2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

This chapter of the SEIS describes the proposed action and the alternatives to the proposed action that are being considered. Section 2.1 provides an updated summary of project background information. Section 2.2 describes the proposed action, as currently defined by the applicant in the Revised ASC (January 2009). It addresses the existing site conditions, the proposed project facilities, the construction process, operation and maintenance (O&M) considerations, and decommissioning. Section 2.3 identifies the elements of the proposed project that have changed, relative to the project evaluated in the 2004 Final EIS published by Kittitas County, Washington. Section 2.4 describes the alternatives to the proposed action, including no action, that are evaluated in the SEIS. Section 2.5 identifies an alternative that was considered but not evaluated in detail.

2.1 BACKGROUND

2.1.1 Proposal History and Process

2.1.1.1 Original Proposal to Kittitas County

enXco, Inc., a wind power developer and operator, began identifying and evaluating potential sites for a wind power project in Kittitas County in 2001. Desert Claim Wind Power LLC, a Washington limited liability company owned by enXco, submitted a Development Activities application to Kittitas County in January 2003. At the time the application was submitted, wind farms were not a permitted use anywhere in the County. Land use procedures required approval of a comprehensive plan amendment, a rezone, and a development agreement for a proposal to be considered to be in compliance with local land use and zoning requirements.

Kittitas County was the lead SEPA agency for the Development Activities application. It published a Draft and Final EIS for the proposal in December 2003 and August 2004, respectively. The County's Final EIS was not appealed. The Kittitas County Board of County Commissioners denied the Desert Claim application in April 2005.

2.1.1.2 Energy Site Evaluation Council Application and Process

Desert Claim submitted an ASC to the EFSEC on November 3, 2006. A revised application was filed in January 2009. The major differences between the current proposal and the proposal considered in the County Final EIS include the following:

- reconfiguration of the area proposed for development in contiguous parcels; the Project Area is now 5,200 acres, which is 37 acres smaller than the prior proposal;

- reduction in the number of wind turbines, from 120 to 95. Total power output of the Project would increase by 10 MW more than the prior proposal (190 MW versus 180 MW), due to use of a different turbine model (REpower MM92). This turbine has a longer blade length and is taller than the prior turbines proposed (410 feet with the blade pointing straight up); and
- relocation of turbines to increase the distance between them and residences of non-participating property owners.

2.1.2 Scope of SEIS

2.1.2.1 EFSEC Scoping Determination

This SEIS supplements the Desert Claim Wind Power Project Final EIS published by Kittitas County in August 2004. It has been prepared consistent with the requirements of the SEPA (43.21C), the state SEPA Rules (WAC 197-11), and EFSEC's SEPA Rules (WAC 463-47-020, which adopt the state rules by reference). An SEIS is used to add information to an existing EIS when there are changes to, or new information about, a proposal and its probable significant environmental impacts. To avoid redundancy, the SEIS should not include analysis of actions, alternatives, or impacts contained in the previously prepared EIS (WAC 197-11-620).

The scope of the SEIS was determined through a scoping process conducted by EFSEC, in compliance with the requirements of the SEPA (WAC 197-11-360). On March 19, 2007, EFSEC published a combined notice of adoption—adopting the Desert Claim EIS—and determination of significance/initiation of scoping. The scoping notice identified the following elements of the environment for consideration in the SEIS: plants and animals/fisheries, cultural resources, and aesthetics/design. One comment letter was received from DAHP.

2.1.2.2 Golder Report

EFSEC's decision to prepare an SEIS, and the elements of the environment requiring further evaluation, was based on an evaluation of the revised ASC and the prior EIS. EFSEC retained Golder Associates to analyze changes to the proposal, potential impacts, and options for SEPA compliance (Golder Associates, Analysis in Support of a Threshold Determination for the Desert Claim Wind Power Project, February 2007, referred to hereafter as the "Golder report"). This analysis discussed elements of the environment that could possibly experience new significant adverse impacts as a result of the revised proposal. The Golder report identified plants and animals/fisheries (primarily bat and bird mortality), views/aesthetics, cultural resources, and cumulative impacts as the issues to be addressed in the SEIS. As noted, the report helped guide EFSEC's determination of the scope of the SEIS. These issues are the focus of this SEIS.

The Golder report also identified land use as a “possible” or “unknown” environmental issue, based on two considerations. First, the report concluded that the proposal would be inconsistent with the County’s land use plans and zoning regulations if it were to be sited without obtaining a comprehensive plan amendment, rezone, and approval of a development agreement. This inconsistency is acknowledged in EFSEC Council Order No. 825. As indicated in the Golder report, the prior Desert Claim EIS did not find the proposal to be inconsistent with substantive Kittitas County Comprehensive Plan policies or zoning regulations.

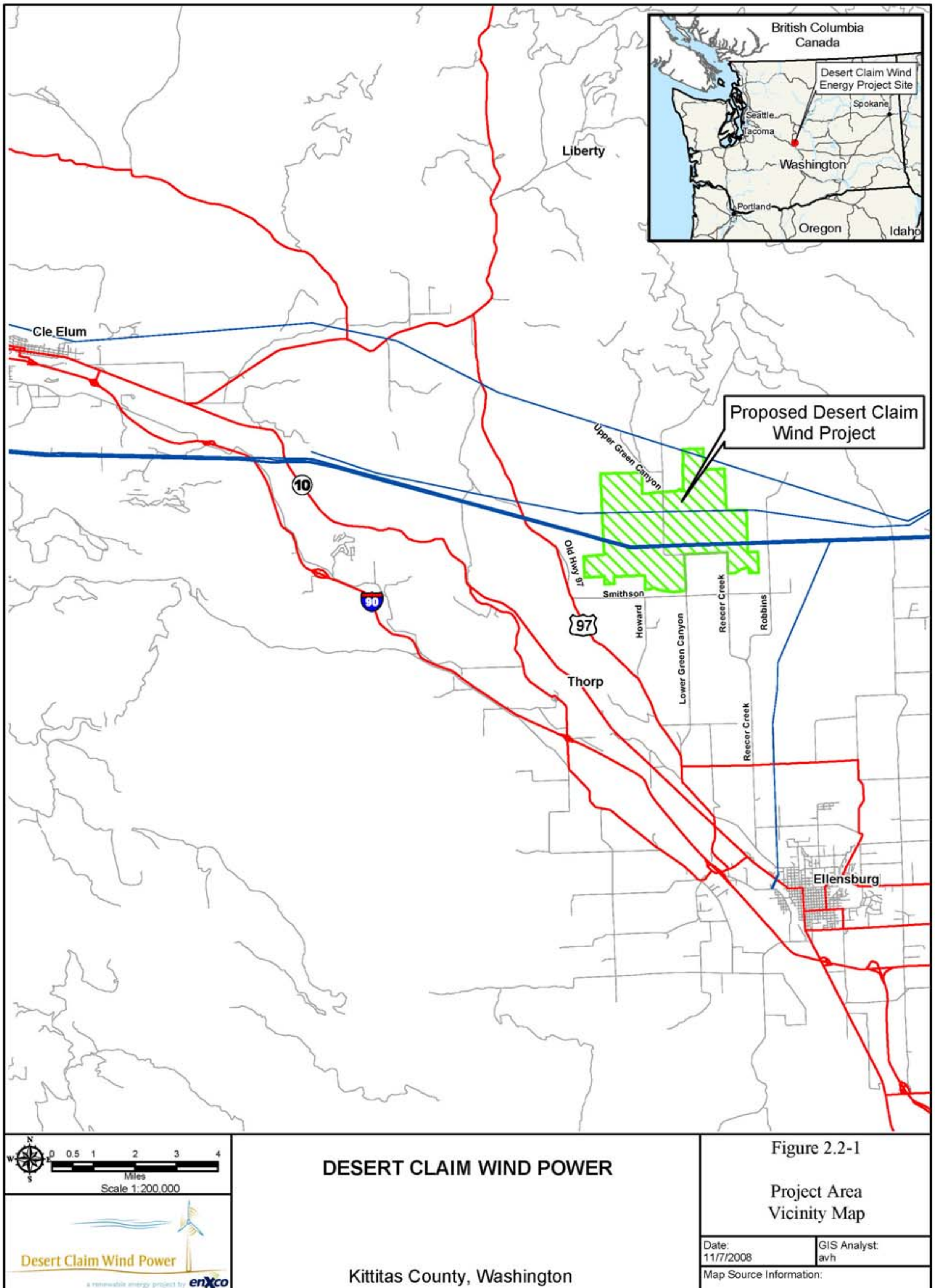
Second, the Golder report misunderstood the ASC to propose a new option for a 4,000-foot transmission line corridor. This misunderstanding resulted from unclear language in the original ASC, which has been clarified in the revised ASC. No new transmission line corridor option is being considered. While an alternative substation (switchyard) location is identified in the revised ASC, it would connect the Project to regional transmission facilities on the Project site and would not create a new aboveground transmission corridor; electric cables would be entirely underground, except for a distance of approximately 200 feet from the Project’s switchyard to the utility transmission line. Therefore, since neither of the factors mentioned in the Golder report as giving rise to a possible significant land use impact is germane to the current proposal, land use was not included as an element of the environment for discussion in the SEIS.

