Exhibit O

Water Requirements

Nolin Hills Wind Power Project
January 2022

Prepared for

d/b/a Nolin Hills Wind, LLC

Prepared by

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Acronyms and Abbreviations

Applicant	Nolin Hills Wind, LLC
BESS	battery energy storage system
Mgal	million gallons
O&M	operations and maintenance
OAR	Oregon Administrative Rule
ORS	Oregon Revised Statute
Project	Nolin Hills Wind Power Project

1.0 Introduction

Nolin Hills Wind, LLC (the Applicant) proposes to construct the Nolin Hills Wind Power Project (Project), a wind energy project with a nominal generating capacity of up to approximately 600 megawatts and up to 373 average megawatts of energy, in Umatilla County, Oregon. The Project comprises up to 112 wind turbine generators and up to 1,700 acres of solar panels, depending on the turbine model selected as well as final mix of energy generating technologies based on engineering optimization and offtake market trends. The Project will interconnect to the regional grid via either a transmission line leading from the northern Project substation northwest to Cottonwood Substation in Hermiston, or a new 230-kilovolt transmission line to the proposed Bonneville Power Administration Stanfield Substation, north of the town of Nolin. Other Project components include electrical collection lines, substations, a battery energy storage system (BESS), site access roads, one operations and maintenance (O&M) building, meteorological data collection towers, and temporary construction yards. These facilities are all described in greater detail in Exhibit B.

Exhibit O was prepared to meet the Project's submittal requirements per Oregon Administrative Rule (OAR) 345-021-0010(1)(o), related to Project water use requirements. The Applicant will require the use of water for construction-related activities such as turbine foundations and substation foundations, dust control during right-of-way clearing and access road improvement, substation grading and site work, and re-seeding restoration work upon Project completion. During operations, the Applicant will require the use of water for washing solar modules annually.

2.0 Description of Water Use – OAR 345-021-0010(1)(o)(A)

> *OAR 345-021-0010(1)(o) 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

During construction, the Project will require an anticipated maximum of 71 million gallons (Mgal) of water. The primary drivers of water use during construction are mixing concrete for foundations, road construction, and dust control. Water trucks will be used to control dust generation in all disturbed areas during road construction; foundation installation; turbine and transmission structure erection, and final cleanup, reclamation, and restoration. Fire prevention represents a minor water use; this would involve stationing a water truck at the job site to keep the ground and vegetation moist during extreme fire conditions.

For the construction of foundations, water will be transported to concrete batch plant sites (located at laydown areas) where it will be used to mix wet concrete. From the batch plant, the wet concrete will be transported to the construction sites in concrete trucks for use in foundation installation. The Applicant will implement dust control measures at all areas disturbed by construction activities in a manner that avoids erosion and sediment discharge and is consistent with the best management practices presented in the 1200-C Construction Stormwater National Pollutant Discharge Elimination System Permit (see Attachment I-1 in Exhibit I).

During construction, equipment will be cutting, moving, and compacting the subgrade surface; stockpiling soils for later use; and performing decompaction (as needed) and final grading for site revegetation. Depending on weather conditions, water trucks patrolling the site to control dust will make as many as one pass per hour, wetting down disturbed and exposed soils. Once site preparation work is complete, meaning all soil disturbance is completed and the site is ready for revegetation, dust control becomes minimal. Water is not anticipated to be needed for site revegetation, which would instead rely on natural precipitation and native seed types that are adapted to the rainfall regime of the region.

2.2 Operation and Maintenance

During operation, the Project will require water use in the O&M Building. Water will be provided by an on-site well. Water use is estimated at 50-100 gallons per day per worker, for a total of less than 5,000 gallons per day. This is considered an exempt use, which would not require a new water right to be obtained under Oregon Revised Statutes (ORS) 537.545. The Applicant anticipates that a new exempt well would be drilled for the purpose of supplying water to the O&M Building. The kitchen, toilets, and shower will drain into a county-approved on-site septic system. In addition, solar modules will be washed once per year, and the water will be applied via robotic panel cleaners and will not have any cleaning solvents in it.

3.0 Water Sources – OAR 345-021-0010(1)(o)(B),(C)

> *OAR 345-021-0010(1)(o)(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.*
>
> *OAR 345-021-0010(1)(o)(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.*

3.1 Water Sources

The Applicant's third-party construction contractor can obtain construction water from the City of Hermiston, City of Pendleton, and/or the City of Echo under an existing municipal water right. The

Applicant has contacted the City of Hermiston, the City of Pendleton, and the City of Echo, who each have indicated willingness and ability to supply 3.9 Mgal per month of water for the Project. Attachment O-1 contains a record of communication with the City of Hermiston and the City of Echo.

Water will most likely be contracted with the Project construction contractor, though the Applicant may contract directly with the supplier(s). Letter(s) documenting formal commitments from each water supplier will be provided prior to construction.

Based on communications with the City of Hermiston, the City of Pendleton, and the City of Echo, the Applicant believes the contacts made to date, which amount to a non-binding commitment to supply up to 3.7 Mgal per month per city, will be sufficient for Project construction.

