yr)
Recycled Oil Usage	209	(Mgal/yr)

Notes

MMgal = million-gallons; Mgal = thousand-gallons.

References

[1] Value derived from information provided by Girth Dog, LLC.

Table 2
Operation Vehicle Inputs
Girth Dog, LLC — Hermiston, Oregon

Vehicle Type	Description	Number of Vehicles	Vehicle Weight [1] (tons)			Travel Route [1]					Annual Vehicle Miles Traveled	
						Paved Roads		Unpaved Roads				
			Unloaded	Loaded	Average [a]	Route Length (mi)	Speed Limit (mph)	Route Length (ft)	Speed Limit (mph)	Annual Number of Trips (trips/yr)	Paved (VMT/yr)	Unpaved (VMT/yr)
Mining and Gravel Operations												
Gravel trucks	Haul Truck	–	15.0	40.0	27.5	1.00	25.0	0.19	5.00	716	716 [b]	136 [c]
Crew vehicles (crushing)	Passenger Cars/Trucks	5	2.50	2.50	2.50	1.00	25.0	0.19	5.00	1,670	1,670 [b]	317 [c]
Weighted Mean Vehicle Weight by Road Type (tons)											**10.0**	**10.0**
Total Vehicle Miles Traveled by Road Type (VMT/yr)											**2,386**	**453**
Batch Concrete Plant												
Portland cement material		--	17.5	57.6	37.5	1.00	25.0	0.19	5.00	209	209 [b]	40.0 [c]
Water for sand washing	Water Tank Truck	--	15.0	56.6	35.8	1.00	25.0	0.19	5.00	230	230 [b]	44.0 [c]
Product sales	Concrete Delivery Trucks	--	15.0	35.3	25.1	1.00	25.0	0.19	5.00	4,545	4,545 [b]	861 [c]
Crew vehicles (concrete)	Passenger Cars/Trucks	5	2.50	2.50	2.50	1.00	25.0	0.19		1,515	1,515 [b]	287 [c]
Weighted Mean Vehicle Weight by Road Type (tons)											**20.6**	**20.6**
Total Vehicle Miles Traveled by Road Type (VMT/yr)											**6,499**	**1,232**
Batch Asphalt Plant												
RPO (recycled oil)	Tanker Truck	--	15.0	51.0	33.0	1.00	25.0	0.19	5.00	30.0	30.0 [b]	6.00 [c]
Asphalt oil	Tanker Truck	--	15.0	54.6	34.8	1.00	25.0	0.19	5.00	104	104 [b]	20.0 [c]
Product sales	32 Ton Dump Truck	--	17.5	49.5	33.5	1.00	25.0	0.19	5.00	2,187	2,187 [b]	415 [c]
Crew vehicles (asphalt)	Passenger Cars/Trucks	5	2.50	2.50	2.50	1.00	25.0	0.19	5.00	1,215	1,215 [b]	231 [c]
Weighted Mean Vehicle Weight by Road Type (tons)											**22.9**	**22.9**
Total Vehicle Miles Traveled by Road Type (VMT/yr)											**3,536**	**672**
Road Watering												
Water delivery	Tanker Truck	--	15.0	47.5	31.3	1.00	25.0	0.19	5.00	476	476 [b]	91.0 [c]
Water application	Water Spreader Truck	–	15.0	32.5	23.8	1.00	25.0	0.19	5.00	714	714 [b]	136 [c]
Weighted Mean Vehicle Weight by Road Type (tons)											**26.8**	**26.8**
Total Vehicle Miles Traveled by Road Type (VMT/yr)											**1,190**	**227**

Notes

mph = miles per hour.

[a] Average vehicle weight (tons) = [(unloaded weight (tons)] + (loaded weight (tons)]] / 2

[b] Annual vehicle miles traveled (Paved) (VMT/yr) = (annual number of trips) x (paved route length (mi))

[c] Annual vehicle miles traveled (Unpaved) (VMT/yr) = (annual number of trips) x (unpaved route length (mi))

References

[1] Information provided by Girth Dog, LLC.