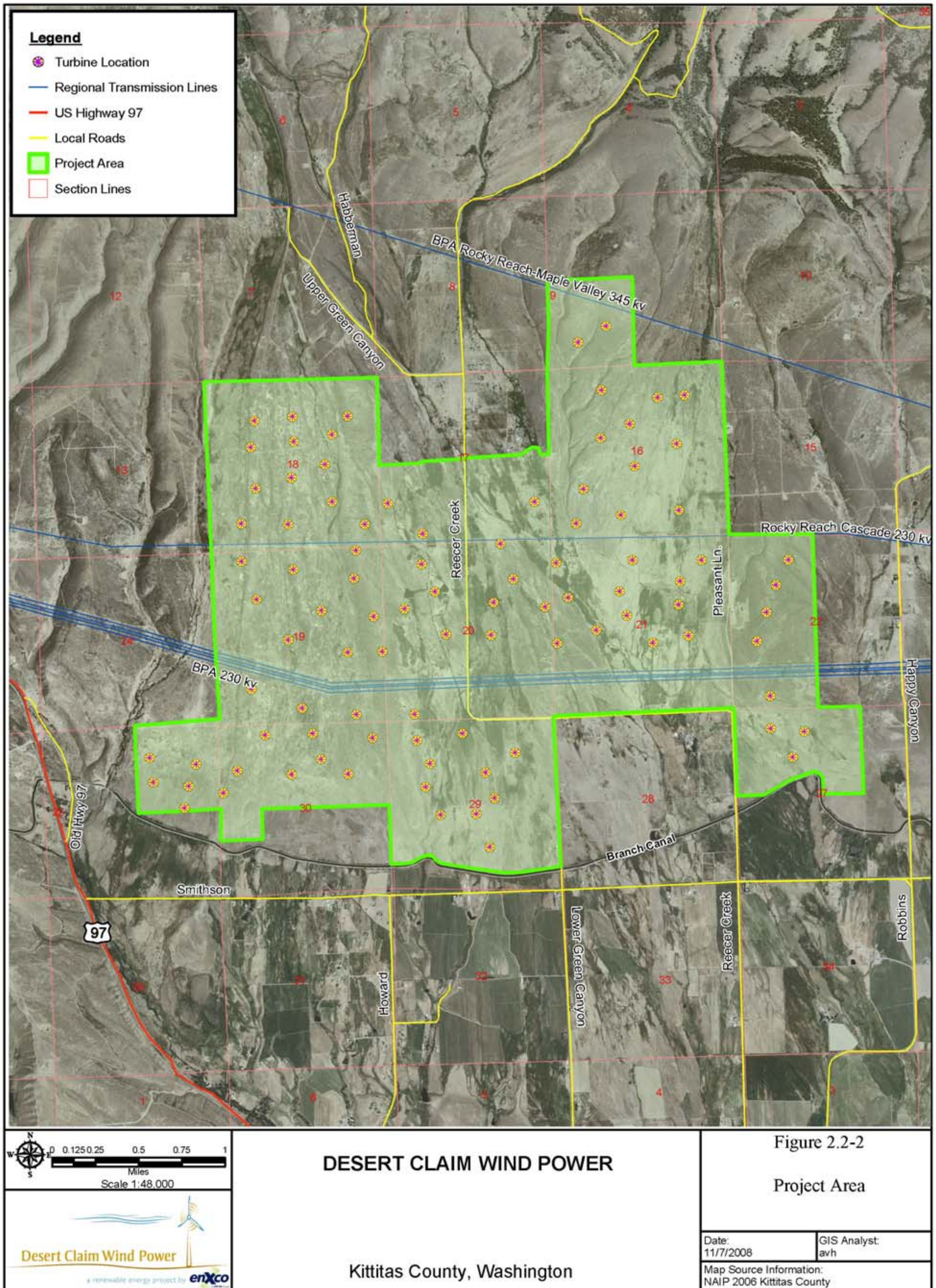
Based on its analysis, the Golder report concluded that the following elements of the environment would not experience new significant adverse impacts as a result of the revised proposal: earth, air, water, wetlands, natural resources, health and safety, noise, light and glare, transportation, air traffic, public services and utilities, population/housing/employment, and economics. Impacts would be the same as or similar to those identified in the existing Desert Claim Final EIS. These issues, therefore, are not included in the scope of this SEIS.

2.2 PROPOSED ACTION

2.2.1 Existing Project Site Conditions

The Project Area Vicinity Map and revised Project Area are shown in **Figures 2.2-1** and **2.2-2**, respectively. It contains approximately 5,200 acres owned by five private landowners and Washington Department of Natural Resources (WDNR). The private landowners and WDNR have signed agreements authorizing the Applicant to seek permits to construct and operate the Project on their lands.


British Columbia
Canada
Desert Claim Wind Energy Project Site
Spokane
Seattle
Tacoma
Washington
Portland
Oregon
Idaho
Liberty
Cle Elum
Proposed Desert Claim Wind Project
Upper Green Canyon
10
Old Hwy 97
Smithson
90
97
Howard
Lower Green Canyon
Reecer Creek
Robbins
Thorp
Reecer Creek
Ellensburg
0 0.5 1 2 3 4
Miles
Scale 1:200,000
DESERT CLAIM WIND POWER
Desert Claim Wind Power
enXco
Kittitas County, Washington
Figure 2.2-1
Project Area
Vicinity Map
Date:
11/7/2008
GIS Analyst:
avh
Map Source Information:
...\desert_claim\turbine_layout_7-24-08\figures\figure 1 project area and vicinity map.mxd


Legend
Turbine Location
Regional Transmission Lines
US Highway 97
Local Roads
Project Area
Section Lines
BPA Rocky Reach-Maple Valley 345 kv
Rocky Reach Cascade 230 kv
BPA 230 kv
Habberman
Upper Green Canyon
Reecer Creek
Pleasant Ln.
Happy Canyon
Old Hwy 97
Branch Canal
Smithson
97
Howard
Lower Green Canyon
Robbins
0 0.125 0.25 0.5 0.75 1
Miles
Scale 1:48,000
DESERT CLAIM WIND POWER
Kittitas County, Washington
Figure 2.2-2
Project Area
Date: 11/7/2008
GIS Analyst: avh
Map Source Information: NAIP 2006 Kittitas County
Desert Claim Wind Power
a renewable energy project by enXco
...\desert_claim\turbine_layout_7-24-08\figures\figure 2 project area with setback_topo.mxd

The southern edge of the Project Area is located approximately 8 miles north of the central part of Ellensburg, Washington. The Project Area extends approximately 4 miles from west to east and up to 3.5 miles from north to south. Access to the Project Area from Ellensburg can be via Wilson Creek Road, Robbins Road, Pheasant Lane, Reecer Creek Road, or Lower Green Canyon Road; and from U.S. Highway 97 via Smithson Road.

2.2.1.1 Physical Setting

The Project Area is described in the Final EIS. It is situated along the northern margin of the Kittitas Valley, which is the broad valley area of central Kittitas County on either side of the Yakima River between Lookout Mountain and the Yakima Canyon. Unlike many wind projects that consist of turbine strings located along high ridgelines, the Desert Claim Project is generally spread out over the rising valley floor. The terrain within the Project Area is relatively flat and open, with a gradual south-to-north rise in elevation totaling approximately 400 feet over a distance of approximately 3.5 miles. Surface elevations range from approximately 2,100 feet to 2,500 feet above sea level across most of the Project Area.

Geologically, the Project Area is located on a broad alluvial fan at the base of the mountains. The alluvial fan is a gently sloping area built up by soils carried down and deposited over millennia by water generated by receding glaciers that at one time covered the mountainous area to the north. Several small, gently sloping creeks flow generally north to south across the Project Area, forming shallow depressions across the otherwise even landscape.

The Kittitas Valley has an arid to semi-arid climate, with annual precipitation in Ellensburg averaging 8.5 inches per year (Kittitas County Conservation District 2003). Some patches of native shrub-steppe or grassland vegetation remain, particularly around the outer edges of the valley, while the existing vegetative cover in most of the valley is dominated by agricultural cultivation and landscape plantings.

Land use is described briefly in Section 2.2.1.3, and in greater detail in the Desert Claim Final EIS (Kittitas County 2003, referred to hereafter as “Final EIS”).

2.2.1.2 Wind Resource

Publicly available wind resource maps characterize the Project Area and surrounding lands as an area of Class 4 (Good) wind resource, with typical wind speeds at a height of 164 feet (50 meters) averaging 15.7 to 16.8 miles per hour (mph) (Northwest Sustainable Energy for Economic Development 2003). The desired baseline criterion for feasible, utility-scale wind power production (depending on the model of turbine selected) is a wind speed of 13 to 15 mph at least 30 percent of the time annually. However, these benchmarks are likely to be lowered as utilities and the public continue to desire more renewable wind power.

The Applicant collected met data at multiple sites within Kittitas County beginning in 2001, as part of its resource exploration studies. Six temporary met towers were erected in several locations. Each tower was equipped with several anemometers to measure wind speed, a wind vane to measure wind direction, and a temperature sensor. All of the instruments provided site data to loggers that recorded the observed data. The met data collected over the past 5 years confirm that there is a sufficient commercial wind resource for power generation in the proposed Project Area.

2.2.1.3 Land Ownership and Use

Land Ownership

The Project Area consists of sections and portions of sections in Township 19N, Range 18E, Sections 9, 16, 17, 18, 19, 20, 21, 22, 27, 29, and 30 along with the northwest corner of Township 19N, Range 17E, Section 25.

Of the 5,200 acres of land within the Project Area, 2,551 acres will be leased from four private landowners, 1,120 acres will be owned by an affiliate of the Applicant, and 1,529 acres will be leased from WDNR. The following right-of-way easements cross the Project Area:

- BPA maintains five electrical transmission lines that cross the Project Area;
- PSE maintains one transmission line that crosses the Project Area;
- Kittitas County Public Utility District (PUD) maintains the electrical distribution system that serves the Project Area and vicinity; and
- Kittitas County maintains the county roads within and adjacent to the Project Area.