Water for solar panel washing will be obtained from either the City of Hermiston, City of Pendleton, or the City of Echo. The cities have water capacity to supply up to 1.1 Mgal annually, for periodic solar array washing (Attachment O-1).

3.2 Amounts

During construction, the Project will require an anticipated maximum of approximately 71 Mgal of water. This water will be used in activities such as road construction, installation of collector lines, mixing concrete for foundations, and other activities. Water will also be used for dust control on dirt and gravel roads, turbine pads, and laydown areas.

Water use totals are presented in the format of Project construction taking place in a single 18-month construction period.

Estimated total water usage for concrete mixing, road construction, and dust control is summarized as shown in Table O-1.

Table O-1. Water Requirements during Construction

Project Component	Water (in gallons)
Turbine foundations (concrete)	2,016,000
Meteorological tower foundations (concrete)	2,500
Substation (concrete)	24,000
O&M building (concrete)	10,000
Road construction	10,560,000
Dust control	58,320,000
BESS foundations (concrete)	65,000
Racking post foundations (concrete)	77,000
Solar Inverter/transformer pad foundations (concrete)	5,120
Total	**71,079,620**

Approximately 2.2 Mgal of the total estimated amount of water will be required for mixing concrete for turbine tower, meteorological tower, BESS, solar racking post, and solar inverter/transformer foundations, and other incidental uses. This estimate is based on the following assumptions:

- Water use is based on a typical spread-footing turbine foundation design. Alternative turbine foundations types, such as caissons, may be employed if determined appropriate to the site conditions; the use of other foundations designs would typically use less water than the spread-footing foundations.
- The typical spread-footing foundation design is based on general soil conditions, and does not consider local soil characteristics. The actual water usage may vary based the size of the foundation, which is a function of soil properties and tower reaction loads.
- The estimate is based on the maximum number of potential wind turbines that may be installed for the Project. The actual water usage may be less than this estimate, if fewer turbines are constructed.
- This estimate conservatively assumes that all solar array racking posts will need foundations.

Approximately 34,000 gallons of the total estimated amount of water will be required for the construction of the substations and O&M Building foundations. Water will be required for foundation construction, grading of parking areas, and other incidental uses required in the construction of both facilities. Approximately 10.56 Mgal of the total estimated amount of water will be required for new road construction including grading and compaction.

Approximately 58.3 Mgal of the total estimated amount of water will be used for dust control under typical conditions. Actual dust control water use will vary, depending on the timing of construction and the season, precipitation, soil conditions, temperature, and frequency of repeat disturbance; none of which can be controlled or easily estimated by the contractor. Average water use for Project dust control was estimated at an average of 120,000 gallons per day, running six days per week over an 18-month construction period for each of the two phases of Project construction.

Approximately 147,000 gallons of the total estimated amount of water will be used for concrete mixing for solar components; assuming concrete foundations will be used for all steel posts installed to support the solar array. This assumption likely overestimates water use because poles typically are driven or screwed in place without concrete, and concrete is only used where soil conditions require it (for example, very rocky conditions).

Based on an 18-month construction period under typical environmental conditions, the average monthly water demand will be approximately 3.9 Mgal.

A worst-case water use figure would result from construction in particularly dry weather conditions with high temperatures, and is estimated to require approximately 50 percent additional water use for dust control than in average conditions. Based on this assumption, a “worst-case” water estimate for the Project is calculated as shown in Table O-2.

Table O-2. Worst-case Water Requirements during Construction

Project Component	Water (in gallons)	Worst Case (50% additional water use) (gallons) [1]
Turbine foundations (concrete)	2,016,000	2,016,000
Meteorological tower foundations (concrete)	2,500	2,500
Substation (concrete)	24,000	24,000
O&M building (concrete)	10,000	10,000
Road construction	10,560,000	10,560,000
Dust control	58,320,000	87,480,000
BESS foundations (concrete)	65,000	65,000
Racking post foundations (concrete)	77,000	77,000
Solar Inverter/transformer pad foundations (concrete)	5,120	5,120
Total	**71,079,620**	**100,239,620**

1. For purposes of estimating water demand, it is assumed that concrete mixing will not require significant additional water in hot weather.

Should construction occur in a particularly dry year, the water required for dust control during construction could increase to an estimated 87.5 Mgal, increasing the total water requirement for all construction uses to approximately 100 Mgal. The worst-case total average monthly water demand for all construction and dust control would therefore be approximately 5.5 Mgal, and the average daily water demand would increase to approximately 189,000 gallons.

It should be noted that the primary use of water during Project construction is for dust control on access roads. The estimated total water use under average conditions (71 Mgal) and under worst case conditions (100 Mgal) assumes that all Project roads will be watered multiple times each day, even in portions of the Project where no construction is being undertaken. In reality, Project construction will be a focused effort on specific portions of the Project to maximize efficiency and as such will not require watering of roads for dust control in portions of the Project where no construction is taking place and related construction traffic is minimal.

Water for washing solar panels will require an estimated one gallon per solar module, for a total of approximately 1,120,000 gallons per year during operations.