123

Table 3
Mining Vehicle Inputs
Girth Dog, LLC — Hermiston, Oregon

Vehicle Type	Description	Number of Vehicles [1]	Annual Operation Duration [2] (hrs/yr)	Vehicle Weight [1] (tons)			Speed Limit [1] (mph)	Annual Miles Traveled (VMT/yr)
				Unloaded	Loaded	Average [a]		
Scrapers	Caterpillar 631	2	58.0	37.5	--	37.5	5.00	580 [b]
Dozer	Caterpillar D9	1	191	52.5	--	52.5	5.00	955 [b]
Front End Loader	Caterpillar 988G (Pit Operations)	1	1,333	63.5	81.5	72.5	5.00	6,665 [b]
Front End Loader	Caterpillar 980 (Truck Loadout)	1	1,333	35.0	46.0	40.5	5.00	6,665 [b]
Front End Loader	Caterpillar 966 (Asphalt Plant Feeder)	1	1,333	25.0	32.0	28.5	5.00	6,665 [b]
Front End Loader	Caterpillar 966 (Concrete Plant Feeder)	1	1,333	25.0	32.0	28.5	5.00	6,665 [b]
Rock Truck	70-Ton Haul Truck	1	1,333	72.5	143	108	5.00	1,432 [c]
Excavator	80-Ton Unit	1	1,333	82.5	--	82.5	5.00	6,665 [b]
Motor Grader	Caterpillar 16G	1	58.0	35.0	--	35.0	5.00	290 [b]
Weighted Mean Vehicle Weight (tons)								**52.5**
Total Vehicle Miles Traveled (VMT/yr)								**36,634**

Notes

mph = miles per hour.

[a] Average vehicle weight (tons) = ([unloaded weight (tons)] + [loaded weight (tons)]) / 2

[b] Annual vehicle miles traveled (miles/yr) = (number of vehicles) x (annual operation duration [hrs/yr]) x (speed limit [mph])

[c] Annual vehicle miles traveled (miles/yr) = (unpaved road length [mi]) x (annual number of trips [tips/yr])

Unpaved route length (mi) = 2.00 (3)

Annual number of trips (trips/yr) = 716 (1)

References

[1] Information provided by Girth Dog, LLC.

[2] Expected annual operation duration derived from information provided by Girth Dog, LLC. Note: Conservatively assumes vehicles will be in transit during hours of operation per year.

[3] Information provided by Girth Dog, LLC. Total roundtrip distance from mine to gravel processing location.

124

Table 4
Mining and Gravel Drop Point Emission Estimates
Girth Dog, LLC — Hermiston, Oregon

Parameter		Mining and Gravel Throughput
Annual Throughput (tons/yr)	[1]	117,710

Pollutant	Uncontrolled Emission Factor (lb/ton)		Annual Emission Estimates (tons/yr)	
Unwatered Drop Point				
PM	0.016	[a]	0.96	[b]
PM_{10}	7.7E-03	[a]	0.45	[b]
$PM_{2.5}$	1.2E-03	[a]	0.069	[b]
Watered Drop Point				
PM	0.11	[c]	6.70	[d]
PM_{10}	0.054	[c]	3.17	[d]
$PM_{2.5}$	8.2E-03	[c]	0.48	[d]
Total				
PM			**7.66**	
PM_{10}			**3.62**	
$PM_{2.5}$			**0.55**	

Notes

lb = pound.

[a] Emission factor (lb/ton) = (no. of drop points) x (particle size multiplier) x (0.0032) x (mean wind speed (mph) / 5)$^{1.3}$ / (material moisture content (%) / 2)$^{1.4}$

No. of drop points = 1.00 [2]
PM particle size multiplier = 0.74 [3]
PM_{10} particle size multiplier = 0.35 [3]
$PM_{2.5}$ particle size multiplier = 0.053 [3]
Mean wind speed (mph) = 7.11 [4]
Material moisture content (%) = 0.70 [5]

[b] Annual average emission estimate (tons/yr) = (emission factor [lb/ton]) x (annual throughput [tons/yr]) x (ton/2,000 lb)

