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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

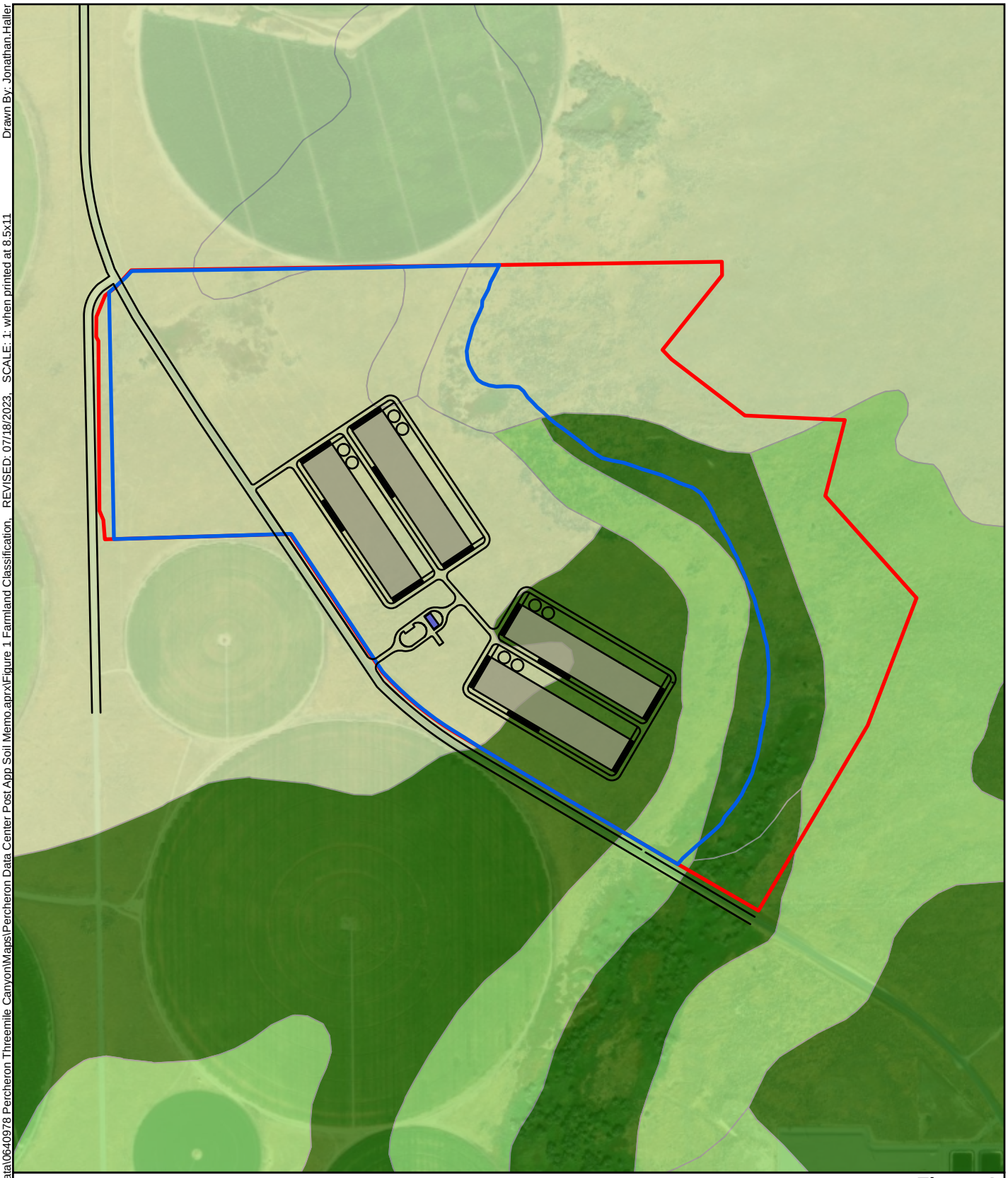

Figure 1
Farmland Classification
Percheron Data Center
Rowan Green Data, LLC
Morrow County, Oregon

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Source: Esri - World Topoographic Map; NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

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
Map Unit #
Classification #

0 250 500 1,000
Feet

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

Environmental Resources Management
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Source: Esri - World Topoographic Map; NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

M:\US\Projects\P-R\Rowan Green Data\0640978 Percheron Threemile Canyon\Maps\Percheron Data Center Post App Soil Memo.aprx\Figure 2 Non-Irrigated Capability Class, REVISED: 07/18/2023, SCALE: 1: when printed at 8.5x11 Drawn By: Jonathan.Haller

