

# **Exhibit U**

## **Availability of Public and Private Providers to Provide Services**

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**West End Solar Project  
September 2022**

**Prepared for  
EE West End Solar LLC**

**Prepared by**



**Tetra Tech, Inc.**

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## Acronyms and Abbreviations

AADT	annual average daily traffic
Applicant	EE West End Solar LLC
BMP	best management practices
EFSC	Oregon Energy Facility Siting Council
ESCP	Erosion and Sediment Control Plan
LOS	level of service
Mgal	million gallons
O&M	operations and maintenance
OAR	Oregon Administrative Rules
ODOT	Oregon Department of Transportation
Project	West End Solar Project
TSP	Transportation System Plan
V/C	volume to capacity

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## 1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. Exhibit U was prepared to meet the submittal requirements in Oregon Administrative Rules (OAR) 345-021-0010(1)(u), related to public services. Exhibit U demonstrates that the construction and operation of the Project, taking into account mitigation, is not likely to result in significant adverse impacts to the provision of the public services listed in OAR 345-022-0110.

## 2.0 Applicable Rules and Standards

Under OAR 345-022-0110, the Oregon Energy Facility Siting Council (EFSC) must find through appropriate study that:

*(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to the ability of public and private providers within the Analysis Area described in the project order to provide: sewers and sewage treatment, water, storm water drainage, solid waste management, housing, traffic safety, police and fire protection, health care and schools.*

To demonstrate compliance with this standard, and in accordance with OAR 345-021-0010(1)(u), Exhibit U must include information about significant potential adverse impacts resulting from the construction and operation of the Project on the ability of public and private providers in the Analysis Area to provide the services listed in the standard. In accordance with OAR 345-001-0010(57)(b), the Analysis Area for public services consists of the area within the Project Site Boundary and extending out 10 miles from the Project Site Boundary (see Figure U-1).

## 3.0 Analysis

### 3.1 Methods

The following analysis was primarily based on secondary data compiled from federal, state, and local government agencies. State and local governments were also contacted directly for data on potentially affected public services. The potential effects of the Project were evaluated with respect to the ability of public and private providers within the Analysis Area to provide sewers and sewage treatment, water, stormwater drainage, solid waste management, housing, traffic safety, police and fire protection, health care, and schools. Key Project-related variables used in this analysis include projected construction and operations employment, traffic volumes, and waste generation.

## 3.2 Assumptions Used to Evaluate Potential Impacts – OAR 345-001-0010(1)(u)(A)

*OAR 345-021-0010(1)(u) Information about significant potential adverse impacts of construction and operation of the proposed facility on the ability of public and private providers in the Analysis Area to provide the services listed in OAR 345-022-0110, providing evidence to support a finding by the Council as required by 345-022-0110. The applicant shall include:*

*OAR 345-021-0010(1)(u)(A) The important assumptions the applicant used to evaluate potential impacts.*

### 3.2.1 Projected Employment

#### 3.2.1.1 Construction

The Applicant anticipates beginning construction by Quarter 1 2025 (depending on when EFSC issues a Site Certificate for the Project) and may construct the Project in phases. The Project will be completed within 3 years of construction commencement. For the purpose of this analysis, construction is anticipated to occur in two phases, each anticipated to take approximately 6 months, for a total of 12 months.

During construction, the Applicant assumes that the average number of construction workers would be 300 people, while the maximum number of workers during peak construction months would not be more than 500 people. Most of the construction workers are expected to be employees of construction companies that have been contracted under the Applicant. Some additional specialized workers will be required for the installation of the solar components and battery storage. However, these workers are not likely to significantly impact the number of workers at any given time.

Workers employed during construction may come from outside of the 10-mile Analysis Area. For the purpose of this analysis, a conservative estimate of 15 percent of workers will be hired locally. There is a possibility that the number of workers hired locally may be greater, depending on the skill sets and availability of those hired. The Applicant's policy will be to hire locally to the greatest extent practicable. The remaining 85 percent of the workforce would be anticipated to be from other parts of the state or from out-of-state, and would either commute daily from communities outside the Analysis Area or would temporarily relocate to the Project's vicinity. For purposes of analyzing potential impacts on housing availability, the Applicant assumes that 60 percent of workers will commute from up to 70 miles away from the Project, which includes workers living in the Tri-Cities metro area or from Pendleton. This leaves only 25 percent of workers requiring temporary housing in the Analysis Area. Very few, if any, of the out-of-state workers employed during the construction phase of the Project will be expected to permanently relocate to the area. Most construction workers would be in the area for less than 6 to 9 months. Therefore, housing for most construction workers will primarily be provided by hotels and RV parks and workers are not expected to bring families with them.



### *3.2.1.2 Operations and Maintenance*

Since the Project can be operated remotely, it is anticipated that only two to five workers would be deployed to the site when necessary for maintenance. It is anticipated that the operation and maintenance (O&M) staff will be hired locally (within 3-hour radius of the Project site); however, positions that require previous experience working at solar facilities may be hired from non-local areas (outside a 3-hour radius of the Project site).

### **3.2.2 Water**

As described in Exhibit O, the Applicant estimates that the Project will require an anticipated maximum of approximately 12.8 million gallons (Mgal) of water during construction. This includes water for activities such as road construction and site prep, installation of collector lines, mixing concrete for foundations, and other activities. Water will also be used for dust control on dirt and gravel roads and laydown areas. Water use totals are presented in the format of Project construction taking place in a single 12-month construction period. Thus, under typical environmental conditions, the average monthly water demand will be approximately 1 Mgal.

Operational activities will require very limited amounts of water for periodic panel washing. As described in Exhibit O, the operational water needs are conservatively estimated at 1.65 Mgal per year.

### **3.2.3 Waste Generation**

Solid waste generated by construction activities would include general construction waste, concrete, and excavated soil. Excavated soil will be used onsite as fill, or transported offsite for disposal. Construction material and office recycling programs will be implemented to the extent practical to reduce the volume of material that will be disposed of as solid waste. General construction debris will be collected by a local contractor and transported to Finley Buttes Landfill in Boardman, Oregon. As described in Exhibit W, the Applicant aims to generate minimal construction waste that will require offsite disposal. Additionally, only minimal amounts of solid waste would be generated by the operation of the Project.

### **3.2.4 Traffic**

The Project construction activities are anticipated to take approximately 12 months from mobilization until commercial operation. During construction, trucks will be using Interstate 82 (I-82), Interstate 84 (I-84), U.S. Route 395 (US-395), U.S. Route 730 (US-730) and local county roads to bring construction equipment, Project components, substation equipment, energy storage system components, the O&M enclosure, and other equipment to the Project site. Figure U-2 identifies primary construction transportation routes to the Project and Section 3.3.6 describes the construction transportation routes in more detail. Trucks will also be used to bring road base

aggregate to construct new access roads, concrete for the foundations and pads for the substation, and water for dust control.

The estimated number of construction trips is based on experience with traffic from similar sized solar projects and actual construction experience. Included in the estimate were the following major Project elements:

- Solar modules and related equipment delivery, including racking system structures, electrical wiring/cabling and equipment, steel posts, inverters, and transformers;
- Energy storage system delivery, including containers, battery modules, and all related equipment based on the final technology selected;
- Substation component delivery, including the main power transformer, circuit-breakers, electrical buses and insulators, disconnect switches, control enclosure, metering and control equipment, grounding, and associated control wiring, and all related equipment based on the final design;
- Material supply for solar area foundations such as for posts (sand, aggregate, cement, and steel rebar);
- Material supply for new roads, laydown areas, and equipment pads/foundations (sand, aggregate, and cement);
- Delivery of on-site construction equipment such as dozers, graders, compactors, forklifts, etc.; and
- Water truck traffic (assumes water comes from Hermiston).

Over the 12-month construction period, assuming an average of 24 working days per month, the Applicant assumes an average of 45 daily round trip truck trips will be generated by construction activities described above (i.e., 90 trips per day including inbound and outbound). Truck trips include construction equipment and material deliveries.