Land Use

Area land use is described in detail in the Final EIS. The Project Area is in a rural, relatively lightly populated section of Kittitas County and is characterized primarily by agricultural uses. Much of the land within and surrounding the Project Area is cultivated for feed crop production or pasture. Extensive areas of rangeland are used for grazing. Rural residential development occurs in a number of locations, including dwellings on farm or ranch properties, scattered residences on large lots, and a few small clusters of homes.

The land within the Project Area is zoned either Ag-20 (agricultural use, with a 20-acre minimum parcel size) or Forest & Range (residential development at a maximum density of 20 acres per dwelling unit). The entire Project Area and the adjacent lands are within a large area designated as Rural in the Kittitas County Comprehensive Plan. Forested areas to the north are designated as Commercial Forest.

There are nine residences located within 2,500 feet of a proposed turbine under the revised Project configuration. Of these, two are residences of property owners participating in the Project. **Table 2.2-1** indicates the distance from each of the non-participating residences to the nearest proposed turbine. **Figure 2.2-3** shows the locations of these residences.[1]

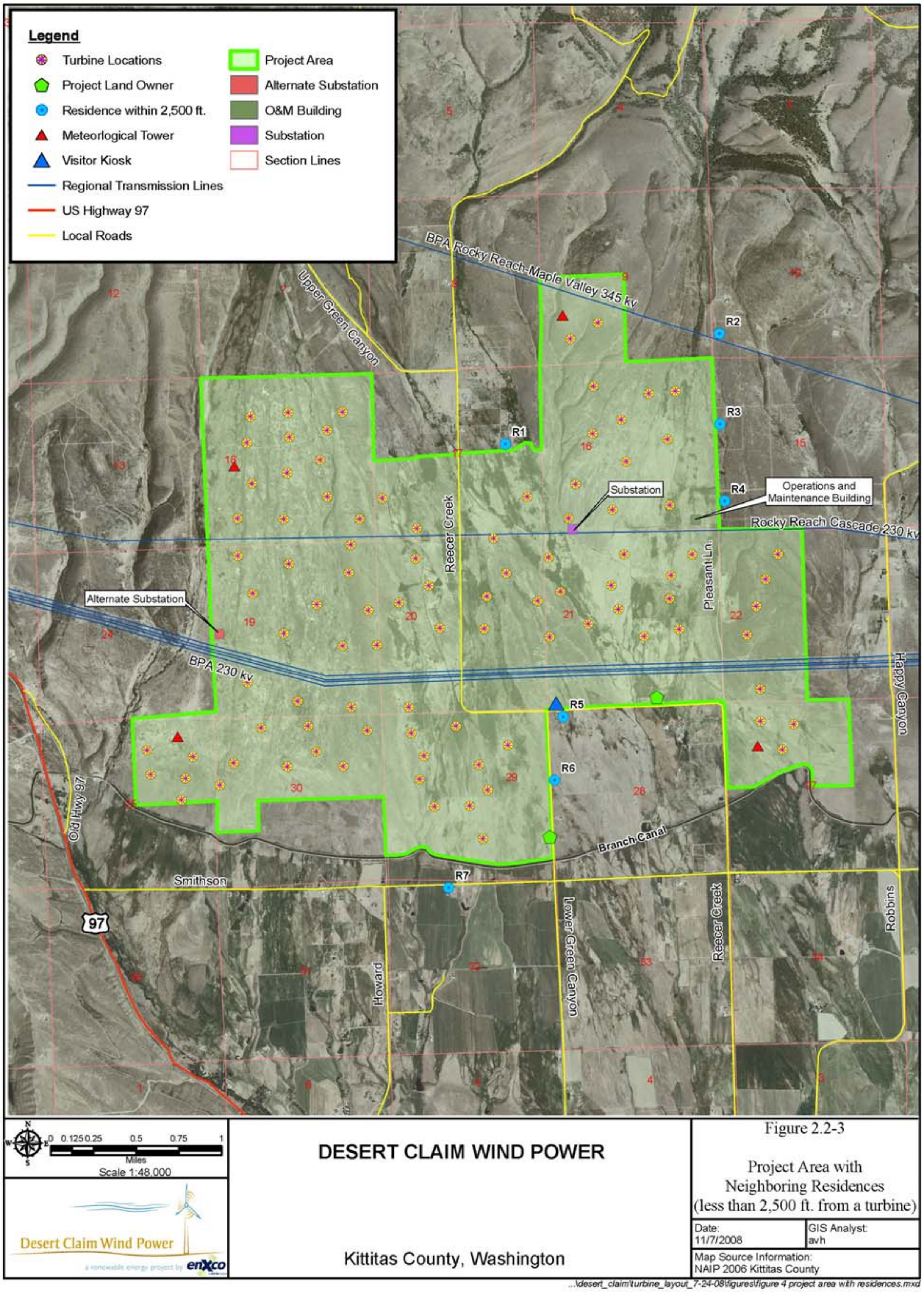
Table 2.2-1. Nearby Non-Participating Residences and Distances from Nearest Proposed Turbine

Residence Number (See Figure 2.2-3)	Distance to Nearest Proposed Turbine
1	1,778 feet
2	2,241 feet
3	1,687 feet
4	1,694 feet
5	1,915 feet
6	1,789 feet
7	1,856 feet

The Project Area is within a major cross-state electrical transmission corridor that links hydroelectric dams on the Columbia River with the large power consumer market of western Washington. Six high-voltage transmission lines cross or are adjacent to the Project Area; five are owned and operated by BPA and one by PSE. A BPA regional substation is located on a 133-acre parcel 2.5 miles east of the Project Area.

Wenatchee National Forest lands north of the Project Area are used for recreation, grazing, and commercial forestry. Recreational activities include camping, hiking, horseback riding, mountain biking, off-road vehicle use, hunting, snowmobiling, and cross-country skiing. Members of the Yakama Nation hunt, gather plants, and conduct other traditional activities in the vicinity of the Project Area, pursuant to reserved treaty rights applicable to ceded lands. The private lands of the Project Area are not open to general public use. Some low-intensity outdoor recreational uses, including hunting, horseback riding, snowmobiling, and off-road vehicle use, occur with the permission of individual landowners. No formal recreational use occurs on the WDNR lands.

[1] The terms "participating residence" and "non-participating residences" are used in this section of the SEIS to distinguish between private residences whose owners are leasing or selling their land to the applicant for use in the project and those private residences whose owners are not.


Legend
Turbine Locations
Project Land Owner
Residence within 2,500 ft.
Meteorlogical Tower
Visitor Kiosk
Regional Transmission Lines
US Highway 97
Local Roads
Project Area
Alternate Substation
O&M Building
Substation
Section Lines
BPA Rocky Reach-Maple Valley 345 kv
Upper Green Canyon
Rocky Reach Cascade 230 kv
Operations and Maintenance Building
Substation
Alternate Substation
BPA 230 kv
Reecer Creek
Pleasant Ln.
Happy Canyon
Old Hwy 97
Smithson
97
Branch Canal
Howard
Lower Green Canyon
Reecer Creek
Robbins
R1
R2
R3
R4
R5
R6
R7
0 0.125 0.25 0.5 0.75 1
Miles
Scale 1:48,000
DESERT CLAIM WIND POWER
Kittitas County, Washington
Desert Claim Wind Power
enXco
Figure 2.2-3
Project Area with Neighboring Residences (less than 2,500 ft. from a turbine)
Date: 11/7/2008
GIS Analyst: avh
Map Source Information: NAIP 2006 Kittitas County
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2.2.2 Project Facilities

Wind energy projects consist of several distinct types of project facilities. These include the wind turbines themselves, power collection, substation and transmission facilities, project access roads, and a project O&M facility. Each facility component is described below.

2.2.2.1 Wind Turbines

The proposed Project includes a maximum of 95 wind turbines. The term “turbine" refers to the entire structure that produces electricity. Each turbine consists of three rotor blades connected at the rotor hub, a “nacelle” (the housing for the generator, which is connected via a gear box and rotor to the blades), and a tubular tower anchored to a tower foundation. Each of these turbine components is discussed below.

The Applicant proposes to use the REpower MM92 turbine in this Project. The REpower MM92 has a 2.0 MW “nameplate” generation capacity (i.e., the power generation specified by the manufacturer). The height from the ground to the blade tip point straight up is 410 feet (124.8 meters). Each tower (measured to the rotor hub) is 258 feet (78.5 meters) tall, and the rotor blades have a 304 feet (92.5 meters) diameter and would be 106 feet (32.3 meters) above the ground when pointing straight down. This model of turbine is taller than the General Electric turbines originally proposed for this Project. **Figure 2.2-4** illustrates the typical turbine that would be used for the Project.

Towers

Tubular steel towers would support the nacelle, rotor, and blades. The purpose of the tower is to position the turbine blades high enough to intercept winds that are stronger than those near the ground surface, and to avoid wind turbulence that might be created by nearby trees, buildings, terrain, or other obstructions (National Wind Coordinating Committee 2002). Each tower would be a maximum of 262.5 feet (80 meters) in turbine hub height. The tower would have a diameter of approximately 14 feet at the base, tapering at the top of the structure. When fully assembled, each tower would weigh approximately 160 tons. The heavy, rolled steel forming the tower structure would have a smooth exterior surface. The turbine towers would be painted a neutral color as directed by the Federal Aviation Administration (FAA).

A locked steel door would provide secured access to the base of each tower. A locked, computerized control cabinet would be located inside the tower at the base. Cables and a steel ladder would extend within the hollow tower interior from the tower base to the nacelle, to provide access for turbine maintenance.