Project Footprint
Project Parcel
Map Unit #
Classification #

0 250 500 1,000
Feet

Figure 3
Irrigated Capability Class
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Morrow County, Oregon

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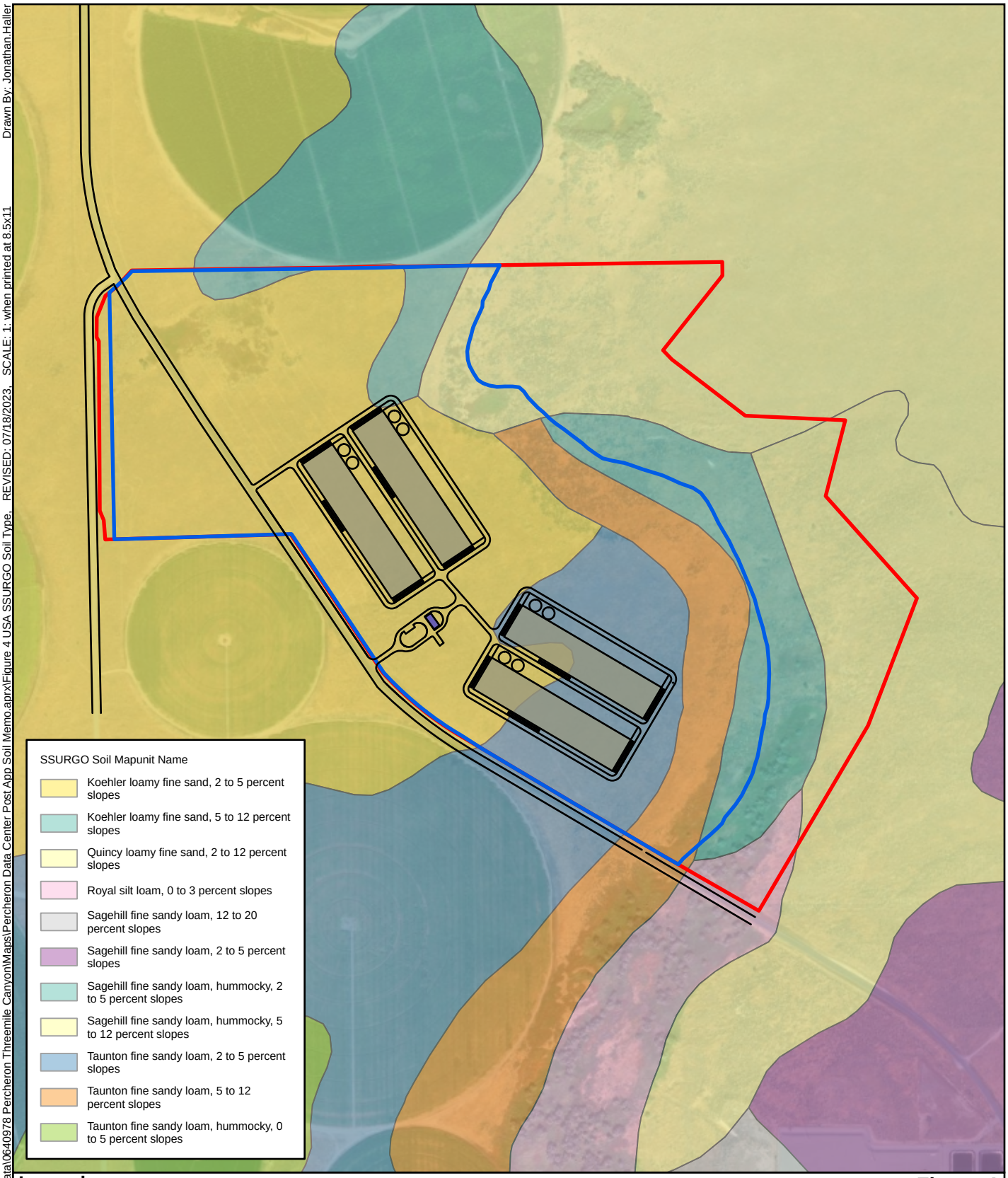
Source: Esri - World Topoographic Map; NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

M:\US\Projects\P-R\Rowan Green Data\0640978 Percheron Threemile Canyon\Maps\Percheron Data Center Post App Soil Memo.aprx\Figure 3 Irrigated Capability Class, REVISED: 07/18/2023, SCALE: 1: when printed at 8.5x11 Drawn By: Jonathan.Haller



