



November 12, 2010

Mr. Curt Dreyer, Planning Director
Klickitat County Planning Department
228 W. Main MS CH-17
Goldendale, WA 98620

RE: Supplemental Environmental Report to Support Modification to the southwest portion of the Miller Ranch Wind Energy Project

Dear Mr. Dreyer:

This letter report has been prepared by Tetra Tech EC, Inc. (TtEC), on behalf of Northwest Wind Partners (NWP), a wholly owned subsidiary of enXco Development Corporation. It serves as an addendum to the State Environmental Policy Act (SEPA) Checklist and Determination of Non-Significance for the Miller Ranch Wind Energy Project (Project), located in Klickitat County, Washington (Figure 1).

INTRODUCTION

This letter report provides additional information pertaining to modifications to the southwest portion of the Miller Ranch Wind Energy Project, which is located to the west and southwest of Big Horn Canyon (Miller SW). The report describes additional site investigations completed for the proposed modifications within the framework of Condition 38 of the Project's approved Energy Overlay Zone (EOZ) Permit (June 6, 2008, FILE NO. EOZ 2008-01). These additional investigations supplement the site investigations described in the Project's SEPA Checklist (Tetra Tech EC 2008). Environmental impacts attributable to the modifications do not substantially change the analysis of impacts in the Project's SEPA Checklist.

Modification to the Project, as permitted in 2008, will involve relocation of some project components, installation of a 3-mile-long overhead (OH) electrical collector line and addition of a Wood Gulch access crossing. The total number of turbines for the Project will remain constant at 49 wind turbine generators of a 2-megawatt (MW) capacity each. In the Miller SW portion of the Project, 28 proposed turbines (and 2 alternate turbine sites), with associated access roads, OH and underground collector lines, a substation, and a laydown area will be located in the vicinity of or within the original permitted turbine corridors (Figure 2).

Access from the west for Miller SW will be via Dot Road, as accessed from Old Highway 8, which leads north from State Highway 14. Construction of Miller SW will involve installation of a bridge crossing of Wood Creek, as well as improvement to and construction of gravel access roads. The access route would ultimately connect to the turbine string on the plateau east of Wood Gulch between proposed turbines B-1 and B-3. Construction roads will be 66 feet wide and will be reduced to 32 feet wide for Project operation.

The OH electrical collector line will be primarily of a wood-pole design with steel towers located on either side of Wood Gulch and Big Horn Canyon. As shown on Figure 2, the line will extend from the Miller Ranch Substation to the northeast portion of the Miller Ranch Project, where it will then continue underground as previously permitted.

After initial micro siting of facilities, TtEC, ENVIRON International, Inc. (ENVIRON) and Historical Research Associates, Inc. (HRA) have completed further studies in areas that had not yet been delineated for cultural resources and Critical Areas (Klickitat County 2004). The studies and associated results are summarized below and, where appropriate, mitigation has been proposed.

HISTORIC AND CULTURAL RESOURCES

Affected Environment and Updated Studies

In January of 2008, HRA, under contract with TtEC, submitted the results of a cultural resource survey entitled *Cultural Resource Inventory and Assessment for the Miller Ranch Wind Generation Project, Klickitat County, Washington*. The purpose of the survey was to identify potential impacts to archaeological and historical resources within the Project boundary that are protected under state law RCW 27.53 or are listed on or eligible for listing on the Washington Heritage Register or National Register of Historic Places. The survey addressed the original Project layout as permitted and identified three archaeological sites and two isolated finds. The three archaeological sites were identified in the northeast portion of the Project boundary and have been addressed in the document submitted to Klickitat County on June 15, 2010, entitled *Supplemental Environmental Report to Support Modification to the Miller Ranch Wind Energy Project*

As the result of anticipated Project design modifications, enXco contracted with HRA again in December of 2009 to conduct a 100 percent pedestrian survey of the revised Project boundary. The survey area encompassed 3,500 acres, approximately 3,000 of which were located in the area southwest of Big Horn Canyon.

The Miller Ranch survey approach covered all buildable land areas, plus a Cultural Study Area buffer that extended beyond the buildable land areas, to provide for maximum flexibility in micro siting and construction access. Survey transects were completed at 20- to 30-meter (65- to 100-foot) intervals. Survey coverage included the Wood Gulch Bridge crossing and the OH collector line right of way. The results were reported in two addendum reports. The first is entitled *Cultural Resource Inventory and Assessment for the Miller Ranch Wind Energy Project, Addendum Report No.1, Klickitat County, Washington*, which addressed the northeast portion of Project area east of Big Horn Canyon. The second is entitled *Cultural Resource Inventory and Assessment for the Miller Ranch Wind Energy Project, Addendum Report No.2, Klickitat County, Washington*, which addressed Miller SW. The survey work overall identified 60 archaeological sites and isolated finds in the Miller Ranch Project boundary, 45 of which are located in Miller SW. HRA provided enXco with the UTM coordinates of all resource locations to facilitate avoidance during micro siting and recommended that buffers of at least 30 meters (100 feet) be established around resource boundaries. Comments on this letter provided by the Washington Department of Historic Preservation and the Yakama Nation are summarized in Attachment 1 and follow-up actions are noted.

In May 2010, HRA reviewed maps of the proposed modifications to turbine, collector line, and road facilities relative to the location of the buffers established around the inventoried cultural resources in the Project boundary. No potential impacts to inventoried cultural resources were identified.

Conclusions and Recommendations

HRA inventoried 45 archaeological sites and isolated finds in Miller SW. The establishment of resource-specific buffers prior to micro-siting has resulted in no impacts to any of the cultural resources inventoried in Miller SW. Thus, no impacts to cultural resources will result within the Miller Ranch Project boundary.

It is recommended that permit conditions for the Project stipulate that all enXco personnel and contractors shall be aware of and follow the procedures of the *Miller Ranch Wind Project Inadvertent Discovery Plan* filed with Klickitat County in April 2010.

WETLANDS

Affected Environment and Updated Studies

The affected environment for the Miller SW environmental studies includes an area approximately 300 acres in size in the vicinity of the proposed Wood Gulch Bridge crossing. A gulch is defined as a deep v-shaped valley. However, the morphology of Wood Gulch at the proposed bridge crossing can be characterized as a moderately deep u-shaped canyon. Wood Gulch is a dominant drainage on the western side of Miller SW. Wood Gulch supports a perennial stream (Wood Creek), a tributary to the Columbia River. Most months of the year the stream velocity is low within the area of the bridge crossing but flow velocity increases downstream as slope increases. Wood Creek supports spawning, rearing and migration of rainbow trout (*Oncorhynchus mykiss*) downstream of the area proposed for the bridge crossing (Glass 2009; StreamNet 2009). It is unknown whether the trout in the vicinity of the bridge are resident fish (known as rainbow trout) or anadromous steelhead (i.e., live in the ocean, but migrate up freshwater streams to spawn and sometimes rear). The resident rainbow trout is not protected under the Endangered Species Act (ESA); whereas, the steelhead trout is a Candidate for state listing and is federally listed as Threatened and is thus protected under the ESA. The size distribution of fish in the vicinity of the bridge would suggest that the fish are resident trout, but some steelhead may also be present (Glass 2009).