Privately owned vehicles will be the primary means of transporting workers to and from the Project on a daily basis. As noted in Section 3.2.1.1, an estimated average workforce of approximately 300 workers will be employed during construction. During the peak months of construction activity, the estimated number of workers will increase to approximately 500. Most of the construction worker traffic will originate from the communities that are along I-84, stretching from Boardman to Pendleton or from the Tri-Cities in Washington State. As such, the workforce will use the same roads to access the Project as the equipment transporters.

Conservatively, it is assumed that most workers will drive alone, and that the average vehicle will only have 1.25 occupants. This makes the estimated daily round-trip vehicle trips during construction 400 for the peak period and 240 for the average workforce. These daily vehicle trips are doubled to account for each one-way trip, resulting in an estimated 800 peak or 480 average one-way trips per day. Private vehicles will primarily travel mornings and evenings, corresponding to the workday; whereas the construction truck traffic will be more uniformly distributed

throughout the workday. As a result, the private traffic and the truck traffic will not overlap for the most part.

### **3.3 Affected Public and Private Service Providers – OAR 345-001-0010(1)(u)(B)**

*OAR 345-021-0010(1)(u)(B) Identification of the public and private providers in the Analysis Area that would likely be affected.*

#### **3.3.1 Cities and Counties**

The Project lies entirely in Umatilla County. The cities within the Analysis Area consist of Umatilla, Hermiston, Stanfield, and Echo, all of which are in Umatilla County. The cities of Hermiston and Stanfield are the closest to the Project. The city of Stanfield has a population of 2,722 residents, and the city of Hermiston has a population of 17,423 residents (U.S. Census Bureau 2019a). The Analysis Area also includes a portion of Benton County, Washington and the unincorporated area of Plymouth, WA<sup>1</sup> (located approximately 9.5 miles north of the Project).

**Table U-1. Historical Population of the Communities within the Analysis Area**

Location	Population		
	2010 Census	2019 Estimate	2010-2019 Change
Umatilla County	75,889	77,950	+ 3,146
City of Umatilla	6,630	7,068	+ 491
City of Hermiston	16,016	17,423	+ 1407
City of Echo	665	735	+ 70
City of Stanfield	1,951	2,722	+ 771
Benton County	175,177	204,390	+ 37,313

Sources: U.S. Census Bureau 2010a, U.S. Census Bureau 2010b, U.S. Census Bureau 2019a, U.S. Census Bureau 2019b.

#### **3.3.2 Sewer and Water Services**

##### *3.3.2.1 Sewer*

While the communities of Hermiston, Stanfield, and Echo provide sewer systems to parts of the Analysis Area, currently none of the surrounding communities provide sewage services to the Project site. Portable toilets will be provided on-site, both during construction and during operations and maintenance.

<sup>1</sup> Note that census data was not available for the unincorporated community of Plymouth. Therefore, county-wide data for Benton County is provided in Table U-1.

### ***3.3.2.2 Water Services***

The City of Hermiston and City of Stanfield are the primary water providers that serve customers in the Analysis Area. During construction, water will most likely be purchased from the City of Hermiston, which has sufficient domestic water capacity to supply to the Project (see Exhibit O). Water associated with the Project operation will be trucked in from off-site sources (see Exhibit O).

### ***3.3.3 Stormwater Drainage***

No service provider in the Analysis Area provides stormwater drainage systems to the Project site, with the exception of stormwater drainage facilities associated with public roads maintained by Umatilla County. As discussed in Exhibit I, during construction, best management practices (BMPs), outlined in the Project's National Pollutant Discharge Elimination System Construction Stormwater Discharge Permit 1200-C and accompanying Erosion and Sediment Control Plan (ESCP), will be implemented to minimize erosion and sedimentation that would affect the surrounding stormwater drainage. Stormwater within the Project site is anticipated to infiltrate into the ground.

### ***3.3.4 Solid Waste Management***

The Applicant will enter into a private contract with local commercial haulers who will provide solid waste disposal during construction and operation of the Project. The closest regional landfill to the Site Boundary is the Finley Buttes Regional Landfill, located approximately 12 miles south of Boardman, Oregon. The landfill is owned and operated by Waste Connections, Inc. and was opened in 1990 with a planned closure date of 2242. The Finley Buttes Landfill has a capacity of 131,895,000 tons of municipal solid waste and receives approximately 500,000 tons of municipal soil waste a year (Clark County 2015). It currently has 13,264,077 tons of waste in place (U.S. EPA 2021). The Columbia Ridge Landfill is located near the town of Arlington in Gilliam County, Oregon, located approximately 60 miles from the Project. It also accepts construction and municipal solid wastes.

### ***3.3.5 Housing***

Within the Analysis Area, varying degrees of housing exist within the incorporated and unincorporated areas of Benton and Umatilla counties. As noted in Section 3.2.1.1, the Applicant assumes 25 percent of the workforce would be from outside the region and beyond a commutable distance to the Project site; therefore, these workers would require temporary housing. Typical housing options for temporary workers include hotels or motels, RV parks, apartments, short-term rental homes, and campgrounds.

There are 63 hotels and motels, and 19 RV parks and campgrounds within a commutable distance, determined to be 70 miles from the Project site (Google Maps 2021, HotelPlanner 2021). There are approximately 3,939 hotel/motel rooms in this area, with an average of 66 rooms per hotel or motel. Additional units may be available for establishments that do not list their number of rooms

publicly, or in communities further than the commutable distance used for this analysis. To estimate the total number of RV sites within commutable distance from the Project site, the Applicant reviewed aerial photos and websites (when available) of the 19 RV parks identified within 70 miles of the site boundary. The following provides a summary of these results:

- Pilot RV Park (Stanfield): 48 RV sites (based on map from website).
- Redtail RV Park (Stanfield): 38 RV sites (based on aerial photo interpretation).
- Tom Able Farms RV Park (Hermiston): 40 RV sites (based on aerial photo interpretation).
- Panelview RV Park (Hermiston): 45 RV sites (based on aerial photo interpretation).
- Pioneer RV Park (Hermiston): 125 RV sites (based on aerial photo interpretation).
- Wildwood RV Park (Umatilla): 36 RV sites (based on aerial photo interpretation).
- Umatilla Marine RV Park (Umatilla): 35 RV sites (based on map from website).
- Umatilla RV Park (Umatilla): 30 RV sites (based on map from website).
- Shady Rest Mobile Home and RV Park (Umatilla): 33 RV sites (based on map from website).
- Oregon Trail RV Park (Irrigon): 77 RV sites (based on information from website).
- Oasis RV Park (Irrigon): 46 RV sites (based on aerial photo interpretation).
- Green Acres RV Park (Irrigon): 60 RV sites (based on aerial photo interpretation).
- Boardman Marina RV Park (Boardman): 63 RV sites (based on information from website).
- Driftwood RV Resort (Boardman): 110 RV sites (based on information from website).
- Agate Acres RV Park (Plymouth, WA): 75 RV sites (based on aerial photo interpretation).
- Pendleton KOA Journey (Pendleton): 91 RV sites (based on information from website).
- Lookout RV Park & Storage (Pendleton): 27 RV sites (based on aerial photo interpretation).
- Boork RV Park (Pendleton): 20 RV sites (based on aerial photo interpretation).
- Catalpa Tree RV Park (Pendleton): 25 RV sites (based on information from website).

Based upon the above research, there are over 1,000 RV spaces within commutable distance of the Project Site Boundary.

Apartments and short-term rental houses are also an option for temporary workers. Table U-2 demonstrates housing supply and availability inside the Analysis Area. The estimated number of vacant rental units is calculated as a percentage of total vacant housing units; that percentage is based on the ratio of renter-occupied dwellings to owner-occupied dwellings. Using this method, an estimated 1,231 housing units will be available for rent in Umatilla County, and 1,499 housing units will be available for rent in Benton County.