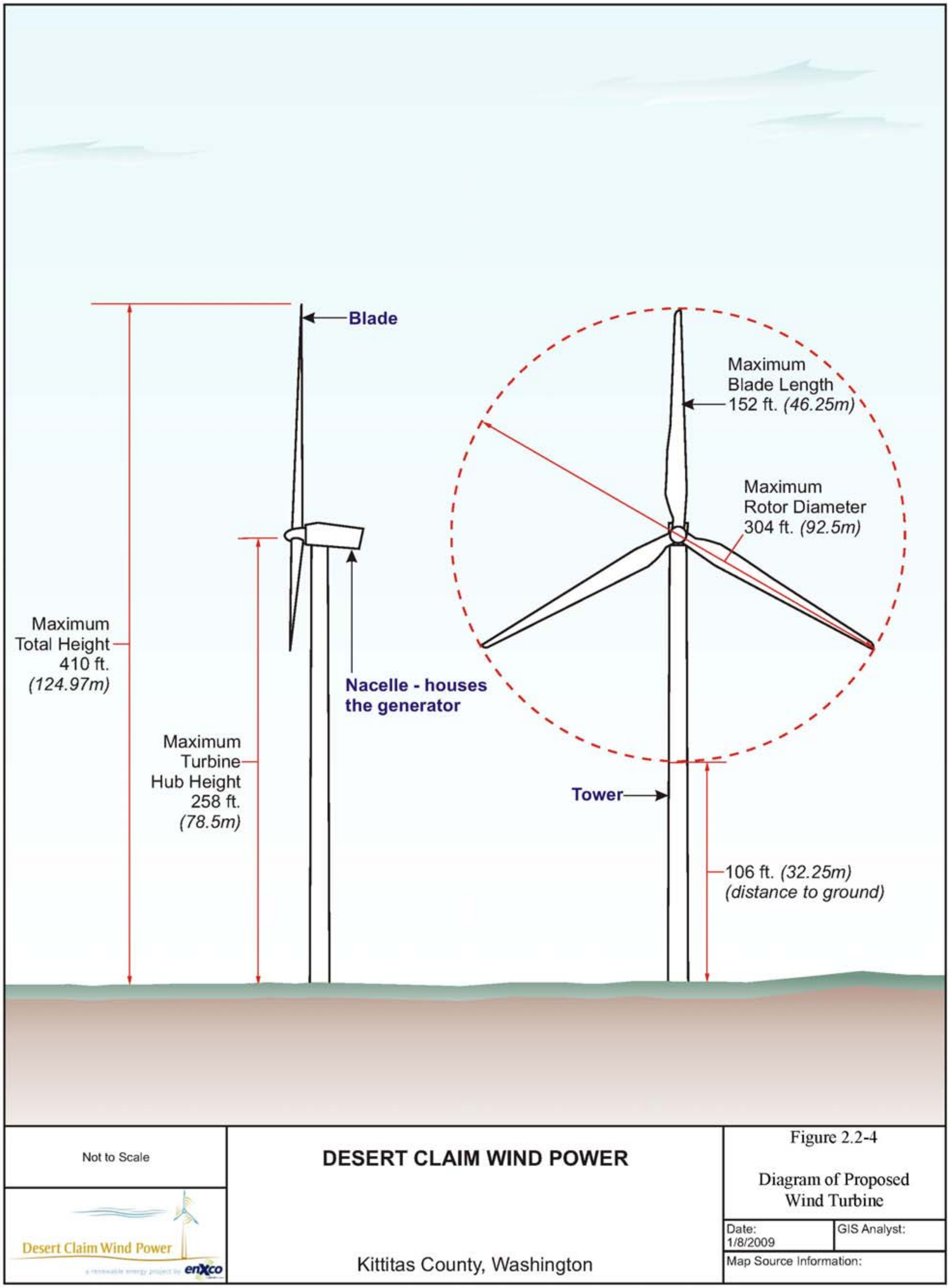

Figure 2.2-4

Diagram of Proposed Wind Turbine

Foundations

The freestanding, tubular towers would sit atop steel and concrete foundations designed for the specific subsurface conditions at the individual turbine sites. There are two industry-standard foundation designs that could be used in the Project.

An inverted-T foundation employs a relatively shallow concrete base with a relatively large diameter. The maximum depth of the base would be about 8 feet below the ground surface and the diameter would be up to 80 feet. The turbine tower would be anchored to the foundation base by a base plate ring consisting of long, steel bolts extending nearly to the bottom of the concrete base.

The second type of foundation is a pile foundation. A cylindrical culvert is used to anchor the tower base. Inner and outer sections of culvert pipe of slightly different diameter are sunk into an excavation that would range from 25 to 35 feet in depth, depending on specific subsurface conditions, and are backfilled with compacted soil. Two parallel rings of full-length steel anchor bolts extend from the tower base plate through the culvert section, which is filled with concrete after installation of the bolts.

A registered engineer would select the appropriate foundation design for each turbine location based on site-specific information of geotechnical conditions present, advice on load-bearing capacities from a geotechnical engineer, and the design engineer's recommendations. The foundation designs would conform to State and County requirements and standard industry practices.

Nacelle and Rotors

The nacelle is the rectangular housing that covers the operating mechanism of the turbine. Each nacelle would be approximately 35 feet long, 10 feet wide, and 13 feet high. The exterior surface would be constructed of fiberglass lined with sound-absorbing foam. The generator, gear box, and associated control equipment for the turbine would be housed inside the shell of the nacelle. The nacelle would be accessed internally through the tower, and most servicing of the machinery would be conducted within the nacelle to protect the equipment and the workers from the elements.

The rotor assembly for each turbine would include three blades, and would be attached to the front of the nacelle at the hub. The blades would be composed of laminated fiberglass or a fiberglass composite, and would have a smooth outer surface. Each blade would be fabricated off site in one piece, transported to the Project site, and then bolted to the rotor hub, raised into position by crane, and connected to the nacelle. The Project would use an upwind turbine design, in which the nacelle is turned into the wind to place the generator and tower behind the blades.

The equipment inside the nacelle would include electrical motors used to turn the nacelle and rotors into the wind, and to control the pitch of the rotor blades, and an automatic braking system. The pitch of the rotor blades would be controlled by a computer that would rotate them continually on their axis to maintain the optimum angle to the wind to maximize generation output at a given wind direction and speed. At wind speeds above the maximum safety threshold of 54 mph, the blades would be rotated into a feathered position and the braking system would stop the rotor from turning. After 10 minutes, and when the wind speed reduces to below 54 mph, the blades would rotate their pitch into the wind and start turning again.

Desert Claim has agreed to program the control system to stop the blades of a specific turbine during those times and conditions (if any) when that turbine would cause perceptible shadow flicker at a nearby residence. The owners of the affected residence may elect to execute a voluntary waiver agreement with the Applicant in lieu of stopping the turbine affecting their residence.

2.2.2.2 Turbine Locations

A maximum of 95 turbines would be installed within the Project Area, distributed across the Project site as shown in **Figure 2.2-5**. The turbine placement plan was determined using computerized modeling software that incorporated a number of factors: the field-verified residence data; streams and wetland locations; a 625-foot safety zone setback; a goal of increasing the distance between turbines and nonparticipating residences; wind resource considerations from metrological data collected in the Project Area; long-term weather data; Project Area topography; and environmental factors such as stream and wetland setbacks, and State noise standards. The turbine location plan has been designed to provide each turbine with optimum exposure to wind from all directions, with emphasis on exposure to the prevailing northwesterly wind direction. Sufficient spacing was established between wind turbine towers to minimize array and wake losses (i.e., energy losses created by turbulence between and among the turbines). Turbines would also be micro-sited as necessary (re-located by up to 300 feet) at each location during pre-construction detailed site design to maintain stipulated siting requirements, and/or during construction to avoid cultural resources and environmental features that become apparent during construction activities.

The distribution of turbines for the Project differs from what is often seen at wind energy projects, which locate turbines in long strings along high ridge tops. Unlike many locations where winds are strongest along ridge tops, winds in the Project vicinity typically come out of the northwest from the upper valley, after funneling through passes in the Cascade Mountains, and spread out on the lower, flat portion of the northern Kittitas Valley. The Project would locate turbines over a broad plain in response to this wind pattern.