[c] Emission factor (lb/ton) = (no. of drop points) x (particle size multiplier) x (0.0032) x (mean wind speed (mph) / 5)$^{1.3}$ / (material moisture content (%) / 2)$^{1.4}$

No. of drop points = 7.00 [2]
PM particle size multiplier = 0.74 [3]
PM_{10} particle size multiplier = 0.35 [3]
$PM_{2.5}$ particle size multiplier = 0.053 [3]
Mean wind speed (mph) = 7.11 [4]
Material moisture content (%) = 0.70 [5]

[d] Controlled annual emission estimate (tons/yr) = (emission factor [lb/ton]) x (annual throughput [tons/yr]) x (ton/2,000 lb) x (1 - control efficiency (%) / 100)

Control efficiency (%) = 70.0 [6]

References

[1] See Table 1, Process Inputs.

[2] Information provided by Girth Dog, LLC.

[3] AP 42 Chapter 13 (November 2006), Section 13.2.4, "Aerodynamic Particle Size Multiplier (k) for Equation 1".

[4] Mean wind speed for Hermiston, Oregon (Station ID USW00004113) between 2014 and 2023. Mean value derived from daily average wind speed from the National Centers for Environmental Information. https://www.ncdc.noaa.gov/IPS/lcd/lcd.html [Accessed on July 15, 2024]

[5] AP 42 Chapter 13 (November 2006), Section 13.2.4, Table 13.2.4-1, "Typical Silt and Moisture Contents of Materials at Various Industries" Representative of mean moisture content for crushed limestone.

[6] WRAP Fugitive Dust Handbook (September, 2006), Table 1 "Fugitive Dust Control Measures Application for the WRAP Region". Representative of average control efficiency of wet suppression for material handling.

Table 5
Batch Concrete Plant Drop Point Emission Estimates
Girth Dog, LLC — Hermiston, Oregon

Parameter		Batch Concrete Plant
Annual Throughput (tons/yr)	[1]	51,960

Pollutant	Uncontrolled Emission Factor (lb/ton)		Annual Emission Estimates (tons/yr)	
Unwatered Drop Point				
PM	0.016	[a]	0.42	[b]
PM_{10}	7.7E-03	[a]	0.20	[b]
$PM_{2.5}$	1.2E-03	[a]	0.030	[b]
Watered Drop Point				
PM	0.13	[c]	3.38	[d]
PM_{10}	0.062	[c]	1.60	[d]
$PM_{2.5}$	9.3E-03	[c]	0.24	[d]
Total				
PM			**3.80**	
PM_{10}			**1.80**	
$PM_{2.5}$			**0.27**	

Notes

lb = pound.

[a] Emission factor (lb/ton) = (no. of drop points) x (particle size multiplier) x (0.0032) x (mean wind speed [mph] / 5)$^{1.3}$ / (material moisture content [%] / 2)$^{1.4}$

No. of drop points =	1.00	(2)
PM particle size multiplier =	0.74	(3)
PM_{10} particle size multiplier =	0.35	(3)
$PM_{2.5}$ particle size multiplier =	0.053	(3)
Mean wind speed (mph) =	7.11	(4)
Material moisture content (%) =	0.70	(5)

[b] Annual average emission estimate (tons/yr) = (emission factor [lb/ton]) x (annual throughput [tons/yr]) x (ton/2,000 lb)

[c] Emission factor (lb/ton) = (no. of drop points) x (particle size multiplier) x (0.0032) x (mean wind speed [mph] / 5)$^{1.3}$ / (material moisture content [%] / 2)$^{1.4}$

No. of drop points =	8.00	(2)
PM particle size multiplier =	0.74	(3)
PM_{10} particle size multiplier =	0.35	(3)
$PM_{2.5}$ particle size multiplier =	0.053	(3)
Mean wind speed (mph) =	7.11	(4)
Material moisture content (%) =	0.70	(5)

[d] Controlled annual emission estimate (tons/yr) = (emission factor [lb/ton]) x (annual throughput [tons/yr]) x (ton/2,000 lb) x (1 - control efficiency [%] / 100)

Control efficiency (%) =	70.0	(6)

References

[1] See Table 1, Process Inputs.

