

Joanne Snarski
Energy Facility Siting Specialist
Washington Energy Facility Site Evaluation Council
PO Box 43172
Olympia, WA 98504 -3172

January 17, 2023

**Re: Response to Comments on Application for Site Certification, Carriger Solar, LLC Project,
from Washington State Department of Agriculture**

Dear Ms. Snarski,

Cypress Creek Renewables, LLC, (CCR) received an e-mail from the Washington Energy Facility Site Evaluation Council (EFSEC) containing comments from the Washington State Department of Agriculture (WSDA) regarding the Application for Site Certification (ASC) for the Carriger Solar, LLC Project (Attachment 1).

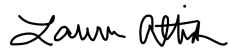
Attachment 2 includes our responses to each of the WSDA comments.

In addition to our attached responses to WSDA, we have a follow-up question for EFSEC and WSDA's consideration.

- In WSDA's second comment, it states "This land is being removed from agricultural production. It is unlikely that the ground will produce yields after the project is decommissioned that equal the production values right now."
- CCR acknowledges that land within the Project fence line (proposed Maximum Project Extent) that is currently in agricultural production would be removed from agricultural production during the construction and operational period of the Project. However, CCR would like to better understand what the basis is for WSDA's conclusion that the construction and operation of the Project would decrease the ability of the agricultural land to produce similar yields as it does now after decommissioning of the project. Can WSDA provide more details regarding the basis for this conclusion so that CCR can better respond to this comment?

We look forward to your review of our comment responses. If you have any questions or require further information, please contact me at: lauren.altick@ccrenew.com.

Sincerely,



Lauren Altick
Project Developer

cc:

Tai Wallace (CCR Development Director)

John Hanks (CCR Assistant Development Director)

Julie Alpert (CCR Sr. Environmental Manager – Western Region)

Leslie McClain, Senior Environmental Planner, Tetra Tech

Attachments:

1. WA AGR Comment E-mail dated August 3, 2023
2. Applicant's Comment Responses

Attachment 1. WSDA Comment E-mail Dated August 3, 2023

From: [McLain, Kelly \(AGR\)](#)
To: [Snarski, Joanne \(EFSEC\)](#)
Subject: RE: Carriger Solar Project - Klickitat County
Date: Thursday, August 3, 2023 10:36:56 PM

Hi Joanne,

I apologize so much for the delay on these comments. Here they are:

1. Every effort should be made to avoid placement of solar or wind equipment on high value soils (like those listed here), and avoidance of irrigated ground as much as possible. When avoidance is not possible, every effort should be made to limit the amount of gravel and hard medium added to the site.
2. Information about the total acres of the project is helpful, but would be more helpful if placed in context. This land is being removed from agricultural production. It is unlikely that the ground will produce yields after the project is decommissioned that equal the production values right now. In order to better understand the long-term impacts of solar siting on agricultural lands, the applicant should provide information about the total agricultural land in the county, how much is being removed, how much has already been removed for other clean energy projects, etc. One of the things that makes agriculture so viable in Washington is that the land base supports ancillary agricultural businesses (financers, equipment repairs and sales, chemical and fertilizer dealers, etc.). If too much land is converted, these ancillary businesses also move away to more profitable areas, making it more difficult for the farmers that remain.
3. 93.7 percent of the MPE (maximum project extent) are soils classified as prime farmland or farmland of statewide importance. There are also 70 acres of irrigated farmland in the MPE. There are no suggested mitigation measures to ensure soil quality remains throughout the life of the installation. WSDA would like to suggest soil sampling in years 1, 2, 5, 10, 15, 20, and 25 of the project to better inform the state and the applicant of the long-term impact clean energy siting has on soil health.
4. The softness of the soil has been acknowledged by the applicant and there are plans to add additional hardscaping products (gravel) to the site to allow for vehicles, equipment installation, and maintenance access. In the original application, these are acknowledged as permanent site impacts. WSDA would like to see the proposed decommissioning information and requests that every effort is made to remove any material brought in for the purpose of energy production. The site should be re-vegetated by the applicant with the intention of returning the site to productive agricultural land use if possible.
5. For any irrigated land, the water for that purpose should be banked for future agricultural use if possible.

From: Snarski, Joanne (EFSEC) <joanne.snarski@efsec.wa.gov>
Sent: Thursday, August 3, 2023 2:18 PM
To: McLain, Kelly (AGR) <KAardal@agr.wa.gov>
Subject: RE: Carriger Solar Project - Klickitat County

Hi Kelly,

You must be swamped! I am sorry to keep bugging you, but the Applicant is hoping to receive your comments soon. Please let me know how much more time you will need.