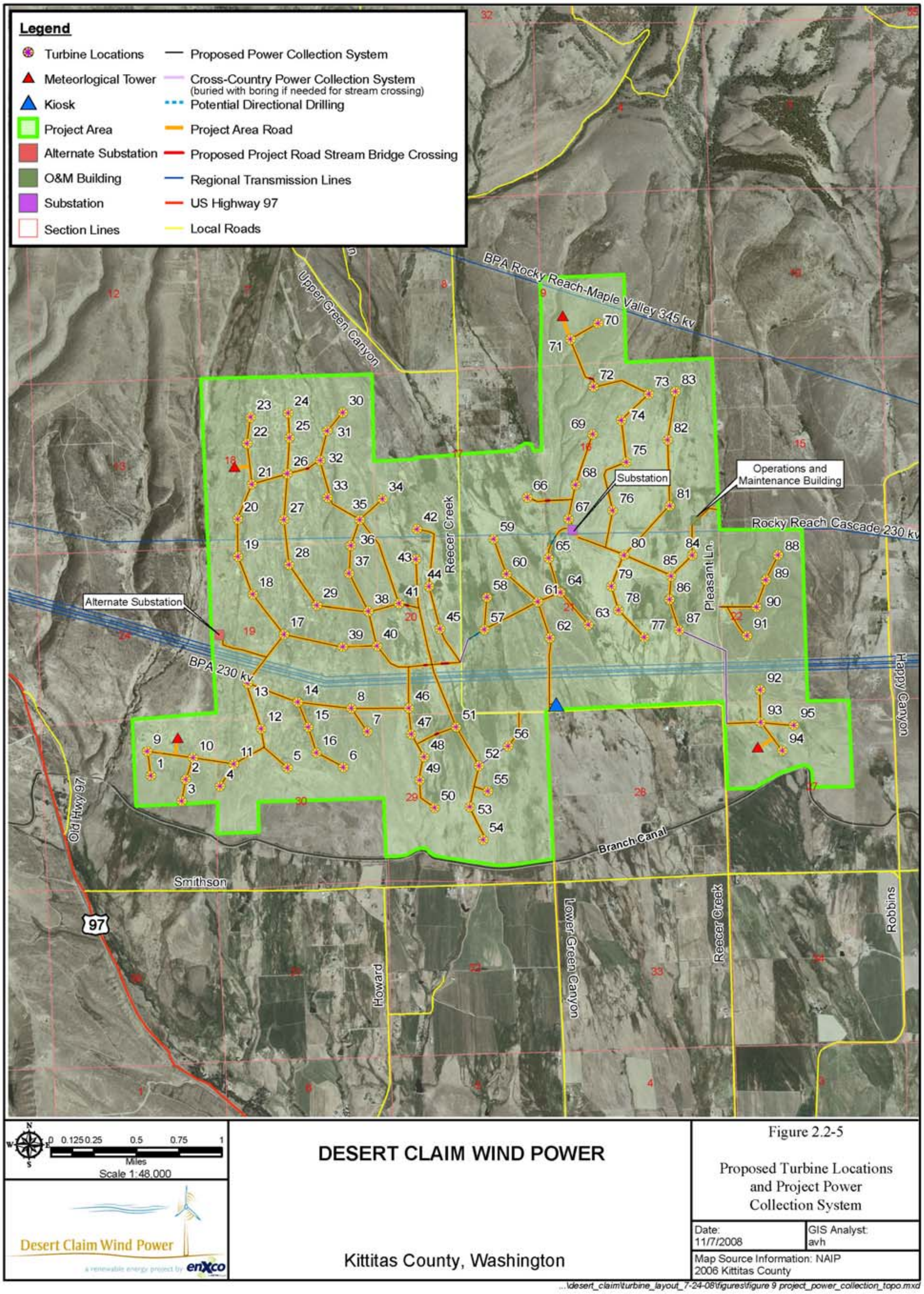

Figure 2.2-5

Proposed Turbine Locations and Project Power Collection System

The turbine layout incorporates a minimum 625-foot safety zone setback from buildings, Project Area boundaries, public roads, and utility transmission corridors. This safety setback is designed to ensure protection against potential mechanical failures and hazards, such as blade throw, ice throw, and tower collapse (KPFF Consulting Engineers 2006).[2] The previous application to Kittitas County that was analyzed in the County Final EIS used a 487-foot safety setback because the proposed turbine model was shorter.

The revised turbine layout also increases the distance between turbines and non-participating residences in order to reduce visual impacts. All turbines are at least four times their tip height from non-participating residences. There are seven non-participating residences located less than 2,500 feet from a turbine.

2.2.2.3 Project Electrical System

The electrical system for the Project would consist of three primary components: the power collection system, a Project substation, and an interconnection to the regional power transmission grid. The function of the electrical system would be to collect the electricity produced by the Project turbines and convert it to higher-voltage electricity to be fed into the regional power system.

Power Collection System

The power collection system has been configured to avoid sensitive environmental features identified in the County Final EIS, especially streams and wetlands. Power collection cables have been placed underground or on roads bridging water crossings except, in limited cases, where it is not reasonably feasible to do so.

The generator housed in the nacelle of each turbine would produce electricity at 575 volts. Low-voltage cables located inside the tower would carry the electricity from the nacelle through the tower to a transformer mounted on a concrete pad adjacent to the base of each tower. The pad would be approximately 8 to 9 feet square and 1 foot thick. The transformer would occupy almost the entire area of the concrete pad and would be approximately 5 feet high. The transformer would raise the voltage from 575 volts to 34.5 kilovolts (kV).

Electricity would be carried underground from the transformer into a 34.5-kV power cable installed as part of the power collection system. The network of power collection cables would connect the 95 turbines to the Project substation. Junction boxes that merge multiple incoming

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[2] There is one exception to this safety setback in the southwest portion of the Project Area. An affiliate of the Applicant has contracted to purchase the property that makes up the southwest portion of the Project Area from a landowner who will continue to own property to the south and west of the Project boundary. This property owner has agreed to maintain the safety setback.

cables into one outgoing line would be installed at various locations within the Project Area to facilitate the collection of power from turbines. **Figure 2.2-5** also illustrates the expected layout of the power collection system.

Power collection cables would be placed underground, except where it is not reasonable to do so based on site-specific physical conditions (i.e., where it would be less disruptive to sensitive environmental features to place the cables above ground, or where steep and/or rocky terrain favored the use of overhead cable). Underground cables would be installed in trenches or plowed-in at a depth of 4 feet below the ground surface. At stream crossings, the cables may be located on the road bridge or structure. In certain areas, the underground cables may be encased in concrete to provide additional protection and stability in the ground.

Overhead collection lines would be carried on single wood-pole structures typically 37 feet high, similar to typical "telephone/electrical" poles seen along roads. The structures for overhead lines would provide a conductor spacing of at least 3 feet, to reduce the possibility of conductors contacting each other in storms.

Overall, the collection system is estimated to contain approximately 27 lineal miles of underground cable; of which approximately 25.5 miles would be laid as part of the Project road system to reduce impacts to the land surface. Power collection lines would be located within the properties that comprise the Project Area, or short segments would be bored or trenched under County roads to connect parcels on either side of the County road.

Substation

An electrical substation would be needed to provide a further increase or step-up in voltage for the power collected from the Project turbines. The preferred substation location is shown on **Figure 2.2-5**, near the southeastern corner of Section 16, Township 19N, Range 18E, approximately 1 mile north of the intersection of Reecer Creek Road and Pheasant Lane. This location abuts the PSE Rocky Reach-Cascade 230-kV transmission line that crosses the Project Area. An alternative substation is also shown at the western edge of the Project Area, adjacent to the BPA 230-kv transmission line. Only one substation would be constructed, at the location closest to the interconnection point. The final selection of the substation location would be made after the interconnection point has been determined with the transmission system owner and the utility purchasing the power generated by the Project.

One or more large power transformers located within the Project substation would step-up or raise the voltage of the electricity flowing from the Project power collection system to meet the higher voltage of the receiving electrical transmission line. Substation equipment would include power transformer(s), disconnect switches, and metering relays. The substation would include a small building that would house the power generation control and relaying equipment, station batteries, and the Supervisory Control and Data Acquisition (SCADA) system. The entire substation area would be cleared, graded, and covered with gravel, and would be surrounded by a chain-link fence. The completed substation would occupy approximately 2 acres.

2.2.2.4 Meteorological Towers

Four temporary met towers are currently installed in the Project Area. Wind power development typically involves the use of temporary met towers during the exploration and design phases. Temporary met towers are usually slender, tubular aluminum structures that are secured by multiple guy wires that extend up to 110 feet from the tower base.

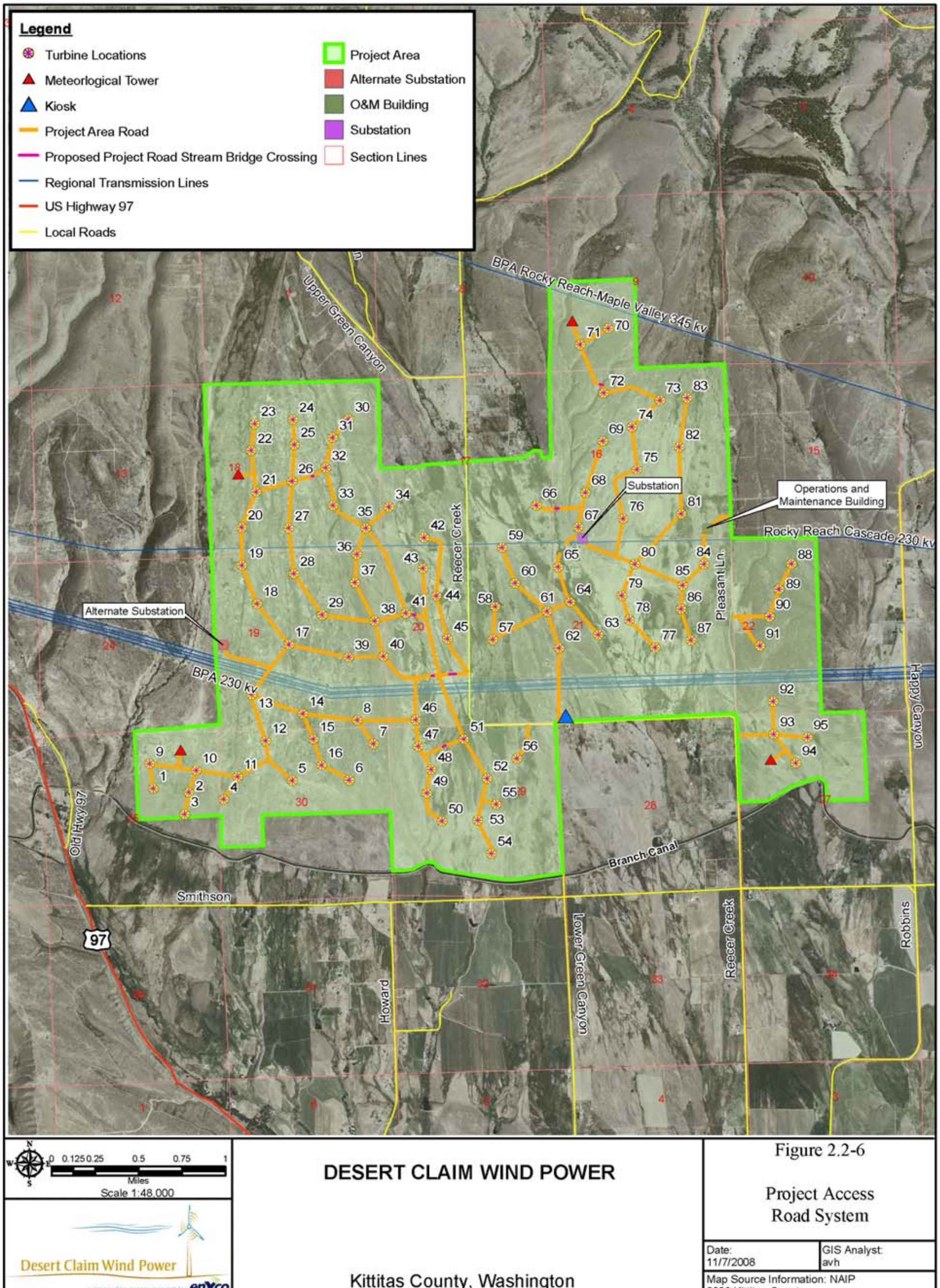
Permanent met towers are standard features of utility-scale wind power projects. These towers would be self-supporting steel structures with concrete foundations. The towers would have multiple anemometers to measure wind speed and direction at different elevations, and would be placed at strategic locations that best support automated control of the turbine operations. The Applicant proposes to construct up to four permanent met towers. The met towers would be approximately 212 feet (65 meters) tall, free-standing rather than secured by guy wires, and set on concrete bases.

