



PLANNING DEPARTMENT

P.O. Box 40 • Irrigon, Oregon 97844
(541) 922-4624 or (541) 676-9061 x 5503
FAX: (541) 922-3472

AGENDA

Morrow County Planning Commission
Tuesday, July 25, 2023, 6:00 pm
Bartholomew Building
Heppner, OR 97814

[For Electronic Participation See Meeting Information on Page 2](#)

Members of Commission

Stacie Ekstrom, Chair

Charlene Cooley

Stanley Anderson

John Kilkenny, Vice-Chair

Mary Killion

Elizabeth Peterson

Wayne Seitz

Karl Smith

Brian Thompson

Members of Staff

Tamra Mabbott, Planning Director

Stephen Wrecsics, Associate Planner

Katie Keely, Compliance Planner

Michaela Ramirez, Administrative Assistant

1. Call to Order

2. Roll Call

Pledge of Allegiance: I pledge allegiance to the flag of the United States of America and to the republic for which it stands: one nation under God, indivisible with liberty and justice for all.

3. Draft Minutes: June 27, 2023 Meeting

4. PUBLIC HEARINGS to begin at 6:00 pm (COMMISSION ACTION REQUIRED):

Continued from June 27th meeting-AC-145-23; ACM-146-23; AZM-147-23 Comprehensive Plan and Map Amendment. Rowan Percheron, LLC, Applicant. The property is located approximately 9 miles south of I-84 on Tower Road. The application proposes to amend the Comprehensive Plan to allow for rezoning approximately 274 acres from Exclusive Farm (EFU) Use to General Industrial (MG) and adopt a Limited Use Overlay Zone to limit MG uses to a data center only. The application also includes an exception to Statewide Planning Goals 3 Farmland, Goal 11 Public Facilities, and Goal 14 Urbanization. Applicable Criteria include Morrow County Zoning Ordinance (MCZO) Article 8 Amendments, Oregon Administrative Rules (OAR) 660-004-0010.

5. WORK SESSION ITEMS

Neighborhood Code Project Update

Presented By: Compliance Planner Keely

Heritage Trail Sign and Interpretive Panel Update

Presented By: Director Mabbott and Caren Cardenas

6. OTHER BUSINESS

Planning Department July Update

7. Correspondence

8. Public Comment

9. Adjourn

Next Meeting: Tuesday, August 29, 2023, at 6:00 p.m.
Location: Morrow County Government Building, Irrigon, OR

ELECTRONIC MEETING INFORMATION

Morrow County Planning is inviting you to a scheduled Zoom meeting. Topic: Planning Commission
Time: July 25, 2023, 06:00 PM Pacific Time (US and Canada)

Join Zoom Meeting

<https://us02web.zoom.us/j/6554697321?pwd=dFMxR2xlaGZkK1ZJRFVrS1Q0SmRxUT09>

Meeting ID: **655 469 7321**

Passcode: **513093**

Find your local number: <https://us02web.zoom.us/j/6554697321?pwd=dFMxR2xlaGZkK1ZJRFVrS1Q0SmRxUT09>

Should you have any issues connecting to the Zoom meeting, please call 541-922-4624. Staff will be available at this number after hours to assist.

This is a public meeting of the Morrow County Planning Commission and may be attended by a quorum of the Morrow County Board of Commissioners. Interested members of the public are invited to attend. The meeting location is accessible to persons with disabilities. A request for an interpreter for the hearing impaired, or for other accommodations for persons with disabilities, should be made at least 48 hours before the meeting to Tamra Mabbott at (541) 922-4624, or by email at tmabbott@co.morrow.or.us.

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RECORD REVIEW

AC-145-23; ACM-146-23; AZM-147-23 Comprehensive Plan and Map Amendment. Rowan Percheron, LLC, Applicant.

I. Packet from 6/27/2023 Hearing

EXHIBITS ADDED TO THE RECORD

II. INCLUDES ITEMS SUBMITTED AFTER PACKETS WERE MAILED on June 16, 2023

DATE RECEIVED	EXHIBIT	DESCRIPTION
June 16, 2023	EXHIBIT A1 pgs 3	Memo to PC from Staff
June 16, 2023	EXHIBIT A pg 4-5	Email from DLCD
June 21, 2023	EXHIBIT B pg 6	Letter from Threemile Canyon Farms
June 22, 2023	EXHIBIT C pg 7	Letter from City of Boardman
JUNE 26	EXHIBIT D pg 8	Letter from Oregon Department Of Fish and Wildlife
JUNE 26	EXHIBIT E pg 9	Letter from Greater Eastern Oregon Development Corporation
June 27	EXHIBIT F pg 10-63	Letter from Elaine Albrich, Counsel for Rowan Percheron, including Attachment 1 revised Findings and Attachment 2 response to DLCD

Page 2 continued

I. EXHIBITS ADDED TO THE RECORD

(INCLUDES ITEMS SUBMITTED AFTER PACKETS WERE MAILED on June 16th)

Incorporated adopted as part of record at 6/27/2023 Planning Commission Meeting

Date Received	EXHIBIT	Description
June 27, 2023	Exhibit G pg 64	Conceptual Example Layout Figure 5
June 27, 2023	Exhibit H pg 65	Alternatives Sites Figure 6g
June 27, 2023	Exhibit I pgs 66-67	Morrow County PAPA Amendments
June 27, 2023	Exhibit J pgs 68-70	2020-2021 DLCDC Farm Forest Report
June 27, 2023	Exhibit K pg 71	Letter of Intent Port of Morrow
June 27, 2023	Exhibit L pgs 72-73	1,000 Friends Email
June 27, 2023	Exhibit M pgs 74-80	Letter from Jonathan Tallman
June 27, 2023	Exhibit N pgs 81-88	Applicant's Alternatives Analysis Siting Criteria and maps
June 27, 2023	Exhibit O	PowerPoint Slides from Applicant

Page 3 continued

II. EXHIBITS SUBMITTED AFTER 6/27/2023 PLANNING COMMISSION MEETING

July 11, 2023	Exhibit P	Letter from Boardman Fire
July 13, 2023	Exhibit Q	Email from Mary Killion
July 18, 2023	Exhibit R	Memo from Elaine Albrich Attorney for Applicant
July 18, 2023	Exhibit S	ERM Applicants Alternatives Analysis Addendum
July 18, 2023	Exhibit T	ERM Goal 14 ExceptionTech Memo
July 18, 2023	Exhibit U	ERM Big Game and Wetland Habitat Tech Memo
July 17, 2023	Exhibit V	ERM Soils Tech Memo Supplement
June 18, 2023	Exhibit W	Kittleson Construction Traffic and Safety Analysis
July 19, 2023	Exhibit X	Percheron Water Demand



BOARDMAN FIRE RESCUE DISTRICT

FIRE CHIEF MIKE HUGHES

911 TATONE STREET, BOARDMAN, OR 97818 541.481.3473 WWW.BOARDMANFD.COM

7/11/2023

Morrow County Board of Commissioners
100 S Court St.
Heppner, OR 97836

Dear Chair Sykes, Vice-Chair Wenholz and Commissioner Drago:

I write today on behalf of the Boardman Fire Rescue District (BFRD) in strong support of Rowan Digital Infrastructure's proposed data center project in Morrow County. It is my understanding that the first hearing for the Rowan project took place before the County Planning Commission on June 27, 2023, with the second public hearing scheduled July 25, 2023, and a hearing before the Board of County Commissioners shortly thereafter.

Please include this letter in the official record for all upcoming hearings.

The BFRD supports this project for several reasons, but especially due to Rowan's commitment to partnering with us to ensure safety throughout all aspects of construction and operation. They have proactively sought out the expertise of the BFRD as they develop their approach to safety and emergency preparedness, which is greatly appreciated by our team, and which we expect will directly inform their final plans.

Beyond the BFRD, we understand Rowan is interested in building a long-term and mutually beneficial collaboration with stakeholders throughout the community. The economic potential of this project is profound – providing jobs and stability for Boardman families and communities around the county. Investments like this translate to stronger infrastructure for our county through increased tax revenue and more resources that allow our communities to grow efficiently.

Leadership at the BFRD is familiar with this specific property and works closely with the existing landowner, Threemile Canyon Farms. We are confident that Rowan is taking the necessary steps to minimize potential risk and prepare for all conceivable emergencies, including the risk of wildland fire and potential traffic accidents.

We are grateful for Rowan's proactive outreach and their commitment to transparency. Thank you for considering our support and we hope you will join us in welcoming them to the county.

Sincerely,

Mike Hughes
Fire Chief
Boardman Fire Rescue District

EXHIBIT P

July 14, 2023

EMAIL FROM Mary Killion -

Hi!

I have been going through the packet that was handed out to us during the last meeting and I have a couple of questions.

- 1.) The daily anticipated usage of water is 10,000-15,000 gallons per day.(page 4 of attachment 1)
Later on-page 6 of attachment 1, it states that *the applicant anticipates about 20 to 60 million gallons of annual total water use for the data center at the time of full buildout, depending on a variety of factors.* My calculator did the math for me : 15,000 gallons per day for a year **15,000 x 365 = 5,475,000** gallons per year. If one of their numbers is incorrect, it would be good to know. OR, do they intend to put in more than 1 data center? It does not state more than 1 data center...but, if 4-11 data centers are intended "at full buildout", then would that not have 4X-11X the impact to traffic? And 4X-11X the impact to every other thing we are looking at (ie environmental, water capacity of the lines, electrical usage)?
- 2.) Where is the well located that will be supplying the water to the proposed data center from the POM? Is the well within the Critical Groundwater area? Is the well certified to sustain the larger 20-60 million gallons of water required annually? How will drawing that amount of water impact surrounding industry, homeowners, agriculture wells?
- 3.) Page 18- the reasons why this site is "the only one"-
reason 1a.) *Proximity to existing infrastructure to minimize impacts and reduce costs, Only lands directly adjacent or with clear access (e.g. via a transmission easement)to an existing electrical infrastructure (e.g. substation or high voltage transmission line) were assessed as reasonable alternatives.* All reasons 1a-e speak to this point.
If this is an acceptable criteria-then, why have zoning laws? There are areas designated within our county that allow for Industrial Use. The reasons that continue on the following pages are completely arbitrary and unsupported for this zoning change. So, if we deny this zoning change- there is NO other acceptable site for a data center?

I could go on through the packet and continue with questions. I will spare you. I do not like discrepancies, though- and if they are going to make a claim about water usage, I think all of their numbers should support it. If they have grander plans- they need disclose that, as well.

Thank-you for your time. If you cannot answer my questions, can you direct me to another resource? Thanks!

July 18, 2023

VIA EMAIL

Morrow County Planning Commission
c/o Tamra Mabbot, Planning Director
Morrow County Bartholomew Building
110 N. Court St.
Heppner, OR 97836

**Re: Rowan Percheron, LLC – Supplemental Information for July 25 Hearing
(Docket AC-145-23, AC(Z)-146-22, AZM-147-23)**

Dear Chair Ekstrom and Fellow Planning Commissioners:

Rowan Percheron, LLC (“Applicant”) appeared before the Planning Commission on June 27, 2023 for the first evidentiary hearing on the above-referenced application. Planning commissioners raised several good questions at the hearing, and in response, we are providing the enclosed supplemental information. We look forward to discussing the material with the Planning Commission at the next hearing on July 25, 2023.

Supplemental Information Provided

- *ERM Alternatives Analysis Technical Memo* (Attachment 1). This memo supplements the Alternatives Analysis found in the Application as Appendix D. It responds to questions from the planning commission and provides additional explanation for why different sites were disregarded during Applicant’s site selection process.
- *ERM Goal 14 Exception Technical Memo* (Attachment 2). This memo supplements the “reasons” analysis in the Application and provides additional support for “reasons” to justify the Goal 14 exception under OAR 660-014-0040. It responds to comments concerning the adequacy of the OAR 660-014-0040 justification and shows the connectivity of the proposal to economic activities that rely on nearby natural resources.
- *ERM Big Game and Wetland Habitat Technical Memo* (Attachment 3). This memo supplements the earlier environmental surveys performed and expands Applicant’s analysis of habitat quality and quantity specifically for Big Game species. It responds to questions from the planning commission regarding potential impacts to Big Game species and sensitive habitat. It shows that while Big Game species may periodically use the Project Parcel, the Project Parcel is not located in a protected Big Game range under either Morrow County’s Comprehensive Plan or Oregon Department of Fish and Wildlife’s Habitat Mitigation Policy.