Joanne Snarski
Energy Facility Site Specialist
360.485.1675
Joanne.Snarski@EFSEC.WA.gov

From: McLain, Kelly (AGR) <KAardal@agr.wa.gov>
Sent: Wednesday, July 26, 2023 1:16 PM
To: Snarski, Joanne (EFSEC) <joanne.snarski@efsec.wa.gov>
Subject: Re: Carriger Solar Project - Klickitat County

Hi Joanne,

I am working on them and should have them to you on Monday the 31st. I am so sorry for the delay

Kelly McLain | Legislative Liaison & Policy Advisor
Washington State Department of Agriculture
360.359.8091 kmclain@agr.wa.gov

From: Snarski, Joanne (EFSEC) <joanne.snarski@efsec.wa.gov>
Sent: Wednesday, July 26, 2023 11:46:01 AM
To: McLain, Kelly (AGR) <KAardal@agr.wa.gov>
Subject: Carriger Solar Project - Klickitat County

Hi Kelly,
Just checking in to see how you are coming with potential comments on the Carriger Project?

We plan to be making recommendation on Land Use consistency and a SEPA determination at the next council meeting on August 19th. It would be helpful to have your input soon so we can factor in any Ag concerns. Let me know if I can do anything to help with your evaluations.

Joanne Snarski
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Attachment 2. WSDA Comment Responses

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Washington State Department of Agriculture Comments and Applicant Responses:

The comments provided by the Washington State Department of Agriculture (WSDA) to the Washington Energy Facility Siting Council (EFSEC) in an August 2, 2023 email are quoted below in italic print followed by the Carriger Solar Project, LLC's (Applicant) response. Some comments have been broken down into sub-parts (i.e. 1.a, 1.b, etc.) to assist with organization of the Applicant's response.

WSDA Comment 1.a. *Every effort should be made to avoid placement of solar or wind equipment on high value soils (like those listed here), and avoidance of irrigated ground as much as possible.*

RESPONSE: The Carriger Solar, LLC Project (Project) is a solar only project; wind turbines are not included in Cypress Creek Renewables, LLC, (CCR)'s business model.

Regarding WSDA's recommendation to avoid placement of solar equipment on high value soils and irrigated ground, the Applicant provides the following responses:

- As noted in the Project's Application for Site Certification (ASC), the Project's Maximum Project Extent (MPE)¹ includes a total of 1,326 acres. Of that acreage, less than 70 acres are irrigated. The Applicant has worked with its landowners to carefully site the Project to minimize impacts to irrigated ground to the extent practicable.
- The Applicant is not aware of a legal definition of high value soils from WSDA or in the Revised Code of Washington (RCW) or Washington Administrative Code (WAC). Therefore, we have reviewed the following data sets to evaluate whether there are high value soils in the Project MPE.
 - Natural Resources Conservation Service (NRCS) Soil Capability Classifications (NRCS 2023):
 - The NRCS land capability classification shows, in a general way, the suitability of soils for most kinds of field crops (NRCS 2023). Class 1 soils have the fewest limitations that restrict their use, class 2 soils have moderate limitations that reduce the choice of plants or require moderate conservation practices.
 - As indicated in Table 1 attached (see Attachment 1), there are no Class 1 soils in the Project Study Area or the MPE. There are four soil types that are considered Class 2 soils when not irrigated that equal a total of 880.3 acres or 66 percent of the MPE, there are nine soil types that are considered Class 3 or Class 4 soils when not irrigated, totaling 271.3 acres or 20 percent of the MPE. The remainder of the MPE is composed of Class 5, 6, or 7 soils that have severe limitations making them generally unsuitable for cultivation. Class 1 through 4 soils are generally considered arable soils by the NRCS (Helms 1992).
 - National Commodity Crop Productivity Index (NRCS 2023):

¹ The MPE is the proposed permitted area provided in the ASC and includes a total of 1,326 acres which will contain the Project's maximum Project footprint. The MPE is a subset of the Project Study Area (2,011 acres) under site control by the Project Applicant.