Legend

Project Footprint

Project Parcel

0 460 920 1,840

Feet

Figure 4

USA SSURGO Soil Type

Percheron Data Center

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Morrow County, Oregon

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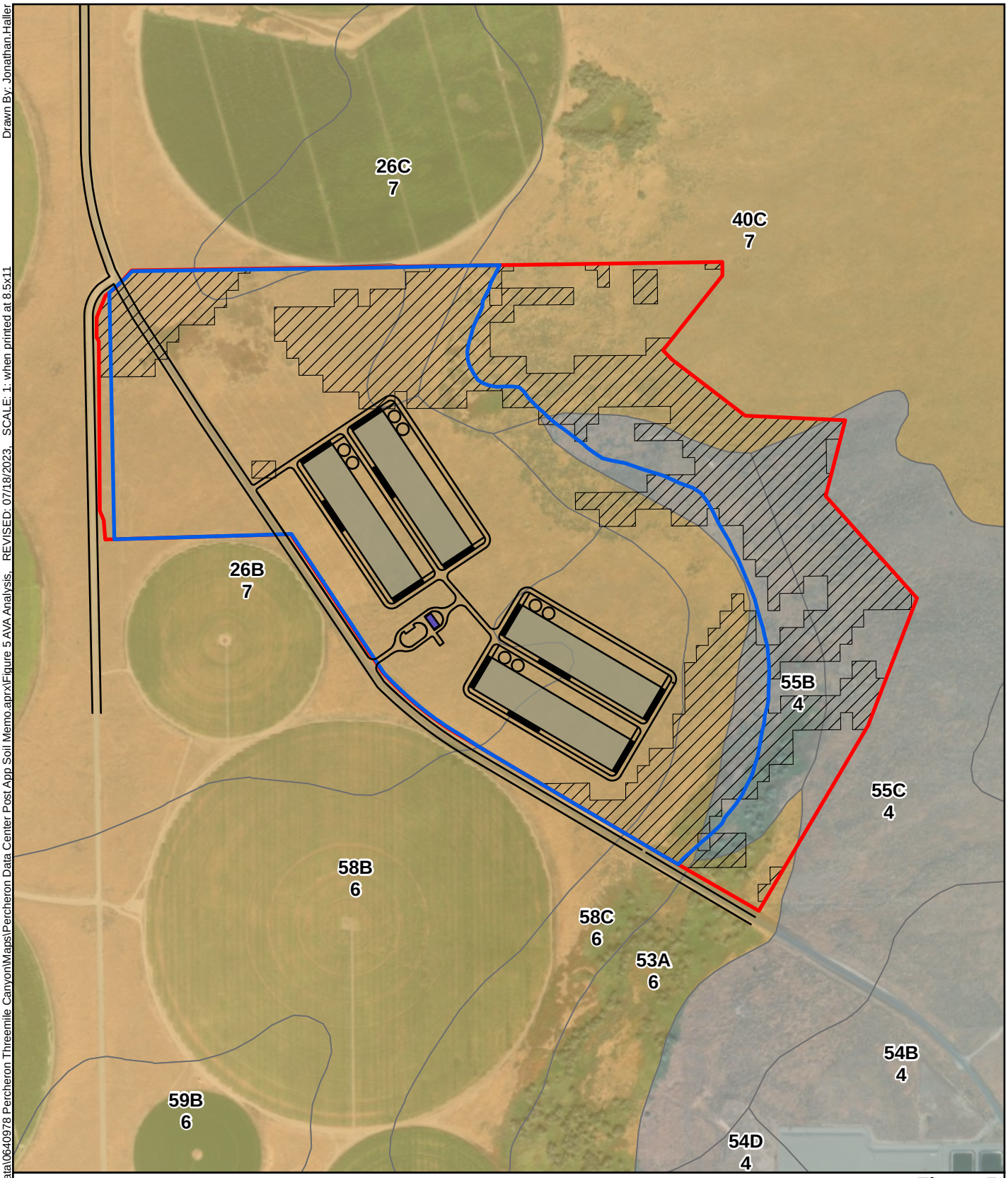
Source: Esri - World Topoographic Map; NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

M:\US\Projects\P-R\Rowan Green Data\0640978 Percheron Threemile 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



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

0 250 500 1,000
Feet

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

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Source: Esri - World Topoographic Map; NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

M:\US\Projects\P-R\Rowan Green Data\0640978 Percheron Threemile Canyon\Maps\Percheron Data Center Post App Soil Memo.aprx\Figure 5 AVA Analysis, REVISED: 07/19/2023, SCALE: 1: when printed at 8.5x11
Drawn By: Jonathan.Haller