- *ERM Soils Technical Memo* (Attachment 4). This memo supplements the Soils Analysis found in the Application as Appendix C. It responds to questions from the planning commission concerning productivity of the site and the location of Columbia Valley American Viticulture Area (AVA) soils within the Project Parcel. It provides additional explanation for why the Project Parcel is unproductive agricultural land.
- *Port of Morrow Water Supply Route* (to be provided). Applicant is in ongoing discussions with Port of Morrow (“POM”) over the water supply route and anticipates the POM to provide additional information into the record on the proposed route ahead of the July 25 hearing.
- *Kittelson Construction Traffic and Safety Analysis* (to be provided). Kittelson is undertaking a supplemental traffic analysis to evaluate the potential traffic and roadway impacts from construction activities. The analysis will also look at traffic safety and summarize further consultations with local and state agencies.

Response to Commissioner Killion’s Questions

Commissioner Killion posed several questions to Planning Director Mabbott in an email dated July 13, 2023. The following responds to each in turn (italics = posed question):

- 1) *The daily anticipated usage of water is 10,000-15,000 gallons per day. (page 4 of attachment 1) Later on-page 6 of attachment 1, it states that the applicant anticipates about 20 to 60 million gallons of annual total water use for the data center at the time of full buildout, depending on a variety of factors. My calculator did the math for me : 15,000 gallons per day for a year. $15,000 \times 365 = 5,475,000$ gallons per year. If one of their numbers is incorrect, it would be good to know. OR, do they intend to put in more than 1 data center? It does not state more than 1 data center...but, if 4-11 data centers are intended “at full buildout”, then would that not have 4X-11X the impact to traffic? And 4X-11X the impact to every other thing we are looking at (ie environmental, water capacity of the lines, electrical usage)?*

Response: The water use analysis is for the full campus build out (worst-case scenario impacts). It also contemplates fluctuating water use over the year depending on the campus water demands. Water use is higher when cooling water is used, which varies depending on the time of year and weather conditions. Applicant intends to build a data center campus within the Project Footprint and the Applicant evaluates the potential impacts associated with full build-out for water use and all other potential impacts (traffic, environmental, electrical, etc.). The Kittelson Construction Traffic and Safety Analysis (to be provided) will provide updated construction traffic impacts analysis for full campus build out.

- 2) *Where is the well located that will be supplying the water to the proposed data center from the POM? Is the well within the Critical Groundwater area? Is the well certified to sustain the larger 20-60 million gallons of water required annually? How will drawing that amount of water impact surrounding industry, homeowners, agriculture wells?*

Response: Applicant is working with the POM to supply the needed potable water for the data center campus. The POM already has existing water rights for the water supply and the water is already appropriated for industrial and commercial use. Applicant is not relying on new water rights for its water supply therefore would be no new impact to surrounding industry, homeowners, or agricultural wells.

3) *Page 18- the reasons why this site is “the only one”- reason 1a.) Proximity to existing infrastructure to minimize impacts and reduce costs, Only lands directly adjacent or with clear access (e.g. via a transmission easement) to an existing electrical infrastructure (e.g. substation or high voltage transmission line) were assessed as reasonable alternatives. All reasons 1a-e speak to this point. If this is an acceptable criteria-then, why have zoning laws? There are areas designated within our county that allow for Industrial Use. The reasons that continue on the following pages are completely arbitrary and unsupported for this zoning change. So, if we deny this zoning change- there is NO other acceptable site for a data center?*

Response: The ERM Alternatives Analysis Technical Memo helps explain why other industrially-zoned areas in the County could not accommodate the project under Applicant’s siting criteria. Further, the Technical Memo explains that not all industrial zones allow data centers as a permissible use. The Alternatives Analysis (Appendix D) is a snapshot in time of potentially feasible sites; it is possible that in the future, other land may become available or circumstances may change (e.g., more transmission capacity is built in the area) that opens up new potentially feasible sites, but at the time of the Alternatives Analysis, not such alternative sites existed.

I could go on through the packet and continue with questions. I will spare you. I do not like discrepancies, though- and if they are going to make a claim about water usage, I think all of their numbers should support it. If they have grander plans- they need disclose that, as well.

Response: Applicant is seeking approval to construct a data center campus within the Project Footprint. The preliminary facility layout is presented in the Application and Applicant has evaluated worst-case impacts with the full campus build out.

We look forward to discussing this project further with you on July 25, 2023. We appreciate your time on this project, and thank you for your consideration.

Very truly yours,

Davis Wright Tremaine LLP



Elaine R. Albrich

cc: Rowan Team

ERM1050 SW 6th Avenue
Suite 1650
Portland, OR 97204

Telephone: +1 503 488 5282

www.erm.com

Memo

To	Rowan Percheron Team
From	ERM
Date	18 July 2023
Reference	Percheron Data Center Project, Morrow County, Oregon
Subject	Land Use and Zoning Addendum to Alternatives Analysis to Support Goal Exceptions Request

**1. INTRODUCTION**

Goal 2, Part II(c) requires that an applicant demonstrate that “areas that do not require a new exception cannot reasonably accommodate the use.” The elements of the required alternatives analysis are set out in Oregon Administrative Rules (OAR) 660-004-0020(2)(b)(A)1. Rowan Percheron, LLC (Applicant) performed an alternatives analysis with a study area that included the entire area of Umatilla and Morrow Counties, a region that has seen recent growth in significant cloud infrastructure presence. Applicant first identified siting criteria for the minimum requirements necessary for a site to reasonably accommodate the proposed Percheron Data Center (data center or Project). Applicant then applied the siting criteria to land within Umatilla and Morrow Counties to identify sites that could reasonably accommodate the proposed data center without requiring a new goal exception. The results of the analysis show that there are no available sites in Umatilla or Morrow Counties that meet the Project’s defined siting criteria and would not require a new goal exception.

In the Alternative’s Analysis (**Appendix D**, Application) the Applicant identified eight siting criteria for selecting a viable site for the proposed data center. Land Use and Zoning are an integral part of the Alternatives Analysis and should be described in sufficient detail to support the decisions and conclusions of the Applicant. ERM provides the below and attached in support of the Alternatives Analysis, specific to Land Use and Zoning.

1.1 Morrow County Zoning Districts

The Applicant evaluated the possibility of siting the Project outside the Urban Growth Boundary (UBG), but within zones where a data center may be allowed, such as industrial or commercial zones, specifically General Industrial (MG), Port Industrial Zone (PI) and Airport Light Industrial Zone (ALI) for Morrow County. A Data Center use is permitted outright in Morrow County’s General Industrial Zone (MG Zone) and Airport Light Industrial Zone (ALI) and permitted with a zoning permit in Port Industrial Zone (PI). Although data centers are listed as permitted uses, the County does not have specific siting criteria or development standards included in the Morrow County Zoning Ordinance (MCZO), only a definition of the term “data center” in MCZO

¹ Note that OAR 660-014-0040 also requires than an applicant consider alternatives to satisfy Goal 2, Part II(c), showing that “the proposed urban development cannot be reasonably accommodated in or through expansion of existing [UBG] boundaries or by intensification of development in existing rural communities.” Applicant maintains that alternatives analysis for purposes of OAR 660-014-0040(2)(a) requires the same analysis as OAR 660-004-0020(2)(b)(A)-(B). Therefore, for purposes of this application, Applicant relies on the proposed findings under OAR 660-004-0020(2)(b)(A)-(C) to meet both alternatives analysis requirement in Goal 2, Part II(c).

1.030. Data centers are listed as a conditional use only in the Umatilla Army Depot Military (UADM) Zone. Finally, the Space Age Industrial (SAI) zone allows many industrial, utility, and other emerging uses but does not allow for a data center use. All other Morrow County Zoning Districts and Overlay Zones do not provide for data centers as a permitted or conditional use.

Table 1 Morrow County Zoning Districts- Data Center Use Table

Use	Permitted Outright	Permitted with a Conditional Use Permit	Prohibited/ Not Allowed*
Data Center	<ul style="list-style-type: none"> ■ MG Zone ■ PI Zone ■ ALI Zone 	<ul style="list-style-type: none"> ■ UADM Zone 	<ul style="list-style-type: none"> ■ SAI Zone ■ AI Zone ■ AA Zone ■ AH Zone ■ EFU Zone ■ FR-2 Zone ■ FU Zone ■ CG Zone ■ RRI Zone ■ RLI Zone ■ RR-1 Zone ■ RSC Zone ■ SF-40 Zone ■ SR-2A Zone ■ SR Zone ■ TC Zone ■ UDWH Zone ■ UMCD PI Limited Use Overlay Zone

*Note: All other zoning districts data centers are not listed or the district or overlay zone is not applicable.

1.2 Port Industrial (PI)

A data center can be permitted in the Morrow County PI Zone with a zoning permit. Per section 3.073 of the MCZO the purpose of the PI Zone is:

The PI zone is intended to regulate development at portions of the Port of Morrow Industrial Park and other appropriate locations. The zone is intended to provide for port-related industrial uses and be an industrial sanctuary, limiting commercial uses to those appropriate and necessary to serve the needs of the workers employed within the zone. (MC OR-2014-1)

The Applicant evaluated the PI zoned areas of Morrow County during its siting and evaluation process as part of its Overarching Assessment of permitted zones, inclusive of the PI zoned parcel adjacent to the Morrow County UADM Zone (Umatilla Ordinance Depot; *UADM discussed separately in section 1.3 below*) and determined the parcel available would not meet the siting and development requirements. In addition to the description provided in **Appendix D** of the Application, the Applicant offers the below in additional support:

- The availability of power capacity and electrical service sufficient to meet the Project need was not and is not currently available;
- Clear title, required for the purchase of the property, was not available and was only recently acquired by the current landowner; and
- Number of buildable acres was not sufficient for the design parameters typical to data centers.

1.3 Umatilla Army Depot Military (UADM) Zone

As stated above, a data center can be permitted in the Morrow County UDAM Zone with a Conditional Use Permit (CUP). Per MCZO 3.074, the purpose of the UADM Zone is to “recognize the area in the Morrow County portion of the Army Depot that will be utilized by the National Guard Bureau (NGB), Oregon National Guard (ONG) and the Oregon Military Department (OMD).” The Applicant evaluated both the Morrow County and Umatilla County portions of area zoned UADM in Morrow County and DI-U in Umatilla County, known as “Umatilla Ordinance Depot,” for feasibility and potential siting of a data center. The Applicant evaluated the Umatilla Ordinance Depot, Alternative 2 in Appendix D, area during its siting and evaluation process and determined the parcels available would not meet the siting and development requirements. In addition to the description provided in Appendix D of the Application, the Applicant offers the below in additional support:

- The availability of power capacity and electrical service sufficient to meet the Project need was not and is not currently available;
- Clear title, required for the purchase of the property, was not available and was only recently acquired by the current landowner;
- Number of buildable acres was not sufficient for the design parameters typical to data centers; and
- The “Umatilla Ordinance Depot” is a former EPA Superfund site (EPA ID: OR6213820917) (See Criteria 4 of Alternatives Analysis which discusses contamination). The development of previously contaminated properties is a complex and protracted process; the Applicant was unable to realistically explore development within the area known as “Umatilla Ordinance Depot” based also on timing and contractual requirements to deliver the Project, as well as the financial feasibility of securing financing and insuring a previously contaminated site.

1.4 Limited Use and Overlay Zones

The Applicant's application includes a request for a Limited Use Overlay. Morrow County appears to have adopted a total of six (6) overlay zones, two (2) overlay zones are "Limited Use" (LU) zones including the UMCD PI Limited Use Overlay Zone and the Speedway Limited Use Overlay Zone (SO). The UMCD PI limited use overlay zone was developed to provide guidance on the development of the nearly nine hundred fifty-nine (959) acres of PI zoned lands. The SO limited use overlay was intended to direct development and activities related to a "a speedway." Per MCZO 3.110, the purpose of the Limited Use (LU) zone is "to limit the list of permitted uses and activities allowed in the zone to only those uses and activities which are justified in the comprehensive plan 'reasons' exception statement under ORS 197.732(1)(c)." This LU zone is also intended to address the 'reasons' exceptions pursuant to OAR 660-14-018(3). A data center use is not a permitted or conditional use in either of the currently adopted Limited Use Overlay Zones.

Per section 3.110(A) of the MCZO, the Limited Use Overlay Zone "is to be applied through the plan amendment and rezoning process at the time the primary plan and zone designation is being changed." Included in the Applicant's Alternatives Analysis Siting Criteria No.7, Land Use and Zoning, (Appendix D) the Applicant also requires "that there be a viable pathway for rezoning a site" to advance as a feasible alternative. Based on the unique characteristics of the Project parcel, the Applicant understood that there was a pathway to rezoning the Project parcel as well as a method to limit the potential impacts of the data center with an LU Overlay Zone. The intention of the overlay request is to address concerns related to the data center use and limit the uses just to what is permissible for Applicant's requested 'reasons' exception. The data center use would be limited to the minimum acres necessary to develop and operate the Project and also subject to reasonable conditions when necessary to carry out the provisions of the Comprehensive Plan and the MCZO.