**Table U-2. Housing Supply within the Analysis Area**

<b>Location</b>	<b>2019 Estimated Total Housing Units<sup>1</sup></b>	<b>Vacancy Rate<sup>2</sup></b>	<b>Vacant Units<sup>3</sup></b>	<b>Of Occupied Housing, Percentage Occupied by Renter<sup>4</sup></b>	<b>Estimated Number of Vacant Rental Units<sup>5</sup></b>
Umatilla County	30,499	11.8%	3,591	34.3%	1,231
Hermiston	6,650	6.7%	443	38.6%	171
Umatilla	1,925	9.2%	177	39.5%	70
Stanfield	976	5.3%	52	33.5%	18
Echo	304	5.9%	18	46.2%	8
Benton County	76,241	6.3%	4,803	31.2%	1,499

1. Per U.S. Census Bureau 2019c, Table B25001.  
2. Per U.S. Census Bureau 2019d, Table B25002, vacancy rate represents housing units recorded as vacant including houses for sale or rent, apartments for rent, or other housing units that are seasonally vacant.  
3. Vacant units calculated by using vacancy rate percentage of 2019 estimated housing units.  
4. Per U.S. Census Bureau 2019e, Table B25003.  
5. The estimated number of vacant rental units is calculated as a percentage of total vacant housing units; that percentage is based on the ratio of renter-occupied dwellings to owner-occupied dwellings.

### **3.3.6 Traffic Safety and Operations**

The affected transportation service providers are the Oregon Department of Transportation (ODOT) for state highways, and the Public Works Department for Umatilla County for other public roads. Several transportation routes will be used to access the Project during construction and operations. These routes will be used to bring components, equipment and materials, water, and workers from outside of the Analysis Area to the Project site and will include state and county roadways. The two primary transportation routes are depicted on Figure U-2. The primary transportation corridors that will be used are I-82, I-84, and US-395. For deliveries and workers arriving from the northern transportation route via I-82, the route will use a short section of US-730 to access US-395 and from there will take Country Road (CR) 1000 east (Feedville Road) from US-395, to S. Edwards Road north. For deliveries and workers arriving from the southern transportation route via I-84 (east or west), access is anticipated to be from I-84 exit 188 to US-395, and then to S. Edwards Road. The Project is anticipated to have its main access point off of S. Edwards Road near the proposed substation. A new driveway off of S. Edwards Road would be required at the access point. The interstate highways, US-395, and US-730 are designated as freight routes by the Amended Oregon Freight Plan (ODOT 2017). Designated freight routes have specific standards for roadway section widths, median barriers, and intersection design. There are no weight restricted bridges along the two primary transportation routes (ODOT 2021).

During construction, a number of trucks will be accessing the site on the transportation route described above. Heavy-duty trucks will be carrying gravel and other materials required for site grading and to construct the new site access road segments. Heavy-duty trucks will also carry Project components and materials for the solar module blocks. Lighter-duty trucks will be utilized to deliver water to the site for dust control during construction. Light-duty trucks carrying electrical equipment and materials required for solar panel construction and power transmission also will be necessary.

*3.3.6.1 Existing Traffic Volumes*

Annual average daily traffic (AADT) volumes<sup>2</sup> on the primary transportation route (I-84, I-82, US-395, and US-730) were collected from the most recent 5 years of published ODOT traffic data (ODOT 2015a, ODOT 2016, ODOT 2017, ODOT 2018, ODOT 2019). Table U-3 presents the AADT volumes for the most recent 5 years of data available at various milepost locations along the transportation routes.

**Table U-3. ODOT Interstate and Highway Traffic Volumes and Lane Numbers**

Highway	Location	Milepost	Number of Lanes	2015 AADT	2016 AADT	2017 AADT	2018 AADT	2019 AADT
I-82	Umatilla Bridge ATR Station 30-025	0.58	4	20,500	21,700	21,600	21,500	21,600
I-84	2.56 miles east of US 395 interchange	191.4	4	15,600	16,400	16,500	17,300	17,300
US-395	0.02 miles north of Gladys Ave/OR- 207 (located within Hermiston UGB)	5.38	5	18,600	19,000	19,200	19,100	19,300
US-395	Stanfield ATR Station 30-019 (0.12 miles north of Feedville Rd)	8.70	5	7,700	7,800	7,900	8,100	8,200
US-395	0.5 miles north of I-84 interchange	12.40	5	9,600	9,800	9,900	8,500	8,600
US-730	0.5 miles east of I- 82 interchange	184.63	4	12,700	13,400	13,600	12,400	12,400

<sup>2</sup> AADT is the total volume of vehicle traffic for the year divided by 365 (or 366 in a leap year).

I-82 begins at the Oregon/Washington border and extends south to I-84. It provides connections between the Tri-Cities (Kennewick, Richland, and Pasco, Washington) to the north and I-84 to the south. I-82 is named by ODOT as McNary Highway No. 70 and is functionally classified as an Urban Interstate on the National Highway System. I-82 is a divided four lane highway (two lanes each direction) with a grade separate interchange at US-730. The Applicant anticipates some deliveries and workers may originate in Washington State and be transported via I-82 south to the US-730 interchange, where Project related traffic will head south on US-395 to CR-1000/Feedville Road and east to S. Edwards Road. Based on the last 5 years of published traffic data, traffic levels have stayed approximately the same at the Umatilla Bridge (milepost 0.58), at around 21,600 AADT.

I-84 begins at the interchange with I-5 in Portland and extends east to the Oregon-Idaho state border. I-84 from the Boardman Junction (milepost 168, intersection with US-730) east to Idaho is named by ODOT as Old Oregon Trail No. 6 and is functionally classified as Rural Interstate on the National Highway System. I-84 is a divided four lane highway (two lanes each direction) with a grade separate interchange at US-395. The Applicant anticipates some deliveries and workers may be transported via east bound or west bound I-84 to the US-395 interchange (Exit 188), where Project related traffic will head north on US-395 to S. Edwards Road. Based on the last five years of published traffic data, traffic levels have slightly increased along I-84 near the interchange with US-395 (milepost 191.4) and are currently around 17,300 AADT.

US-395 is a state highway linking US-730 with I-84 to the south and serves as the primary north-south route connecting Umatilla with the cities of Hermiston and Stanfield to the south. US-395 is named by ODOT as Umatilla-Stanfield Highway No. 54 and is functionally classified as Urban Other Principal Arterial on the National Highway System. Beginning at the northern terminus of US-395 (the intersection with US-730) and continuing south to the I-84 interchange, the roadway has four-lanes and center turning lane. Traffic levels were reviewed at several locations along US-395. As shown in Table U-3, the AADT along US-395 fluctuates depending upon the location. In Hermiston, near Gladys Avenue, the AADT was 19,300 in 2019; near CR-1000/Feedville Road the AADT was 8,200 in 2019; and near the interchange with I-84 the AADT was 8,600 in 2019. The average daily traffic volumes are slightly higher near Hermiston where there is a concentration of residential and commercial uses.

US-730 begins at the I-5 interchange in Portland and extends east to Hermiston Highway/OR-207. In the Analysis Area, the highway generally parallels the Columbia River, providing a continuous east-west route between Interstate 84 and Washington and serves as a city-to-city link between such neighboring cities as Irrigon, Umatilla, and Cold Springs Junction. US-730 is named by ODOT as Columbia River Highway No. 2 and is functionally classified as Urban Other Principal Arterial on the National Highway System. US-730 is a four-lane roadway with turning lanes near the I-82 interchange and intersection with US-395. Based on the last five years of published traffic data, traffic levels on US-730 in the area 0.5 miles east of the I-82 interchange have slightly decreased by about 1,200 AADT and currently averages approximately 12,400 AADT.

Traffic count data collected by ODOT and Umatilla County are limited, but most rural county roads see little traffic currently, typically less than 1,000 vehicles per day. According to the Umatilla



County Transportation System Plan (TSP; Umatilla County 2002), CR-1000/Feedville Road is a major collector and considered an “Important County Road,” as it serves rural county needs such as connecting to higher functioning facilities such as a state highway or interstate freeway. Per the TSP, the Average Daily Trips (counted in 1991) on CR-1000 range from 620 to 1,200. The ODOT Geoportal (ODOT 2021) provides an AADT range of 1,001 to 2,500 for Feedville Road and an AADT of 2,125 a location east of OR 207 (approximately 5 miles west of the Site Boundary/4 miles west of US 395). No traffic counts were available for the section of Feedville Road east of US 395 (the section that would be used by Project construction traffic). The TSP classifies Edwards Road (CR-1201) as a minor collector, but does not provide traffic count data. The ODOT Geoportal (ODOT 2021) provides an AADT range of 1,001 to 2,500 for S. Edwards Road and an AADT of 1,481 at a location just north of Walchli Lane (approximately 3 miles north of the Site Boundary). No traffic counts were available for the section of Edwards Road south of Feedville Road (the section that would be used by Project construction traffic). According to the Umatilla County TSP (Umatilla County 2002), major and minor collector roads are intended to carry between 1,200 and 10,000 vehicles per day. Collectors can serve residential, commercial, industrial, and mixed land use.