A second affected environment of the Miller SW studies includes a 200-foot-wide corridor of the proposed OH collector line. The corridor begins on the plateau east of Big Horn Canyon running generally westward to a point near the proposed substation (south of the proposed Wood Gulch Bridge crossing) (Figure 4A). Big Horn Canyon is one of the dominant drainages in the eastern half of the Project. Big Horn Canyon also supports a perennial stream and joins Wood Creek south of the Miller SW Project area. Although it is not known whether the upper reaches of Big Horn Canyon proposed for crossing or spanning are fish-bearing, Big Horn Creek is an important contributing water to the steelhead or rainbow trout habitat in downstream reaches of Wood and Big Horn creeks.

A field delineation of wetlands and other waters within the proposed Project area was conducted by a TtEC biologist in 2007, and the results were provided in a November 2007 delineation report. This study and report did not include the 2010 Miller SW proposed revision areas,

however. Wetlands adjacent to Wood Gulch in the vicinity of the proposed bridge crossing were observed as part of the May 20 and June 11, 2010, habitat and rare plant survey conducted by TtEC, but were not delineated or mapped using global positioning system (GPS). The wetlands within 85 feet on either side of the proposed bridge crossing were delineated on May 26, 2010, by ENVIRON [see attached *enXco Miller Ranch Wind Farm Wetland Delineation Report, June 2010* (Luchessa et al. 2010)]. The location of the channel of the stream reach within the 300-acre study area was mapped by TtEC on June 11, 2010 (Figure 3) as it was noted that the available National Hydrological Dataset (NHD) mapped stream was inaccurate.

The reach of Wood Creek within the 300-acre study area ranges from a single or braided-sloped channel with a boulder substrate to a nearly level meandering channel with a sediment bottom. As a perennial fish-bearing stream, Wood Creek is classified as a Type F (formerly Type 2 or 3) water according to the state Water Typing System (Washington Administrative Code [WAC] 222-16-030) and is, therefore, a critical fish and wildlife habitat conservation area (FWHCA) per the Klickitat County Critical Areas Ordinance (CAO). Under the CAO, Wood Creek would require a 200-foot protective buffer.

Riverine flow-through wetlands adjacent to the Wood Creek channel generally average from 2 to 20 feet in width. Other areas of adjacent wetland range from 20 to 60 feet in width and support emergent and scrub-shrub vegetation. Sedges (*Carex* spp.), rushes (*Juncus* spp.), common cattail (*Typha latifolia*), softstem bulrush (*Scirpus microcarpus*), watercress (*Nasturtium officinale*), common monkeyflower (*Mimulus guttatus*), dagger-leaf rush (*Juncus ensifolius*), and common spikerush (*Eleocharis palustris*) are common in the wetlands adjacent to Wood Creek. Although only the wetlands in the immediate vicinity of the bridge crossing were delineated, it was estimated that the wetlands within the 300-acre study area would rate moderate for water quality function, moderate for hydrological function, and high for habitat function. The wetland system would likely receive a Category II score for wetland function overall. The CAO prescribes a 200-foot buffer for Category II wetlands. The 2008 EOZ Permit conditions for the Project require a 200-foot buffer on all wetlands and are consistent with the CAO wetland buffer requirement.

A small perennial spring supporting a sloped wetland dominated by the aquatic herb, watercress, is situated on the east side of the canyon north of the proposed bridge crossing site (Figure 3). This stream would be classified as a Type Np stream (which replaces the Type 4 stream nomenclature in the CAO) and would require a 50-foot buffer under WAC 222-16-030. A small stream joins Wood Gulch from the northeast slopes of the canyon farther up Wood Gulch from its confluence with the small perennial stream. This stream is ephemeral in its upper reaches becoming a perennial reach (likely intermittent in some years) as it is fed by a near-surface spring. It is a Type Ns stream (which replaces the Type 5 stream nomenclature in the CAO), requiring a 25-foot buffer in the upper reaches and Type Ns (Type 4) stream requiring a 50-foot buffer near its confluence with Wood Creek.

In addition, two ephemeral streams lead to Wood Gulch from the east side of the canyon. The ephemeral streambeds have coarse boulder substrates and support a forest/shrub riparian community. This community comprises mature western juniper (*Juniperus occidentalis*) with shrub associates, including mockorange (*Philadelphus lewisii*), chokecherry (*Prunus virginiana*), bitterbrush (*Purshia tridentata*), golden current (*Ribes aureum*), Douglas' hawthorn (*Crataegus*

douglasii), and willow (*Salix* spp.). These Type Ns (Type 5) streams each require a 25-foot buffer.

Wetland and other waters studies of the second affected environment, the OH collector line corridor, were conducted by TtEC biologists on May 31 and June 11, 2010. Although approximately 0.75 percent of the area mapped as wetlands extends outside of the OH collector line study corridor (Figure 4B), the extent of Wetland A and nearby Wetland B was mapped for avoidance. Wetland A is an isolated wetland system fed by a perennial spring at its southwest end. It has been artificially channelized for approximately 100 feet before flowing into a bulge (excavated impoundment with an earthen dam) to the northeast. The dam leaks water on its north side providing the hydrological source for a sloped emergent wetland swale that becomes channelized downslope to the northeast for a short distance before dispersing into a shallow depressional emergent wetland. The Wetland A system is perennial (inundated or saturated all year in most years), and the excavated area serves as a stock pond. The shrub and adjacent western juniper in the area at the hydrological source of Wetland A (the spring) burned in summer 2009. The channelized portion connecting the source to the bulge has been partially denuded and compacted by cattle. However, the ponded component of the wetland supports soft rush (*Juncus effusus*), softstem bulrush, and cattail and the emergent swale/channel supports sedges, rushes, monkeyflower (*Mimulus guttatus*), fragrant popcorn flower (*Plagiobothrys figuratus*), and watercress (*Nasturtium officinale*). The scrub-shrub fringe comprises willow, golden currant (*Ribes aureum*), Douglas' hawthorn (*Crataegus douglasii*), and western juniper. The shallow depressional area in the north-easternmost portion of the wetland system is dominated by soft rush.