2. MORROW COUNTY AMENDMENTS

Exhibit J, of the record of the June 27, 2023 Morrow County Planning Commission Public Hearing on the Applicant's Applications, includes a list of the adopted amendments to the Morrow County Zoning Map and Comprehensive Plan from 1987-2016, as well as excerpts from the 2021-2021 DLCD Farm Forest Report, both related to EFU lands. Based on Exhibit J, Morrow County has only adopted fifteen (15) amendments in the last thirty-six (36) years related to EFU zoned lands most of which occurred between 1987 and 2009. Since 2011, Morrow County has approved and adopted three (3) amendments related to EFU acreage. The number of applications which were withdrawn, denied, or overturned/ remanded was not included in Exhibit J.

In addition to the above, Exhibit J also provides data from the DLCD Farm Forest Report, which provides state-level data on farmland zone changes from 1989-2021 and forest and mixed farm-forest zone changes as well as USDA National Agricultural Statistics Service (NASS) data for Acres in Farm Use by County from 1997-2017. The DLCD Farm Forest report does not include data specific to Morrow County but according to the USDA NASS data Morrow County is ranked thirteenth for loss of farmland in across all Oregon Counties in the last two decades. In 2017, according to USDA NASS data, Morrow County had over one million acres of land in farm use. The rezoning of approximately 274 acres (Project parcel) would represent a 0.02% loss of EFU designated land in Morrow County.

3. CONCLUSIONS

A Data Center use is permitted outright in Morrow County's MG and ALI zones and permitted with a zoning permit in PI zones. Data centers are listed as a conditional use only in the UADM Zone and not permitted elsewhere in the County by either zoning permit or conditional use. The Morrow County PI zones were reviewed and evaluated during the Applicant's Overarching Assessment of permitted zones and were unable to obtain power capacity, availability clear insurable title, and insufficient buildable acreage. The available UADM zones were evaluated by the Applicant in its Alternative 2 (Appendix D) and the results were the same as for the PI zone except, the "Umatilla Ordinance Depot" is an EPA Superfund site and is currently in the process of clean up and remediation and would not be available by the date needed to begin construction and operation of the data center. Additionally, the Applicant's applications include a request for a LU Overlay Zone like the ones adopted previously in the county to address and to limit the potential impacts of the data center rezoning with an LU Overlay Zone. The intention of the overlay request is to address concerns related to the data center use and limit the uses just to what is permissible for Applicant's requested 'reasons' exception. Based on materials submitted into the record, Morrow County has only approved and adopted three (3) amendments related to EFU acreage since 2011. Additionally, according to the USDA NASS data Morrow County is ranked thirteenth for loss of farmland in across all Oregon Counties in the last two decades. Finally, in 2017, according to USDA NASS data, Morrow County had over one million acres of land in farm use. The rezoning of approximately 274 acres (Project parcel) would represent a 0.02% loss of EFU designated land in Morrow County.

ERM1050 SW 6th Avenue
Suite 1650
Portland, OR 97204

Telephone: +1 503 488 5282

www.erm.com

Memo

To	Rowan Percheron LLC (Applicant)
From	ERM
Date	18 July 2023
Reference	Percheron Data Center Project, Morrow County, Oregon
Subject	Supplemental Analysis for Goal 14 Exception Request

**1. INTRODUCTION**

ORAR 660-004-0020(2)(a) provides the first of four standards for goal exception requests. It requires an applicant to (1) demonstrate reasons justifying why the applicable goal policies should not apply, (2) describe the amount of land for the use, and (3) explain why the use requires a location on resource land. With respect to “reasons,” justifying why the applicable policies of Goals 3, 11, and 14 should not apply to the Project Parcel, the affected Goal 3 Policy would not apply as the policy preserves agricultural lands for farm use, the affected Goal 11 Policy would not apply as the policy prohibits extension of public services to serve industrial uses on rural lands, and the affected Goal 14 Policy would not apply as the policy prohibits urban-scale uses on rural land. Reasons that can justify why the policies in Goals 3, 4, 11 and 14 should not apply can include but are not limited to findings that an urban population and urban levels of facilities and services are necessary to support an economic activity that is dependent upon an adjacent or nearby natural resource. See ORAR 660-014-0040(2). The following supplements Applicant’s earlier goal exceptions analysis and further supports Applicant’s Goal 14 Exception Request.

2. SUPPLEMENTARY ANALYSIS

The Project involves an urban-scale data center development designed to accommodate the growing need for online and data storage. The record demonstrates that the Project Parcel is located between existing industrial and utility uses, where the ‘urbanization’ would not be out of place. The record also demonstrates that industrial and utility scale development, similar to the proposed data center development, can coexisting with existing agricultural operations, as demonstrated by the existence of the Carty operations and the adjacent Threemile Canyon Farm operations. Additionally, the Project Parcel is suitable for data center use given its proximity to other critical infrastructure such as the Carty site, adjacent to an existing 230 kV transmission line ROW, and the existing electric infrastructure nearby and renewable energy resources.

The data center is a necessary supplement to other critical infrastructure in Morrow County and the surrounding area. Data centers play a fundamental role in our society and digital economy today, everything that happens online, is retained in a data center. In order to meet the rising data center and cloud storage demand needs across all sectors, the Applicant entered into an agreement with the connecting utility to provide power and electrical infrastructure to the Project Parcel.

The four essential economic activities are resource management, the production of goods and services, the distribution of goods and services, and the consumption of goods and services¹. The economic activity for Project is “resource management” which would be the housing, hosting and providing security for the data that others use for economic activities such as: public and private data storage to individuals, corporate entities for business purposes, as well as some government or international purposes. In the same way that natural resources are managed, data and information storage, generate value from the resource itself (service, subscriptions, agreements) and indirectly generate sales for companies that supply goods and services that support resource management.

The data center economic activity, resource management, is dependent on power service and capacity adjacent to the Project Parcel. The existing 230-kV transmission line right of way offers ready access to renewable energy resources in the region, which will only be enhanced by the to-be-constructed Idaho Power Boardman to Hemingway that will run along Bombing Range Road to the Longhorn Substation. The Project Parcel is adjacent to the Carty site which hosts the Carty Generating Station, a 450-MW, combined-cycle natural gas-fuelled electric generating power plant, and includes a not-yet-constructed 50-MW solar PV electric power generating unit (Carty Solar Farm) on 315 acres (0.49 square mile). Renewable energy production, such as the planned Carty solar facility and other proposed solar facilities in the region, is energy derived from natural sources that are replenished at a higher rate than they are consumed. Sunlight and wind, for example, are such sources that are constantly being replenished and although widely available require the development of infrastructure such as solar facilities to capture, use, and conserve or store those resources. Access to and adjacency of the Project to renewable energy is crucial, the use of renewable energy resources for consistent and reliable supplemental power generation will limit the Project’s power demand on existing infrastructure and support any new required transmission or distribution line upgrades or substation development required. Further, diversity in electrical load, by utilizing renewable energy, also assists utilities and communities in maintaining a stable, reliable, and affordable energy supply.

¹ Microeconomics in Context (Goodwin, et al.), 4 th Edition. 2018. Chapter 1: Economic Activity in Context. Link: https://www.bu.edu/eci/files/2019/06/MIC_4e_SSG_Ch1.pdf

**Memo**

To	Rowan Percheron Team
From	Richard Peel, Managing Consultant/Biologist
Date	11 July 2023
Reference	Percheron Data Center Project, Morrow County, Oregon
Subject	Project Parcel Natural Resources: Supplemental Desktop Review

This technical memorandum responds to questions the Rowan Percheron Team received from the Morrow County (County) Planning Commission regarding the Project Parcel site conditions and natural resource values. Specifically, this memo addresses (1) the suitability of the site as wintering range and general habitat for deer and elk species, and (2) the extent and duration of wetland and stream hydroperiods within the site as they pertain to buffers.

EXECUTIVE SUMMARY

Although the site provides potential grazing and foraging habitat for deer and elk species, the site is located over 20 miles from mapped wintering grounds and is likely not significantly utilized for overwintering habitat.

Delineated wetland and water features identified on site have hydroperiod limited to the delineated boundaries and minimal influence into the surrounding uplands. This suggests that a standard buffer is sufficient to protect these features and any associated riparian habitat.

SITE DESCRIPTION

The Project Parcel is located approximately 11 miles southwest of Boardman, Oregon. The site is in the Columbia Plateau ecoregion and contains sections of mapped grassland and wetland strategy habitat. Biological field observations were collected by Senior ERM Biologist, Richard Peel as part of targeted species survey. Field observations were completed in ideal weather on March 2nd, April 6th, and April 28th, 2023. Wetland delineations were completed by a third party and are detailed in section 2. The site was observed as characterized grassland/shrub steppe community, comprised of sagebrush, grasses, and other shrub species.

1. DEER AND ELK HABITAT SUITABILITY

The County maps important big game range and habitat under Goal 5 of its Morrow County Comprehensive Plan (MCCP). Oregon Department of Fish and Wildlife (ODFW) maps important big game range and habitat under its Habitat Mitigation Policy (OAR 635-415). The Project Parcel is not designated as being within a big game winter range or mapped as essential and limited protected habitat under either MCCP Goal 5 or the ODFW Habitat Mitigation Policy. The site is located in the northeast section of ODFW's big game management unit that covers the Columbia Basin through the Blue, Wallowa and Elkhorn mountains to Hells Canyon. Big game managed in this unit include black-tailed deer, mule deer, white-tailed deer, and elk.

The site contains sagebrush, grasses, and other shrub species along with wetlands and riparian habitat that may be suitable for deer or elk foraging. The onsite wetlands will remain and be avoided. Based on desktop and onsite observations, the site supports fragmented areas of grassland habitat, identified by ODFW as a Strategy Habitat. Grasslands provide habitat for multiple species including large ungulates and are often associated with rare and important plant species. In accordance with the habitat categories and mitigation strategies defined by ODFW, the habitat onsite is likely category 5 or 6 due to the exclusion of essential, or important and limited habitat from the project area.

Additionally, ODFW identified deer and elk wintering range is mapped approximately 20 miles south of the site boundaries (Attachment A), making the site an unlikely candidate for overwinter utilization. Although deer species have been observed on site, the utility of the site is likely limited to growing season browsing and grazing use.

2. WETLAND BOUNDARIES AND RIPARIAN CORRIDORS

One palustrine emergent/palustrine forested (PEM/PFO) wetland (Wetland A) and one intermittent drainage (Intermittent Water 1) was delineated by AKS in 2022. The Oregon Department of State Lands (DSL) concurred that Wetland A and Intermittent Water 1 are likely jurisdictional waters of the state. This delineation is in concurrence with previous wetland delineation studies completed onsite in 2009, 2012, and 2013. Data was collected throughout the wetland, intermittent waterway, and upland sections of the site. Delineation data was reviewed by Professional Wetland Scientist, Richard Peel.

The riparian habitat is commonly defined as the interface or ecotone between a stream feature and the area surrounding the features banks. The riparian influence from the intermittent water on site is likely limited to Wetland A. Additionally, data collected within, and immediately outside the wetland boundary (Sampling points 9 and 10) suggests that the hydroperiod of Wetland A is highly localized with the delineated boundary. This suggests that the hydrology of the wetland and riparian influence of the water body does not extend significantly beyond the delineated boundaries. Additionally, data from within the identified 100-year floodplain (Sample point 3 and 4) show no signs of hydrologic influence in the soil, suggesting no significant hydroperiod and no flooding duration. A review of the collected data suggests little influence from the water features to the surrounding uplands and supports that standard wetland buffers are sufficient to avoid impacts to the delineated features.