2.2.2.5 Access Roads

Road access to the Project Area is currently provided by a number of existing public roads. Kittitas County roads that cross or pass adjacent to parcels within the Project Area include Smithson Road, Reecer Creek Road, Pheasant Lane and Lower Green Canyon Road.

The Project would include a system of roads providing access to all of the turbines, the substation and other key facilities. The proposed access road system is approximately 27 miles in length and is shown in **Figure 2.2-6**. The Project roads would connect with the existing public road system at a number of locations including four points along various sections of Reecer Creek Road and two points on Pheasant Lane.

Project access roads would be single-lane roads with a 15-foot travel surface width for straight sections and up to a 20-foot travel surface width for curved sections. Project access roads would have a compacted gravel surface. Stream crossing structures are incorporated into the Project access road system to allow for crossing or spanning of wetlands and streams and associated buffers.



DESERT CLAIM WIND POWER

Kittitas County, Washington

Figure 2.2-6

Project Access Road System

Date: 11/7/2008 | GIS Analyst: avh

Map Source Information: NAIP 2006 Kittitas County

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Detailed plans for the Project road system and the connections to county roads would be prepared following micro-siting of the turbines. Project access road connections to county roads would be designed pursuant to County road ingress and egress standards.

2.2.2.6 Operation and Maintenance Facility

Proposed Project facilities include a permanent building to support ongoing O&M activities. The O&M building would include an enclosed bay for storage of equipment, parts, and supplies; a workshop; an office for administration and monitoring of the facility; restroom and kitchen facilities; and parking for vehicles. The enclosed space needed for the O&M building is approximately 5,000 square feet, and the overall footprint, including parking and outside storage, would be up to approximately 2 acres.

The O&M facility would be constructed on a 2-acre site located 1 mile north of the intersection of Reecer Creek Road and Pheasant Lane. Domestic water for the O&M facility at this location would either be acquired from the landowner or obtained by developing an exempt well. Water consumption would be considerably less than 5,000 gallons per day. Restroom and kitchen facilities would drain into an on-site septic system. The O&M facility would be surrounded by a fenced enclosure with a locked gate.

Safety and Control Systems

The Project would include a communication system for monitoring and controlling the turbines. The communication system would use either copper lines, similar to telephone lines, or fiber-optic lines. Communication lines typically run to each turbine, parallel to the low- and medium-voltage power collection lines, either underground or overhead on poles. The rotor control and braking system would be a key component of the Project safety systems.

Aircraft safety lighting would be installed on the exterior of some nacelles, to comply with FAA rules for structure lighting. Under the Project's lighting plan, 41 of the total 95 turbines would be equipped with synchronized low-intensity flashing red lights (L-864) for nighttime use. Experience with FAA review of prior lighting plans indicates this configuration should meet the FAA requirements (Chavkin 2006).

Each wind turbine, including the rotor blades, would be equipped with a lightning protection system, which would be connected to an underground grounding arrangement to facilitate lightning flow safely to the ground. All equipment, cables, and structures comprising the wind turbines would be connected to a metallic, Project-wide grounding network.

Turbine towers would be locked, and the substation would be fenced and locked to prevent unauthorized entry.

2.2.2.7 Visitor Facilities

The Project may provide some level of attraction or interest for tourists who want to view a working wind energy facility. The Project could develop visitor facilities to accommodate public interest in the Project, minimize potential traffic impacts to the surrounding area, reduce the potential for trespass, and ensure visitor safety.

The Applicant has not yet developed specific plans for visitor facilities. If included, they could consist of a roadside turnout adjacent to a County road at a location providing a suitable view of Project wind turbines, with an information kiosk and appropriate signage. A possible location could be near the junction of Reecer Creek Road and Lower Green Canyon Road within the Project Area.

2.2.3 Construction Process

Construction of the Project would involve standard construction procedures typically used for wind energy projects in the Northwest and are described in more detail in the Final EIS This section summarizes the schedule and general sequence for the construction process, and describes procedures to be used for construction of the various Project components.

2.2.3.1 Schedule and General Sequence

The construction process would be completed over an approximately 10-month period. The primary tasks in the construction process include the following:

- survey and stake Project facility locations;
- construct Project access roads and turbine pads;
- micro-site and construct foundations for towers;
- excavate trenches for underground utilities;
- place underground power collection and communication cables in trenches;
- construct overhead power collection and communication cables and interconnection with the BPA or PSE transmission line;
- construct the Project substation;
- construct the Project O&M facility;
- transport tower sections to the site and assemble towers;
- assemble and install nacelles, rotors, and other turbine equipment;
- install safety and control systems;
- test all Project systems; and
- conduct final site grading, reclamation, and cleanup.

Habitat, sensitive areas, and cultural protection areas within the Project Area would be delineated, defined in contracting documents, and marked in the field, pursuant to consultations with WDFW and DAHP personnel.

In general, the first few months of construction activity would involve initial civil and electrical construction, including construction of the Project access roads and tower foundations, the power collection system and communication lines, and the Project substation. Tower installation would be accomplished in phases. As Project access roads and tower foundations are completed, turbines would be erected. Installation of the nacelles, rotors, and associated equipment would be the final task of major construction activity for each turbine. The Applicant expects to begin commercial operation within 1 month after commissioning the first wind turbine.

2.2.3.2 Construction Space Requirements

Construction activities would require temporary disturbance of a larger area than would be occupied by the permanent Project facilities. **Table 2.2-2** identifies the estimated area that would be disturbed in construction and within the permanent footprint of the various project components.

Table 2.2-2. Estimated Area of Construction Disturbance and Permanent Facilities

Project Feature	Temporary Construction Disturbance (acres)	Permanent Project Footprint (acres)
Wind Turbine Pads	98.6	10.5
Internal Power Collection System [1]	3.8	0.1
Project Substation	2.8	2.0
Kiosk Area	1.0	0.3
Met Towers	0.4	0.1
Project Access Roads [2]	188.2 [3]	71.5
Project O&M Facility	2.8	2.0
Construction Staging/Storage	19.5	-
Total Area	317.2	86.4
Percent of Project Area	6.1%	1.6%

[1] Power collection system within Project Area (under ground) with 85 percent contained within access road areas.
[2] Area for Project access roads increased 15 percent to include curves and intersections to non-Project roads.
[3] Temporary disturbance figure includes permanent footprint area.

2.2.3.3 Work Force

Approximately 120 to 180 people would likely be employed at some time during Project construction. Some of these workers would be employees of Desert Claim or enXco, Inc., but most would work for various construction contractors and equipment vendors who would provide construction goods and services to the Project. The size of the construction work force present at any given time would vary with the schedule of tasks in the construction process. Relatively few construction workers would be present during the initial and final stages of construction activity, for example. The road/pad and tower foundation construction tasks are likely to be the Project activities with the greatest labor requirements.

The Applicant would use local construction contractors and suppliers to the extent possible. Based on experience with other wind energy projects in the Northwest, it is likely that local firms and workers would be available for tasks such as surveying, site clearing and grading, road and turbine foundation construction, and site restoration/cleanup. Tasks such as transmission line and substation construction, turbine assembly, installing safety and control systems, and testing require more specialized skills that are less likely to be available locally and, therefore, may be performed by non-local firms and workers.

2.2.3.4 Erosion and Sedimentation Control

Erosion and sedimentation control measures would be applied during active construction and during the restoration and cleanup stage of the construction process. The Project would require a General Construction Stormwater Permit under the National Pollutant Discharge Elimination System (NPDES) permit program. As a requirement of the permit, the Applicant would develop and implement an SWPPP to address the erosion control and water quality conditions of the permit. This design-level plan would prescribe the use of Best Management Practices that are standard features of such plans. The Project SWPPP would be based on and comply with the Washington Department of Ecology's Stormwater Management Manual for Eastern Washington.

Based on the applicable standards, the SWPPP would include using coverings for exposed soils (e.g., straw, jute netting, or soil stabilizers), stormwater detention ponds, sediment control basins and traps, and other well-established measures. Surface water runoff would be directed away from cut-and-fill slopes and other disturbed areas, and into ditches that drain to natural drainage features. Exposed areas would be re-vegetated as soon as possible following completion of the corresponding construction task.