Hydric soils within the bulged/ponded portion of Wetland A were a black (10YR 2/1) sandy clay loam under 3 inches of muck with a subsurface gley sandy clay horizon. Soils within the emergent swale portion of the wetland were a black sandy clay loam with medium, common, dark yellowish brown (10YR 4/6) redoximorphic features. Adjacent upland soils were a dark grayish brown to brown (10YR 4/2 and 4/3) sandy clay loam lacking redoximorphic features supporting considerable bare ground, bulbous bluegrass (*Poa bulbosa*), and cheatgrass (*Bromus tectorum*). Wetland A is isolated and is, therefore, not under the jurisdiction of the U.S. Army Corps of Engineers. However, Wetland A is a water of the state, exceeds 2,500 square feet in size, and is a critical area under the CAO, therefore, requiring a 200-foot wetland avoidance buffer under conditions of the Project EOZ Permit.

Wetland B, to the east of Wetland A, is an isolated, partially inundated, depressional wetland that includes a scrub-shrub portion at its hydrological source (a perennial spring) and becomes an emergent depressional wetland on its east side. The surface of the depression was hummocky (small depressions were likely made from cattle hooves) with shallow standing water in the depressions between hummocks. Shrubs within the scrub-shrub portion include willow, red osier dogwood, and Douglas' hawthorn with chokecherry and western juniper at the wetland-upland boundary. The emergent portion of Wetland B is dominated by soft rush. The soil examined in the shallow depressional area in the easternmost portion of Wetland B was a very dark brown (10YR 3/2) sandy clay loam with medium, common, dark yellowish brown (10YR 4/6) redoximorphic features. Upland soils were dark grayish brown to brown (10YR 4/2 and 4/3) sandy clay loam supporting bluebunch wheatgrass (*Pseudoregnaria spicatum*), Idaho fescue (*Festuca idahoensis*), basin wildrye (*Leymus cenereus*), Sandberg bluegrass (*Poa secunda*), and

bulbous bluegrass. Wetland B is isolated and is, therefore, not under the jurisdiction of the U.S. Army Corps of Engineers. However, Wetland B is a water of the state and exceeds 2,500 square feet in size and is, therefore, a critical area under the CAO. Wetland B requires a 200-foot buffer under conditions of the Project EOZ Permit.

Where the OH collector line is proposed to span Wood Creek, the stream is narrow and steep with a boulder-channel (Figure 4C). The drainage supports Oregon white oak woodlands and does not support wetlands. An isolated wetland is situated north of the proposed OH collector line crossing at Wood Gulch (Figure 4C). However, this wetland area was not assessed as the wetland and buffer are over 300 feet outside of the study area corridor and proposed construction area.

Big Horn Canyon is a deep canyon with steep rocky sides. Springs and runoff are the hydrological source of the perennial stream (Big Horn Creek) at the bottom of the canyon. The stream is subterranean in some reaches, emerging as clear surface flow in other reaches. In the area proposed for spanning of the OH collector line, pools were up to 18 inches in depth during site visits by TtEC on May 31 and June 11, 2010. Large basalt boulders, cobbles, and gravels comprise the channel substrate. Although the canyon supports areas of oak woodland, only riparian shrub vegetative community is within the transmission line corridor. Common riparian shrubs include Douglas' hawthorn, golden current, red osier dogwood (*Cornus sericea*), western juniper, and mockorange. The portion of Big Horn Creek within the OH collector line study corridor is not mapped as migration habitat for steelhead. However, downstream above its confluence with Wood Creek, Big Horn Creek is mapped as steelhead migration habitat (StreamNet 2009). The Big Horn Creek is classified as a Type F (Type 2 or 3) stream and would receive a 200-foot buffer under the CAO.

Conclusions and Recommendations

Alternative sites were evaluated for the crossing of Wood Creek but each of these alternatives would require significant fill within the 100-year floodplain of Wood Creek and removal of individual Oregon white oak trees. The site selected for crossing avoids removal or fill within the stream channel, adjacent wetlands, and 100-year floodplain. The bridge will be a 60-foot long preformed bridge dropped in place by a crane from the terrace above the creek with footings poured in place. Installation of the bridge at the preferred location would require removal of some riparian community, but would avoid the removal of oak woodland habitat.

The bridge and the roads approaching the bridge, including rock fill under the roads upslope of the wetland and 100-year floodplain, will impact roughly 0.94 acre of the wetland buffer and approximately 0.10 acre of riparian vegetation. It is recommended that assurances be provided that the mitigation plan selected for the Project replaces the lost wetland and FWHCA buffers and riparian habitats. Best Management Practices (BMPs) will be employed during construction to control erosion and stream sedimentation (see Attachment 2, Miller SW Habitat Management Plan). All conditions on the Washington Department of Fish and Wildlife (WDFW) Hydraulic Project Approval (HPA) for bridge construction will also be implemented. In accordance with the EOZ Permit conditions, adequate mitigation has been provided to accommodate the impacts to the wetland buffer.

While construction of the OH collector line allows for spanning of Wetland A, it would nonetheless be difficult to avoid impacting other Priority Habitats (i.e., aspen stand, Wetland B, Oregon white oak woodlands) by circumventing Wetland A (Figure 4B). Wetland A can be crossed and still protected from construction impacts by the use of Mabey® or other crane mats (temporary hardwood surface) placed across the wetlands. The mats allow for flow, while minimizing soil disturbance, compaction, erosion, and sedimentation. Disturbance would be temporary only and no wetland removal or fill would be required. Spanning of Wood Gulch and Big Horn Canyon can avoid direct impacts to Priority Habitats (instream and riparian); however, BMPs for erosion and stream sedimentation will be required per the Project EOZ Permit.

WILDLIFE RESOURCES

Affected Environment and Updated Studies

A sensitive species survey was conducted at the proposed Wood Gulch Bridge crossing on May 20, 2010. TtEC biologist, Richard Young, walked along Wood Gulch and identified and recorded all wildlife species encountered. The biologist observed 30 avian species, 5 mammalian species, 1 reptilian species, and 2 amphibian species during the survey (Table 1). No federally Threatened or Endangered species were observed during the survey. However, the biologist observed western gray squirrels, a state Threatened species and 2 state species of concern, the Vaux's swift and western toad. The western gray squirrel was listed as a Threatened species in Washington in 1993 by the Washington Fish and Wildlife Commission, and its native oak habitat is recognized as a WDFW Priority Habitat. "Threatened" means any wildlife species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats. State species of concern are those that are likely to become endangered or threatened in a significant portion of their range within the state without cooperative management or removal of threats (WAC 232-12-297). A Habitat Management Plan for Miller SW has been prepared and is attached as Attachment 2.