DATA ACTIVE TOOLS **LEGEND**

ODFW DEER WINTER RANGE (EASTERN OR)

- ODFW Deer Winter Range
-  ODFW Deer Winter Range

ODFW ELK WINTER RANGE (EASTERN OR)

- ODFW Elk Winter Range
-  ODFW Elk Winter Range



Tutorial

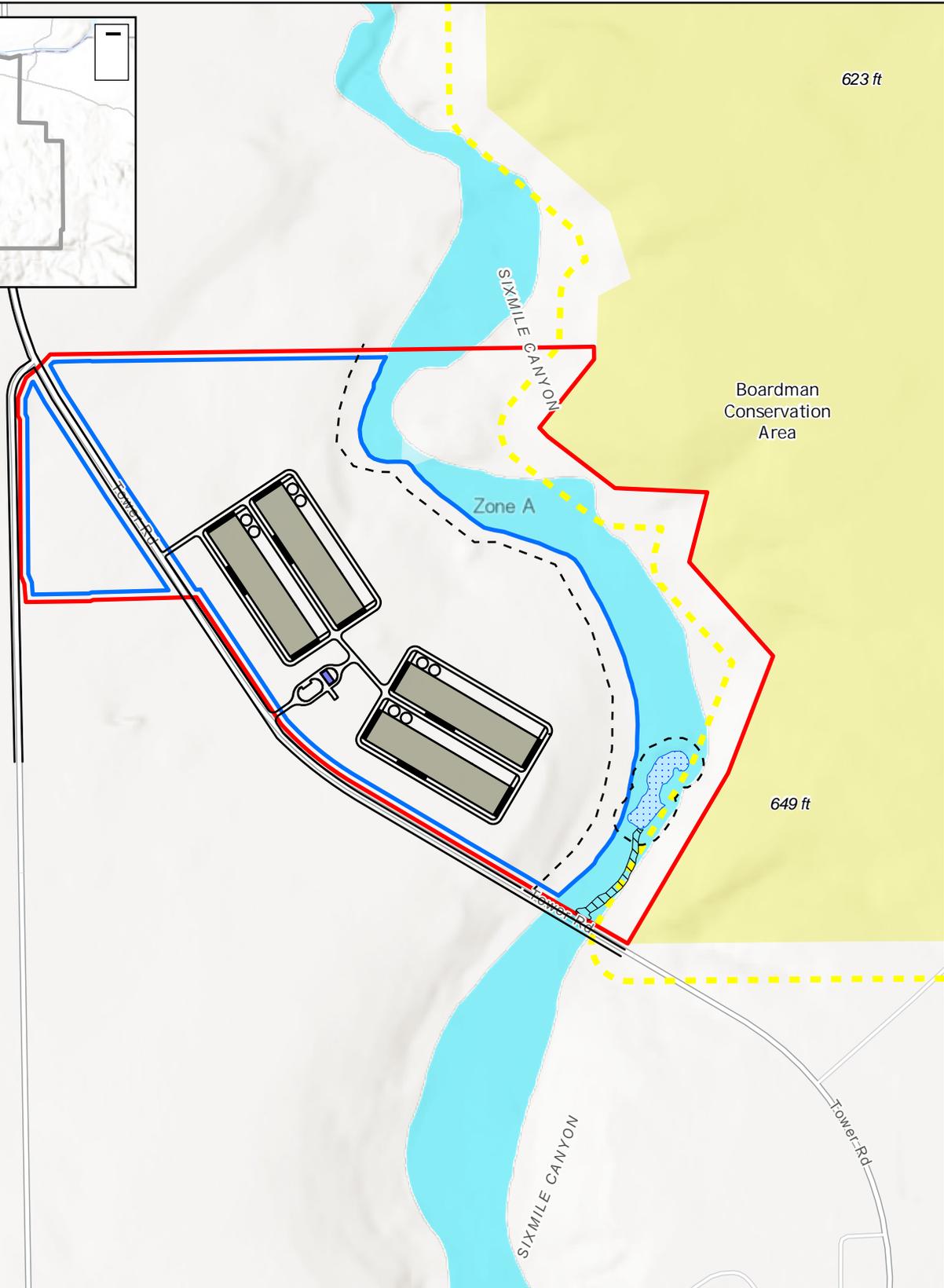
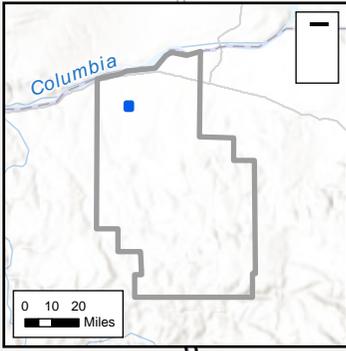


Sources: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGR, UPR-EGP, and others, Oregon Department of Fish and Wildlife, ODFW

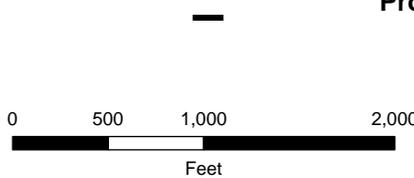


M:\US\Projects\PR\Rowan Green Data\0640978 Percheron Threemile Canyon\Maps\Percheron Data Center Figures_20230508_gb.aprx\Figure 4_REVISED_05162023_SCALE: 1:12,000 when printed at 8.5x11

Drawn By: Jonathan Haller



- Project Parcel
- Project Footprint
- Conservation Area
- 250 ft Conservation Area Buffer
- 100ft Setback
- Intermittent Water
- Delineated Wetland
- FEMA Special Flood Hazard Zone A (1% Annual Chance Flood)



Attachment B
Project Area and Key Site Features
 Percheron Data Center
 Rowan Percheron, LLC
 Morrow County, Oregon

Source: NAIP 2020; NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

Memo

To	Rowan Percheron LLC
From	David Weymann, Principal Soil Scientist
Date	17 July 2023
Reference	Percheron Data Center Project, Morrow County, Oregon
Subject	Project Parcel Soil Resources: Supplemental Desktop Review

This technical memorandum responds to questions to the Rowan Percheron Team from the Morrow County (County) Planning Commission regarding the Project Parcel site conditions and soil resource values. Specifically, this memo addresses the suitability of the site for agricultural production and grazing. This memo supplements the soils analysis provided as *Appendix C* with the original application submission.

Assessment of soil mapping models suggests that the project area is not well-suited for agriculture. The soils have poor water-holding capacity (excessively well drained), and the land capability classes indicate poor potential for agricultural productivity, including grazing. The sections below provide explanation.

SITE DESCRIPTION

The Project Parcel is located approximately 11 miles southwest of Boardman, Oregon. The Project Parcel is in the Columbia Plateau ecoregion and contains sections of grassland and wetland habitat. The site is characterized as grassland/shrub steppe community, comprised of sagebrush, grasses, and other shrub species.

AGRICULTURAL SUITABILITY

The U.S. Department of Agriculture (USDA) Web Soil Survey includes mapping models to predict the viability of soil and land for agricultural production. Following is an assessment of the Project Parcel using three commonly used models.

Farmland Classification designates soil mapping units as prime farmland, farmland of statewide importance, farmland of local importance, or farmland of unique importance. Figure 1 shows that most of the Project Parcel is classified as “Not prime farmland”. The figure also shows that the limited areas of soil classified “Prime farmland if irrigated” and “Farmland of statewide importance” are within areas delineated as water features and patches of sagebrush habitat. These conditions indicate that even the soils on the Project Parcel that the soil survey identifies as potentially suitable for agriculture are impractical for agricultural use.

Non-irrigated Capability Class identifies soils’ potential productivity if the land is not irrigated. Figure 2 shows the agricultural suitability of soils on the Project Parcel for field crops when the land is not irrigated. The figure shows that the Project Parcel soils are classes with “very severe limitations that reduce the choice of plants or that require very careful management, or both.”

These classifications indicate that even the soils identified as potentially suitable for agriculture are severely limited in capacity and likely not suitable for production.

Irrigated Capability Class identifies soils' potential productivity *if* the land is irrigated. Figure 3 shows the eastern section of the Project Parcel (those with suitable farmland classification) are Class 2 and 3. These classes have "moderate [to severe] limitations that reduce the choice of plants or that require moderate conservation practices" even when irrigated. This again indicates that the Project Parcel soils are not suitable for agricultural without significant alteration and a viable water right.

SUMMARY

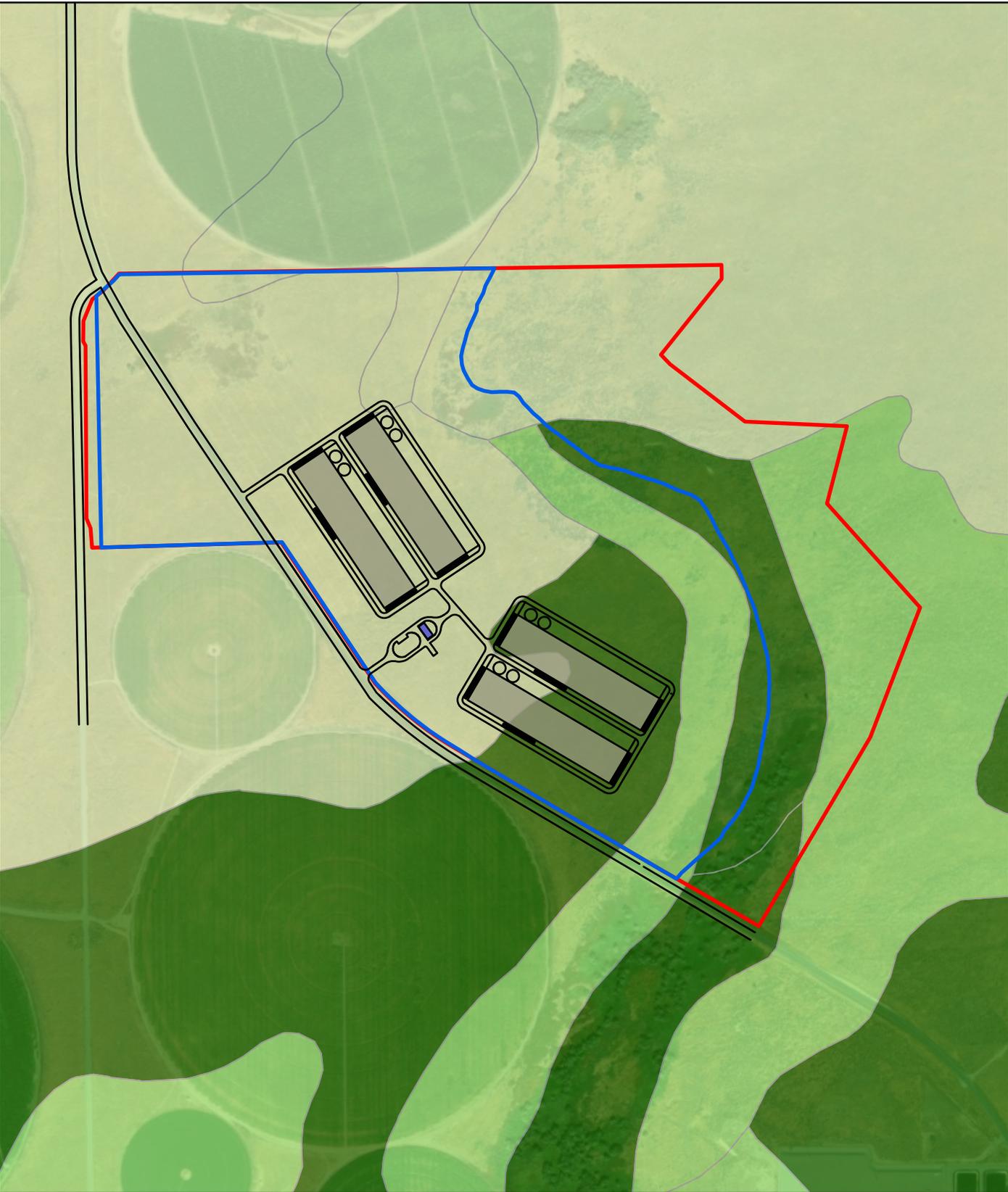
Figure 4 is a soil map of the Project Parcel, as was included in the original soils memo. In general, the soils are loamy fine sands, silt loams, and fine sandy loams.

The USDA soil mapping models indicate that the Project Parcel soils are severely limited in their ability to produce crops or pasture. The drainage class of the mapped soil series to be occupied by the facility (Figure 4) ranges from well drained to excessively well drained. The drainage characteristics reinforce the need for irrigation to sustain agriculture. The nearby irrigated crop circles are presumably supported by perfected water rights that are not known to be available to the Project Parcel. Accordingly, the Project Parcel is not suitable for agriculture or grazing. Without irrigation, the soils are poorly suited to agriculture, as indicated by the USDA land capability classification.

Although the Project Parcel is in the area designated as the Columbia Valley American Viticulture Area (AVA), the suitable soils of the AVA are defined as having of an aspect orientation of 67.5 to 292.5 degrees (see the soils analysis for the Project Parcel). Figure 5 shows the Project layout and the soils with an aspect ratio of 67.5 to 292.5 degrees. Development of the project will largely not occur on soils with the defined aspect ratio.