2.2.3.5 Roads and Turbine Pads

Heavy construction activity for the Project would start with clearing and grading for the Project access roads and turbine pads. In some locations existing private farm roads would be used as segments of the Project access road system. These existing road segments would be improved as necessary to comply with the design standards for Project roads

New graveled roads would be constructed in areas where existing roads could not be used for access to the turbines. These roads would vary in width and have 15-foot travel surface widths for straight sections and 20-foot travel surface widths for curved sections. Project access roads would have turnouts at the turbine pads and other selected locations. Stream crossing structures would be incorporated into the Project access road system to allow for crossing or spanning of wetlands and streams, including any buffers. The temporary disturbance area along the Project access road routes is assumed to be approximately 35 to 50 feet wide under typical circumstances, with a wider area needed in locations where cuts and fills are required to construct and stabilize roads on slopes. The temporary disturbance width along the access roads would also accommodate trenching for Project utility lines and would accommodate access for cranes needed to erect the turbines. Temporary construction disturbance around the turbine pads is assumed to occupy an area about 1 acre per turbine.

Topsoil removed during grading for access road and turbine pad construction would be stockpiled on site adjacent to the disturbed areas. The removed topsoil would be re-spread in cut-and-fill slopes, and these areas would be re-vegetated as soon as possible after road construction was completed. No off-site deposition of excavated material would be needed. Once grading for the roads and pads in a given sector of the Project had been completed, fill materials (gravel, soil and sand) needed for road and pad bases and road surfaces would be hauled to the construction site, deposited, graded, and compacted, as needed. Native materials from the Project Area would be used to the greatest extent possible to meet fill material needs and achieve a cut-and-fill balance within the Project Area. If fill must be imported, gravel and/or crushed rock provided by local permitted sources would be used. Quantities of filling and grading for the Project have not yet been estimated because they are dependent on the mix of tower foundations to be used, and the type of foundation for each turbine location would be determined based on site-specific geotechnical investigation. These quantities would be estimated after the type of tower foundation is determined for each turbine. Based on information developed for other wind energy projects of a comparable scale, however, the total volume of cut and fill quantities for the Project could be in the range of approximately 250,000 to 300,000 cubic yards. Gravel and other construction materials purchased by the road construction contractor from existing, permitted local sources would be trucked to the construction site via public roads.

2.2.3.6 Staging Areas

Temporary laydown or staging areas would be established in the Project Area to support various construction functions. These include temporary storage of tower sections, nacelles and other turbine components; temporary storage of other equipment and supplies; parking of construction vehicles and equipment; parking of construction workers' personal vehicles; and possible installation of portable fuel tanks surrounded by earthen berms for spill control. Staging area locations and dimensions have not yet been determined. One or more staging areas approximately 10 acres in size would be needed; these temporary facilities would be placed near existing roads and on previously disturbed land (e.g., heavily grazed and/or crop or pasture lands).

2.2.3.7 Concrete Supply

The Applicant would contract with one or more local construction companies to install the tower foundations and pads and the transformer pads. These facilities would require sizable volumes of concrete. The construction contractor would be responsible for obtaining the aggregate and concrete necessary to build these features. The contractor could elect to purchase the construction materials from local suppliers, in which case concrete would be manufactured at an existing local plant and trucked to the Project.

Alternatively, the contractor could choose to construct one or more temporary concrete batch plants within or near the Project Area, to minimize the cost impact of transporting concrete to the Project. In this event, the location and characteristics of the batch plant(s) would be determined by the contractor, and the contractor would be responsible for obtaining any land use or environmental permits required to develop the facilities.

2.2.3.8 Turbine Foundations

Once the Project roads are constructed, excavation would begin for turbine foundations. As described in Section 2.2.2.1, inverted-T and pile-type foundations are likely to be used, with selection of the foundation design depending on site-specific conditions at each turbine location. Foundation construction activities are expected to occur for approximately 4 to 5 months during the Project's construction process.

The inverted-T foundation requires a circular excavation approximately 8 feet deep and 90 feet in diameter. Construction for this design involves excavation with a backhoe; placement of a layer of compacted fill at the bottom of the hole; pouring an octagonal-shaped, reinforced-concrete (concrete poured over steel rebar) footing up to 4 feet deep on top of the fill; pouring a 4-foot-deep, reinforced-concrete pedestal on top of the footing; and covering the footing and pedestal with compacted backfill and topsoil. Steel anchor bolts extending through the pedestal to near the base of the footing would be used in a subsequent step to fix the tower to the foundation.

The pile foundation requires excavating a hole ranging from 25 feet to 35 feet deep (depending on site-specific subsurface conditions) and approximately 18 feet in diameter. A cylindrical, corrugated metal form approximately 16 feet in diameter would be inserted in the hole, and another cylindrical corrugated form several feet smaller in diameter would be placed inside the larger form. The space between the two forms would be filled with reinforced concrete and two rings of anchor bolts, and the space inside the inner metal form would be filled with compacted backfill.

If bedrock were encountered at any turbine location, rock anchors would likely be used to secure the base of the foundation. Rock anchors would be used in conjunction with either foundation design. Use of explosives (blasting) might be required for installation of rock anchors.

2.2.3.9 Collection System

The power collection system for the Project would be installed using underground cable, except where it is not feasible to do so and avoid sensitive environmental features. The cable would be located within the disturbance area for construction of the Project road system to the maximum possible extent. At stream crossings, the cables may be located on the road bridge or structure. Underground cable would be installed using a trenched or plowed-in method. The trenching method requires excavating a trench approximately 3 to 5 feet wide and approximately 2 to 4 feet deep, laying the electrical cables in a part of the trench, partially backfilling the trench, laying parallel communication cables, and backfilling the entire trench. Under the plowed method, the power collection and communication cables would be installed without the need to excavate an open trench; instead, the cables would be directly plowed into the ground. In either case, topsoil would be replaced on the surface of the disturbed area and would be reseeded with native plants. In certain areas, the underground cables may be encased in concrete to provide additional protection and stability in the ground.

2.2.3.10 Substation and Operation and Maintenance Facility

The Project substation would be constructed while the electrical system components were being installed. Construction activities would include clearing and grading the substation site, which would occupy up to approximately 2 acres; constructing concrete pads for transformers, the control building and other equipment; installing the electrical equipment; assembling the control building; covering the remainder of the site with gravel; and constructing a chain-link fence around the perimeter of the substation site.

The Project O&M facility would be constructed on a 2-acre site located 1 mile north of the intersection of Reecer Creek Road and Pheasant Lane. It would involve conventional building construction techniques including site clearing and grading, constructing a concrete pad for the building, framing and finishing the building, installing electrical wiring and plumbing, and constructing a septic system and drain field.

2.2.3.11 Turbine Equipment

Once a sufficient number of tower foundations are in place and finished, the first turbine towers, nacelles and blades would be brought to the Project Area for placement. The turbine components would be transported to the Project Area by truck and trailer. The towers would have three sections, each approximately 70 to 90 feet long. They would be delivered by trailers, each carrying one tower section. Large cranes would lift the multiple tower sections into place. The bottom section would be bolted to the circular ring(s) of anchor bolts on the foundation pedestal, and the upper sections would be sequentially bolted in place.

Following foundation construction, the nacelles, rotors, and other components would be delivered to the tower locations. The nacelle would be hoisted to the top of the tower by crane and bolted to the tower. The rotor hub and blades would be assembled on the ground, and the assembly would be lifted by crane and secured to the nacelle.

The permanent met towers would also be installed during this stage of the construction process. The tower components would be transported to the construction site in sections, hoisted by crane, and anchored to the met tower foundations.

2.2.3.12 Final Grading and Restoration

Final grading of disturbed surfaces within the Project Area would occur following completion of the heavy construction activities, and any additional gravel needed would be placed on the Project access roads. All areas temporarily disturbed by Project construction would be restored to their original condition and reseeded with native vegetation. Areas subject to construction activity would be inspected for the presence of noxious weeds and treated as necessary. Long-term stormwater management and erosion control measures would be implemented. A final site cleanup would be made before shifting responsibility for the Project Area to the Project O&M crew, including collection and disposal of all construction debris and other waste materials that could not be reused. County roads would be restored to their pre-Project condition.

2.2.3.13 Testing

Following completion of construction activities on the first group of wind turbines, approximately a month of testing would occur before commercial operation begins. Testing would involve inspections of the mechanical, electrical, and communication systems to ensure they are working properly and performing according to their respective specifications. The testing process would include checks of each wind turbine and the overall Project control system. Technicians qualified for the specific systems would perform all inspections.

2.2.3.14 Transportation and Access Management

Management of construction access and traffic would be a specific focus during the construction process, primarily because of the roadway and traffic considerations associated with transportation of construction materials and turbine components to the Project Area. The Applicant would develop a Construction Traffic Management Plan that would address transportation and access concerns during the construction period. The plan would define access routes and procedures to be used by various types of construction equipment and material shipments, approved hours of operation for construction traffic, safety provisions and other management requirements.

Operation and Maintenance

The Applicant intends to operate and maintain the Project once construction is complete and the Project begins commercial operation, though some utilities have shown an interest in purchasing the Project and operating it themselves. Electricity generated by the Project would be sold to power marketing entities, such as BPA; local and regional public utilities, such as the Kittitas County PUD and the Grant County PUD; and/or regional investor-owned utilities, such as PSE and Avista. Power from the Project would ultimately be distributed by utilities to their customers. This section summarizes the activities associated with long-term O&M of the Project.