### *3.3.6.1 Performance Standards*

A significant, adverse impact in terms of transportation will result if construction or operation of the Project meaningfully lowers the level of service (LOS) provided to the public. That could occur if additional traffic generated by the Project were to exceed the capacity of existing roads, resulting in significant and ongoing delays in travel times, or unmitigated damage to roads.

Transportation engineers have established various standards for measuring the traffic capacity of roadways or intersections. Each standard is associated with a particular LOS. The LOS concept requires the consideration of factors that include travel speed, delay, frequency of interruptions in traffic flow, relative freedom for traffic maneuvers, driving comfort and convenience, and operating costs. The TSP (Umatilla County 2002) defines LOS by a letter grade from A to F, with each grade representing a range of volume to capacity (V/C) ratios. A V/C ratio is the peak hour traffic volume on a highway divided by the maximum volume that the highway can handle. A V/C ratio of 0.0 indicates free-flowing traffic (LOS A) while a V/C of 1.0 indicates a breakdown in vehicular flow (LOS F). If traffic volume entering a highway section exceeds the section’s capacity, then disruptions in traffic flow will occur, reducing the LOS.

The Oregon Highway Plan guides state highway development and management for a 20-year planning horizon. In this plan, ODOT identified the performance standards in terms of V/C for state highways. Table U-4 lists applicable maximum V/C for peak hour operating conditions from the Oregon Highway Plan (ODOT 2015b).

**Table U-4. ODOT Maximum Volume-to-Capacity Ratios for Peak Hour Operating Conditions**

<b>Highway Category</b>	<b>Inside Urban Growth Boundary<sup>1</sup></b>	<b>Unincorporated Communities</b>	<b>Rural Lands</b>
Interstate Highways (I-84, I-82)	0.80 to 0.85	0.70	0.70
Statewide Expressways (US-395)	0.80 to 0.85	0.70	0.70
Regional Highway (US-730)	0.85 to 0.90	0.75	0.70

Source: ODOT 2015b.

1. A small portion of I-82, US-395, and US-730 along the Project’s northern transportation route is located within the City of Umatilla’s Urban Growth Boundary (UGB). And a portion of US-395 is located in the City of Stanfield’s UGB.

Performance standards for Umatilla County roads are defined in their TSP (Umatilla County 2002). The TSP discusses roadway capacity in terms of both LOS and V/C and provides a useful comparison between the two for both freeways and two-lane highways; this comparison, as shown in the TSP, is presented in Table U-5, along with a description of typical traffic flow conditions for two-lane highways. The TSP includes a goal to “Preserve the function, capacity, LOS, and safety of the local streets, county roads, and state highways”; however, a minimum LOS is not specified in the TSP (Umatilla County 2002).

**Table U-5. Level of Service (LOS) to Volume to Capacity (V/C) Equivalencies**

<b>LOS</b>	<b>Equivalent V/C</b>	<b>Typical Traffic Flow Conditions for Two-Lane Highways</b>
A	0.00 to 0.48	Motorists are able to drive at their desired speed which, without strict enforcement, would result in average speeds approaching 60 miles per hour (mph). Passing demand is well below passing capacity, and almost no platoons of three or more vehicles are observed.
B	0.49 to 0.59	Speeds of 55 mph or slightly higher are expected on level terrain. Passing demand needed to maintain desired speeds becomes significant and approximately equals the passing capacity.
C	0.60 to 0.69	Further increases in flow result in noticeable increases in platoon formation, platoon size, and frequency of passing impediment. Average speed still exceeds 52 mph on level terrain, even though unrestricted passing demand exceeds passing capacity. While traffic flow is stable, it is becoming susceptible to congestion due to turning traffic and slow-moving vehicles.
C-D	0.70 to 0.73	
D	0.74 to 0.83	Unstable traffic flow as passing demand is very high. Average platoon sizes of 5 to 10 vehicles are common, although speeds of 50 mph can still be maintained under ideal conditions. This is the highest flow rate that can be maintained for any length of time over an extended section of level terrain without a high probability of breakdown.
D-E	0.84 to 0.87	
E	0.88 to 0.97	Under ideal conditions, speeds will drop below 50 mph. Average travel speeds on highways with less than ideal conditions will be slower, as low as 25 mph on

**Exhibit U: Availability of Public and Private  
Providers to Provide Services**

LOS	Equivalent V/C	Typical Traffic Flow Conditions for Two-Lane Highways
		sustained upgrades. Passing is virtually impossible and platooning becomes intense when slower vehicles or other interruptions are encountered.
E-F	0.98 to 0.99	
F	1.00	Heavily congested flow with traffic demand exceeding capacity.
Source: Umatilla County 2002.		

According to the TSP (Umatilla County 2002), all rural segments of freeways in Umatilla County operate at LOS A or better during average conditions, and at LOS B or better during peak summer conditions. Also, US-395 operates at LOS A or better while US-730 operates at LOS B near the OR/WA border.

As stated above, traffic count data collected by ODOT and Umatilla County for rural county roads including Feedville Road (County Road 1000) and South Edwards Road (County Road 1201) are limited, but most rural county roads see little traffic currently, typically less than 1,000 vehicles per day. The TSP (Umatilla County 2002) states that peak hour traffic operations along rural county roads and at lower volume intersecting roads, are at excellent levels (LOS A, <0.48 V/C) and even where daily traffic volumes range between 1,000 and 6,000 vehicles per day, such as along the “highly important” roads (e.g. Feedville Road), roadway traffic operations are still at excellent levels (LOS A, <0.48 V/C). According to the TSP (Umatilla County 2002), access to and from “highly important” roads at intersecting minor roads is also adequate, reaching an estimated LOS B, where peak hour minor road traffic volumes reach up to 150 vehicles per hour (Umatilla County 2002).

ODOT also assigns a federal functional class to state highway segments, as defined by the Federal Highway Administration (FHWA 2017, ODOT 2020). Table U-6 shows the current federal functional class assigned by ODOT for applicable segments of I-82, I-84, US-395, and US-730, and the associated AADT ranges.

**Table U-6. ODOT Federal Functional Classification for State Highway Segments**

Highway Segment <sup>1</sup>	Federal Functional Class <sup>2</sup>	ADT Range
I-82 (MP 0.15 – MP 3.32)	Urban Interstate	35,000 – 129,000
I-84 (MP 167.58 – MP 206.71)	Rural Interstate	12,000 – 34,000
US-395 (MP 0.04 – MP 12.46)	Urban Other Principal Arterial	7,000 – 27,000
US-730 (MP 180.73 – MP 184.87)	Urban Other Principal Arterial	7,000 – 27,000
1. As assigned by ODOT (ODOT 2020) based on federal criteria (FHWA 2017). 2. FHWA 2017.		

### ***3.3.6.2 Road Design Standards***

State highways are designed and constructed to handle legal loads up to 80,000 pounds. Some trucks that carry large and heavy equipment may be subject to obtaining oversize/overweight permits. These permits allow travel on all unrestricted roads. I-82, I-84, US-395, and US-730 are constructed to standards that will safely allow the legally oversize/overweight trucks to pass with no adverse impact on the road surface.

As of the 2020, ODOT pavement conditions report (ODOT 2021), the pavement condition for US-730 and US-395 from US-730 to E. Highland Ave in Hermiston are rated as “very good.” However, the section of US-395 south of E. Highland Ave to I-84 is rated as “poor.” Pavement conditions for I-84 and I-82 along the Project transportation routes are rated as “good.” Feedville Road and South Edwards Road are both paved County roads; however, current pavement condition of these roads is unknown. Umatilla County requires a Road Use Agreement for certain proposed uses to ensure that any impacts to County roads caused by construction activities are mitigated/repared by the developer. See Section 3.4.6.1 for a discussion of the Road Use Agreement required by Umatilla County.