FIGURES

M:\US\Projects\P-R\Rowan Green Data\0640978 Percheron Threemile Canyon\Maps\Percheron Data Center Post App Soil Memo.aprx\Figure 1 Farmland Classification, REVISED_07/18/2023, SCALE: 1: when printed at 8.5x11
Drawn By: Jonathan Haller



-  Project Footprint
-  Project Parcel
- Farmland Class
 -  Not prime farmland
 -  Farmland of statewide importance
 -  Prime farmland if irrigated

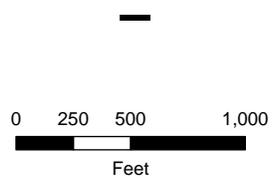


Figure 1
Farmland Classification
Percheron Data Center
Rowan Green Data, LLC
Morrow County, Oregon



-  Project Footprint
-  Project Parcel
-  Map Unit #
-  Classification #

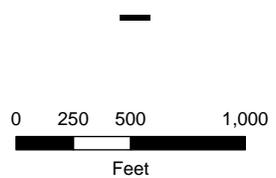


Figure 2
Non-irrigated Capability Class
Percheron Data Center
Rowan Green Data, LLC
Morrow County, Oregon



- ▭ Project Footprint
- ▭ Project Parcel
- ▭ Map Unit #
- Classification #

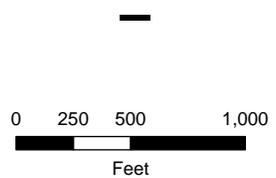


Figure 3
Irrigated Capability Class
 Percheron Data Center
 Rowan Green Data, LLC
 Morrow County, Oregon

M:\US\Projects\P-R\Rowan Green Data\0640978 Percheron Three Mile Canyon\Maps\Percheron Data Center Post App Soil Memo.aprx\Figure 4 USA SSURGO Soil Type. REVISED: 07/18/2023. SCALE: 1: when printed at 8.5x11 Drawn By: Jonathan.Haller

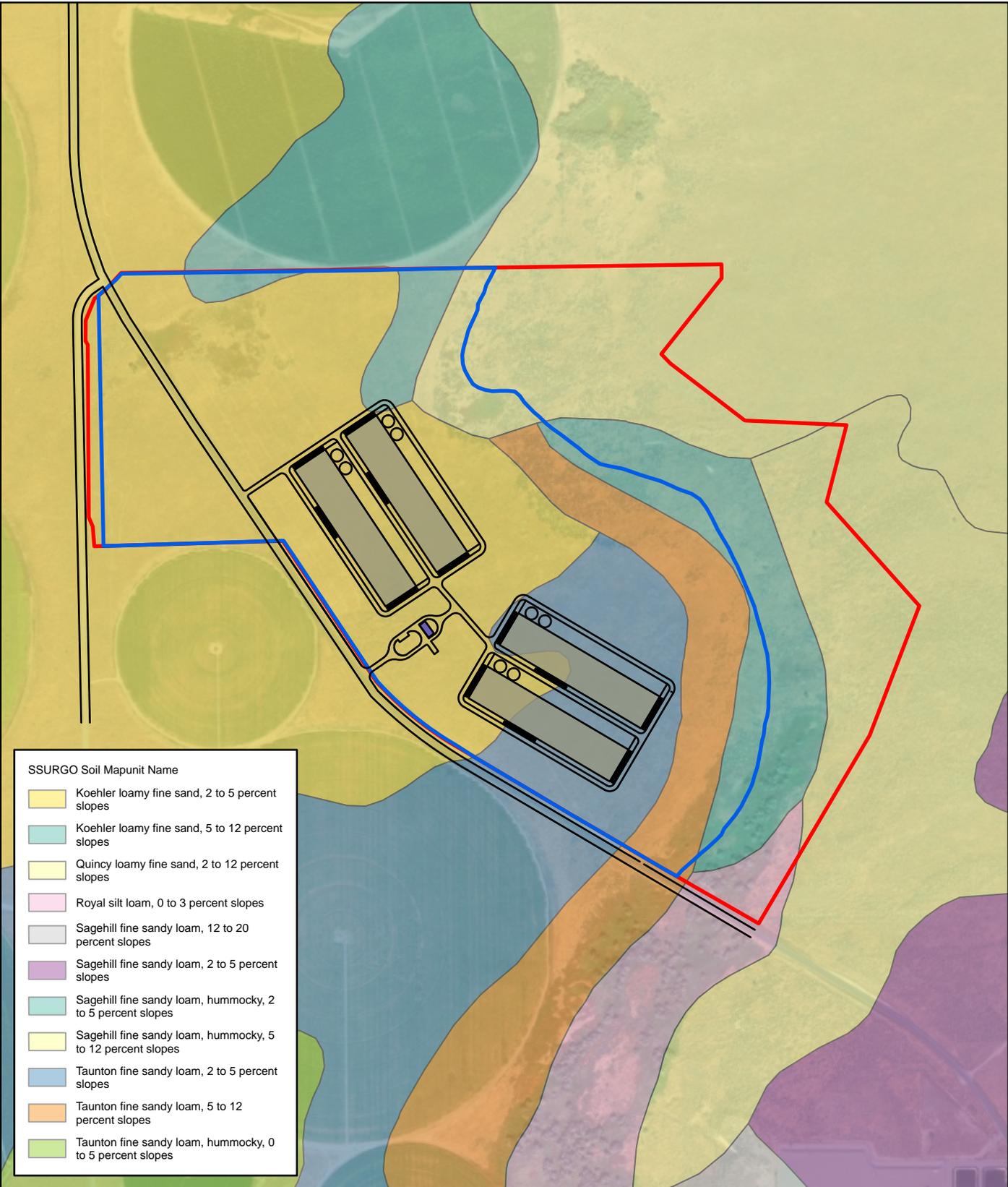
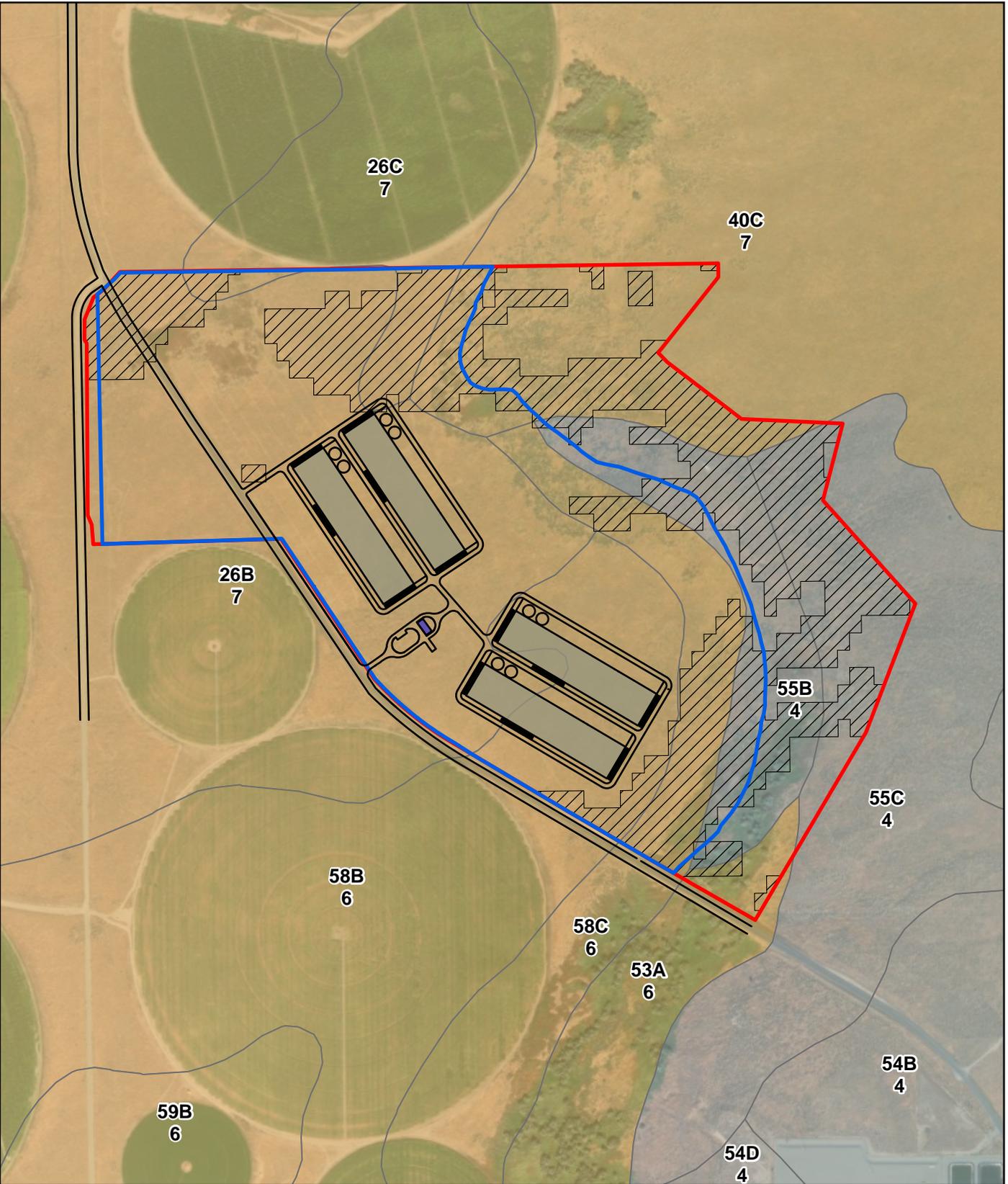


Figure 4
USA SSURGO Soil Type
Percheron Data Center
Rowan Green Data, LLC
Morrow County, Oregon



- Project Footprint
- Project Parcel
- Aspect 67.5 to 292.5 Degrees
- Project Soils**
- Class 3/4
- Class 6/7

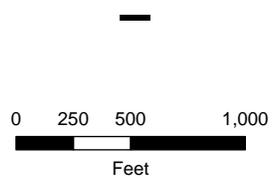


Figure 5
AVA Soils Analysis
 Percheron Data Center
 Rowan Green Data, LLC
 Morrow County, Oregon



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

Technical Memorandum

July 18, 2023

Project# 27656

To: Eric Imes, Public Works Director
Morrow County
365 West Highway 74
Lexington, OR 97839

From: Matt Hughart, AICP and Darren Hippenstiel, P.E.

CC: David Shiflett, Rowan Digital Infrastructure

RE: Tower Road Traffic Volume Forecast

BACKGROUND

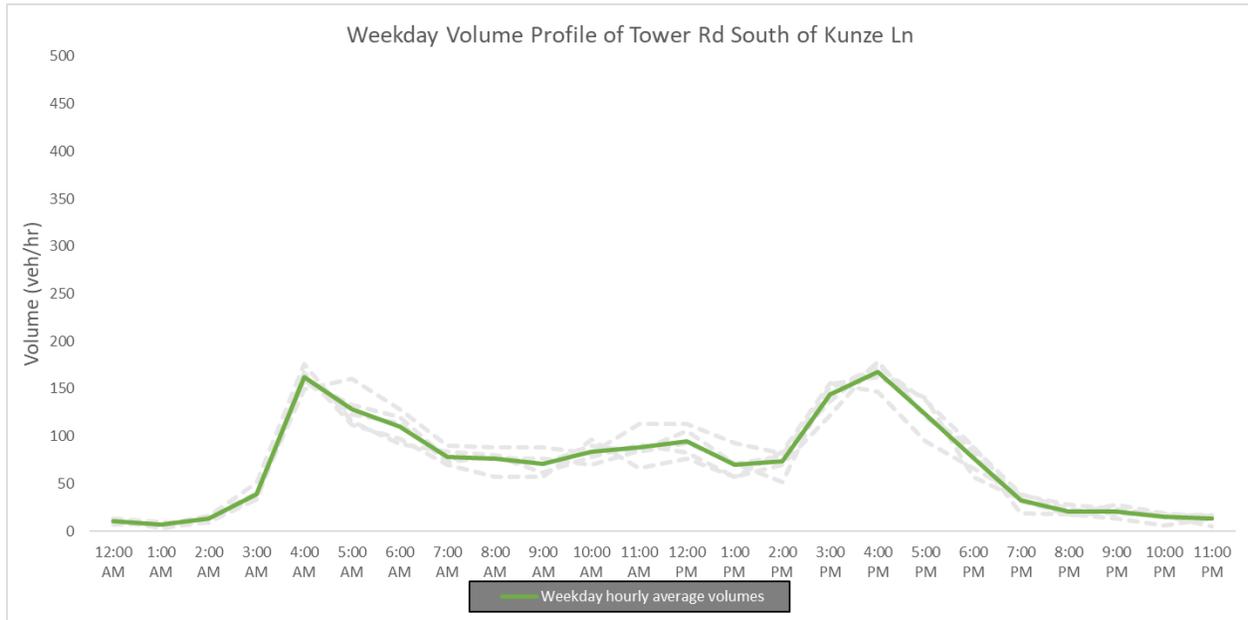
Kittelison & Associates, Inc. prepared and submitted a transportation assessment for a proposed zone change/data center on a parcel located off Tower Road in Morrow County. This transportation assessment supported a land use amendment proposal to change approximately 275 acres of Exclusive Farm Use (EFU) zoned land to the General Industrial (MG) zone. The zone change is necessary to allow for the proposed construction of a 1,125,000 square-foot data center complex.