[2] Information provided by Girth Dog, LLC.

[3] AP 42 Chapter 13 (November 2006), Section 13.2.4, "Aerodynamic Particle Size Multiplier (k) for Equation 1".

[4] Mean wind speed for Hermiston, Oregon (Station ID USW00004113) between 2014 and 2023. Mean value derived from daily average wind speed from the National Centers for Environmental Information. https://www.ncdc.noaa.gov/IPS/lcd/lcd.html [Accessed on July 15, 2024]

[5] AP 42 Chapter 13 (November 2006), Section 13.2.4, Table 13.2.4-1. "Typical Silt and Moisture Contents of Materials at Various Industries" Representative of mean moisture content for crushed limestone.

[6] WRAP Fugitive Dust Handbook (September, 2006), Table 1 "Fugitive Dust Control Measures Application for the WRAP Region". Representative of average control efficiency of wet suppression for material handling.

Table 6
Batch Asphalt Plant Drop Point Emission Estimates
Girth Dog, LLC — Hermiston, Oregon

Parameter		Batch Asphalt Plant
Annual Throughput (tons/yr)	(1)	47,860

Pollutant	Uncontrolled Emission Factor (lb/ton)		Annual Emission Estimates (tons/yr)	
Unwatered Drop Point				
PM	0.11	(a)	2.73	(b)
PM_{10}	0.054	(a)	1.29	(b)
$PM_{2.5}$	8.2E-03	(a)	0.20	(b)

Notes

lb = pound.

(a) Emission factor (lb/ton) = (no. of drop points) x (particle size multiplier) x (0.0032) x (mean wind speed [mph] / 5)$^{1.3}$ / (material moisture content [%] / 2)$^{1.4}$

No. of drop points =	7.00	(2)
PM particle size multiplier =	0.74	(3)
PM_{10} particle size multiplier =	0.35	(3)
$PM_{2.5}$ particle size multiplier =	0.053	(3)
Mean wind speed (mph) =	7.11	(4)
Material moisture content (%) =	0.70	(5)

(b) Annual average emission estimate (tons/yr) = (emission factor [lb/ton]) x (annual throughput [tons/yr]) x (ton/2,000 lb)

References

(1) See Table 1, Process Inputs.

(2) Information provided by Girth Dog, LLC.

(3) AP 42 Chapter 13 (November 2006), Section 13.2.4, "Aerodynamic Particle Size Multiplier (k) for Equation 1".

(4) Mean wind speed for Hermiston, Oregon (Station ID USW00004113) between 2014 and 2023. Mean value derived from daily average wind speed from the National Centers for Environmental Information. https://www.ncdc.noaa.gov/IPS/lcd/lcd.html [Accessed on July 15, 2024]

(5) AP 42 Chapter 13 (November 2006), Section 13.2.4, Table 13.2.4-1. "Typical Silt and Moisture Contents of Materials at Various Industries" Representative of mean moisture content for crushed limestone.

Table 7
Facility-Wide Storage Pile Emission Estimates
Girth Dog, LLC — Hermiston, Oregon

Storage Pile Description	Proposed Exposed Surface Area		Emission Factor [a] (lb/acre/day)			Annual Emissions Estimate [b] (tons/yr)		
	(sqft) [6]	(acres) [c]	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Mining and Gravel Operations								
1 1/2 inch Crushed Aggregate	25,541	0.59	1.44	0.68	0.10	0.02	7.31E-03	1.11E-03
3/4 inch Crushed Aggregate	25,541	0.59	1.44	0.68	0.10	0.02	7.31E-03	1.11E-03
1/4- inch Crushed Aggregate	25,541	0.59	1.44	0.68	0.10	0.02	7.31E-03	1.11E-03
Scalp	89,584	2.06	1.44	0.68	0.10	0.05	2.56E-02	3.88E-03
Specialty Rock	89,584	2.06	1.44	0.68	0.10	0.05	2.56E-02	3.88E-03
Batch Concrete Plant								
1 1/2 inch Washed Rock	25,541	0.59	1.44	0.68	0.10	0.02	7.31E-03	1.11E-03
3/4 inch Washed Rock	25,541	0.59	1.44	0.68	0.10	0.02	7.31E-03	1.11E-03
Sand	25,541	0.59	1.44	0.68	0.10	0.02	7.31E-03	1.11E-03
Batch Asphalt Plant								
1 1/2 inch Crushed Aggregate	25,541	0.59	1.44	0.68	0.10	0.02	7.31E-03	1.11E-03
3/4 inch Crushed Aggregate	25,541	0.59	1.44	0.68	0.10	0.02	7.31E-03	1.11E-03
1/4- inch Crushed Aggregate	25,541	0.59	1.44	0.68	0.10	0.02	7.31E-03	1.11E-03
Total						**0.25**	**0.12**	**0.02**