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- National Commodity Crop Productivity (NCCP) Index is a method of arraying the soils of the United States for non-irrigated commodity crop production based on their inherent soil properties. Soil, site, and climate properties that influence the growth of crops are major considerations. The ratings are both verbal and numerical. Numerical ratings indicate the overall productivity of the soil. The ratings are shown in decimal fractions. They indicate gradations between the point at which the combination of soil, site, and climate features has the greatest positive impact on inherent productivity (1.00) and the point at which the soil features are very unfavorable (0.01) (NRCS 2023).
- Per the NRCS NCCP Index, three of the four Class 2 soil types that cover 839.3 acres or 63 percent of the MPE qualify as "moderate inherent productivity" which indicates that the soil has features that are generally favorable for crop production. None of the Class 2 soils are rated as having "high inherent productivity" and only one Class 2 soil type, 23 Gunn loam, 2 to 8 percent slopes, which covers 41 acres in the MPE is rated as having a "moderately high inherent productivity." The remaining soils (16% of the MPE or 218.5 acres) qualify as having "low" to "moderately low inherent productivity."
- In summary, the Project MPE includes approximately 839.3 acres of Class 2 soils that may be considered high value soils; however, these soils only have moderate inherent crop productivity per the NRCS NCCP Index.
- In addition to the crop productivity information provided by the NRCS NCCP Index, the Applicant also has landowner testimony to reference. One landowner that farms wheat in the southern portion of the Project MPE reported an average of 35 to 40 bushels of winter wheat per acre on an every other year basis. In comparison, the state's average yield for winter wheat from 2012 to 2021 was 66 bushels per acre (USDA 2022).
- Furthermore, according to the Farmland Value Map produced by the Washington State University (WSU) Least-Conflict Solar Project (WSU 2023), the majority of the area within the MPE was ranked by the Project as having a relative farmland value of less than zero, which indicates a "low" to "moderately low" farmland value as compared to other agricultural lands in the Washington Columbia Plateau². The Farmland Value Map can be viewed in the Least-Conflict Solar Siting

² The Farmland Value Map produced by the WSU Least-Conflict Solar Project (WSU 2023) used available spatial data to model the relative value of irrigated and dryland farming. High Drylands Quality was created from two inputs – Good Growing Conditions and Existing Dryland Quality. Good Growing Conditions is composed of High Annual Precipitation (in mm) and Good Dryland Soil Capacity which is based on High Water Storage (cm), High Crop Productivity Index, and High Soil Depth, which is based on the Average Depth to Resistant Layer (cm). To create the Good Dryland Soil Capacity node, High Crop Productivity Index was weighted twice as much as the other two factors. This intermediate map was combined with the High Annual Precipitation node with an equally WEIGHTED UNION operator. Existing Dryland Quality was based on the WEIGHTED SUM of Conservation Reserve Lands (CRP) and existing Dryland Agriculture, which was weighted twice as much as the CRP lands. High Drylands Quality is created with the UNION of Good Growing Conditions and Existing Dryland Quality sub-branches. For more information on the methods use in the Farmland Value Map, see the *Report to the*

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Gateway (WSU 2023). According to the Least-Conflict Solar Project, the Project MPE avoids the “very high” and “high” relative farmland value lands in the Washington Columbia Plateau.

Comment 1.b. *When avoidance is not possible, every effort should be made to limit the amount of gravel and hard medium added to the site.*

RESPONSE: Although the Applicant has sited the Project to avoid the highest value farmland in the County and Washington’s Columbia Plateau, total avoidance of Class 2 soils is not possible. However, the Applicant will limit the amount of gravel and hard medium added to the site, as evidenced by the following:

- Although the ASC describes an MPE of 1,326 acres, most of that area will not be covered by gravel or hard medium.
- The majority of the area within the MPE (approximately 1,020 acres of agricultural lands) would either be revegetated with low-growing vegetation or would be undisturbed. This would include the areas under the solar panels and between the solar panel rows (rows estimated to be 8 to 25 feet wide, with final spacing dependent on final design), outside the limited footprint of the solar panel foundations, gravel access roads, battery storage container pads, and pads for substation components. In total, new impervious surfaces will be a small portion of the MPE— approximately 40 acres, or 3 percent.
- Following construction, temporarily disturbed areas (i.e., areas not occupied by permanent facilities) will be restored through soil stabilization and revegetation efforts that will include seeding with plant species appropriate for the operation and maintenance of the Project (i.e., low-growing vegetation). A revegetation plan and noxious weed management plan will be prepared in coordination with EFSEC, with input from WDFW and the Klickitat County Noxious Weed Control Board.
- Upon decommissioning, the solar facility could be converted to other uses in accordance with applicable land use regulations in effect at that time. The Applicant anticipates that, at the landowners’ discretion, the Project site would be able to return to agricultural use following decommissioning.

Comment 2.a. *Information about the total acres of the project is helpful but would be more helpful if placed in context. This land is being removed from agricultural production. It is unlikely that the ground will produce yields after the project is decommissioned that equal the production values right now.*

RESPONSE: The Applicant disagrees with WSDA’s comment: “it is unlikely that the ground will produce yields after the project is decommissioned that equal production values right now.” As noted throughout the ASC, installation of the Project’s solar arrays will generally follow existing contours within the MPE, requiring minimal grading and maintaining the existing drainage patterns and natural infiltration onsite. Vegetation clearing will occur in construction areas, areas that will be graded, and access roads. Grading will occur for the development of access roads (as needed), concrete pads, and facility footprints. As