The transportation assessment focused primarily on the post construction traffic impacts of the data center complex to address Oregon's Transportation Planning Rule (TPR) and Morrow County's MCZO 3.070(E) Traffic Impact Analysis study requirements under the General Industrial zone. To address construction traffic-related comments and questions raised by Morrow County Public Works staff, a detailed assessment of the anticipated construction traffic volumes and their impacts on Tower Road was prepared. The findings from this analysis are documented herein.

TRAFFIC VOLUMES AND CONSTRUCTION TRAFFIC ESTIMATES

Existing daily traffic volume and vehicle classification counts were performed on Tower Road from July 6, 2023 to July 12, 2023 using tube counters. These counters were placed on Tower Road south of Kunze Lane to assess the existing conditions of this critical 8-mile segment of Tower Road. A graphical summary of the average weekday traffic volume profile is shown in Exhibit 1 with a complete summary of the counts provided in Appendix A. As shown in the exhibit, volumes on this segment of Tower Road are relatively low with two distinct peak travel periods around 4:00 AM and 4:00 PM. These peak travel periods are most likely reflective of commuting activity associated with several large dairy farms located along the corridor.

Exhibit 1 – Average Daily Weekday Volume Profile of Tower Road South of Kunze Lane



Using this same data, average daily truck traffic was quantified and summarized according to the Federal Highway Administration (FHWA) vehicle classification summary as shown in Exhibit 2. Generally, average daily truck traffic is counted under FHWA Class 4 through Class 13 vehicles. Class 1 through Class 3 vehicles are discounted from the equivalent single axle load (ESAL) calculation as they are generally accepted to have a negligible contribution to the overall ESAL calculation.

Exhibit 2 - FHWA Vehicle Category Classifications

Class 1 Motorcycles		Class 7 Four or more axle, single unit	
Class 2 Passenger cars		Class 8 Four or less axle, single trailer	
Class 3 Four tire, single unit		Class 9 5-Axle tractor semitrailer	
Class 4 Buses		Class 10 Six or more axle, single trailer	
Class 5 Two axle, six tire, single unit		Class 11 Five or less axle, multi trailer	
Class 6 Three axle, single unit		Class 12 Six axle, multi-trailer	
		Class 13 Seven or more axle, multi-trailer	

Source: Federal Highway Administration

With the average number of daily trucks determined, Oregon Department of Transportation (ODOT) methodology was followed to convert daily truck traffic into annual ESALs, as shown in the 2019 ODOT *Pavement Design Guide*. Table 1 summarizes the results of this calculation process.

Table 1 – Existing Tower Road ESAL Calculation Summary

Vehicle Class	Percent of ADT	Number of Trucks*	Percent Total Trucks	ESAL Factor**	Directional Factor	Year 2023 ESAL's
1	0.70%	12		0		0
2	32.00%	549		0		0
3	12.55%	215		0		0
4	3.79%	65	6.91%	246	0.55	8,795
5	28.77%	494	52.55%	104	0.55	28,257
6	8.60%	148	15.74%	284	0.55	23,118
7	0.20%	3	0.32%	757	0.55	1,249
8	2.31%	40	4.26%	253	0.55	5,566
9	1.75%	30	3.19%	466	0.55	7,689
10	2.95%	51	5.43%	561	0.55	15,736
11	0.02%	0	0.00%	603	0.55	0
12	0.19%	3	0.32%	546	0.55	901
13	6.20%	106	11.28%	1037	0.55	60,457
Truck Count:		940	100%	Total ESAL:		151,767
*Bi-directional Truck Traffic						
**ESAL factor per ODOT pavement design guide, 2019 Table 8						

The ESAL calculation shown in Table 1 is for one year of existing Tower Road traffic. A typical pavement design analysis for flexible pavement (asphalt concrete pavement) is 20 years. The amount of ESAL contribution over the life of a pavement is typically grown through the design year (i.e. year 20) at an assumed growth rate, anticipating development. Considering traffic demand on this segment of Tower Road is unlikely to measurably change, a growth rate of 0% was used and a 20-year design ESAL was calculated by adding the ESALs for successive years. The total 20-year ESAL was determined to be approximately 3,035,000. See Appendix B for a detailed breakdown of the existing traffic analysis and ESAL calculation.

In order to determine the contribution of ESALs to Tower Road due to the proposed data center construction effort, analysis of the anticipated construction traffic was necessary. Based on other similar data center projects in the area, Rowan Digital Infrastructure was able to provide a general summary of the anticipated construction traffic. These include flatbed trucks for the delivery of heavy equipment (e.g. bulldozer, excavator, crane, etc.), flatbed trucks for delivery of building materials (e.g. steel, plumbing, drywall, electrical equipment, other building materials), other material delivery vehicles (e.g. dump truck for aggregate, cement mixer, etc.), and vehicles for workers/laborers working at the site (e.g. personal vehicles, pickup trucks, etc.). Appendix C contains a detailed breakdown of the anticipated construction traffic estimates for the site.

Based on similar projects, a summary of total construction vehicles was prepared, broken out by class of vehicle. This analysis was completed for two phases of the project: Phase 1 being the initial site preparation/grading and Phase 2 being the construction of the building. The total construction traffic was then combined for both phases of construction and reduced to an average daily construction traffic estimate. The same ODOT ESAL and directional factors that were used as in the existing Tower Road traffic data summary were applied to determine an estimated construction specific ESAL count. Table 2 summarizes the estimated construction traffic ESAL calculation.

Table 2 - Construction Traffic ESAL Calculation Summary

Vehicle Class	Percent of ADT	Number of Trucks*	Percent Total Trucks	ESAL Factor**	Directional Factor	Year 2023 ESAL's
1	0.00%	0		0		0
2	0.00%	0		0		0
3	0.00%	148		0		0
4	0.00%	0	0.00%	246	0.55	0
5	0.00%	0	0.00%	104	0.55	0
6	0.00%	26	92.51%	284	0.55	4,100
7	0.00%	0	0.00%	757	0.55	0
8	0.00%	0	0.00%	253	0.55	0
9	0.00%	2	7.49%	466	0.55	545
10	0.00%	0	0.00%	561	0.55	0
11	0.00%	0	0.00%	603	0.55	0
12	0.00%	0	0.00%	546	0.55	0
13	0.00%	0	0.00%	1037	0.55	0
Truck Count:		28	100%		Total ESAL:	4,645
*Bi-directional Truck Traffic						
**ESAL factor per ODOT pavement design guide, 2019 Table 8						

The ESAL calculation shown in Table 2 is for the entire duration of site construction and for all vehicles anticipated to visit the site and use Tower Road during that period. Since construction was assumed to be approximately 7 months in duration, the ESAL calculation is not grown over 20-years like a typical design calculation. See Appendix D for a detailed breakdown of the calculation.

FINDINGS

Based on the analysis of existing Tower Road traffic and construction-related traffic expected during the assumed site construction period, the amount of new construction ESALs is estimated to contribute less than two tenths of one percent of the total ESALs over a typical 20-year design life. The effect of construction traffic on the pavements' remaining life, in comparison to the background traffic, is estimated to be relatively minimal.

Appendix A – Tower Road Traffic Counts

APPENDIX A - QUALITY COUNTS REPORT - BACKGROUND TRAFFIC DATA													

Type:	Vehicle Classification Data												
Location:	Tower Rd btwn south of Boardman Airport Ln												
Specific Location:													
City/State:	Not Found No												
QCJobNo:	16264503												
Date:	Jul 6 2023 - Jul 12 2023												
Direction:	NB/ SB												
Comments:													

Date:	Jul 6 2023														
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Counted as Class 6	
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
12:00 AM	0	3	0	0	1	0	0	0	0	0	0	0	3	5	12
1:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	1	2	5
2:00 AM	0	7	2	1	1	0	0	0	1	0	0	0	2	2	16
3:00 AM	0	25	10	0	13	0	0	0	0	0	0	0	2	1	51
4:00 AM	2	94	39	1	38	1	0	0	0	0	0	0	1	0	176
5:00 AM	2	55	23	2	29	0	1	0	0	1	0	0	3	0	116
6:00 AM	0	31	8	2	36	3	0	0	1	2	0	0	5	4	92
7:00 AM	2	19	6	6	22	2	0	7	2	3	0	0	10	5	84
8:00 AM	0	9	7	5	25	1	0	4	3	6	0	0	12	8	80
9:00 AM	0	11	7	2	20	0	0	2	1	3	0	1	15	9	71
10:00 AM	3	10	7	3	31	2	0	2	2	5	0	1	12	12	90
11:00 AM	2	8	14	8	26	0	0	1	0	4	0	0	10	11	84
12:00 PM	0	16	14	10	33	0	0	1	3	2	0	1	6	7	93
1:00 PM	0	8	6	4	26	1	1	2	1	3	0	0	12	8	72
2:00 PM	0	18	1	5	15	0	0	1	3	1	0	0	5	3	52
3:00 PM	0	41	31	2	58	0	0	6	1	2	0	0	10	4	155
4:00 PM	0	76	29	2	41	0	0	2	2	2	0	0	4	4	162
5:00 PM	1	61	19	2	37	3	0	0	1	6	0	0	3	7	140
6:00 PM	1	17	13	1	19	1	0	0	0	2	0	0	0	3	57
7:00 PM	1	8	3	3	12	0	0	0	1	2	0	0	0	3	33
8:00 PM	0	3	3	0	2	1	0	0	0	2	0	0	2	4	17
9:00 PM	0	7	1	1	3	0	0	1	0	1	0	0	2	4	20
10:00 PM	0	3	2	2	4	0	0	0	0	1	0	0	2	2	16
11:00 PM	0	3	0	1	0	0	0	0	0	0	0	0	0	1	5
Day Total	14	535	245	63	492	15	2	29	22	48	0	3	122	109	1699
Percent	0.82%	31.49%	14.42%	3.71%	28.96%	0.88%	0.12%	1.71%	1.29%	2.83%	0.00%	0.18%	7.18%	6.42%	
ADT	6357														
AM Peak	10:00 AM	11:00 AM	11:00 AM	9:00 AM	11:00 AM	10:00 AM	11:00 AM	10:00 AM	9:00 AM	5:00 AM	4:00 AM	6:00 AM	9:00 AM	11:00 AM	11:00 AM
Volume	19	107	46	29	50	13	17	32	50	1	2	1	15	29	355
PM Peak	2:00 PM	5:00 PM	5:00 PM	12:00 PM	4:00 PM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	7:00 PM	5:00 PM	12:00 PM	12:00 PM	2:00 PM	12:00 PM
Volume	22	162	72	30	66	15	16	47	60	2	2	0	11	36	446

Date:	Jul 7 2023														
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Counted as Class 6	
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
12:00 AM	0	1	1	1	1	0	0	0	0	0	0	0	0	3	7
1:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	2	4	8
2:00 AM	0	8	2	1	0	0	0	0	0	0	0	0	1	2	14
3:00 AM	0	22	4	0	2	0	0	0	1	0	0	0	2	2	33
4:00 AM	1	89	33	1	35	0	0	5	0	0	0	0	0	3	167
5:00 AM	0	61	17	1	25	1	0	0	0	0	0	0	2	5	112
6:00 AM	2	28	10	3	35	1	0	1	2	1	0	0	6	8	97
7:00 AM	0	9	6	8	27	1	0	2	0	2	0	0	8	7	70
8:00 AM	1	7	7	6	16	0	0	4	1	3	0	0	7	5	57
9:00 AM	0	5	8	4	18	2	0	4	0	2	0	0	10	4	57
10:00 AM	0	23	9	5	29	1	0	5	2	2	0	0	9	11	96
11:00 AM	1	9	4	3	27	2	1	2	1	1	0	1	7	7	66
12:00 PM	0	9	13	1	28	3	0	0	2	3	0	1	9	7	76
1:00 PM	0	2	7	6	23	3	0	1	1	3	0	0	5	6	57
2:00 PM	1	15	7	12	34	2	0	1	0	1	0	1	5	5	84
3:00 PM	0	50	29	1	57	0	0	3	1	1	0	1	7	6	156
4:00 PM	0	74	18	4	36	2	0	1	1	1	0	0	3	7	147
5:00 PM	1	36	14	1	32	0	0	1	1	4	0	0	1	4	95
6:00 PM	2	22	14	3	18	0	0	0	0	3	0	0	0	4	66
7:00 PM	0	16	6	2	8	0	0	0	0	1	0	0	1	4	38
8:00 PM	1	5	0	3	8	2	0	1	1	1	0	0	1	5	28
9:00 PM	0	5	3	5	4	0	0	0	0	1	0	0	3	2	23
10:00 PM	0	3	2	2	2	0	0	0	0	4	0	0	0	4	17
11:00 PM	0	6	0	0	1	0	0	1	0	2	0	0	1	5	16
Day Total	10	506	214	73	467	20	1	32	14	36	0	4	90	120	1587
Percent	0.63%	31.88%	13.48%	4.60%	29.43%	1.26%	0.06%	2.02%	0.88%	2.27%	0.00%	0.25%	5.67%	7.56%	
ADT	6254														
AM Peak	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	10:00 AM	8:00 AM	11:00 AM	8:00 AM	5:00 AM	5:00 AM	12:00 AM	10:00 AM	10:00 AM	11:00 AM
Volume	28	139	73	30	58	13	7	27	45	1	2	0	14	17	422
PM Peak	2:00 PM	4:00 PM	2:00 PM	2:00 PM	4:00 PM	7:00 PM	1:00 PM	3:00 PM	12:00 PM	5:00 PM	11:00 PM	12:00 PM	1:00 PM	1:00 PM	4:00 PM
Volume	25	195	81	28	73	17	9	34	46	3	3	0	14	15	489