The biologist found 12 western gray squirrel nests during Wood Gulch crossing surveys. The nearest nests to the proposed bridge crossing are approximately 70 meters to the south and 144 meters to the north (Figure 3) of the crossing. In addition to the nests (also called dreys), western gray squirrels, especially females, use cavities to raise a brood. Although occupancy of individual nests could not be determined during the one-day survey, all of the nests were in good condition. The presence of western grey squirrels was confirmed along Wood Gulch, near the historic homestead located north of the proposed bridge crossing. One of the three western gray squirrels was observed entering a cavity. In addition, the biologist observed chewed walnuts on the ground, a sign of western gray squirrel feeding activity, south of the proposed bridge crossing.

Thirty to forty Vaux's swifts were observed flying within the Wood Gulch drainage, approximately 250 meters north of the proposed bridge crossing. In addition, a single western toad was observed in an upland area 15 meters to the west of Wood Gulch, approximately 100 meters south of the proposed bridge crossing.

A sensitive species survey was conducted along the proposed Miller Ranch OH collector line (Figure 4A) on May 30 and May 31, and June 11, 2010, by TtEC biologists Richard Young and

Laura Miller. The biologists walked the entire length of the line, covering 100 feet on both sides of the centerline. The biologists observed 39 avian species, 4 mammalian species, 4 reptilian species, and 1 amphibian species during the survey (Table 1). No federally listed Threatened or Endangered species were observed during the survey. Biologists observed four western gray squirrel nests (state Threatened species), where the proposed line spans over Wood Gulch (Figure 4C). All of the nests were found in alder tress and although all the nests were in good condition, nest status (i.e., whether they were occupied) was not determined during the survey. Nest distances varied from 40 to 265 feet from the centerline.

An active red-tailed hawk and an active common raven nest were found during the survey of the proposed line. The red-tailed hawk nest is located on the eastern slope of Big Horn Canyon near the eastern end of the proposed transmission line, approximately 805 feet from the proposed line corridor. The common raven nest is located on a small band of cliffs to the west of Wood Gulch, approximately 380 feet from the proposed line corridor.

Table 1. Wildlife species observed in the project area during the overhead electrical collector line and bridge crossing surveys

| Common Name | Scientific Name | Wood Gulch Crossing Survey | OH Electrical Collector Line Survey |
|-------------------------|----------------------------------|----------------------------|-------------------------------------|
| Birds | | | |
| American goldfinch | <i>Carduelis tristis</i> | | X |
| American kestrel | <i>Falco sparverius</i> | X | X |
| American robin | <i>Turdus migratorius</i> | X | X |
| ash-throated flycatcher | <i>Myiarchus cinerascens</i> | X | X |
| barn swallow | <i>Hirundo rustica</i> | X | X |
| black-headed grosbeak | <i>Pheucticus melanocephalus</i> | X | X |
| Bullock's oriole | <i>Icterus bullockii</i> | X | X |
| Brewer's blackbird | <i>Euphagus cyanocephalus</i> | | X |
| brown-headed cowbird | <i>Molothrus ater</i> | X | X |
| Bushtit | <i>Psaltriparus minimus</i> | | X |
| California quail | <i>Callipepla californica</i> | X | X |
| chipping sparrow | <i>Spizella passerine</i> | | X |
| common nighthawk | <i>Chordeiles minor</i> | | X |
| common raven | <i>Corvus corax</i> | X | X |
| downy woodpecker | <i>Picoides pubescens</i> | X | |
| eastern kingbird | <i>Tyrannus tyrannus</i> | X | X |
| grasshopper sparrow | <i>Ammodramus savannarum</i> | | X |
| gray flycatcher | <i>Empidonax wrightii</i> | | X |
| gray partridge | <i>Perdix perdix</i> | | X |
| great blue heron | <i>Ardea Herodias</i> | X | |
| great horned owl | <i>Bubo virginianus</i> | | X |
| horned lark | <i>Eremophila alpestris</i> | X | X |
| house finch | <i>Carpodacus mexicanus</i> | X | X |

Table 1. Wildlife species observed in the project area during the overhead electrical collector line and bridge crossing surveys

| Common Name | Scientific Name | Wood Gulch Crossing Survey | OH Electrical Collector Line Survey |
|---|--------------------------------|-----------------------------------|--|
| house wren | <i>Troglodytes aedon</i> | X | X |
| Killdeer | <i>Charadrius vociferous</i> | | X |
| lazuli bunting | <i>Passerina amoena</i> | | X |
| Mallard | <i>Anas platyrhynchos</i> | X | |
| mourning dove | <i>Zenaida macroura</i> | X | X |
| mountain bluebird | <i>Sialia currucoides</i> | | X |
| red-tailed hawk | <i>Buteo jamaicensis</i> | X | X |
| red-winged blackbird | <i>Agelaius phoeniceus</i> | X | X |
| rock wren | <i>Salpinctes obsoletus</i> | | X |
| spotted towhee | <i>Pipilo maculatus</i> | X | |
| Townsend's warbler | <i>Dendroica townsendi</i> | X | |
| turkey vulture | <i>Cathartes aura</i> | | X |
| Vaux's swift ^{2/} | <i>Chaetura vauxi</i> | X | |
| violet-green swallow | <i>Tachycineta thalassina</i> | X | X |
| western kingbird | <i>Tyrannus verticalis</i> | | X |
| western meadowlark | <i>Sturnella neglecta</i> | X | X |
| western scrub-jay | <i>Aphelocoma californica</i> | X | X |
| western tanager | <i>Piranga ludoviciana</i> | X | X |
| western wood-pewee | <i>Contopus sordidulus</i> | X | X |
| white-crowned sparrow | <i>Zonotrichia leucophrys</i> | X | |
| Wilson's warbler | <i>Wilsonia pusilla</i> | X | X |
| yellow-rumped warbler | <i>Dendroica coronata</i> | X | X |
| yellow warbler | <i>Dendroica petechia</i> | | X |
| Mammals | | | |
| American badger (dens and diggings) | <i>Taxidea taxus</i> | | X |
| beaver (chewed woody vegetation) | <i>Castor canadensis</i> | | |
| California ground squirrel | <i>Spermophilus beecheyi</i> | X | X |
| coyote | <i>Canis latrans</i> | X | |
| mule deer | <i>Odocoileus hemionus</i> | X | X |
| pocket gopher (tunnels and mounds) | <i>Thomomys</i> spp. | X | |
| western gray squirrel (nests) ^{1/} | <i>Sciurus griseus</i> | X | X |
| Reptiles | | | |
| ring-necked snake | <i>Diadophis punctatus</i> | | X |
| western fence lizard | <i>Sceloporus occidentalis</i> | | X |
| western rattlesnake | <i>Crotalus viridis</i> | | X |
| western yellow-bellied racer | <i>Coluber mormon</i> | X | X |

Table 1. Wildlife species observed in the project area during the overhead electrical collector line and bridge crossing surveys

| Common Name | Scientific Name | Wood Gulch Crossing Survey | OH Electrical Collector Line Survey |
|----------------------------|---------------------------|----------------------------|-------------------------------------|
| Amphibians | | | |
| pacific tree frog | <i>Pseudacris regilla</i> | X | X |
| western toad ^{2/} | <i>Bufo boreas</i> | X | |

1/ Washington State Threatened Species.