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discussed above and in the ASC, the majority of the 1,326-acre MPE would not be covered by gravel or hard medium. Most of the area within the MPE (approximately 1,020 acres of agricultural lands) would either be revegetated with low-growing vegetation or would be undisturbed. This would include the areas under the solar panels and between the solar panel rows, outside the limited footprint of the solar panel foundations, gravel access roads, battery storage container pads, and pads for substation components. In total, new impervious surfaces will be a small portion of the MPE— approximately 40 acres or 3 percent. Furthermore, the Project proposes solar panels (also referred to as PV modules) mounted on single-axis tracking systems that would be arranged in north-south rows and the modules will rotate east to west tracking the sun throughout the day to maximize generation. This means that the ground below the solar panels will receive exposure to the sun as the trackers rotate throughout the day. Given the limited area of new impervious surfaces and given the limited grading anticipated, together with the Project's implementation of a revegetation plan and noxious weed management plan (to be prepared prior to construction in coordination with EFSEC with input from WDFW and the Klickitat County), the Applicant anticipates that the site would be able to show similar production values following decommissioning of the Project.

Comment 2.b. *In order to better understand the long-term impacts of solar siting on agricultural lands, the applicant should provide information about the total agricultural land in the county, how much is being removed, how much has already been removed for other clean energy projects, etc. One of the things that makes agriculture so viable in Washington is that the land base supports ancillary agricultural businesses (financers, equipment repairs and sales, chemical and fertilizer dealers, etc.). If too much land is converted, these ancillary businesses also move away to more profitable areas, making it more difficult for the farmers that remain.*

RESPONSE: In response to WSDA's request for information about the total agricultural land to be removed from production in context with the total agricultural land in the county and consideration of the long-term impacts of removing land from agricultural production during the operational period of the Project (approximately 40 years), consider the following:

Existing Agricultural Uses Within the MPE

- The lands within the MPE primarily support three agricultural uses: cultivated dryland wheat fields, hay fields, and unimproved pasturelands. These three agricultural uses were mapped as part of the "agriculture, pastures, and mixed environs" habitat type during the Project's 2022 Habitat and General Wildlife Survey ("Habitat Survey") (see Attachment 2 and also refer to ASC Attachment C and ASC Attachment A-1; Figure 8). The following provides the acreage of each mapped agricultural use/habitat type within the MPE.
 - Cultivated dryland wheat fields (i.e., "agriculture" vegetation community in Habitat Survey). This include approximately 634 acres within the MPE that is planted every other year with winter wheat. The wheat fields are primarily located in the northernmost portion of the MPE and in the southeastern and south portion of the MPE.
 - Hay fields (i.e., "improved pasture" vegetation community delineated in the Habitat Survey). These include approximately 358 acres within the MPE used to produce

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perennial herbaceous plants for grass seed and hay. These fields primarily consist of areas planted with alfalfa or grasses such as smooth brome. The only irrigated area within the MPE (located in the southwestern most portion of the MPE, north of SR 142) is cultivated for hay.

- Unimproved pasturelands. This include approximately 179 acres within the MPE and includes rangelands planted with non-native grasses as well as abandoned fields that have little or no active management and may or may not be grazed by livestock.
- In total, the Applicant conservatively estimates that 992 acres of cultivated farmland (wheat/hay fields) and 179 acres of pastureland occurs in the Project MPE. The rest of the land within the MPE includes areas of dwarf shrub-steppe or other native habitats (i.e., eastside [interior] grasslands, etc.) or areas that have soils that are unsuitable for farmland but are dominated by non-native grasses (i.e., modified grasslands). See the Project's 2022 Habitat and General Wildlife Survey in ASC Attachment C and Figure 8 in ASC Attachment A-1 for more details.

Agricultural Context in Klickitat County

- According to the 2017 Census of Agriculture (USDA 2019), Klickitat County held the following acreages in 2017:
 - Total of 573,730 acres in farms, of which 24,445 acres (4 percent) are irrigated.
 - Total of 229,473 acres of cropland, of which approximately 104,308 acres were harvested including 31,162 acres of winter wheat and 36,058 acres of forage (hay and haylage, grass silage, and greenchop).
 - Total of 266,433 acres of permanent pasture and rangeland, other than cropland and woodland pastured.
- The following provides context of the cultivated acres and pasturelands in the MPE compared to the total acres of farmland in Klickitat County reported in the 2017 Census of Agriculture:
 - The Project MPE represents 0.2 percent of the total acreage in farms in the county.
 - Assuming 100 percent of the 634 cultivated acres of dryland winter wheat in the MPE was harvested in 2017, it represents approximately 2 percent of acres of winter wheat harvested in 2017 in the county.
 - The 358 acres of hay fields in the MPE represents 1 percent of the total forage acres harvested in 2017.
 - The 179 acres of pastureland in the MPE represents 0.7 percent of pasturelands in the County in 2017.