### ***3.3.7 Airports/Air Transportation***

The nearest airport to the Site Boundary is the Hermiston Municipal Airport, located approximately 1.5 miles northwest of the Project site.

### ***3.3.8 Police and Fire Protection***

#### ***3.3.8.1 Police***

The Umatilla County Sheriff will provide police services to the Project. The closest Umatilla County Sheriff’s office is located at 915 SE Columbia Ave., Hermiston, Oregon 97838, and is approximately 2.6 miles from the Project.

#### ***3.3.8.2 Fire***

Umatilla County Fire District #1 provides fire protection services for the vicinity of the Project Site Boundary. The closest fire station is Station 24, located at 280 W Coe Ave., Stanfield, Oregon 97875, approximately 2.4 miles from the Project.

### ***3.3.9 Health Care***

Good Shepherd Health Care Services provides hospital and healthcare services to the Analysis Area, with an office approximately 4.7 miles from the Project and is located at 610 NW 11<sup>th</sup> Street, Hermiston, Oregon 97838. Umatilla County Fire District #1, located in Hermiston, OR, would provide first responder services to the Project. The nearest Level III trauma center is the Good

Shepard Medical Center (OHA 2019). The nearest Level I trauma centers are located in the city of Portland: Oregon Health & Science University Hospital and Legacy Emmanuel Medical Center.

### **3.3.10 Schools**

Stanfield School District, which includes two schools: Stanfield Elementary and Stanfield Secondary, provides educational services to the residents that live in the zip code where the Project is located. Both Stanfield Elementary and Stanfield Secondary schools are located at 1120 N Main Street, Stanfield, Oregon 97875, approximately 1.7 miles from the Project.

## **3.4 Potential Impacts on Public and Private Service Providers – OAR 345-001-0010(1)(u)(C)(D)**

*OAR 345-021-0010(1)(u)(C) A description of any likely adverse impact to the ability of the providers identified in (B) to provide the services listed in OAR 345-022-0110.*

*OAR 345-021-0010(1)(u)(D) Evidence that adverse impacts described in (C) are not likely to be significant, taking into account any measures the applicant proposes to avoid, reduce or otherwise mitigate the impacts.*

### **3.4.1 Cities and Counties**

#### **3.4.1.1 Construction**

While some construction contractors will be hired locally, many construction workers are expected to come from outside the Project vicinity and will require temporary housing. Using a conservative assumption that only 15 percent of the construction workers will be local residents, an average of about 255 workers and a maximum of about 425 workers would be temporary residents associated with the Project. Based on the assumption that the average household size would be 2.0 people (assuming workers will not bring their families), the estimate maximum number of temporary residents would be 850 people during peak periods of construction. However, it is likely that actual number of temporary residents will be lower due to more local hiring and few workers bringing their spouses. Temporary in-migrants associated with construction are most likely to use hotels, campgrounds, RV parks, and rental units located in an area that is a commutable distance from the Project site. Commutable distance is defined as 70 miles from the Project, or approximate travel distance of 1 hour.

#### **3.4.1.2 Operations**

Fewer new residents are likely to be a result of the Project's operation and maintenance team, as compared to construction. It can be assumed that no permanent, fulltime employees will be hired as part of the Project's operating staff. The Project will be closely monitored, remotely with two to five part-time technicians that will be used on an as-needed basis for maintenance. Some of these technicians will already be local residents. Assuming conservatively that 50 percent (n=3) of these

employees are in-migrants with an average household size of 3.0, as many as nine new permanent residents would be added to the local population. It's assumed that these workers will live locally, with the exception of specialized personnel that may commute from outside of the area. The actual number of permanent residents added by the Project is insignificant in comparison to the population of Benton and Umatilla counties.

### **3.4.2 Sewer and Water Services**

#### *3.4.2.1 Sewer*

Then only sewage services that would be required on the Project site during construction would be for the handling of the sewage related to the portable toilets. Sewage from the portable toilets would be pumped and disposed off-site regularly at a local treatment Project. There is no other need for sewage treatment during the Project's operation. The Applicant would not require connections to sewers and sewage treatment Project. Since the Project's sewage needs would be minimal during construction and O&M, it is anticipated that the Project would not have an adverse impact on the surrounding communities' ability to provide sewage services.

#### *3.4.2.2 Water Services*

It is anticipated that the Project may require approximately 12.8 Mgal of water for construction and approximately 1.65 Mgal per year for operations (i.e., module washing). The Applicant anticipates that water for construction and operation will be available for purchase from the City of Hermiston under an existing municipal water right. As demonstrated in Exhibit O, the City of Hermiston has sufficient domestic water capacity to supply the Project. Existing water rights will not be detrimentally affected, and sufficient water is available for the intended uses. Accordingly, no adverse impacts on water service providers are anticipated.

### **3.4.3 Stormwater Drainage**

New roads constructed as a part of the Project will be designed to maintain existing drainage patterns. Construction of roads, foundations, and other related supporting facilities will be regulated by an ESCP and 1200-C Construction Stormwater National Pollutant Discharge Elimination System permit that will require BMPs to minimize erosion and control sediment.

Erosion and sediment control BMPs shall be implemented during all aspects of construction. BMPs will be selected to minimize and eliminate erosion, rather than controlling sedimentation after erosion has already occurred. Exhibit I contains the ESCP that will be implemented during construction of the Project. Key BMPs presented in the ESCP are as follows:

- To the extent practicable, existing vegetation will be preserved. Where vegetation clearing is necessary, root systems would be conserved if possible.
- During construction the Applicant will implement BMPs for erosion, including perimeter controls (e.g., silt fence), soil stabilization (e.g., mulching or tackifiers), and dust control.

BMPs will be identified in the project specific ESCP and the 1200-C Construction Stormwater Discharge General Permit which will be completed prior to construction.

- The Applicant will provide long-term soil stability by reseeding disturbed areas to reestablish vegetation. Temporarily impacted areas that are reseeded will be monitored for restoration success according to the ESCP and NPDES general permit.
- During construction, source control measures will be implemented to reduce the potential of chemical pollution to surface water or groundwater during construction. SPCC plans for construction and operation will be prepared for each phase of the project that outline the site-specific handling and reporting measures (see Exhibit G).

Proper implementation and updating of the ESCP with updated BMPs, as needed will minimize erosion and the potential for sediment transport. The Project will not alter existing drainage patterns, in the surrounding areas directly adjacent to where the Project is located.

During operations, the majority of the BMPs outlined above are not applicable because an industrial stormwater permit is not required for operations at this Project and because construction activities requiring erosion and sediment control will be complete. However, adherence to site design and implementation of several good housekeeping BMPs during site operation will minimize erosion and mobilization of sediment. These practices include restoring the site in accordance with the Project's ESCP and NPDES general permit. No adverse impacts on the ability of any community to provide stormwater drainage are anticipated from Project operations.

### **3.4.4 Solid Waste Management**

As described in Exhibit W, the Applicant aims to generate minimal construction and operational waste which would require offsite disposal. The Applicant has contacted Finley Buttes Landfill and Columbia Ridge Landfill. Columbia Ridge Landfill responded that they have capacity to receive the amount of waste anticipated to be generated by the Project as discussed in Exhibit W (see Attachment U-1). Finley Butte Landfill has not responded, but based on the information provided in Section 3.3.4, this landfill is expected to have more than enough capacity to receive waste generated by the Project.

Solid waste disposal will be hauled offsite during construction and operations of the Project by a local commercial hauler via a private contract. Therefore, service to the Project is not anticipated to disrupt solid waste management services already being provided in the surrounding communities.