2/ Washington State Species of Concern.

Conclusions and Recommendations

Development within the Wood Gulch area has the potential to degrade western gray squirrel habitat by removing mast-producing trees, destroying nests and potential nest sites, and decreasing the interconnected tree canopy that squirrels use to travel safely through their territories.

Klickitat County's CAO defines the habitat of federal or state-listed species as Critical Wildlife Habitat Conservation Areas and requires that land development activities in these areas must avoid, minimize, or mitigate impacts to the wildlife habitat values. In consideration of the CAO, the revised project access includes a bridge crossing that is located further upstream from the existing informal road crossing. As noted previously, instream aquatic habitat and adjacent wetlands and floodplains, which are priority habitats for listed steelhead, will be avoided. Impacts to Oregon white oak trees, which are a priority habitat and often associated with western grey squirrels, will also be avoided.

According to the EOZ Permit, construction activities must maintain a 400-foot buffer and blasting or pile driving must maintain a 1,300-foot buffer from occupied western gray squirrel nests between May 15 and September 30. In addition, state law RCW 77.15.130 protects nest trees used by western gray squirrels. A 75-foot year-round buffer will be maintained from any western gray squirrel nests.

The bridge crossing and most segments of the associated road intersect the seasonal squirrel non-disturbance nest buffers. However, the bridge crossing and all segments of the associated roads are outside of the 75-foot year-round construction buffers. Therefore, project construction will be in compliance with the EOZ permit, so long as construction activities take place during the non-breeding season (from October 1 to May 14).

Construction of the OH collector line will occur outside the 400- and 1,300-foot western gray squirrel buffers noted above and will be in compliance with the Project EOZ permit, so long as construction activities take place during the non-breeding season (from October 1 to May 14).

Design of the OH collector line will comply with the EOZ permit through placement of wood poles and conductors outside of the 75-foot year-round construction buffer of 2 western gray squirrel nests located within the corridor (Figures 3 and 4C).

WDFW and Klickitat County have recommended that construction activities occur to the greatest extent possible outside of the breeding season. However, to the extent that construction of the bridge or OH collector line must occur between May 15 and September 30, western gray squirrel nests within 400 feet of construction activities and 1,300 feet of blasting or pile driving will be monitored before, during, and after construction activities by an independent qualified biologist. Should active nests be impacted by construction activities or operation of a conductor within 75 feet of an occupied nest, mitigation options will be reviewed with Klickitat County and WDFW.

Potential on-site mitigation options for the western gray squirrel include 1) protecting oak forests and prairie association from development; 2) retaining mast producing trees; 3) where previously removed, replanting oaks and nut trees; 4) removing grazing for a period to allow oak regeneration, 5) installing nest boxes; and 6) road and squirrel hunting closures in priority habitat areas (Rodrick and Milner 1991). In addition, because a frequent source of mortality for western gray squirrels is due to vehicular traffic, reduced speed limits may reduce the likelihood that vehicles will kill squirrels on roads. Off-site mitigation options may also be reviewed with Klickitat County and WDFW as necessary and appropriate.

Vaux's swifts nest in forested habitat are more common in old-growth forests than in younger stands. The species usually roosts and nests in natural cavities with vertical entryways, such as large-diameter hollow trees or snags. The species often forages over woodlands, lakes, and rivers, where flying insects are abundant. Suitable roosting, breeding, and foraging habitats for Vaux's swifts occur within the project area and surrounding habitats. Project design and construction should minimize impacts to forest and woodland areas that serve as valuable habitat for the Vaux's swift.

Western toads are found in a wide variety of habitats, ranging from desert springs to mountain wetlands. They range into various upland habitats around ponds, lakes, reservoirs, and slow-moving rivers and streams; sometimes they move up to several kilometers through uplands, away from breeding areas (Bull 2006). For shelter, they dig their own burrow in loose soil or use burrows of small mammals or seclude themselves under logs or rocks. Egg-laying sites include shallow areas of ponds, lakes, or reservoirs, or pools of slow-moving streams. Western toads often overwinter underground in rodent burrows, under large rocks, logs or root wads, and in banks adjacent to streams and lakes.

Wood Gulch is a perennial stream that may be used by breeding western toads. In addition, overwintering habitat, such as rodent burrows, are abundant throughout the area. Construction activities may directly and indirectly impact potential wetland and upland habitats for the western toad in several ways, including killing migrating toads by vehicles on roads, degrading habitat by causing habitat fragmentation, isolating populations by developing in wetland buffers, and negatively impacting water quality and hydrology.

It is recommended that appropriate erosion and stormwater pollutant control measures be implemented, and that oversize culverts be installed at various locations along the access road to maintain and improve wildlife movement through the Project area. Signs and traffic speeds should also be implemented.

In accordance with the Project EOZ Permit, a distance of 1,300 feet from any occupied raptor nest is to be maintained between April 15 and August 31. Therefore, construction of the

proposed OH electrical collector line should be postponed until August 31 or until a qualified biologist has determined that the nest is no longer occupied. Because red-tailed hawk nestlings typically fledge from nests in 45 days, it is anticipated that the nests will be vacated by early August.

HABITAT AND RARE PLANTS

Affected Environment and Updated Studies

The access road for the proposed Wood Gulch Bridge crossing would be constructed in the uplands of Wood Gulch to connect the bridge installation site to the east and west sides of Miller SW. The access road route would ultimately connect with Dot Road to the west of Wood Gulch and to the turbine string on the plateau east of Wood Gulch, between proposed turbines B-1 and B-3. Wood Creek has carved a broad canyon with a wide basin, a relatively level floodplain, riparian community, and broad terraces. The uplands are vegetated with forest and shrub-steppe plant communities. The slopes on either side of the canyon are moderate to moderately steep for the most part. An existing Jeep road leads southeast to the proposed stream crossing site from agricultural lands on the plateau to the west through an abandoned homestead site on the west side of Wood Creek. For the purpose of the rare plant survey conducted on May 20 and June 11, 2010, it was assumed that the access road route would approximate the area in the vicinity of the existing Jeep road.