Agricultural Land in Klickitat County Removed from Production from Renewable Energy Projects

- The Draft Environmental Impact Statement (DEIS) for the Bluebird Solar Energy Project (Tetra Tech 2023) located in Klickitat County assessed cumulative land use impacts of multiple energy projects constructed or proposed in Klickitat County that would result in long-term conversion of open

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space, agricultural, and rangeland uses to wind and solar energy production. The analysis included consideration of eight operating wind projects, one operating solar project (Lund Hill Solar Energy Project), one proposed pumped storage project (Goldendale Energy Storage Project), and one proposed solar project (Carriger Solar Project). The findings indicate that typically only a small percentage of total land area is taken out of agricultural use by renewable wind and solar energy infrastructure, including turbines, solar arrays, access roads, and other associated equipment.

- The Bluebird Solar Energy Project EIS (Tetra Tech 2023) notes that the Lund Hill Solar Project would occupy 1,871 acres of agriculturally zoned land primarily used for grazing and the Bluebird Solar Project would occupy 670 acres of agriculturally zoned land primarily used for grazing. Added with the Project MPE (1,326 acres), this would be a total of 3,867 acres of land use conversion from agricultural to solar energy production. This is equivalent to less than 1 percent of the 573,730 acres of total farmland in Klickitat County (as reported in the 2017 Census of Agriculture). This is a small percentage of the total acreage of farmland in the county and given the small amount of cultivated land being taken out of production by the Project (634 acres of winter wheat/2 percent of county winter wheat land and 358 acre of hay fields/1 percent of county forage land), impacts to ancillary agricultural businesses are anticipated to be less than significant.
- Further, the DEIS for the Bluebird Solar Project (Tetra Tech 2023) also correctly points out that wind and solar energy leases pay the landowner for use of the land. According to the Klickitat County Energy Overlay Final Environmental Impact Statement (Klickitat County 2004) and 2017 Census of Agriculture (USDA 2019), these revenues are valuable in rural areas of Washington and Oregon, where renewable energy lease payments can exceed traditional farm production revenue per acre. Thus, renewable energy projects can have a positive cumulative economic impact by providing a diversified source of income to farmers and other landowners to support their ongoing farming operations outside of the renewable energy project footprint. The Project would provide a positive economic contribution to the county's farm community and keep those acres in the ownership of family-owned farms.
- Therefore, the Project would not have a significant cumulative effect on the County's agricultural economy when taken into context with other large scale solar projects operating or proposed in the County.

Comment 3. *93.7 percent of the MPE (maximum project extent) are soils classified as prime farmland or farmland of statewide importance. There are also 70 acres of irrigated farmland in the MPE. There are no suggested mitigation measures to ensure soil quality remains throughout the life of the installation. WSDA would like to suggest soil sampling in years 1, 2, 5, 10, 15, 20, and 25 of the project to better inform the state and the applicant of the long-term impact clean energy siting has on soil health.*

RESPONSE: As noted throughout the ASC, installation of the Project's solar arrays will generally follow existing contours within the MPE, requiring minimal grading and maintaining the existing drainage patterns and natural infiltration onsite. Vegetation clearing will occur in construction areas, areas that will be graded, and access roads. Grading will occur for the development of access roads (as needed), concrete pads, and facility footprints. As discussed above, areas of grading and soil compaction are anticipated to be limited to the areas of permanent impact – a total of 40 acres within the agricultural habitat types. By

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limiting the extent of grading and permanent impacts in the Project site, soil impacts are expected to be minimized. Additionally, the Project will implement erosion control measures and best management practices (BMPs), such as revegetating disturbed soils to minimize erosion/runoff. These measures and BMPs will be outlined in the Erosion and Sediment Control Plan (ESCP) and Construction Phase and Operational Phase Stormwater Pollution Prevention Plans (SWPPP) and will be submitted to EFSEC within 90 days prior to construction. The Geotechnical Report (Attachment K of the ASC) outlined recommended mitigation measures, such as backfilling and re-use of native soils, that will be implemented as appropriate to prevent impacts from potential on-site geohazards.

Due to the limited permanently disturbed footprint and implementation of the above referenced BMPs, the Applicant does not anticipate widespread soil compaction or long-term impacts to soil health in regard to future farming practices. Therefore, the Applicant does not see the need for soil sampling and does not plan to collect soil samples during the operational period of the Project.

Comment 4. *The softness of the soil has been acknowledged by the applicant and there are plans to add additional hardscaping products (gravel) to the site to allow for vehicles, equipment installation, and maintenance access. In the original application, these are acknowledged as permanent site impacts. WSDA would like to see the proposed decommissioning information and requests that every effort is made to remove any material brought in for the purpose of energy production. The site should be re-vegetated by the applicant with the intention of returning the site to productive agricultural land use if possible.*

RESPONSE: Part 2, Section A.2, Subsection 6.0 of the ASC describes the Project's approach to decommissioning. The Applicant described that during decommissioning site infrastructure would be removed including fences, concrete pads that support the inverters, transformers, and related equipment. Project equipment and foundations would be removed to a depth of three feet. The demolition debris and removed equipment may be cut or dismantled into pieces that can be safely lifted or carried by standard construction equipment. The fence and gates would be removed, and all materials would be recycled to the extent practical. Project roads would be restored unless they may be used for subsequent land use. The area would be thoroughly cleaned and all debris would be removed and disturbance areas revegetated following a revegetation plan developed in coordination with Klickitat County and each of the specific landowners.

