

Preliminary Application for Site Certificate for the Muddy Creek Energy Park

Exhibit O. State and Local Laws and Regulations

Part 2. Water Use

**Submitted to the
Oregon Energy Facility Siting Council**

**Prepared for
Muddy Creek Energy Park, LLC**

Prepared by



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Acronyms and Abbreviations

| Acronym/Abbreviation | Definition |
|----------------------|---|
| Applicant | Muddy Creek Energy Park, LLC |
| EFSC | Oregon Energy Facility Siting Council |
| Facility | Muddy Creek Energy Park |
| Mgal | million gallons |
| NPDES | National Pollutant Discharge Elimination System |
| OAR | Oregon Administrative Rules |
| ODEQ | Oregon Department of Environmental Quality |

1.0 Introduction

Muddy Creek Energy Park, LLC (Applicant) seeks to develop the Muddy Creek Energy Park (Facility), consisting of a 150-megawatt solar energy generation facility, a 150-megawatt battery energy storage system project, and related or supporting facilities on approximately 1,590 acres of private land in Linn County, Oregon. This Application for Site Certificate demonstrates that the proposed Facility will be designed, constructed, and operated consistent with the relevant Oregon Energy Facility Siting Council (EFSC) siting criteria and standards. In addition to meeting the minimum required EFSC criteria, the Applicant proposes to design, construct, and operate the Facility using agrivoltaics. Agrivoltaics co-locates the Facility with active farm operations to retain agricultural production and minimize agricultural impacts within the Facility Site Boundary.

The information contained herein supports the Facility’s demonstration of compliance with the State and Local Laws and Regulations approval standard for Oregon Administrative Rules (OAR) 345-022-0160.

2.0 Description of Water Use – OAR 345-022-0160(1)(b)(A)

(b) Information about anticipated water use during construction and operation of the proposed facility. The applicant must include:

(A) A description of the use of water during construction and operation of the proposed facility;

2.1 Construction

Construction water use is estimated at approximately 44.2 million gallons (Mgal) under annual average conditions throughout an 18-month construction period. Water use will be for dust control throughout the construction site, road compaction, mixed into concrete for foundations, and provided for on-site worker drinking and sanitation use (Table O2-1).

Table O2-1. Water Use During Construction

| Construction Use | Quantity (gallons) |
|---|--------------------|
| Site dust control (average annual conditions) | 42,120,000 |
| Site dust control (worst case conditions) | 63,180,000 |
| Road compaction | 1,759,560 |
| Concrete mixing | |
| Transmission line post foundations | 240 |
| Substation foundation | 47,295 |
| Total water for concrete mixing | 56,895 |
| Drinking water/sanitation | 241,488 |

| Construction Use | Quantity (gallons) |
|---|--------------------|
| Total water (average annual conditions) | 44,168,583 |
| Total water (worst case conditions) | 65,228,583 |

2.1.1 Site Dust Control

The primary use of water during construction will be for dust control on access roads.¹ The analysis in Table O2-1 assumes that Facility access roads within the Site Boundary will be watered multiple times each day during construction. Water use for dust control assumes 90,000 gallons per day, 6 days per week, during construction. Actual water use for dust control will vary, depending on the timing of construction and the season, precipitation, soil conditions, temperature, and frequency of repeat disturbance. These factors are not controlled or easily estimated by the contractor.

2.1.2 Road Compaction

Water for road construction assumes 25 gallons per lineal foot of road. The Facility will have approximately 13.33 miles of roads. Water will be used for Facility service road construction, existing road improvements, and earthwork compaction.

Note that water for both dust control and road compaction will be applied via tanker truck in a manner that avoids erosion and sediment discharge and is consistent with the best management practices that will be implemented by the National Pollutant Discharge Elimination System (NPDES) 1200-C Construction Stormwater Discharge General Permit described in Exhibit C – Soil Protection.