3.3 Disposal

The Applicant does not anticipate any discharge of water from the Project. During construction, water loss will occur primarily through evaporation and infiltration from wetted road surfaces. Because of the relatively low rates of water use and application, it is assumed that no run-off will occur outside of the Site Boundary. Water used for foundations will remain in the concrete mix. Management and handling of concrete truck washout is discussed in Exhibit V. Water for washing

the solar panels will be applied via robotic panel cleaners and will not have any cleaning solvents in it. Washwater will be discharged by evaporation and seepage into the ground. No water used for the Project will be discharged into wetlands, lakes, rivers, or streams. During construction, sanitary facilities will be portable toilets that will not require water. Portable toilets will be maintained by a licensed service provider.

4.0 Thermal Power Plants – OAR 345-021-0010(1)(o)(D)

> *OAR 345-021-0010(1)(o)(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 Project is not a thermal power plant. Thus, OAR 345-021-0010(1)(o)(D) is not applicable.

5.0 Explanation of Lack of Need for Groundwater/Surface Water Permit or Water Right Transfer – OAR 345-021-0010(1)(o)(E)

> *OAR 345-021-0010(1)(o)(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.*

The Project does not need any groundwater permits, water rights, or surface water permits. As discussed above, water for construction can be obtained from the City of Hermiston, the City of Pendleton, and/or the City of Echo under an existing municipal water right.

Operations water use will be minimal and most use will qualify as exempt under ORS 537.545(1)(f), which allows certain industrial or commercial uses of up to 5,000 gallons per day. Exempt industrial water uses include drinking, flushing toilets, using sinks, and other general industrial uses. The Applicant expects to rely on an exempt well allowed under ORS 537.545 to provide water to the O&M Building. In addition, solar modules will be washed once per year and washwater will be applied via robotic panel cleaners; this water will be obtained from City of Hermiston, the City of Pendleton, and/or the City of Echo under an existing municipal water right.

6.0 Information to Support Issuance of Groundwater/Surface Water Permit or Water Right Transfer – OAR 345-021-0010(1)(o)(F)

OAR 345-021-0010(1)(o)(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.

The Project does not need any groundwater permits, water rights, or surface water permits at this time. Thus, OAR 345-021-0010(1)(o)(F) is not applicable.

7.0 Mitigation Measures – OAR 345-021-0010(1)(o)(G)

OAR 345-021-0010(1)(o)(G) A description of proposed actions to mitigate the adverse impacts of water use on affected resources.

No adverse impacts are expected to result from Project water use during construction or operation; therefore, no mitigation measures are proposed.

8.0 Conclusions

The information provided in this exhibit demonstrates that construction and operation of the Project will not result in significant adverse impacts to water resources. Therefore, the Applicant has satisfied the requirements of OAR 345-021-0010(1)(o).

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Attachment O-1. Letters from Water Providers

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HERMISTON
OREGON
Water Department

February 12, 2020

Joe Griffiths,

This letter is to confirm our discussion regarding an upcoming project for Capital Power & the needs to acquire water for the project. The water needs are understood to be a maximum of 125,000 gallons per day, with a maximum of 68 million gallons in the overall project. The primary use would be for dust control of the site. The City has the capacity to supply this amount. Terms will be worked out at a later date to acquire the water.

If you have any questions, please feel free to call me with any questions.

Thank you,

Roy Bicknell
Water Superintendent
City of Hermiston
541-667-5061

Echo City Hall
Echo Public Library
Echo Hills Golf Course
Oregon Trail Arboretum
Echo Community Center
Fort Henrietta RV Park/Interpretive Park
PO Box 9 / 20 S Bonanza
Echo, Oregon 97826
Phone: 541-376-8411
Email: jnorthern@centurytel.net
fax : 541-376-8218

July 20, 2020

To Whom It May Concern:

This letter is to confirm the discussion I had with **Joe Griffiths of Capital Power** that the City of ECHO can supply CAPITAL POWER CORPORATION with up to 125,000 gallons of water a day during the upcoming Nolin Hills renewable energy construction project.

Should you have any questions feel free to call me at (541) 376-8411.

Thank you,

Justin Northern
Public Works Director
City of Echo
541-376-8411

8-31-2020

City of Pendleton

Public Works
Water Department
500 S.W. Dorion Ave.
Pendleton OR 97801-2090
Telephone (541) 966-4518
FAX (541) 966-4523
Website: www.pendleton.or.us

June 18, 2020

Joe Griffiths
Capital Power

This Letter is to confirm the discussion we had on Wednesday June 17,2020 regarding the need for water. The daily maximum of 134,000 gallons and the total of 71,000,000 gallons is not a problem for the City of Pendleton to supply. We have five filling stations in town one on the west end of town. When the time comes that you need water just contact of utility billing department and set up an account they will give you a code to enter into our system. The code will allow the to be turned on and will keep track of the amount of water you have used and we will bill once a month.

Tim Smith
Water superintendent
City of Pendleton
Tim.smith@ci.pendleton.or.us
541-379-1195