An Initial Site Restoration Plan will be developed and submitted to EFSEC within 90 days prior to the beginning of construction. Per WAC 463-72-040, the plan would identify, evaluate, and resolve all major environmental and public health and safety issues reasonably anticipated. The Initial Site Restoration Plan shall detail restoration goals for site reclamation which will include mitigation measures to be employed, the Project components to be removed, and restoration of soil and vegetation as applicable. Per WAC 463-72-050, a Detailed Site Restoration Plan shall be submitted within 90 days from the time the council is notified of a project's termination.

The Applicant anticipates that the site will be able to return to agricultural use following decommissioning of the Project, at the landowners' discretion.

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Comment 5. *For any irrigated land, the water for that purpose should be banked for future agricultural use if possible.*

RESPONSE: The Applicant does not have control of any water rights within the Site Control Boundary³ as the Applicant is leasing the land. It would be up to the water right holder to decide how to manage the existing water right.

Water for purposes of construction and operations of the Project is anticipated to be brought in from an offsite source and stored in above ground water tanks.

³ The Site Control Boundary contains 2,108 acres and is comprised of 25 parcels of private land that are under purchase or lease option for project site control.

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REFERENCES

- Helms, Douglas. 1992. Readings in the History of the Soil Conservation Service, Washington, DC: Soil Conservation Service, 1992, pp. 60-73
- Klickitat County. 2004. Klickitat County Energy Overlay Final Environmental Impact Statement. Prepared for Klickitat County Planning Department. Anchor Environmental, LLC. September 2004. Available online at: <https://www.klickitatcounty.org/283/Index-to-Final-Energy-Overlay-Zone-EIS-F>
- NRCS. 2023. Web Soil Survey. Available online at: <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>
- Tetra Tech. 2023. Revised Draft Environmental Impact Statement for the Bluebird Solar Energy Project. Prepared for Klickitat County, WA. April 2023. Available online at: [Bluebird-Solar-Energy-Project-Revised-DEIS-Main-Text-and-Figures \(klickitatcounty.org\)](#)
- USDA. 2019. Census of Agriculture – 2017 Census Volume 1, Chapter 2: County Level Data. 242 Washington. Table 1 and Table 8. USDA, National Agricultural Statistics Service. Released on April 11, 2019. Available online at: https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1_Chapter_2_County_Level/Washington/
- USDA. 2022. Washington Annual Statistical Bulletin. Compiled by USDA National Agricultural Statistics Service Northwest Regional Field Office. Available online at: https://www.nass.usda.gov/Statistics_by_State/Washington/Publications/Annual_Statistical_Bulletin/2022/WA_ANN_2022.pdf
- WSU (Washington State University). 2023. Washington Columbia Plateau Least-Conflict Solar Siting Gateway. Columbia Plateau Farmlands Gallery. Farmland Value Map. Created by Conservation Biology Institute. August 8, 2023 (last modified June 5, 2023). Available online at: [Farmland Value Map | Least-Conflict Solar Siting \(databasin.org\)](#)

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Attachment 1. Table 1 NRCS Soil Classifications in Project Study Area and MPE

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Table 1. NRCS Soil Classifications in Project Study Area and MPE

Map Unit Symbol	Map Unit Name	Non-Irrigated Capability Class and subclass	Farmland Classification ¹	National Commodity Crop Productivity Index Rating ^{2,3}		Total Acres in Study Area	Total Acres in MPE
				Verbal rating	Numerical rating for small grains (i.e. winter wheat)		
12D	Lyville bouldery loam, 2 to 20 percent slopes	6s	Not prime farmland	Moderately low inherent productivity	0.4	1.2	0.3
23	Gunn loam, 2 to 8 percent slopes	2e	Prime farmland	Moderately high inherent productivity	0.63	102.9	41.0
23A	Gunn stony loam, 8 to 30 percent slopes	4e	Farmland of statewide importance	Moderate inherent productivity	0.58	9.8	5.8
23B	Gunn loam, 8 to 30 percent slopes	4e	Farmland of statewide importance	Moderately high inherent productivity	0.62	4.8	0
25A	Leidl extremely cobbly ashy loam, 2 to 30 percent slopes	7s	Not prime farmland	Moderately low inherent productivity	0.20	128.2	39.7
30A	Rockly-Lorena complex, 2 to 15 percent slopes	7s	Farmland of statewide importance	Low inherent productivity	0.04 (Rocky) 0.10 (Lorena)	6.4	4.8
30B	Rockly-Lorena complex, 2 to 15 percent slopes, extremely stony	7s	Not prime farmland	Low inherent productivity	0.04 (Rocky) 0.10 (Lorena)	92.6	42.7
69	Goldendale silt loam, basalt substratum, 2 to 5 percent slopes	2e	Prime farmland	Moderate inherent productivity	0.53	771.6	607.0
69A	Goldendale silt loam, basalt substratum, 5 to 10 percent slopes	3e	Farmland of statewide importance	Moderate inherent productivity	0.53	52.9	7.0
93	Goldendale silt loam, 2 to 5 percent slopes	2e	Prime farmland	Moderate inherent productivity	0.56	215.8	168.8