2.1.3 Concrete Mixing

Concrete mixing for foundations will use a standard assumption of 30 gallons of water per cubic yard of concrete. For the construction of foundations, the Applicant anticipates buying concrete directly from licensed suppliers in the Facility area. Thus, the water used for concrete mixing will be provided by the concrete suppliers under their existing permits. However, water for concrete production is included in this analysis to represent the maximum anticipated water needs for Facility construction. Concrete mixing is anticipated for the transmission line post and substation foundations. Battery pad foundations and inverter pad foundations will be pre-cast, and it is assumed that no onsite mixing is required.

¹ Note that other dust suppressants besides water may be used as necessary during extreme drought conditions (synthetic polymer emulsions, chemical suppressants, organic glues, and wood fiber materials) depending on site conditions (to be applied by trained and certified vendors familiar with applicable environmental regulations including the federal Endangered Species Act, the Clean Water Act, the Salmon Recovery Act, and state and local regulations).

2.1.4 Drinking Water and Sanitation

For drinking and sanitation needs, it is assumed that approximately 3 gallons per day (6-day work week) per person will be used for construction workers (172 average on-site workers) over the phased construction period. Fire prevention represents a minor water use; this will involve stationing a water truck at the job site to keep the ground and vegetation moist at work areas during extreme fire risk conditions.

While water quantities have been conservatively estimated for purposes of analysis, due to the cost and time involved in transporting water by tank truck to the proposed Facility, water used for dust suppression and road compaction will be applied at the minimum rate necessary to perform its function. Water used for concrete mixing will also be applied at the minimum mixing rate needed to make concrete. Actual Facility construction will be phased, and there will be a focused effort to maximize efficiency and limit water use to the extent practical. Overall, daily water use will vary depending on site conditions and construction activities. Weather in the area each day could affect the amount of water needed for dust control and for specific construction activities. Total water demand is estimated over the course of phased construction using a conservative 6-day work week.

Water use for the total duration of construction is estimated at approximately 44.2 Mgal under average annual conditions. Worst-case water use amounts may result from construction in particularly dry weather conditions with high temperatures, which are estimated to increase water use for dust control by approximately 50 percent over average conditions. Based on this assumption, a worst-case water estimate could increase the total construction water use to approximately 65.2 Mgal.

2.2 Operation

Once constructed, the proposed Facility will have a limited need for water. The Facility will rely on naturally occurring rainfall to remove dust from solar panels. No operations and maintenance building is proposed. Bottled water will be used for employee drinking and portable toilets will be used for sanitation during operations. When needed for operations or maintenance, water will be delivered to the site by truck.

3.0 Water Sources – OAR 345-022-0160(1)(b)(B)

(B) A description of each source of water and the applicant's estimate of the amount of water the facility will need during construction and during operation from each source under annual average and worst-case conditions;

3.1 Construction

During construction of the Facility, approximately 44.2 to 65.2 Mgal of water are anticipated to be used each during the total duration of construction (Table O2-1). The Applicant or the Applicant's third-party construction contractor will obtain construction water from a municipal water

provider, such as the City of Harrisburg Public Works Department. The Applicant has contacted the City of Harrisburg Public Works Department to confirm that they are able to meet the Facility's water needs (Attachment O2-1). A response from the City of Harrisburg is still pending as of the date of submittal of this preliminary Application for Site Certificate.

3.2 Operation

Employee sanitation during operations will be provided in the form of a portable hand-washing station and portable toilets. Drinking water will be purchased in bottles and brought to the Facility during maintenance activities. The Facility is anticipated to use less than 5,000 gallons per day during operations, which will not require a new water right.

4.0 Water Loss - OAR 345-022-0160(1)(b)(C)

(C) A description of each avenue of water loss or output from the facility site for the uses described in (A), the applicant's estimate of the amount of water in each avenue under annual average and worst-case conditions and the final disposition of all wastewater;

4.1 Construction

Due to the seasonally wet conditions at the proposed Facility and the relatively low rates of water use and application, it is expected that excess water used during construction will be lost within or near the proposed Facility site boundary, primarily through evaporation and infiltration into the ground.