Two TtEC biologists examined approximately 300 acres on May 20 within proximity of the proposed bridge crossing of Wood Creek for existing habitats and rare plants with potential for occurrence. Identification periods are those months in which flowers or fruiting bodies are most likely to be visible. The on-line information sources for identification periods include the online U.S. Department of Agriculture Plants Database and University of Washington Burke Museum. The rare plants surveyed, their Washington Natural Heritage (WNHP) rank, federal and state status, and their identification periods are listed in Table 2. None of the plant species is federally listed as Threatened or Endangered; however, two species are candidates for listing (SC). None of the species were mapped by WNHP as occurring in the Project area. While the habitats within the buildable area are not highly likely to support most of the rare plant species in Table 3, there is a low to moderate likelihood of occurrence for the majority of these species and, thus, all were surveyed for presence. A Habitat Management Plan for Miller SW has been prepared and is attached as Attachment 2.

The Wood Gulch study area included the areas on both sides of Wood Gulch in which the access road would likely be located. A follow-up vegetation survey was conducted on June 11 for habitats and rare plant species with later blooming periods. In both surveys, transects were walked using an intuitive meander survey method in which the areas with highest likelihood of supporting rare plants received the greatest attention.

The upland slopes adjacent to the stream and associated wetlands consist primarily of a Riparian community. Moving upland from Wood Creek, the vegetation comprises the following communities: Mature Forest (conifer and hardwoods) with a mosaic of Juniper Savannah, Grassland and Shrub-steppe (Figure 3). Black cottonwood (*Populus trichocarpa*) and white alder (*Alnus rhombifolia*) are dominant overstory riparian trees. The riparian understory dominants include red osier dogwood, Douglas' hawthorn, gray alder (*Alnus incana*), and

chokecherry. Western juniper, Oregon white oak (*Quercus garryana*), and Ponderosa pine (*Pinus ponderosa*) are dominant upland overstory trees.

The upland herb layer is dominated by native grass and forb species including approximately 10% non-native weedy species, primarily cheatgrass (*Bromus tectorum*). Snowberry (*Symphoricarpos albus*) is common in the woodland understory, and gray rabbitbrush (*Chrysothamnus nauseosus*), bitterbrush (*Purshia tridentata*), and big sagebrush (*Artemisia tridentata*) are dominant shrub species in the Shrub-steppe. Stiff sagebrush (*Artemisia rigida*), buckwheat (*Eriogonum* spp.), and fleabane (*Erigeron* spp.) species are dominant in the lithosol (dwarf shrub-steppe) communities.

The plant communities along the existing Jeep road on the west slopes of Wood Gulch include mature forest (ponderosa pine) and Oregon white oak woodland. Existing individual mature pines exceed 40 inches in diameter at breast height (dbh). Approximately 20 mature and 40 old-growth ponderosa pines are present within the vicinity of the existing Jeep trail. The oak woodland lines the Jeep road on the downslope side. There are additional groves of oak within the canyon and areas of oak savannah (i.e., sparsely distributed oak trees) dot the canyon slopes. Some of the individual oaks have a 36- to 40-inch dbh or are in multi-stem clumps that total 70 inches dbh.

The second component of the Miller SW habitat and rare plant study was conducted by TtEC on May 30 and 31 and June 11, 2010, for the OH collector line (Figures 4A, 4B and 4C). An intuitive meander survey was conducted within a 200-foot corridor (100 feet either side of the proposed collector line centerline) for the plants listed in Table 2.

The habitat within the corridor consists primarily of moderately grazed grassland dominated by a mix of native grasses and forbs, particularly bluebunch wheatgrass and Idaho fescue; and non-native forbs and grasses, particularly cheatgrass and bulbous bluegrass (*Poa bulbosa*). The canyon slopes of Wood Gulch and Big Horn include scree slopes and rock jumbles with a mosaic of grassland and juniper savannah habitat. Other habitats within the study area include wetlands, oak woodland, and riparian. An aspen stand habitat is mapped east of the study corridor (Figure 4B).

The habitat and rare plant survey revealed colonies of rib-seed desert-parsley (*Lomatium tomanitchii*), a newly discovered species observed in 2008 within proximity of the proposed OH collector line route (Brainerd et al. 2008). The plant exhibits unique combinations of characteristics of the fruit, leaves, and root that distinguish it from similar *Lomatium* species, and it grows in a specialized habitat with shrink-swell clay soils located on old, massive landslide areas. The colonies of rib-seed desert-parsley observed within the OH collector line study corridor are distributed primarily in the area on the slopes of either side of Wood Gulch (Figure 4C). No other rare plants were observed within the 200-foot study corridor.

Table 2. Rare Plant Species with Potential to Occur within the Vicinity of the Miller Ranch Wind Project Southwest Area

| Scientific Name | Common Name | Federal and/or State Status/ WNHP Rank | Identification Period | Habitat |
|--|------------------------------|---|------------------------------|---|
| <i>Astragalus arrectus</i> | Palouse milkvetch | WA: Threatened WNHP: G2G3S2 | Late April – Mid July | Grassy slopes; wooded areas on shallow to deep soils. |
| <i>Astragalus misellus</i> <i>var. pauper</i> | pauper's milkvetch | WA: Sensitive WNHP: G4T3S3 | Mid April – Mid June | Ridgetops; slopes; shrub steppe on lithosols |
| <i>Camissonia minor</i> | small evening primrose | WA: Sensitive WNHP: G4S2 | Early May – Early June | Gravelly basaltic lithosols. |
| <i>Camissonia pygmaea</i> | dwarf evening primrose | WA: Sensitive WNHP: G3S3 | Late April – June | Rocky slopes; sandy banks; dry gravelly washes. |
| <i>Carex hystericina</i> | porcupine sedge | WA: Sensitive WNHP: G5S2 | May – September | Wet areas associated with creeks, seeps, and springs. |
| <i>Cryptantha leucophaea</i> | gray cryptantha | USFWS: SC WA: Sensitive WNHP: 2G3S2S3 | April – June | Sand dunes and other dry sandy areas. |
| <i>Cryptantha rostellata</i> | beaked cryptantha | WA: Threatened WNHP: G4S2 | Early May – Mid June | Course dry substrates over basalt. |
| <i>Cryptantha spiculifera</i> | Snake River cryptantha | WA: Sensitive WNHP: G4?S2? | Mid April – June | Coarse stony soils with sparse vegetative cover. |
| <i>Cusickiella douglasii</i> | Douglas' draba | WA: Threatened WNHP: G4G5S1 | April – June | Thin gravelly and/or sandy substrate over basalt. |
| <i>Damasonium californicum</i> | California damasonium | WA: Threatened WNHP: G4S1 | June – July | Vernal pools. |
| <i>Erigeron piperianus</i> | Piper's daisy | WA: Sensitive WNHP: G3S3 | Early May – Mid June | Deep often somewhat alkaline soils; with sagebrush |
| <i>Juncus hemiendytus</i> <i>var. hemiendytus</i> | dwarf rush | WA: Threatened WNHP: G5T5S1 | May – June | Vernal pool margins. |
| <i>Linanthus bolanderi</i> | Bolander's linanthus | WA: Sensitive WNHP: G4G5S1 | April – June | Dry, rocky open slopes. |