2.2.3.15 Functions

Long-term O&M activities for the Project would include the following functions:

- round-the-clock monitoring of Project output, the safety and control system, and the performance of individual wind turbines;
- controlling turbine operations as necessary to meet scheduled power deliveries and implement scheduled outages for scheduled turbine maintenance;
- performing periodic, routine testing, and maintenance of the turbines as needed to maximize performance and detect potential mechanical difficulties;
- providing on-site repairs of Project equipment in response to malfunctions or scheduled maintenance;
- patrolling the Project Area to ensure security and monitor on-site conditions, including inspection for erosion, re-vegetation success, unauthorized uses, and potential wildlife impacts;
- periodically maintaining Project access roads, including grading and application of additional gravel, as necessary; and
- implementing the noxious weed control plan.

Through the life of the Project, the Applicant would follow an O&M protocol that would specify the timing of routine turbine maintenance and inspection. Such a protocol typically adheres to a program developed by the turbine manufacturer, similar to the way automobile manufacturers define recommended maintenance. Scheduled maintenance would be conducted approximately every 6 months on each wind turbine. On average, each turbine would require 40 to 50 hours of scheduled mechanical and electrical maintenance per year.

Most servicing of the turbines would be performed within the nacelle via access through the tower, rather than using a crane to remove the turbine from the tower. The use of a crane and equipment transport vehicles for turbine adjustments, larger repairs or replacement of rotors, or nacelle equipment would be needed on an occasional basis. Routine maintenance would include replacing lubricants and hydraulic fluids at specified intervals. The towers would need to be repainted on a periodic basis. All lubricants, hydraulic fluids, paints, solvents and other potential hazardous substances would be carefully stored, used, and disposed of in accordance with applicable laws and regulations.

2.2.3.16 Work Force

The Project is expected to employ 10 to 12 full-time staff for long-term O&M. This staff would include an operations manager, technicians specializing in maintenance and repair of the turbines, and field staff responsible for other Project functions. Most of the O&M staff are expected to be hired from the local work force.

2.2.3.17 Access Management

All Project access roads would be posted and maintained as private roads, with locked gates to minimize unauthorized access. Public roads within and adjacent to the Project Area would remain open to public use, as in their current condition.

2.2.4 Decommissioning

The useful life of the Project is assumed to be 30 years. New technology may become available for re-powering the Project (replacing the generators and/or other major turbine components) at some time in the future.

At the time the Applicant decides to terminate operation of the Project, the Project would be decommissioned. Decommissioning the Project would involve removal of the wind turbine nacelles, blades, towers, foundations, cables, and other facilities to a depth of 4 feet below grade; regrading the areas around the Project facilities; removal of Project access roads (except for any roads that landowners wanted to remain); and final restoration of disturbed lands.

If, during the life of the Project, any turbine generates electricity for fewer than 250 hours during a continuous period of 12 months, it would be decommissioned. However, if a turbine stops generating electricity due to *force majeure*, mechanical breakdown, or malfunction, the Applicant may repair rather than decommission the turbine.

Prior to commencing construction, the Applicant would post a bond or corporate surety in favor of EFSEC, to cover decommissioning costs. The initial amount of the bond or corporate surety would be comparable, on a per turbine basis, to the security required by EFSEC for similar wind projects under its jurisdiction. The bond or corporate surety would name the Project landowners as additional beneficiaries.

2.3 CHANGES TO THE PROPOSAL

This section highlights the revisions that have been made in the Project since it was considered by Kittitas County from 2003 to 2005. The following are the most significant of those changes:

- The 5,200-acre Project Area, while 37 acres smaller than the prior proposal, has been consolidated from four separated parcels to one contiguous area. Approximately 2,046 acres of private land that previously made up the eastern portion of the Project was removed. The Project now includes approximately 1,529 acres of land leased from the WDNR, 2,551 acres leased from private landowners, and 1,120 acres of property in the western portion of the Project to be owned by an affiliate of the Applicant.
- The number of turbines has been reduced from 120 to 95.
- The turbine model has changed from the 1.5 MW General Electric Wind Energy 1.5sl turbine to the 2.0 MW REpower MM92 turbine.
- The distance between turbines and residences of non-participating property owners has increased. All turbines are at least four times their tip height from non-participating residences. There are now seven non-participating residences located within 2,500 feet of a proposed turbine, compared to 29 residences for the prior proposal.
- Sound from the Project would be 50 A-weighted decibels (dBA) or less at the boundary between the Project Area and residential properties.
- Shadow flicker at adjacent residences has been reduced. For those residences (if any) that are still affected by perceptible shadow flicker, Desert Claim has committed to stop the blades of any wind turbine that causes shadow flicker during those hours and conditions when shadow flicker would occur, or offer a voluntary waiver agreement to the landowners in lieu of stopping the turbine.
- The Project would result in no temporary or permanent impacts to wetlands, streams, or specified buffers.
- Daytime white strobe lighting has been eliminated and nighttime red lighting has been reduced to 41 of the Project turbines.

The changes in the number and type of proposed wind turbines and the configuration of the Project Area have resulted in modifications to some other characteristics of the Project. **Table 2.3-1** provides a summary comparison of key measures for the Project as currently proposed, relative to the proposal evaluated in the County EIS.

Table 2.3-1. Comparison of Current and Prior Desert Claim Project Proposals

	Final EIS Proposal (August 2005)	Revised ASC Proposal (November 2008)
Project Area	5,237 acres	5,200 acres
Project Footprint	90.4 acres	86.4 acres
Number Turbines	120	95
Project Capacity (megawatts)	180 MW	190 MW
Turbine Height	340 feet	410 feet
Roads	27.5 miles	27 miles
Collection System (buried outside of Project Roads)	3 miles	<2 miles
Above Ground Transmission Lines	<1 mile	<300 feet
Safety Setback	487 feet	625 feet
Non-Participating Residence Setbacks	1,000 feet	Minimum of 1,640 feet
Number of non-participating residences located within 2,500 feet	29	7

2.4 ALTERNATIVES TO THE PROPOSAL

The Kittitas County Final EIS on the Desert Claim proposal evaluated a wide range of alternatives to the proposed Project. That EIS addressed alternative generation technologies (i.e., generation options other than wind energy) and alternative transmission interconnections. The County EIS also described an extensive process to search for and identify plausible alternative sites for development of a wind energy project, resulting in two such off-site alternatives that were evaluated in detail. Those alternatives included the Wild Horse site, located on Whiskey Dick Mountain in the eastern part of Kittitas County, and the Springwood Ranch site, located west of Ellensburg near the town of Thorp. The Wild Horse site has since been developed and become operational as a wind energy project, and that alternative is no longer applicable to EFSEC's consideration of the Desert Claim application.

There have been no other substantial changes to the alternatives addressed in the County EIS or the likely impacts associated with those alternatives. No new alternatives that are appropriate for consideration in the SEIS have been identified. The SEPA Rules direct that an SEIS should not include analysis of actions, alternatives, or impacts addressed in the previously prepared EIS. Therefore, because there has been no change in the previous alternatives other than the development of the Wild Horse site, there is no additional discussion of alternatives to the proposed action in the SEIS. The interested reader may refer to the discussion of alternatives in the County EIS.

2.4.1 No Action Alternative

The No Action Alternative is a required element in the review of a proposed action under SEPA. In this case, the No Action Alternative implies a decision by EFSEC not to recommend execution of a Site Certification Agreement for the Desert Claim Wind Power Project. The characteristics of this alternative remain as described in the County EIS; under the No Action Alternative the proposed Desert Claim Wind Power Project and all associated features including the turbines, access roads, utility trenches, and substations would not be constructed. There would be no adverse environmental impacts from development of the wind power facility within the Desert Claim Project Area, although some changes could occur nevertheless.

Under the No Action Alternative, however, on-site agricultural and rural residential activities would continue for the foreseeable future; current Ag-20 and Forest and Range zoning are assumed to continue. The potential for residential development in the Project Area, to the extent permitted by existing zoning, and the potential for conflicts with existing agricultural activities, would continue. Conversion of some privately owned lands to rural residential uses could displace existing uses and affect the rural character over time.

The No Action Alternative would also eliminate the positive local economic effects for Kittitas County and nearby communities in the form of lease payments, tax revenues, and opportunities for employment resulting from this proposal.

2.5 ALTERNATIVES NOT CONSIDERED IN DETAIL

In 2007, Kittitas County amended its wind farm regulations to include provisions for areas that were "pre-identified" as suitable for siting wind farms (Kittitas County Code 17.61A.035). The new code provision is intended to expedite permitting for projects proposing to locate in such pre-identified areas. The code recognizes, however, that the lands within this area may be under federal, state, and local government ownership and may be subject to additional requirements.

The pre-identified areas include an estimated 12 townships or 285,120 acres of land in eastern Kittitas County. Of this total, approximately 92,160 acres include federal lands used for the Yakima Firing Center, and approximately 136,746 acres are on Washington State lands managed by WDFW for wildlife and habitat conservation (the Quilomene Wildlife Area and Colockum Wildlife Area). These areas are substantially constrained for use for a wind power project.

Of the remaining 56,214 acres in the pre-identified area, approximately 14,630 acres are the subject of operating, permitted, or proposed wind project development (including the Wild Horse and Vantage projects). Most of the remaining lands are either contiguous to the I-90 corridor, in fragmented/non-contiguous parcels, or in locations where wind resources are unsatisfactory (e.g., south of I-90). The remaining area does not provide sufficient contiguous or available lands within which to plan a wind power project alternative.

In summary, the environmental, land available, and wind resource limitations associated with Kittitas County's pre-identified areas are considered to be substantial and would severely constrain the location of a third wind farm proposal. The two developed and approved wind power projects have committed most contiguous properties with sufficient wind resources. As a result, this area is not considered to be a reasonable off-site alternative and is not evaluated in detail in the SEIS.