Construction-related stormwater runoff will be managed according to an NPDES 1200-C permit and the Applicant will follow Oregon Department of Environmental Quality (ODEQ) rules governing construction stormwater runoff. Various erosion and sediment controls will be implemented including sediment traps and sediment basins for stormwater storage and passive treatment. In addition, vegetation within the site boundary will serve as a buffer to promote infiltration and minimize erosion. During construction, sanitary facilities will be portable handwashing stations and portable toilets that will not require water. The Applicant will follow ODEQ rules regarding the disposal of sanitary wastewater and use of portable toilets.

4.2 Operation

Minimal wastewater or water loss will be generated during operations. The Facility will rely on naturally occurring rainfall to remove dust from panels. The runoff from the panels will evaporate or infiltrate into the ground. Stormwater will also infiltrate into the ground. During operations, sanitary facilities will be portable handwashing stations and portable toilets that will not require water. The Applicant will follow ODEQ rules regarding the disposal of sanitary wastewater and use of portable toilets.

Water loss will primarily be from seasonal stormwater infiltration and evaporation. Stormwater will continue to be managed as it is currently, through existing drainages within the Site Boundary and through infiltration and evaporation.

5.0 Thermal Power Plants – OAR 345-022-0160(1)(b)(D)

(D) For thermal power plants, a water balance diagram, including the source of cooling water and the estimated consumptive use of cooling water during operation, based on annual average conditions;

The Facility is not a thermal power plant. Therefore, OAR 345-022-0160(1)(b)(D) is not applicable.

6.0 Groundwater Permit Information – OAR 345-022-0160(1)(b)(E)(F)

(E) If the proposed facility would not need a groundwater permit, a surface water permit or a water right transfer, an explanation of why no such permit or transfer is required for the construction and operation of the proposed facility;

(F) If the proposed facility would need a groundwater permit, a surface water permit or a water right transfer, information to support a determination by the Council that the Water Resources Department should issue the permit or transfer of a water use, including information in the form required by the Water Resources Department under OAR Chapter 690, Divisions 310 and 380; and

Water for construction and operations will be obtained from an existing municipal water right. Water obtained from a municipal water source does not require a permit or transfer because an existing municipal water right allows use for industrial purposes such as the Facility (OAR 690-300-0010(29)). As a result, the proposed Facility will not need a groundwater permit, a surface water permit, or a water right transfer for water use during construction or operation.

7.0 Water Use Mitigation – OAR 345-022-0160(1)(b)(G)

(G) A description of proposed actions to mitigate the adverse impacts of water use on affected resources.

No adverse impacts are expected to occur from proposed Facility water use during construction or operation. Solar energy facilities have minimal water requirements. Because construction and operation of the Facility will not create significant impacts on water resources, no mitigation measures are proposed.

8.0 References

OWRD (Oregon Water Resources Department). 2025. Limited Licenses.

<https://www.oregon.gov/owrd/programs/waterrights/Pages/default.aspx> Accessed April 2026.

9.0 Approval Standards and Submittal Requirements

Table O2-2. Approval Standards and Submittal Requirements Matrix

| Requirements | Location |
|--|-------------|
| OWR 345-022-0160 State and Local Laws and Regulations | - |
| Submittal Requirements | |
| To assist the Council in determining compliance with all state and local laws and regulations applicable to EFSC and the siting process, submit the following, as directed by the project order described in OAR 345-015-0160: | - |
| (b) Information about anticipated water use during construction and operation of the proposed facility. The applicant must include: | - |
| (A) A description of the use of water during construction and operation of the proposed facility; | Section 2.0 |
| (B) A description of each source of water and the applicant’s estimate of the amount of water the facility will need during construction and during operation from each source under annual average and worst-case conditions; | Section 3.0 |
| (C) A description of each avenue of water loss or output from the facility site for the uses described in (A), the applicant’s estimate of the amount of water in each avenue under annual average and worst-case conditions and the final disposition of all wastewater; | Section 4.0 |
| (D) For thermal power plants, a water balance diagram, including the source of cooling water and the estimated consumptive use of cooling water during operation, based on annual average conditions; | Section 5.0 |
| (E) If the proposed facility would not need a groundwater permit, a surface water permit or a water right transfer, an explanation of why no such permit or transfer is required for the construction and operation of the proposed facility; | Section 6.0 |
| (F) If the proposed facility would need a groundwater permit, a surface water permit or a water right transfer, information to support a determination by the Council that the Water Resources Department should issue the permit or transfer of a water use, including information in the form required by the Water Resources Department under OAR Chapter 690, Divisions 310 and 380; and | Section 6.0 |
| (G) A description of proposed actions to mitigate the adverse impacts of water use on affected resources. | Section 7.0 |