Notes

sqft = square feet; mph = miles per hour; lb = pound.

[a] Emission factor (lb/hr/acre) = 1.7 x (silt content [%] / 1.5) x ([365 - number of days with measurable precipitation]) / 235) x ([percent of time wind speed exceeds 12 mph] / 15) x (particle size multiplier) "

PM particle size multiplier =	0.74	(1)
PM_{10} particle size multiplier =	0.35	(1)
$PM_{2.5}$ particle size multiplier =	0.053	(1)
Number of days with measurable precipitation =	90.0	(2)
Percent of time wind exceeds 12 mph (%) =	13.8	(3)
Silt content (%) =	1.60	(4)

[b] Annual emissions (tons/yr) = (exposed surface area [acres]) x (emission factor [lb/acre/day]) x (365 [days/yr]) x (ton/2,000 lb) x (1 - [control efficiency {%}] / 100)

Control efficiency (%) =	90.0	(5)

[c] Proposed exposed surface area (acres) = (proposed exposed surface area [sqft] / 43,560 sqft/acre)

References

[1] Particulate size multipliers from AP-42 Section 13.2.4 (November, 2006), Page 13.2.4-4.

[2] AP-42 Chapter 13.2.1 (January 2011), Figure 13.2.1-2, "Mean Number of Days with 0.01 Inches or More of Precipitation in the United States."

[3] Wind speed value derived from daily averaged data collected in Hermiston, Oregon (Station ID USW00004113) between 2014 and 2023. Data obtained from the National Centers for Environmental Information. https://www.ncdc.noaa.gov/IPS/lcd/lcd.html [Accessed on July 15, 2024]

[4] Mean silt content of crushed limestone from AP-42 Section 13.2.4 (November, 2006), Table 13.2.4-1 (11/06).

[5] WRAP Fugitive Dust Handbook (September, 2006), Table 9-4. Representative of control efficiency for wet supression.

[6] Exposed surface area of storage piles derived from information provided by Girth Dog, LLC.

Table 8
Mining and Gravel Crusher Emission Estimates
Girth Dog, LLC — Hermiston, Oregon

Emission Unit	Annual Throughput (tons/yr)	
Primary Crusher	117,710	(1)
Cone Crusher 1	47,860	(2)
Cone Crusher 2	7,179	(a)

Pollutant	Emission Factor (4) (lb/ton)	Annual Emissions Estimate (b) (tons/yr)			Total Crusher Emissions Estimate (tons/yr)
		Primary Crusher	Cone Crusher 1	Cone Crusher 2	
PM	0.04	2.35	0.96	0.14	3.45
PM_{10}	2.00E-02	1.18	0.48	7.18E-02	1.73
$PM_{2.5}$	1.20E-03	7.06E-02	2.87E-02	4.31E-03	1.04E-01

129

Notes

lb = pound.

(a) Annual throughput (cone crusher 2) (tons/yr) = (annual throughput cone crusher 1 [tons/yr]) x (estimated recirculation percentage [%] / 100)

Estimated recirculation percentage (%) = 15.0 (3)

(b) Annual emissions (tons/yr) = (emission factor [lb/ton]) x (annual throughput [tons/yr])

References

(1) See Table 1, Process Inputs.