Table 2. Rare Plant Species with Potential to Occur within the Vicinity of the Miller Ranch Wind Project Southwest Area

| Scientific Name | Common Name | Federal and/or State Status/ WNHP Rank | Identification Period | Habitat |
|---|--------------------------------|---|------------------------------|--|
| <i>Lomatium laevigatum</i> | slickcrock biscuitroot | WA: Threatened WNHP: G3S2 | April – Mid June | Crevices in cliffs; barren rocky slopes. |
| “ <i>Lomatium tomanitchii</i> ” (Taxonomic status is under scientific review) | rib-seed desert- parsley | WA: None WNHP: SNR | Mid April – June | Clay soils on gentle canyon slopes associated with landslides. |
| <i>Myosurus sessilis</i> (<i>clavicaulis</i>) | sessile mousetail | WA: Sensitive WNHP: G3S2 | April – Mid May | Moist areas; drying vernal pool margins. |
| <i>Nicotiana attenuata</i> | coyote tobacco | WA: Sensitive WNHP: G4S2 | Mid May – September | Dry open sandy to rocky sites. |
| <i>Oenothera caespitosa</i> <i>ssp. marginata</i> | tufted evening primrose | WA: Threatened WNHP: G5T3T5S1 | Early June – August | Dry rocky slopes. |
| <i>Penstemon deustus</i> <i>var. variabilis</i> | hot-rock penstemon | WA: Threatened WNHP:G5T1T2 S1S2 | May – June | Thin dry soils over basalt. |
| <i>Penstemon eriantherus</i> <i>var.</i> <i>whitedii</i> | Whited’s penstemon | WA: Sensitive WNHP: G4T2S2 | Mid May – Mid June | Dry rocky substrates; xeric plant associations. |
| <i>Polygonum parryi</i> | Parry’s knotweed | WA: Threatened WNHP: G4S1? | May – July | Vernally moist gravelly soils. |
| <i>Ranunculus reconditus</i> | obscure buttercup | WA: Endnagered WNHP: G2S1 | March – April | Meadow steppe with bunchgrass and broad-leaved perennial herbs. |
| <i>Texasporium sancti-jacobi</i> | woven-spore lichen | USFWS: SC WA: Threatened WNHP: G2S1? | Year Round | Deep soil; high quality habitat on gentle slopes. |
| <i>Trichostema oblongum</i> | oblong bluecurls | WNHP: SNR WA: Review | July – August | Vernally moist alkaline areas. |

Table 2. Common species in vegetation communities in the vicinity of the proposed Wood Gulch bridge and access road and proposed overhead collector line

| Scientific name | Common name | Locations/Characteristics |
|---------------------------------|-------------------------|--|
| <i>Achnatherum thurberianum</i> | Thurber's needlegrass | Dominant grass in understory of woodlands. |
| <i>Alnus incana</i> | Gray alder | Dominant tree in riparian at edges of stream. |
| <i>Alnus rhombifolia</i> | White alder | Dominant tree in riparian at edges of floodplain. |
| <i>Amelanchier alnifolia</i> | Serviceberry | Dominant understory shrub on east flank of canyon. |
| <i>Artemisia rigida</i> | Stiff sagebrush | Dominant in lithosol (dwarf shrub-steppe) communities. |
| <i>Artemisia tridentata</i> | Big sagebrush | Subdominant shrub in open areas; component of WDFW Priority Habitat (shrub-steppe). |
| <i>Bromus tectorum</i> | Cheatgrass | Noxious weed; dominant grass in open areas. |
| <i>Chrysothamnus nauseosus</i> | Gray rabbitbrush | Dominant in open areas; component of WDFW Priority Habitat (shrub-steppe). |
| <i>Cornus sericea</i> | Redosier dogwood | Dominant in riparian at edges of stream; component of WDFW Priority Habitat (riparian). |
| <i>Crataegus douglasii</i> | Douglas' hawthorn | Dominant in riparian understory at edge of floodplain; component of WDFW Priority Habitat (riparian). |
| <i>Eleocharis palustris</i> | Common spikerush | Common in the wetlands adjacent to Wood Creek. |
| <i>Eriogonum spp.</i> | Buckwheat | Numerous species common in lithosol (dwarf shrub-steppe) communities. |
| <i>Festuca idahoensis</i> | Idaho fescue | Dominant in open areas and in understory. Native grassland species. |
| <i>Hydrophyllum capitatum</i> | Dwarf waterleaf | Codominant in pine grove understory. |
| <i>Juncus spp.</i> | Rush species | Common in wetlands across the Project area. |
| <i>Juncus effusus</i> | Soft rush | Common in wetlands across the Project area. |
| <i>Juniperus occidentalis</i> | Western juniper | WDFW Priority Habitat (juniper woodland; mature; old growth). |
| <i>Leymus cinereus</i> | Basin wildrye | Large grass in upland swales. |
| <i>Mimulus guttatus</i> | Common monkeyflower | Common in the springwaters feeding Wood Creek. |
| <i>Nasturtium officinale</i> | Water cress | Dominant in unnamed spring-fed stream on east side of Wood Gulch Canyon and in wetlands within and adjacent to the main stream. |
| <i>Pinus ponderosa</i> | Ponderosa pine | Dominant overstory and understory species above floodplain; in mature stands and savannah. WDFW Priority Habitat (mature; old growth). |
| <i>Plagiobothrys figuratus</i> | Fragrant popcorn flower | Common in perennially wet areas across the Project area. |
| <i>Poa bulbosa</i> | Bulbous bluegrass | Common across the Project area. |
| <i>Poa secunda</i> | Sandberg bluegrass | Dominant in open areas and in the understory of woodlands above the floodplain. |