Attachment 02-1. Water Provider Correspondence

Shahid, Saira

From: Shahid, Saira
Sent: Monday, May 4, 2026 11:51 AM
To: cscholz@ci.harrisburg.or.us
Cc: Andrews, Carrie; Stebbins, Lauren; Schmidt, Juliet
Subject: RE: Muddy Creek Water Supply Confirmation Request

Hi Chuck,

We have revised our water estimates to be 2.5 million gallons/month under average annual conditions to 3.6 million gallons/month under worst-case conditions over a construction period of 18 months. We would appreciate if you could *confirm that you are licensed to supply water to Hanwha, how much you are able to provide, your water right permit number(s), and any seasonal constraints*. Any letter from you to me on this subject does not constitute a contract and you are under no obligation to supply water for the facility.

Your response could be a statement on a letterhead with your signature or a reply to this email. Please let me know if you have any questions. I look forward to hearing back from you.

Thank you,

Saira Shahid | Environmental Planner and Deputy Project Manager | Tetra Tech

Pronouns: she/her

Direct +1 (425) 482-7648 | saira.shahid@tetrattech.com

Time Zone: Pacific Standard Time (UTC-8)

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From: Schmidt, Juliet <JULIET.SCHMIDT@tetrattech.com>
Sent: Wednesday, April 22, 2026 1:50 PM
To: cscholz@ci.harrisburg.or.us
Cc: Andrews, Carrie <CARRIE.ANDREWS@tetrattech.com>; Stebbins, Lauren <LAUREN.STEBBINS@tetrattech.com>; Shahid, Saira <SAIRA.SHAHID@tetrattech.com>
Subject: Muddy Creek Water Supply Confirmation Request

Greetings,

I am contacting you on behalf of the proposed Muddy Creek Energy Park (Muddy Creek). Muddy Creek is a proposed up to 150-megawatt solar photovoltaic power generation facility and an up to 150 MW battery energy storage system in Linn County, Oregon owned by Hanwha Renewables. (Hanwha). More information on Muddy Creek can be found here: <https://www.oregon.gov/energy/facilities-safety/facilities/Pages/MCEP.aspx>

Our current, conservative, estimate of water anticipated for facility construction dispersed over a 12 to 18-month period is 2 million gallons/month. Tetra Tech is under contract to Hanwha Renewables through the Oregon Dept. of Energy's (ODOE) permitting process. To this end, we will provide to ODOE evidence of consultation with local municipalities that we have been in contact regarding obtaining water for the construction of Muddy Creek. At this point in the process, Hanwha is not required to have entered into a contract with the Harrisburg Public Works for water supply, we just need to demonstrate to ODOE that we have been in consultation with the Harrisburg Public Works and that yes, you are licensed to supply water to Hanwha, *how much you are able to provide, your water right permit number(s), and any*

seasonal constraints. *Any letter from you to me on this subject does not constitute a contract and you are under no obligation to supply water for the facility, we just need to demonstrate to ODOE that you have water to sell and that we could use as a water supplier if we, at a later date, come to an agreement to do so.*

If you could please provide a letter addressing Muddy Creek as soon as possible, that would be greatly appreciated. *It can be a statement on your letterhead with your signature if you like, or even a reply to this email.*

Thank you in advance and let me know if you have any questions!

Sincerely,

Juliet Schmidt | Environmental Planner

Pronouns: she, her, hers

Mobile +1 (925) 817-8045 | juliet.schmidt@tetrattech.com

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