(2) See Table 1, Process Inputs. Representative of total rock throughput to batch asphalt plant.

(3) Information provided by Girth Dog, LLC.

(4) Emission factors from DEQ form AQ-EF06 "Asphalt and Aggregate Industries." Representative of water spray-controlled rock crushing.

Table 9
Facility-Wide Screening Emission Estimates
Girth Dog, LLC — Hermiston, Oregon

Emission Unit	Annual Throughput (tons/yr)	
Primary Screen	117,710	(1)
Secondary Screen	47,860	(2)
Washing Screen (Batch Concrete Plant)	51,960	(3)

Pollutant	Emission Factor (4) (lb/ton)	Annual Emissions Estimate (a) (tons/yr)			Total Screening Emissions Estimate (tons/yr)
		Primary Screen	Secondary Screen	Washing Screen	
PM	2.20E-03	0.13	5.26E-02	5.72E-02	0.24
PM_{10}	7.40E-04	4.36E-02	1.77E-02	1.92E-02	8.05E-02
$PM_{2.5}$	5.00E-05	2.94E-03	1.77E-02	1.92E-02	3.99E-02

130

Notes

lb = pound.

(a) Annual emissions (tons/yr) = (emission factor [lb/ton]) x (annual throughput [tons/yr])

References

(1) See Table 1, Process Inputs.

(2) See Table 1, Process Inputs. Representative of total rock throughput to batch asphalt plant.

(3) See Table 1, Process Inputs. Representative of total rock throughput to batch concrete plant.

(4) AP42 Chapter 11.19, Table 11.19.2-2 "Emission Factors for Crushed Stone Processing Operations," Representative of screening controlled by wet supression.

Table 10
Truck Loading and Unloading Emission Estimates
Girth Dog, LLC — Hermiston, Oregon

Process	Annual Throughput (tons/yr)	
Supplemental Cement Unloading to Silo	8,375	[1]
Batch Concrete Plant Truck Loadout	65,610	[1]
Specialty Rock Loadout	17,890	[1]

Process	Emission Factor (lb/ton)						Annual Emissions Estimate [a] (tons/yr)		
	PM		PM_{10}		$PM_{2.5}$		PM	PM_{10}	$PM_{2.5}$
Supplemental Cement Unloading to Silo	8.90E-03	[2]	4.90E-03	[2]	4.90E-03	[3]	0.037	0.021	0.021
Batch Concrete Plant Truck Loadout	9.80E-02	[4]	2.63E-02	[4]	2.63E-02	[3]	3.21	0.86	0.86
Specialty Rock Loadout	1.60E-05	[5]	1.60E-05	[5]	1.60E-05	[5]	1.4E-04	1.4E-04	1.4E-04
Total							**3.25**	**0.88**	**0.88**

131

Notes

lb = pound.

[a] Annual emissions (tons/yr) = (emission factor [lb/ton]) x (annual throughput [tons/yr])

References

[1] See Table 1, Process Inputs.

[2] AP42 Chapter 11.12, Table 11.12-2. Representative of cement supplement unloading to elevated storage silo (controlled).

[3] Assumes 100% of Total PM_{10} is $PM_{2.5}$.

[4] AP42 Chapter 11.12, Table 11.12-2. Representative of truck loading (truck mix) (controlled).

[5] AP42 Chapter 11.19.2, Table 11.19.2-2. Representative of truck unloading - fragmented stone. Assumes 100% of Total PM is $PM_{2.5}$.

Table 11
Unpaved Road Dust Emission Estimates
Girth Dog, LLC — Hermiston, Oregon

Parameter	Mining Equipment	Mining and Gravel Operations	Batch Concrete Plant	Batch Asphalt Plant	Road Watering Trucks	Total
Annual Vehicle Miles Traveled (VMT/yr)	36,634 [1]	453 [2]	1,232 [2]	672 [2]	227 [2]	
Mean Vehicle Weight (tons)	52.5 [1]	10.0 [2]	20.6 [2]	22.9 [2]	26.8 [2]	
Surface Silt Content (%)	7.10 [3]	4.80 [4]	4.80 [4]	4.80 [4]	4.80 [4]	