### **3.4.5 Housing**

#### **3.4.5.1 Construction**

It is unknown where temporary residents associated with the construction of the Project will choose to settle or what type of temporary housing such as hotels, motels, or RV parks will be available for workers at the time of construction. Approximately 63 hotels or motels

(approximately 3,939 hotel/motel rooms), and 19 RV parks (estimated to include a minimum of 1,000 RV spaces) were identified in a commutable distance from the Project site. The lodging vacancy rate for eastern Oregon was approximately 47.1 percent (Oregon Tourism Commission 2021). Regarding RV site vacancy, occupancy of RV sites is anticipated to be higher during the summer months than during the rest of the year. However, some vacancy is anticipated during the summer months to accommodate some workers that would travel with an RV or similar trailer.

The Applicant assumes that 60 percent of workers will commute from up to 70 miles away from the Project, which includes workers living in the Tri-Cities metro area or from Pendleton. This leaves only 25 percent of workers requiring temporary housing in the Analysis Area which means on average there may be 75 construction workers looking for temporary housing and during peak construction 125 workers looking for housing. Based on the number of hotels, motels, RV parks and campgrounds, and house or apartment rentals within Umatilla County, the Applicant maintains that there would be sufficient housing available for the 25 percent of workers (approximately 125 workers during peak construction period) that would travel to the Project vicinity for the construction of the Project. Further, if zero percent of workers were hired locally and all workers traveled from outside the analysis area, which is not likely, the Applicant also anticipates there to be sufficient housing options for the maximum number of temporary workers.

#### *3.4.5.2 Operations and Maintenance*

Up to three households may require permanent housing during the operational period of the Project. Given that the small, limited number of new housing required and the general availabilities within a commutable distance, no significant adverse impacts on the ability of the surrounding communities to provide housing are anticipated from the Project.

### **3.4.6 Traffic Safety and Operations**

#### *3.4.6.1 Construction Related Traffic Impacts to Existing Levels of Service*

Since the interstate system and state highway system are constructed to design, safety, and load-bearing standards, minimal impacts are anticipated from potential construction and operational traffic on traffic safety or road maintenance. I-84, I-82, US-395 and US-730 are capable of accommodating vehicles at the legal load limit, thereby reducing the potential for significant traffic safety and maintenance impacts. Impacts due to vehicle volume increases will be inconsequential, as construction vehicles will constitute just a fraction of the daily traffic typical on these highways. After construction is completed, the Applicant will restore the county roads to their pre-construction conditions or better.

Regarding traffic impacts, state, county, and local roads may be temporarily affected by construction related traffic but the impact is expected to be minimal. The following subsections and Tables U-7 and U-8 provide a summary of current traffic volumes and LOS conditions, as well as projected traffic volumes and service levels with Project construction traffic on the surrounding road network. As noted in Section 3.2.4, the Applicant estimates 45 round trip truck delivery trips



per day (90 truck trips total) and a peak construction daily private vehicle commuter trips of 400 round trip/800 one-way trips and an average daily vehicle commuter trip of 240 round trip/480 one-way trips. Truck traffic will generally not coincide with morning and evening peak hours; rather, truck traffic will be dispersed throughout the working day. The private vehicle traffic will generally occur out of phase with the truck traffic, as the workers report earlier and leave later than most of the truck traffic. Given the early start times (7 a.m.) and late finish times (7 p.m.) common to construction, worker commuting traffic likely will overlap with peak traffic hours. The following subsections conservatively consider a peak of 890 combined truck and personal vehicle daily one-way trips during construction; however, average daily combined one-way trips are likely to be 570 during construction.

### **Interstates 82 and 84**

Most Project traffic will travel either on I-82 or I-84 but will not cause a reduction in service levels on the highways (Table U-4). The traffic volume on I-84 in the Project Analysis Area is approximately 17,300 AADT (measured at automatic traffic recorder station 30-027 on I-84, 2.56 miles east of the I-84/US-395 interchange) (ODOT 2019). This AADT has remained steady over recent years and should be relatively stable in the future. Assuming that 60 percent of Project traffic (both truck and personal vehicle traffic) will use I-84, the increase in traffic on I-84 that will be attributable to Project construction during peak construction activity will be approximately 3 percent<sup>3</sup> of total traffic volume on that highway. This is inconsequential, as the interstate is operating below its design capacity (see Table U-7).

The traffic volume on I-82 in the Project Analysis Area is approximately 21,600 AADT (measured at automatic traffic recorder station 30-025 at Umatilla Bridge) (ODOT 2019). This AADT has remained steady over recent years and should be relatively stable in the future. Assuming that 40 percent of Project traffic (both truck and personal vehicle traffic) will use I-82, the increase in traffic on I-82 that will be attributable to Project construction will be approximately 1.6 percent<sup>4</sup> of total traffic volume on that highway. This is inconsequential, as the interstate is operating below its design capacity (see Table U-7).

### **US-395**

The segment of US-395 immediately north of I-84 to the intersection with S. Edwards Road would carry most of the Project construction traffic, assuming 60 percent of Project traffic (534 daily one-way trip during peak construction activity) would arrive via I-84. The traffic counts on US-395 along that segment are around 8,600 AADT (Table U-3). Although Project related traffic would represent a 6.2 percent increase of AADT along this segment of the highway during peak

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<sup>3</sup> Total estimated peak daily trip including truck deliveries and private commuter vehicles is estimated at 890 on-way trip. 60 percent of 890 daily one-way trips is 534 trips. 534 trips equal 3 percent of AADT for I-84.

<sup>4</sup> Total estimated peak daily trip including truck deliveries and private commuter vehicles is estimated at 890 on-way trip. 40 percent of 890 daily one-way trips is 356 trips. 356 trips equals 1.6 percent of AADT for I-82.

construction activity, this number of additional trips for construction traffic will not cause a decrease in LOS on this highway segment as the highway is operating below its design capacity (see Table U-7).

Within the portion of US-395 that extends south from US-730 to CR-1000/Feedville Road, traffic counts range from 8,200 AADT to 19,300 AADT with the average daily traffic volumes higher near Hermiston where there is a concentration of residential and commercial uses. Assuming 40 percent of Project traffic would arrive via I-82/US-730/US-395, Project construction will add an estimated 356 one-way trips per day during peak construction periods on this road segment. Although this is an approximately 2 to 3 percent increase in total traffic volume on this segment of the highway, this number of additional trips for construction traffic will not cause a decrease in LOS on this highway segment as the highway is operating below its design capacity (see Table U-7).

### **US-730**

Within the portion of US-730 that extends east from I-82 to the intersection with US-395, traffic counts are 12,400 AADT. Assuming 40 percent of Project traffic would arrive via I-82/US-730/US-395, Project construction will add an estimated 356 one-way trips per day during peak construction periods on this road segment. Although this is an approximately 3 percent increase in total traffic volume on this segment of the highway, this number of additional trips for construction traffic will not cause a decrease in LOS on this highway segment as the highway is operating below its design capacity (see Table U-7).

**Table U-7. Project Construction Traffic Impacts to Area Highways**

Location	Existing AADT (2019 <sup>1</sup> )	Estimated Current LOS <sup>2</sup>	Estimated Existing V/C <sup>3,4</sup>	Project Construction Traffic (Peak Trips Per Day, One-Way) <sup>6</sup>			AADT with Project Traffic	Projected V/C with Peak Construction Traffic <sup>5,4</sup>	Projected LOS with Peak Construction Traffic
				Total Peak Trips	Worker Traffic	Truck Traffic			
I-82 – Umatilla Bridge ATR Station 30-025	21,600	A	0.17	356 <sup>7</sup>	320	36	21,956	0.17	A (no change)
I-84 - 2.56 miles east of US 395 interchange	17,300	B	0.51	534 <sup>8</sup>	480	54	17,834	0.52	B (no change)
US-395 – 0.02 miles north of Gladys Ave/OR-207 (located within UGB)	19,300	C/D	0.72	356 <sup>7</sup>	320	36	19,656	0.73	C/D (no change)
US-395 – Stanfield ATR Station 30-019 (0.12 miles north of Feedville Rd)	8,200	A	0.30	356 <sup>7</sup>	320	36	8,556	0.32	A (no change)
US-395 – 0.5 miles north of I-84 interchange	8,600	A	0.32	534 <sup>8</sup>	480	54	9,134	0.34	A (no change)
US-730 - 0.5 miles east of I-82 interchange	12,400	A	0.46	356 <sup>7</sup>	320	36	12,756	0.47	A (no change)

1. Data from ODOT (2019).
2. Based on estimated volume to capacity (V/C) and equivalent level of service (LOS) as presented in Table U-5.
3. Estimated by dividing existing annual average daily traffic (AADT) by the maximum ADT of the federal functional class for the applicable highway segment (from Table U-6).
4. Segments below maximum ODOT V/C ratios in Table U-4.
5. Estimated by dividing projected annual average daily traffic (AADT) by the maximum ADT of the federal functional class for the applicable highway segment (from Table U-6).
6. One-way trips are counted to tally both the inbound and outbound trips for Project traffic (i.e., round-trip count would be half of total one-way trips).
7. Assumes 40 percent of construction traffic will use road.
8. Assumes 60 percent of construction traffic will use road.