Date:	Jul 8 2023														
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Counted as Class 6	
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
12:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	2	3
1:00 AM	0	1	1	0	3	0	0	0	0	3	0	0	0	0	2
2:00 AM	0	4	2	0	0	0	0	0	0	2	0	0	0	2	10
3:00 AM	0	27	3	0	0	0	0	0	0	0	0	0	0	1	31
4:00 AM	0	79	42	0	33	0	0	0	0	0	0	0	0	0	154
5:00 AM	0	43	12	0	13	1	1	0	0	1	0	0	0	3	74
6:00 AM	2	12	6	3	13	0	2	1	0	1	0	0	0	7	47
7:00 AM	0	9	5	3	12	0	0	1	0	1	0	0	0	2	33
8:00 AM	0	3	2	6	6	0	0	0	1	1	0	0	2	7	28
9:00 AM	1	1	1	2	8	0	0	0	0	0	0	0	0	6	19
10:00 AM	0	8	16	3	18	2	0	2	0	0	0	0	1	8	58
11:00 AM	0	12	8	2	10	0	0	1	0	2	0	0	2	4	41
12:00 PM	0	17	16	3	15	0	0	1	0	1	0	0	0	6	59
1:00 PM	0	14	16	0	21	0	0	4	2	0	0	0	2	6	65
2:00 PM	0	6	5	2	11	0	0	0	0	1	0	0	0	3	28
3:00 PM	0	20	6	1	9	0	0	0	0	2	0	0	2	2	42
4:00 PM	2	63	12	2	17	0	0	0	0	2	0	1	0	3	102
5:00 PM	0	35	5	0	23	0	0	0	0	1	0	0	0	7	71
6:00 PM	0	3	6	0	3	0	0	0	0	0	0	0	0	5	17
7:00 PM	0	6	1	0	3	0	0	0	0	1	0	0	0	3	14
8:00 PM	0	3	2	1	3	1	0	0	0	0	0	0	0	2	12
9:00 PM	0	5	6	0	2	0	0	0	0	1	0	0	0	4	18
10:00 PM	0	3	1	2	1	0	0	0	0	2	0	0	0	1	10
11:00 PM	0	4	0	0	1	0	0	0	0	1	0	0	1	5	12
Day Total	5	379	174	31	225	4	3	10	3	23	0	1	12	92	962
Percent	0.52%	39.40%	18.09%	3.22%	23.39%	0.42%	0.31%	1.04%	0.31%	2.39%	0.00%	0.10%	1.25%	9.56%	
ADT	4845														
AM Peak	10:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	7:00 AM	1:00 AM	11:00 AM	11:00 AM	8:00 AM	3:00 AM	12:00 AM	12:00 AM	11:00 AM	11:00 AM
Volume	11	131	50	23	44	9	4	28	34	2	2	0	4	7	336
PM Peak	5:00 PM	1:00 PM	12:00 PM	6:00 PM	3:00 PM	1:00 PM	12:00 PM	12:00 PM	2:00 PM	3:00 PM	12:00 PM	12:00 PM	12:00 PM	2:00 PM	12:00 PM
Volume	17	191	70	18	44	9	5	39	31	1	0	0	3	9	369

Date:	Jul 9 2023															
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Counted as Class 6		
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total	
12:00 AM	0	1	0	0	2	0	0	0	0	0	0	0	0	0	1	4
1:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	5
2:00 AM	0	6	1	1	1	0	0	0	0	0	0	0	0	2	11	
3:00 AM	0	19	2	0	0	0	0	0	0	0	0	0	0	4	25	
4:00 AM	0	58	5	0	9	0	0	0	0	0	0	0	1	2	75	
5:00 AM	0	33	8	0	5	0	0	0	0	0	0	0	0	2	48	
6:00 AM	0	9	2	1	7	0	0	0	0	1	0	0	0	3	23	
7:00 AM	0	5	0	0	6	0	0	0	0	2	0	0	0	3	16	
8:00 AM	0	3	3	1	2	0	0	1	0	1	0	0	0	5	16	
9:00 AM	0	1	2	1	2	0	0	0	0	0	0	0	2	3	11	
10:00 AM	0	4	0	0	2	0	0	1	0	2	0	0	1	4	14	
11:00 AM	0	6	0	1	3	0	0	0	0	0	0	0	2	4	16	
12:00 PM	0	6	0	1	5	0	0	0	0	0	0	0	1	2	15	
1:00 PM	0	4	3	0	4	0	0	0	0	1	0	0	0	3	15	
2:00 PM	0	7	1	0	2	0	0	0	0	1	0	0	0	2	13	
3:00 PM	0	24	10	0	1	0	0	0	0	0	0	0	2	4	41	
4:00 PM	0	44	13	0	9	0	0	0	0	1	0	0	0	3	70	
5:00 PM	0	33	6	1	7	0	0	0	0	1	0	0	0	2	50	
6:00 PM	0	9	4	2	5	0	0	0	0	1	0	0	0	1	22	
7:00 PM	0	2	2	1	1	0	0	0	0	1	0	0	0	2	9	
8:00 PM	0	2	1	0	4	0	0	0	0	0	0	0	2	2	11	
9:00 PM	0	3	0	0	4	0	0	0	0	1	0	0	1	2	11	
10:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
11:00 PM	0	5	0	1	1	0	0	0	0	3	0	0	1	4	15	
Day Total	0	284	63	12	83	0	0	2	0	16	0	0	13	64	537	
Percent	0.00%	52.89%	11.73%	2.23%	15.46%	0.00%	0.00%	0.37%	0.00%	2.98%	0.00%	0.00%	2.42%	11.92%		
ADT	5351															
AM Peak	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	10:00 AM	4:00 AM	9:00 AM	10:00 AM	9:00 AM	10:00 AM	12:00 AM	10:00 AM	9:00 AM	11:00 AM	
Volume	14	134	63	13	33	9	2	28	38	1	1	0	4	7	333	
PM Peak	4:00 PM	1:00 PM	1:00 PM	1:00 PM	2:00 PM	4:00 PM	1:00 PM	2:00 PM	7:00 PM	2:00 PM	12:00 PM	12:00 PM	6:00 PM	12:00 PM	1:00 PM	
Volume	19	214	80	22	74	10	9	32	40	1	0	0	7	13	473	

Date:	Jul 10 2023														
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	as Class 6	
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
12:00 AM	0	0	1	0	0	2	0	0	0	1	0	0	1	4	9
1:00 AM	0	1	1	1	0	0	0	0	0	0	0	0	1	3	7
2:00 AM	0	6	1	1	0	0	0	0	0	3	0	0	3	2	16
3:00 AM	0	29	3	1	0	0	0	0	1	2	0	0	1	3	40
4:00 AM	0	86	30	1	33	0	0	2	0	2	0	0	1	4	159
5:00 AM	1	72	20	1	19	2	0	0	1	0	1	0	1	5	123
6:00 AM	0	46	6	5	46	0	0	2	2	1	0	0	1	5	114
7:00 AM	1	8	11	3	29	2	0	1	4	5	0	0	3	6	73
8:00 AM	0	9	11	7	28	1	0	4	1	1	0	0	6	11	79
9:00 AM	0	2	5	1	25	2	1	5	4	4	0	0	6	7	62
10:00 AM	1	8	8	5	29	2	0	3	4	3	0	0	6	9	78
11:00 AM	0	8	12	6	35	1	0	2	3	7	0	0	6	11	91
12:00 PM	2	13	9	3	33	1	1	2	2	1	0	0	9	7	83
1:00 PM	0	5	3	3	16	0	1	4	2	4	0	1	10	8	57
2:00 PM	2	8	5	3	25	1	1	1	4	1	0	2	4	13	70
3:00 PM	0	35	23	3	44	1	0	2	3	2	0	0	4	5	122
4:00 PM	2	85	22	2	57	2	0	1	1	0	0	0	2	5	179
5:00 PM	1	68	10	1	33	0	0	1	1	1	0	0	0	4	120
6:00 PM	0	46	12	1	12	1	0	0	0	3	0	0	3	6	84
7:00 PM	0	4	1	1	5	0	0	0	0	2	0	0	2	4	19
8:00 PM	0	2	0	2	7	1	0	0	0	1	0	0	2	3	18
9:00 PM	0	4	1	1	3	1	0	0	0	1	0	0	1	1	13
10:00 PM	0	5	0	0	0	0	0	0	0	0	0	0	0	1	6
11:00 PM	0	4	1	1	0	0	0	0	1	1	0	0	0	5	13
Day Total	10	554	196	53	479	20	4	30	34	46	1	3	73	132	1635
Percent	0.61%	33.88%	11.99%	3.24%	29.30%	1.22%	0.24%	1.83%	2.08%	2.81%	0.06%	0.18%	4.46%	8.07%	
ADT	6363														
AM Peak	10:00 AM	11:00 AM	9:00 AM	9:00 AM	10:00 AM	10:00 AM	9:00 AM	10:00 AM	11:00 AM	9:00 AM	12:00 AM	12:00 AM	9:00 AM	10:00 AM	11:00 AM
Volume	25	126	56	31	59	24	10	30	43	2	2	0	10	12	370
PM Peak	3:00 PM	5:00 PM	2:00 PM	12:00 PM	12:00 PM	1:00 PM	1:00 PM	12:00 PM	3:00 PM	12:00 PM	3:00 PM	12:00 PM	1:00 PM	4:00 PM	2:00 PM
Volume	30	179	73	31	64	17	14	37	61	1	3	0	10	18	472

Date:	Jul 11 2023														
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Counted as Class 6	
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
12:00 AM	0	2	0	2	0	0	1	0	0	0	0	0	2	4	11
1:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	2	3
2:00 AM	0	5	0	0	1	0	0	0	0	0	0	0	0	4	10
3:00 AM	0	28	2	1	0	0	0	0	0	0	0	0	0	2	33
4:00 AM	0	88	32	0	34	0	0	0	0	0	1	0	2	2	159
5:00 AM	0	79	20	2	23	0	1	0	1	1	0	1	1	4	133
6:00 AM	3	43	10	4	34	2	0	2	3	3	0	0	6	10	120
7:00 AM	0	9	7	5	33	0	0	2	4	3	0	0	4	9	76
8:00 AM	1	6	7	4	28	1	0	4	2	6	0	0	9	8	76
9:00 AM	0	9	4	5	27	1	0	4	4	8	0	0	8	6	76
10:00 AM	0	6	7	2	26	2	2	6	2	6	0	1	4	6	70
11:00 AM	0	11	6	6	26	1	0	3	6	5	0	1	11	9	85
12:00 PM	0	16	13	2	40	1	0	7	2	2	0	1	10	12	106
1:00 PM	3	7	4	8	25	2	1	2	1	4	0	0	5	9	71
2:00 PM	1	8	3	8	28	2	0	5	3	4	0	0	9	8	79
3:00 PM	0	50	23	2	50	1	0	2	3	5	0	0	8	6	150
4:00 PM	1	70	28	4	50	0	1	5	2	1	0	0	4	7	173
5:00 PM	2	71	17	0	38	1	0	2	0	0	0	0	1	6	138
6:00 PM	0	46	12	0	21	0	0	3	0	3	0	0	0	4	89
7:00 PM	1	4	3	1	12	0	0	2	0	3	0	0	0	6	32
8:00 PM	1	3	2	3	0	0	0	0	0	1	0	0	5	3	18
9:00 PM	0	6	2	1	6	2	0	1	0	2	0	0	4	4	28
10:00 PM	0	6	1	0	3	0	0	2	0	1	0	0	3	3	19
11:00 PM	0	5	0	1	0	0	0	0	0	2	0	0	3	4	15
Day Total	13	578	203	62	505	16	6	52	33	60	1	4	99	138	1770
Percent	0.73%	32.66%	11.47%	3.50%	28.53%	0.90%	0.34%	2.94%	1.86%	3.39%	0.06%	0.23%	5.59%	7.80%	
ADT	5988														
AM Peak	10:00 AM	11:00 AM	10:00 AM	8:00 AM	11:00 AM	10:00 AM	10:00 AM	11:00 AM	10:00 AM	11:00 AM	6:00 AM	12:00 AM	7:00 AM	10:00 AM	11:00 AM
Volume	25	98	63	33	64	14	16	23	52	2	4	0	12	19	367
PM Peak	4:00 PM	12:00 PM	4:00 PM	2:00 PM	5:00 PM	4:00 PM	2:00 PM	1:00 PM	1:00 PM	12:00 PM	7:00 PM	12:00 PM	2:00 PM	3:00 PM	4:00 PM
Volume	33	138	65	37	62	15	12	33	61	4	3	0	14	16	431