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Map Unit Symbol	Map Unit Name	Non-Irrigated Capability Class and subclass	Farmland Classification ¹	National Commodity Crop Productivity Index Rating ^{2,3}		Total Acres in Study Area	Total Acres in MPE
				Verbal rating	Numerical rating for small grains (i.e. winter wheat)		
93A	Goldendale silt loam, 5 to 10 percent slopes	3e	Farmland of statewide importance	Moderate inherent productivity	0.56	167.7	136.4
93B	Goldendale silt loam, 10 to 15 percent slopes	3e	Farmland of statewide importance	Moderate inherent productivity	0.55	73.4	69.3
93C	Goldendale silt loam, 15 to 30 percent slopes	4e	Farmland of statewide importance	Moderate inherent productivity	0.52	5.3	5.3
94	Lorena silt loam, 2 to 5 percent slopes	3s	Prime farmland	Moderate inherent productivity	0.48	1.1	0.1
95A	Konert silt loam, 0 to 2 percent slopes	5w	Prime farmland if drained and protected from flooding or not frequently flooded during growing season	Moderately low inherent productivity	0.10	10.1	0.4
96	Blockhouse silt loam, 0 to 5 percent slopes	2e	Prime farmland	Moderate inherent productivity	0.55	101.2	67.2
97	Munset stony silt loam, 0 to 5 percent slopes	6w	Farmland of statewide importance	Low inherent productivity	0.19	203.2	85.8

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				Verbal rating	Numerical rating for small grains (i.e. winter wheat)		
97A	Setnum silt loam, 0 to 3 percent slopes	3s	Prime farmland	Moderately low inherent productivity	0.38	68.3	44.3
Total Arable Soils						1,575 acres (78 percent of Study Area)	1,152 acres (57 percent of MPE)
Total Non Arable Soils						442 acres (22 percent of Study Area)	174 acres (9 percent of MPE)

¹ Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. Farmland of statewide importance generally includes those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce as high a yield as prime farmlands if conditions are favorable. In some States, additional farmlands of statewide importance may include tracts of land that have been designated for agriculture by State law. (NRSC 2022)