## **County Roads**

Traffic count data collected by Umatilla County are limited, but most rural county roads see little traffic currently, typically less than 500 vehicles per day. As reported in the TSP (Umatilla County 2002):

*Since the observed traffic flows along many of the rural county roads are less than 1,000 vpd, peak hour traffic operations along these roads and at lower volume intersecting roads, are at excellent levels (LOS A, <0.48 v/c). Even where daily traffic volumes range between 1,000 and 6,000 vpd, roadway traffic operations are still at excellent levels (LOS A, <0.48 v/c).<sup>5</sup>*

Although no traffic counts were available for the sections of Feedville Road and S. Edwards Road that would be utilized for Project construction traffic, ODOT provided an AADT range of 1,001 to 2,500 for both of these roads (ODOT 2021). Assuming 40 percent of Project traffic would arrive via I-82/US-730/US-395/Feedville Road, Project construction will add an estimated 356 one-way trips per day during peak construction periods on this segment of Feedville Road. This would be an approximately 14 to 36 percent increase in total traffic volume on Feedville Road assuming AADT ranges from 1,001 to 2,500. As Feedville Road is a major collector road intended to carry between 1,200 and 10,000 vehicle trips per day, and as it is currently averaging between 1,001 and 2,500 daily trips, the addition of 356 one-way daily trip during peak construction will not cause a decrease in LOS on this road. See Table U-8 for more details.

Assuming 60 percent of Project traffic would arrive via I-84/US-395/S. Edwards Road, Project construction will add an estimated 534 one-way trips per day during peak construction periods on this segment of S. Edwards Road. This would be an approximately 21 to 53 percent increase in total traffic volume on S. Edwards Road assuming AADT ranges from 1,001 to 2,500. As Feedville Road is a major collector road intended to carry between 1,200 and 10,000 vehicle trips per day, and as it is currently averaging between 1,001 and 2,500 daily trips, the addition of 534 one-way daily trip during peak construction will not cause a decrease in LOS on this road. See Table U-8 for more details. Consequently, the traffic generated by the Project during construction is not anticipated to result in a total traffic volume that will decrease the service level on any Umatilla County road.

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<sup>5</sup> The TSP uses “vpd,” or “vehicles per day,” as its metric. This is equivalent to average daily traffic.

**Table U-8. Project Construction Traffic Impacts to Area County Roads**

Location	Existing AADT Range (2021 <sup>1</sup> )	Estimated Current LOS <sup>2</sup>	Estimated Existing V/C <sup>3</sup>	Project Construction Traffic <sup>5</sup>			AADT with Project Traffic	Projected V/C with Peak Construction Traffic <sup>4</sup>	Projected LOS with Peak Construction Traffic
				Total Peak Trips per day, one-way	Worker Traffic, peak trips per day, one-way	Truck Traffic, peak trips per day, one-way			
Feedville Road	1,001 to 2,500	A	0.10 to 0.25	356 <sup>6</sup>	320	36	1,357 to 2,856	0.14 to 0.29	A (no change)
S. Edwards Road	1,001 to 2,500	A	0.10 to 0.25	534 <sup>7</sup>	480	54	1,535 to 3,034	0.15 to 0.30	A (no change)

1. Data from ODOT (2021).
2. Based on estimated volume to capacity (V/C) and equivalent level of service (LOS) as presented in Table U-5.
3. Estimated by dividing existing annual average daily traffic (AADT) by the maximum vehicles per day for major and minor collector roads per TSP (Umatilla County 2002).
4. Estimated by dividing projected annual average daily traffic (AADT) by the maximum vehicles per day for major and minor collector roads per TSP (Umatilla County 2002).
5. One-way trips are counted to tally both the inbound and outbound trips for Project traffic (i.e., round-trip count would be half of total one-way trips).
6. Assumes 40 percent of construction traffic will use road.
7. Assumes 60 percent of construction traffic will use road.

Umatilla County Development Code Section 152.019 requires a Traffic Impact Analysis be prepared and submitted to Umatilla County with a land use application for projects that meet certain conditions, including increasing site traffic volume generation by 250 average daily trips or more. The Applicant coordinated with Umatilla County (see Attachment U-2) regarding the Project and the potential need for a Traffic Impact Assessment for construction or operation. Umatilla County responded that a solar development project such as this one does not warrant a Traffic Impact Analysis, as the majority of the trip generation would be temporary, primarily during construction. Furthermore, Umatilla County clarified that it has not been their practice to require a Traffic Impact Analysis for temporary impacts associated with construction. Umatilla County will require the Applicant to enter into a Road Use Agreement with Umatilla County Public Works for the use of county roads during construction.

#### *3.4.6.2 Operations and Maintenance*

Truck traffic during operation of the Project will be minimal, and most of the time nonexistent. Heavy equipment may be brought in occasionally for major repairs or turbine replacement, but these occasions are expected to be infrequent.

During operations, an estimated two to five employees will be periodically onsite for O&M. These employees will live in proximity to the Project and use the same roads that will be used by the construction workforce. Occasionally during operations, specialty contractors will be brought in to handle major repairs. Operational traffic generation will be minimal and is not anticipated to impact traffic operations or roadways.

#### *3.4.6.3 Impact Minimization Measures*

### **Agency Coordination**

The Applicant will coordinate with ODOT and Umatilla County road officials as needed on road improvements, road closures, and permits needed for construction or movement of oversized loads of construction equipment or materials. One permit from ODOT may be required (see also Exhibit E):

- **Oversize Load Movement Permit/Load Registration.** This permit is required for the movement of oversize or overweight loads on state highways, such as substation transformers, or other large equipment.

As the Project access is off of a county owned road (S. Edwards Road), Umatilla County will be consulted with regarding permit requirements for construction of a new driveway. The following permit may be required by Umatilla County.

- **Approach Permit.** This permit may be needed if construction of a road approaches onto a county or public road, and private road crossings of county and public roads.

In addition to these state and county permits, the Applicant will coordinate with Umatilla County road officials as needed to address necessary road turning radius improvements, temporary road

closures, oversize load movements, and monitoring of impacts to county roads. Pursuant to ORS 374.305, all affected counties require permitting for any work to be done within a county right-of-way, including making improvements to roads or installing a new access road driveway. The specific permit requirements and the names of those permits vary from county to county, as indicated in Exhibit E; the Applicant will verify and comply with all local permit requirements prior to beginning construction on the Project.

The Applicant will cooperate with the Public Works Department in Umatilla County with respect to obtaining permits to improve the roads and, if necessary, make repairs to roads that are damaged as a result of Project construction traffic. As noted in Section 3.4.6.1, the Applicant expects to enter into road use agreements with Umatilla County Public Works, to ensure that public roads impacted by construction will be left in 'as good or better' condition than that which existed prior to the start of construction. A component of road use agreements will be a traffic management plan. The traffic management plan will address such issues as flagging, signage, and traffic flow around work sites on public roads; timing of oversize/overweight truck loads to avoid impacts to school bus schedules or during peak travel hours; and other mitigation measures if deemed necessary. These measures will help to prevent any construction-related traffic safety issues and will facilitate the free movement of traffic through the Project's vicinity. While the movement of heavy or oversized loads of construction materials or equipment may cause some localized traffic delays, these disruptions will be intermittent and temporary.