Pollutant	Mining Equipment		Mining and Gravel Operations		Batch Concrete Plant		Batch Asphalt Plant		Road Watering Trucks		Total Unpaved Road Emissions Estimate (tons/yr)
	Emission Factor [a] (lb/VMT)	Annual Emissions Estimate [b] (tons/yr)	Emission Factor [a] (lb/VMT)	Annual Emissions Estimate [b] (tons/yr)	Emission Factor [a] (lb/VMT)	Annual Emissions Estimate [b] (tons/yr)	Emission Factor [a] (lb/VMT)	Annual Emissions Estimate [b] (tons/yr)	Emission Factor [a] (lb/VMT)	Annual Emissions Estimate [b] (tons/yr)	
PM	11.1	38.2	3.69	0.16	5.12	0.59	5.36	0.34	5.75	0.12	39.3
PM_{10}	3.39	11.7	1.13	0.048	1.57	0.18	1.64	0.10	1.76	0.038	12.0
$PM_{2.5}$	0.38	1.30	0.14	5.8E-03	0.19	0.022	0.20	0.012	0.21	4.5E-03	1.34

Notes

VMT = vehicle miles traveled.

[a] Emission factor (lb/VMT) = (particle size multiplier) x (surface silt content (%) / 12)^a x (average weight (ton) / 3)^b (5)

Value	PM	PM_{10}	$PM_{2.5}$
k	4.90	1.50	0.15
a	0.90	0.90	0.70
b	0.45	0.45	0.45

[b] Annual emission estimate (lb/day) = (emission factor [lb/VMT]) [1 - (days with >0.01 of precipitation (days)] / (4 x 365)]
x (annual miles traveled [VMT/yr]) x (ton/2,000 lb) x (1 -[control efficiency (%) / 100])

Days with at least 0.01 inches of precipitation = 90.0 (6)

Control efficiency (%) = 75 (7)

References

[1] See Table 3, Mining Vehicle Inputs.

[2] See Table 2, Operation Vehicle Inputs.

[3] AP-42 Chapter 13.2.2 (November 2006), Table 13.2.2-1, Representative of mean silt content for sand and gravel processing material storage area.

[4] AP-42 Chapter 13.2.2 (November 2006), Table 13.2.2-1, Representative of mean silt content for sand and gravel processing plant road.

[5] AP-42 Chapter 13.2.2 (November 2006), Equation 1a and Table 13.2.2-2.

[6] AP-42 Chapter 13.2.2 (November 2006), Figure 13.2.2-1, "Mean Number of Days with 0.01 Inches or More of Precipitation in the United States."

[7] A control efficiency of 75% is assumed based on ranges presented in the WRAP Fugitive Dust Handbook prepared by Countess Environmental dated September 7, 2006. Represents estimated control resulting from the implementation of twice daily water application and limiting speed of trucks to 5 miles per hour to all unpaved roads.

132

Table 12
Paved Road Dust Emission Estimates
Girth Dog, LLC — Hermiston, Oregon

Parameter	Mining and Gravel Operations	Batch Concrete Plant	Batch Asphalt Plant	Road Watering Trucks	Total
Annual Vehicle Miles Traveled (VMT/yr)	2,386 [1]	6,499 [1]	3,536 [1]	1,190 [1]	
Mean Vehicle Weight (tons)	10.0 [1]	20.6 [1]	22.9 [1]	26.8 [1]	
Surface Silt Loading (g/m^2)	70.0 [2]	12.0 [3]	120 [4]	70.0 [2]	

Pollutant	Mining and Gravel Operations		Batch Concrete Plant		Batch Asphalt Plant		Road Watering Trucks		Total Paved Road Emissions Estimate (tons/yr)
	Emission Factor [a] (lb/VMT)	Annual Emissions Estimate [b] (tons/yr)	Emission Factor [a] (lb/VMT)	Annual Emissions Estimate [b] (tons/yr)	Emission Factor [a] (lb/VMT)	Annual Emissions Estimate [b] (tons/yr)	Emission Factor [a] (lb/VMT)	Annual Emissions Estimate [b] (tons/yr)	
PM	5.16	1.23	2.17	1.41	19.6	6.93	14.1	1.68	11.3
PM_{10}	1.03	0.25	0.43	0.28	3.92	1.39	2.82	0.34	2.25
$PM_{2.5}$	0.25	0.060	0.11	0.069	0.96	0.34	0.69	0.082	0.55

Notes

VMT = vehicle miles traveled.