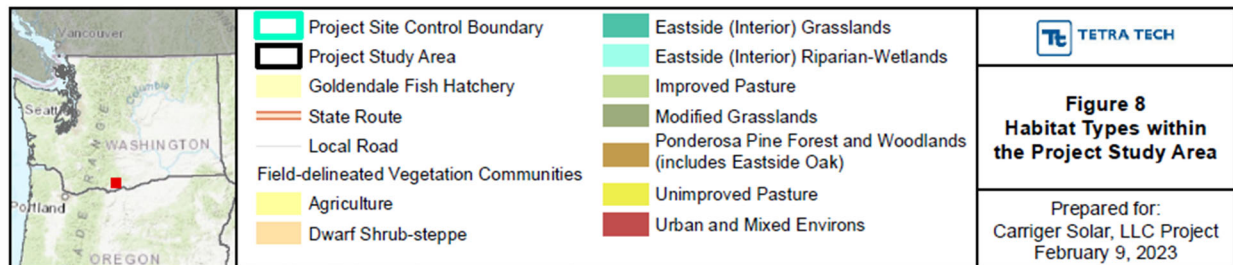
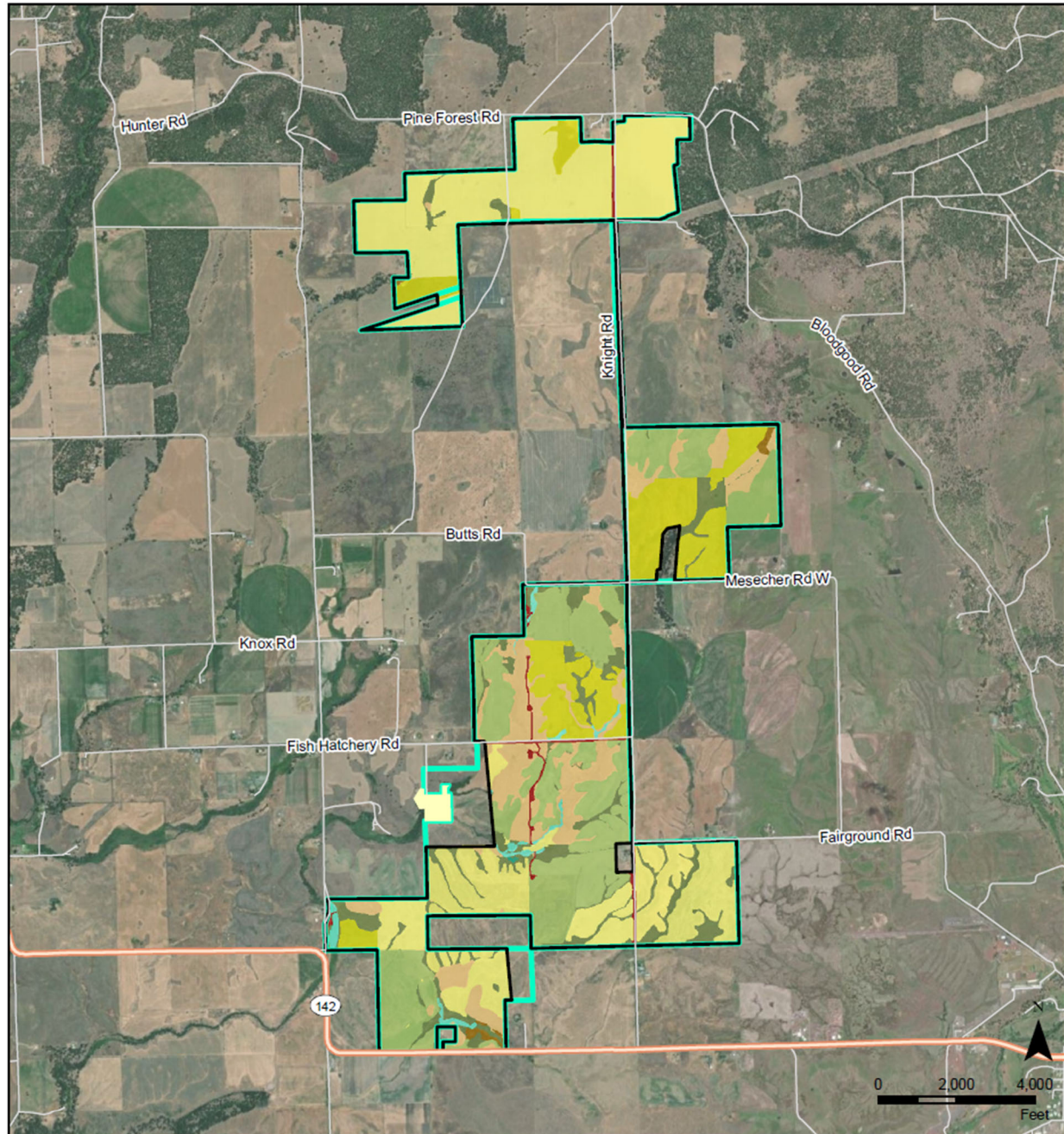
² National Commodity Crop Productivity Index is a method of arraying the soils of the United States for non-irrigated commodity crop production based on their inherent soil properties. Soil, site, and climate properties that influence the growth of crops are major considerations. The ratings are both verbal and numerical. Rating class terms indicate the estimated productivity which is determined by all of the soil, site, and climatic features that affect crop productivity. "High inherent productivity" indicates that the soil, site, and climate have features that are very favorable for crop production. High yields and low risk of crop failure can be expected if a high level of management is employed. "Moderately high inherent productivity" indicates that the soil has features that are generally quite favorable crop production. Good yields and moderately low risk of crop failure can be expected. "Moderate inherent productivity" indicates that the soil has features that are generally favorable crop production. Good yields and moderate risk of crop failure can be expected. "Moderately low inherent productivity" indicates that the soil has features that are generally not favorable crop production. Low yields and moderately high risk of crop failure can be expected. "Low inherent productivity" indicates that the soil has one or more features that are unfavorable for crop production. Low yields and high risk of crop failure can be expected. Numerical ratings indicate the overall productivity of the soil. The ratings are shown in decimal fractions ranging from 1.00 to 0.01. They indicate gradations between the point at which the combination of soil, site, and climate features has the greatest positive impact on inherent productivity (1.00) and the point at which the soil features are very unfavorable (0.01) (NRCS 2023). The rating indicated in this table are associated with winter wheat (i.e. for cooler climates).

³ Note: Table 1 provided in the Land Use Consistency analysis (Attachment B of the Application for Site Certificate) listed the average national commodity crop productivity index values rather than the values associated with cooler climates (i.e. winter wheat).

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Attachment 2. Habitat Types within the Project Area

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