Table 2. Common species in vegetation communities in the vicinity of the proposed Wood Gulch bridge and access road and proposed overhead collector line

| Scientific name | Common name | Locations/Characteristics |
|--------------------------------|----------------------|--|
| <i>Populus trichocarpa</i> | Black cottonwood | Dominant in riparian overstory at edges of floodplain; component of WDFW Priority Habitats (riparian; mature; old growth). |
| <i>Prunus virginiana</i> | Chokecherry | Dominant in riparian and upland understory at edges of floodplain and in uplands; component of WDFW Priority Habitat (riparian). |
| <i>Pseudoroegneria spicata</i> | Bluebunch wheatgrass | Dominant native species in open upland areas and in forest understory. |
| <i>Purshia tridentata</i> | Antelope bitterbrush | Dominant in uplands; associated with WDFW Priority Habitat (shrub-steppe). |
| <i>Quercus garryana</i> | Oregon white oak | WDFW Priority Habitat and Klickitat County Critical Area; has primary association with state Threatened western gray squirrel. |
| <i>Ribes aureum</i> | Golden currant | Codominant shrub along ephemeral stream channels; component of WDFW Priority Habitat (shrub-steppe). |
| <i>Scirpus microcarpus</i> | Softstem bulrush | Common in the springwaters feeding Wood Gulch and in Wetland A. |
| <i>Schedonorus phoenix</i> | Tall fescue | Common in the upland grassland and shrub steppe communities. |
| <i>Symphoricarpos albus</i> | Common snowberry | Codominant upland shrub. |
| <i>Typha latifolia</i> | Common cattail | Areas of cattail occur in the wetlands associates Wood Creek. |

Conclusions and Recommendations

No rare plants were found within the general area proposed for the Wood Gulch Bridge crossing during the May 20 and June 11, 2010, rare plant survey.

The following WDFW Priority Habitats are represented within the Wood Gulch Bridge crossing study area: juniper savannah, old growth-mature forest, Oregon white oak woodlands, Riparian, freshwater wetlands, instream, and shrub-steppe (WDFW 2008). The Wood Gulch study area included the following critical areas listed in the Klickitat County CAO (Klickitat County 2004): wetlands, frequently flooded areas, and critical wildlife habitat conservation areas (habitats that have a primary association with federal and state listed fish and wildlife species). This includes Wood Creek because it supports spawning, rearing, and migration habitat of *O. Mykiss* and may support steelhead trout, federally listed as Threatened and a Candidate for state listing. Oregon white oak woodland habitat will also be protected.

Impacts to these communities and to the largest of the individual trees should be minimized. Wood Creek will be avoided by spanning with a pre-formed bridge. Wetlands associated with the creek are not proposed for the project footprint and should be avoided by flagging and signing prior to construction activities. The ephemeral creeks with associated juniper-hardwood

riparian community on the slopes of the east side of the Wood Gulch canyon should be avoided due to the hydrological contribution of these streams to Wood Creek and density of juniper trees and other woody vegetation in these draws. In addition, impacts to the spring-fed intermittent/perennial stream and perennial stream (instream habitat) and associated wetland habitat (critical areas) and their buffers situated on the east slope of Wood Gulch should be flagged for avoidance.

Rare plant species observed within the OH collector line study corridor includes only the rib-seed desert-parsley. Impacts to the mapped colonies (Figure 4C) should be avoided or grading should be minimized under the proposed line where mapped colonies occur. WDFW Priority Habitats within the corridor include juniper savannah, wetlands, oak woodland, and riparian. Impacts to these habitats should be avoided to the extent possible or minimized if avoidance is impractical. The Riparian vegetation in Big Horn Canyon and the Oregon white oak in Wood Gulch can be avoided by spanning of the OH collector line over the streams. As noted above in the Wetlands section, it would be difficult to avoid impacting other Priority Habitats (i.e., aspen stand, Wetland B, Oregon white oak woodlands) by going around Wetland A. This wetland can be protected from construction impacts, however, by the use of Mabey® or other crane mats (temporary hardwood surface) placed across the wetlands. The mats allow for flow, while minimizing soil disturbance, compaction, erosion, and sedimentation.

OTHER RESOURCES AND CRITICAL AREAS

Affected Environment and Updated Studies

The Klickitat County CAO was adopted pursuant to the critical areas requirements of the State of Washington's Growth Management Act, RCW 36.70A, that are applicable to all counties. A critical areas review is required for permits or land use approvals issued by the County and for certain grading/clearing activities. Critical areas include: wetlands and other waters; areas with a critical recharging effect on aquifers used for potable water; critical fish and wildlife habitat conservation areas; frequently flooded areas; and geologically hazardous areas. Impacts to key critical areas have been addressed above; other resource areas are discussed below in association with the proposed Project micro-siting revisions.

A review of land use, socioeconomic and aesthetic resources has indicated that there are no new or significant impacts associated with the proposed Project micro-siting revisions.

A review of traffic and transportation has been completed for Miller SW. The Project will use aggregate from the two western-most on-site borrow areas noted in Figure 7 of the Miller Ranch Project SEPA Checklist, or the existing, permitted aggregate borrow area located near Dot and Newell roads. As the Miller Ranch SEPA Checklist accounted for the possibility of truck traffic associated with transport of aggregate rock materials from off-site, no additional truck trips are noted here. Water will be brought onto the Project site from a nearby privately owned, permitted well located near Schrantz Road, approximately one-half mile north the Project. A temporary pipeline will extend from the well to a temporary pond excavated in an upland area near the substation. As the pond will be dewatered and deconstructed to the original contours and characteristics of the upland area immediately upon completion of construction, it will not be permanent; therefore, no wetland or other waters will have been created. As a result of this approach, there will be no requirement for trucking of water to the site.

Placement of OH collector line poles and other facilities in geologically hazardous areas will be avoided to the greatest extent possible. Any project facilities located in geologically hazardous areas will be constructed and operated in compliance with the Miller Ranch Wind Project EOZ Permit and the Klickitat County CAO.

Conclusions and Recommendations

There are no new impacts to land use, socioeconomic and aesthetic resources associated with the micro-siting revisions. The Miller SW facilities will not result in direct impacts to jurisdictional wetlands or surface waters. Impacts to wetland stream buffers resulting from Project construction or operation will be addressed through on-site or off-site mitigation. Mitigation measures will be determined in coordination with Klickitat County and WDFW, in accordance with the Project EOZ Permit conditions. There are no wetlands and other waters, critical recharge areas, fish and wildlife habitat conservation areas, frequently flooded areas or geologically hazardous areas significantly impacted by the construction or operation of the revised layout in the Miller SW area.

As there are no new impacts to land use, socioeconomic and aesthetic resources, no mitigation measures have been recommended. Road requirements associated with the Road Haul Agreement are adequate to address truck traffic associated with use of an off-site aggregate source. Mitigation associated with Miller SW will be consistent with the Project EOZ Permit dated June 6, 2008.

If you have any questions or comments on the information provided herein, please call me at 425-482-7706

Sincerely,

TETRA TECH EC, INC.

Virginia Howell

Enclosures:

Attachment 1, Cultural Resource Memorandum (Confidential)
Attachment 2, Miller SW Habitat Management Plan

cc: Collin Whitehead, enXco Development Corporation

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