### **Transportation BMPs**

To minimize conflicts between Project traffic and background traffic, movements of normal heavy trucks (dump trucks, concrete trucks, standard size tractor-trailers or flatbeds, etc.) will be minimized (essential deliveries only), to the extent practicable, during peak traffic times. Movements of oversize trucks will be prohibited during peak times (rush-hour traffic periods), to the extent practicable. If possible, and considering worker safety, such oversize deliveries will occur during other parts of the day, when background traffic tends to be lower, such as late morning and early afternoon. The Applicant will work with local law enforcement to assist with Project deliveries.

In addition, the Applicant's construction contractor will implement the following BMPs:

- Coordinating the timing and locations of road closures or oversize load movements in advance with emergency services such as fire, paramedics, and essential services such as mail delivery and school buses.
- Maintaining emergency vehicle access to private property.
- Developing plans as required by county or state permit to accommodate traffic where construction would require closures of state- or county-maintained roads for longer periods.
- Posting signs on county- and state-maintained roads, where appropriate, to alert motorists of construction and warn them of slow, merging, or oversize traffic.

- Using traffic control measures such as traffic control flaggers, warning signs, lights, and barriers during construction to ensure safety and to minimize localized traffic congestion. These measures will be required at locations and during times when trucks will be entering or exiting highways frequently.
- Using chase vehicles as required (or police vehicles, if required by ODOT) to give drivers additional warning.
- Notifying landowners prior to the start of construction near residences.
- Restoring residential areas as soon as possible, and fencing construction areas near residences at the end of the construction day. Gates will be installed on access roads to reduce unauthorized access when requested by property owners.

### ***3.4.7 Airports/Air Transportation***

No impacts to airports or air transportation are anticipated by the Project. However, given the Project's proximity to the Hermiston Municipal Airport, the Applicant submitted a Federal Aviation Administration (FAA) form 7460-1 to the FAA to allow the FAA to evaluate the effect of the Project on air safety and navigable airspace. On May 3, 2022, the FAA issued a Determination of No Hazard for each of the 7460-1 forms submitted (four for the solar array extents, one for the height of the structures in the substation, one for the height of the O&M enclosure). See Attachment U-3 for a copy of the FAA determinations. The FAA has requested that a form 7460-2, Part 2 be submitted within 5 days of reaching max height during construction.

The Applicant has also submitted the Form 7460-1 to the Oregon Department of Aviation for review and determination of no hazard in response to their comment letter dated December 16, 2021 and submitted to ODOE regarding the Project. The Oregon Department of Aviation conducted an aeronautical study of the proposed Project construction and on April 6, 2022, the Applicant received a determination from Oregon Department of Aviation concluding they do not object to the construction of the Project (as described in the submittal) and the determination is in respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground. See Attachment U-4 for a copy of the determination.

The FAA will conduct an aeronautical study in coordination with the DoD "clearing house" process. The DoD conducts formal reviews of projects for which the FAA conducts aeronautical analyses. The DoD provides information regarding FAA analyses to potentially affected military departments and DoD components, and reports back to FAA and the project proponents if unacceptable impacts to national security could occur as a result of implementation of a project. Proponents then have the opportunity to explore potential mitigation options that ensure continued DoD operations, testing, and training as well as energy development.<sup>6</sup> In addition, the Applicant has coordinated with Kim

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<sup>6</sup> The DoD Siting Clearinghouse acts as a single point of contact for Federal agencies; State, Indian tribal, and local governments; developers; and landowners, and provides a central forum for internal staffing. This website is a central location to provide information and act as a resource to assist interested individuals and organizations understand the mission impacts of proposed energy projects near military activities, and the



Peacher, Community Planning & Liaison Officer with the NW Training Range Complex regarding potential Project conflicts with military training routes. Per Ms. Peacher's April 10, 2021 email, the Project appears to be located several miles outside of military training and operating areas.

If the final design of the Project requires additional submittals of form 7460-1 to the FAA and the Oregon Department of Aviation to account for a revised layout/locations of infrastructure or revised heights, the Applicant will provide a record of all correspondence with FAA and Oregon Department of Aviation to EFSC no less than 30 days prior to construction.

### **3.4.8 Police and Fire Protection**

#### *3.4.8.1 Police*

Construction and operation of the Project will not have a substantial, adverse impact on the provision of law enforcement services in the Analysis Area. The Applicant has contacted Umatilla County Sheriff Terry Rowan, the law enforcement service provider in the Site Boundary. Sheriff Rowan indicated that he did not foresee any significant impact to law enforcement services (Attachment U-5). Any impacts to law enforcement caused by construction of the Project will be intermittent and temporary, as construction workers will remain in any one location for approximately 6 to 12 months and will not be expected to stay in the area beyond the end of construction. The construction contractor will be responsible for providing on-site security in the Project. The small number of permanent-resident employees is not anticipated to place significant, new demands on law enforcement agencies in the area. Therefore, the Project would not have a significant adverse impact on the ability of the communities to provide law enforcement services.

#### *3.4.8.2 Fire*

As described in Exhibit B, fire protection and prevention measures implemented during project construction and operation will minimize the risk of potential grass fires. Measures will be taken to prevent fires during construction which will include construction vehicles using established roads to keep vehicles away from dry grassland areas, using diesel vehicles whenever possible (to prevent potential ignition by catalytic converters), avoiding idling vehicles in grassy areas, and keeping cutting torches and similar equipment away from grass.

The Applicant will provide the Umatilla County Fire District #1 with construction plans and phasing, identify access to the Project and its supporting structures, and mutually assist the fire district in the case of a fire. The Project will be equipped with adequate fire protection in accordance to the Oregon Fire Code. The Applicant has contacted Umatilla County Fire District #1's Division Chief/Fire Marshall Scott Goff (Attachment U-6). The Fire Marshall requested training on safely operating around the solar arrays and battery facility. The Applicant will provide this training.

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Department's MCE process, procedures, and mitigation opportunities. The Clearing House process is defined in Part 211 of Title 32 of the Code of Federal Regulations.

The relatively insignificant number of new temporary and permanent residents is not anticipated to put significant new demands on the fire protection services that serve the area. For the reason provided above, the Project will not have an impact on the ability of surrounding communities to provide fire protection during construction or operations.

### **3.4.9 Health Care**

Although the small number of temporary workers and permanent resident employees are not expected to place significant, new demands on the routine health care services in the Project's Analysis Area, impacts on health care could occur if Project construction activities result in an unexpected increase in emergency services to such a degree that it overwhelms local providers.

Impacts on local health care services during both construction and operation will be minimized by implementation of a robust safety program that will minimize health and safety risks. Should any worker suffer an injury that requires immediate medical attention, such injured workers would be transported using one of the local ambulance services. Any worker suffering minor or more serious injuries will be transported and treated at Good Shepherd Medical Center, a Level III trauma center, or will be flown by helicopter (operated by Life Flight) to one of the two Level I hospitals located in Portland.

The construction contractor will be responsible for implementing the safety program, which is expected to prevent nearly all serious injuries that would require ambulance or hospital services. Area ambulance services and hospitals appear to have adequate capacity, and the Project will not impact their ability to serve local communities.

### **3.4.10 Schools**

Assuming that the number of new temporary or permanent residents is insignificant, the Analysis Area is not expected to see a significant increase in enrollment as a result of the Project. No more than up to two new permanent households, or an estimated four new school-aged children would move to the Analysis Area as a result of the Project. Actual impacts on schools will depend on the housing choices of new residents with children, which is unknown. Given that the new residents may settle in a dispersed area, the relatively small number of anticipated new school children, and the number of school available, it's unlikely that any one school will receive more new students than could be accommodated as a result of the Project.



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# Figures

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# **Attachment U-1. Correspondence with Landfills**

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## **Attachment U-2. Correspondence with the Umatilla County Planning Department**

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## **Attachment U-3. FAA Determinations**

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# **Attachment U-4. Oregon Department of Aviation Determination**

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## **Attachment U-5. Correspondence with the Umatilla County Sheriff**

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## **Attachment U-6. Correspondence with Local Fire Districts**

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