Date:	Jul 12 2023														
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Counted as Class 6	
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
12:00 AM	0	2	0	0	0	0	0	0	0	3	0	0	6	2	13
1:00 AM	0	1	1	1	1	0	0	0	0	0	0	0	4	2	10
2:00 AM	0	4	0	0	0	0	0	0	0	1	0	0	2	2	9
3:00 AM	0	26	5	0	3	0	0	0	0	0	0	0	2	2	38
4:00 AM	0	83	28	0	28	0	0	2	1	0	0	0	3	4	149
5:00 AM	0	86	22	4	35	0	0	0	2	1	0	0	4	6	160
6:00 AM	4	41	12	7	41	0	0	2	3	2	0	0	5	11	128
7:00 AM	1	13	7	9	30	2	0	3	2	3	0	0	9	11	90
8:00 AM	2	10	5	8	36	2	0	3	3	4	0	0	7	8	88
9:00 AM	0	9	10	5	32	1	0	3	4	4	0	0	8	12	88
10:00 AM	1	7	12	6	22	2	0	2	7	4	0	2	8	9	82
11:00 AM	0	12	12	5	35	0	1	4	7	7	0	0	15	15	113
12:00 PM	1	10	16	5	38	0	0	7	5	5	0	0	15	11	113
1:00 PM	1	12	3	6	31	2	1	3	5	9	0	0	10	10	93
2:00 PM	1	9	6	5	23	0	2	2	3	5	0	0	16	10	82
3:00 PM	0	38	20	3	45	1	0	10	2	5	0	0	8	5	137
4:00 PM	0	83	24	1	53	1	0	7	1	0	0	0	5	3	178
5:00 PM	0	60	16	1	30	4	0	1	1	2	0	0	2	4	121
6:00 PM	1	43	10	0	16	3	0	1	1	5	0	0	3	5	88
7:00 PM	1	12	4	2	14	0	0	1	0	0	0	0	2	3	39
8:00 PM	0	5	2	4	3	0	0	0	0	0	0	0	5	4	23
9:00 PM	0	2	1	1	4	0	0	0	0	1	0	0	5	4	18
10:00 PM	0	4	2	1	4	0	0	1	0	2	0	0	0	3	17
11:00 PM	0	2	1	0	3	0	0	3	0	0	0	0	4	4	17
Day Total	13	574	219	74	527	18	4	55	47	63	0	2	148	150	1894
Percent	0.69%	30.31%	11.56%	3.91%	27.82%	0.95%	0.21%	2.90%	2.48%	3.33%	0.00%	0.11%	7.81%	7.92%	
ADT	6312														
AM Peak	7:00 AM	11:00 AM	10:00 AM	10:00 AM	11:00 AM	11:00 AM	8:00 AM	9:00 AM	10:00 AM	5:00 AM	2:00 AM	12:00 AM	9:00 AM	9:00 AM	11:00 AM
Volume	26	94	55	35	57	13	15	33	62	1	4	0	13	20	380
PM Peak	1:00 PM	5:00 PM	1:00 PM	2:00 PM	12:00 PM	5:00 PM	1:00 PM	1:00 PM	2:00 PM	2:00 PM	11:00 PM	12:00 PM	1:00 PM	1:00 PM	4:00 PM
Volume	31	140	70	32	66	21	17	38	62	2	4	0	16	25	457

SUMMARY: ALL COUNTS															
Date:	Jul 6 2023 - Jul 12 2023														
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Counted as Class 6	Total
	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
Grand Total	65	3410	1314	368	2778	93	20	210	153	292	2	17	557	805	10084
Percent	0.64%	33.82%	13.03%	3.65%	27.55%	0.92%	0.20%	2.08%	1.52%	2.90%	0.02%	0.17%	5.52%	7.98%	
ADT	1440.571														
SUMMARY: WEEKDAY ONLY															
Date:	Jul 6 2023 - Jul 12 2023														
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Counted as Class 6	Total
	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
Grand Total	60	2747	1077	325	2470	89	17	198	150	253	2	16	532	649	8585
Percent	0.70%	32.00%	12.55%	3.79%	28.77%	1.04%	0.20%	2.31%	1.75%	2.95%	0.02%	0.19%	6.20%	7.56%	
ADT	1717														

Appendix B – Existing Tower Road ESAL Calculations

APPENDIX B - Tower Road Background Traffic ESAL

Part 1: Traffic Data

2023 Two-Way Avg. Weekday ADT
 Avg. ADT 1717 *QC Data collection 7/6/2023 - 7/12/2023*

2043 Two-Way Avg. Weekday ADT
 1715 *Assume 0% per year growth*

Pavement Type: Asphalt Concrete

Year of Opening: 2023

Structural Design Life: 20 years Typical for new roadways

20-year expansion factor 1.00 2043 ADT/2023 ADT

Part 2: Annual Growth Rate

$$R = [E^{(1/n)} - 1] * 100$$

R = Annual Growth (%)

E = Expansion Factor 1.00

n = Number of Years 20

$$R = -0.01$$

Part 3: ESAL for year 2023

Vehicle Class	Percent of ADT	Number of Trucks*	Percent Total Trucks	ESAL Factor**	Directional Factor	Year 2023 ESAL's
1	0.70%	12		0		0
2	32.00%	549		0		0
3	12.55%	215		0		0
4	3.79%	65	6.91%	246	0.55	8,795
5	28.77%	494	52.55%	104	0.55	28,257
6	8.60%	148	15.74%	284	0.55	23,118
7	0.20%	3	0.32%	757	0.55	1,249
8	2.31%	40	4.26%	253	0.55	5,566
9	1.75%	30	3.19%	466	0.55	7,689
10	2.95%	51	5.43%	561	0.55	15,736
11	0.02%	0	0.00%	603	0.55	0
12	0.19%	3	0.32%	546	0.55	901
13	6.20%	106	11.28%	1037	0.55	60,457
Truck Count:		940	100%	Total ESAL:		151,767

*Bi-directional Truck Traffic

**ESAL factor per ODOT pavement design guide, 2019 Table 8

Part 4: ESAL for Design Life

Ex: 2023 ESAL's = 2013 ESAL's [1+(R/100)]

Year	ESAL's	Summation		
2023	151,767	151,767	Opening Year	151,767
2024	151,758	303,525		
2025	151,749	455,274		
2026	151,740	607,015		
2027	151,732	758,747		
2028	151,723	910,469		
2029	151,714	1,062,183		
2030	151,705	1,213,888		
2031	151,696	1,365,585		
2032	151,687	1,517,272		
2033	151,679	1,668,951		
2034	151,670	1,820,620		
2035	151,661	1,972,281		
2036	151,652	2,123,933		
2037	151,643	2,275,577		
2038	151,634	2,427,211		
2039	151,626	2,578,837		
2040	151,617	2,730,453		
2041	151,608	2,882,061		
2042	151,599	3,033,660		
2043	151,590	3,185,250		
2044	151,581	3,336,832		

Appendix C – Tower Road Construction Traffic Assumptions

Appendix D – Construction Traffic ESAL Calculations

APPENDIX D - Tower Road Construction Traffic ESAL

Part 1: Traffic Data

See Tower Road Construction Traffic Summary for Assumptions

Class 1-3	23600
Class 6	4200
Class 9	340

Vehicle totals are for the entire construction durations. ODOT ESAL factors convert ADT to annual ESAL. Need to reduce the total construction traffic volume to daily. Assume that construction traffic is spread evenly over the duration of construction, or 160 total days.

Assumed Daily traffic

Class 1-3	147.5
Class 6	26.25
Class 9	2.125

Part 2: Annual Growth Rate

$$R = [E^{(1/n)} - 1] * 100$$

R = Annual Growth (%)

E = Expansion Factor 1.00 CONSTRUCTION YEAR ONLY

n = Number of Years 20

$$R = 0.00$$

Part 3: ESAL for year 2023

Vehicle Class	Percent of ADT	Number of Trucks*	Percent Total Trucks	ESAL Factor**	Directional Factor	Year 2023 ESAL's
1	0.00%	0		0		0
2	0.00%	0		0		0
3	0.00%	148		0		0
4	0.00%	0	0.00%	246	0.55	0
5	0.00%	0	0.00%	104	0.55	0
6	0.00%	26	92.51%	284	0.55	4,100
7	0.00%	0	0.00%	757	0.55	0
8	0.00%	0	0.00%	253	0.55	0
9	0.00%	2	7.49%	466	0.55	545
10	0.00%	0	0.00%	561	0.55	0
11	0.00%	0	0.00%	603	0.55	0
12	0.00%	0	0.00%	546	0.55	0
13	0.00%	0	0.00%	1037	0.55	0

Truck Count: 28 100% Total ESAL: 4,645

*Bi-directional Truck Traffic

**ESAL factor per ODOT pavement design guide, 2019 Table 8

Part 4: ESAL for Design Life

Construction Year Annual ESALs	4,645	ADTT converted to Annual
Days per year	365	
Daily ESALs	12.7257192	
Days of Construction	160	(Phase 1 - 30 days, Phase 2 - 130 days)
Total Const. ESAL's	2,036	

EXHIBIT X

Month	Temp above 83 degrees?	Est. Total hours	Est. Days above 83 degrees	Water demand per month	Unit
Jan	N	0	0	-	gallons/month
Feb	N	0	0	-	gallons/month
Mar	N	0	0	-	gallons/month
Apr	N	0	0	-	gallons/month
May	N	0	0	-	gallons/month
Jun	y	300	14	4,900,000	gallons/month
Jul	y	800	31	10,850,000	gallons/month
Aug	y	400	18	6,300,000	gallons/month
Sep	N	0	0	-	gallons/month
Oct	N	0	0	-	gallons/month
Nov	N	0	0	-	gallons/month
Dec	N	0	0	-	gallons/month
TOTAL		1,500	63	22,050,000	gallons/YEAR

22 million Gallons per year = 67.56 acre/ft per year.

If water is used for 1500 hours/year, that equates to 63 days of water use, mostly during the summer

22,050,000 GPY Annual demand
 608 GPM for peak minute demand (assuming a peak factor of 2.5)
 36,458 GPH for peak hour demand
 875,000 GPD for peak day demand
 350,000 GPD average day demand

Assuming 60% of incoming water gets evaporated, 40% turns into blowdown
 8,820,000 GPY for annual discharge
 243 GPM for peak minute discharge
 14,583 GPH for peak hour discharge
 350,000 GPD for peak day discharge
 2140,000 GPD for average day discharge

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PLANNING DEPARTMENT

P.O. Box 40 • 215 NE Main Ave. Irrigon, Oregon 97844
(541) 922-4624 • www.morrow.or.us/planning

MEMORANDUM

To: Morrow County Planning Commission
From: Katie Keely, Compliance Planner
Cc: Tamra Mabbott, Planning Director
Date: July 18, 2023
RE: Neighborhood compliance program

This memorandum is regarding the new neighborhood compliance program. Planning staff have been working on over the last several months. Code compliance is challenging. Success usually comes in small increments. Zoning, code and solid waste violations are particularly challenging, both presently and historically, in three neighborhoods:

- West Glen
- Wagon Wheel
- Gun Club

Based on the unique challenges in these three neighborhoods, staff launched the neighborhood compliance program with the idea that we would work on a neighborhood scale rather than by individual property. The goal is to provide information and resources and help entire neighborhoods clean up.

This program was presented to the Board of Commissioners March 1, 2023. prior to launching the neighborhood-based compliance program. On April 19, 2023 the Board of Commissioners approved the use of Code Enforcement Abatement funds to be made available to landowners (and renters) who want to clean up their properties.

On May 22, 2023 Planning Department held an open house for all the property owners with in and around the three neighborhoods. The main topics that night were:

- Ordinance & Code Overview – Zoning, Code and Solid Waste Ordinance
- Trucking Businesses
- Animal Density

During the open house, staff also provided resources available to property owners, informational packets about septic systems, and ground water information.

Status of properties within the neighborhoods will be presented by staff at the July 25th meeting.

Katie