[a] Emission factor (lb/VMT) = (particle size multiplier) x (surface silt content (%) / 12)^a x (average weight (ton) / 3)^c

PM particle size multiplier =	0.011	(5)
PM_{10} particle size multiplier =	2.20E-03	(5)
$PM_{2.5}$ particle size multiplier =	5.40E-04	(5)
Days with at least 0.01 inches of precipitation =	90.0	(6)
Number of days in the averaging period =	365.0	(7)

[b] Annual emissions estimate (tons/yr) = (particulate emission factor (lb/VMT)) x (annual vehicle miles traveled (VMT/yr)) x (ton/2,000 lb) x (1 -(control efficiency (%) / 100))

Control efficiency (%) =	80.0	(8)

References

[1] See Table 2, Operation Vehicle Inputs.

[2] AP-42 Chapter 13.2.1 (January 2011), Table 13.2.1-3, Representative of mean silt loading for sand and gravel processing.

[3] AP-42 Chapter 13.2.1 (January 2011), Table 13.2.1-3, Representative of mean silt loading for concrete batching.

[4] AP-42 Chapter 13.2.1 (January 2011), Table 13.2.1-3, Representative of mean silt loading for asphalt batching.

[5] AP-42 Chapter 13.2.1 (January 2011), Table 13.2.1-1 "Particle Size Multiplier for Paved Roads Equation."

[6] AP-42 Chapter 13.2.1 (January 2011), Figure 13.2.1-2, "Mean Number of Days with 0.01 Inches or More of Precipitation in the United States."

[7] AP-42 Chapter 13.2.1 (January 2011), See notes for equation (2).

[8] A control efficiency of 80% is assumed to be conservative based on ranges presented in the WRAP Fugitive Dust Handbook prepared by Countess Environmental dated September 7, 2006. Represents estimated control resulting from the implementation of a regular sweeping program to minimize track out and removing aggregate and materials deposits on all paved roads.

133

Table 13
Facility-Wide Particulate Matter Estimates Summary
Girth Dog, LLC — Hermiston, Oregon

Proposed Sources		Proposed Emission Summary (tons/yr)		
		PM	PM_{10}	$PM_{2.5}$
Fugitive Sources				
Drop Points (Mining and Gravel Operations)	(1)	7.66	3.62	0.55
Drop Points (Batch Concrete Plant)	(2)	3.80	1.80	0.27
Drop Points (Batch Asphalt Plant)	(3)	2.73	1.29	0.20
Storage Piles	(4)	0.25	0.12	1.77E-02
Crushing	(5)	3.45	1.73	0.10
Screening	(6)	0.24	8.05E-02	3.99E-02
Truck Loadout	(7)	3.25	0.88	0.88
Unpaved Road Fugitive Dust	(8)	39.3	12.0	1.34
Paved Road Fugitive Dust	(9)	11.3	2.25	0.55
Proposed PTE Total Emissions		**71.9**	**23.8**	**3.95**

Notes

PTE = Potential to Emit.

References

(1) See Table 4, Mining and Gravel Drop Point Emission Estimates.

(2) See Table 5, Batch Concrete Plant Drop Point Emission Estimates.

(3) See Table 6, Batch Asphalt Plant Drop Point Emission Estimates.

(4) See Table 7, Facility-Wide Storage Pile Emission Estimates.

(5) See Table 8, Mining and Gravel Crusher Emission Estimates.

(6) See Table 9, Facility-Wide Screening Emission Estimates.

(7) See Table 10, Truck Loading and Unloading Emission Estimates.

(8) See Table 11, Unpaved Road Dust Emission Estimates.

(9) See Table 12, Paved Road Dust Emission Estimates.