



Portland General Electric Company

121 SW Salmon Street, Portland, Oregon 97204

PortlandGeneral.com

BCWOPSDoc 67

JUN 14 2007

DEPARTMENT OF ENERGY

07
RCT-06-07

June 14, 2007

Mr. John White
Oregon Department of Energy
625 Marion Street, NE
Salem, OR 97301-3742

Re: Proposed Temporary Crane Path: Request for Department of Energy Determination Pursuant to OAR 345-027-0050(5) – Change Request #2

Dear John:

As you know, Portland General Electric Company (PGE) is the holder of the Second Amended Site Certificate for the Biglow Canyon Wind Farm (the "Site Certificate"). Construction of the Biglow Canyon Wind Farm has commenced. PGE is proposing to modify the approved facility as shown on the attached Figure 1. Specifically, PGE proposes to construct a new temporary crane path between Helm Lane and the northern end of Turbine String 10, and eliminate the approved, but not constructed, permanent access road between Turbine 3 and Turbine 4 in Turbine String 9.

The proposed new crane path would extend north from the vicinity of Turbine 28 to cross the upper course of Box Canyon; the crane path then turns westerly to connect with Helm Lane, as shown on the "Revised Facility Layout" on Figure 1. The crane path would be approximately 1,416 feet long. The new crane path allows PGE to avoid dismantling the crane in traveling between the northern ends of Strings 9 and 10. Helm Lane in the area between Turbines 28 and 30 is not passable to a crane; therefore, the new temporary crane path provides a route for moving the crane between the northern ends of Strings 9 and 10 without dismantling it. PGE would not construct the approved permanent access road between Turbine 3 and Turbine 4, approximately 3,167 feet in length, as shown on the "Original Facility Layout" on Figure 1. Instead of the permanent access road, PGE would construct turnarounds approximately 100 feet in diameter within the approved corridor near Turbine 3 and Turbine 4.

As discussed below, the new temporary crane path would not increase the overall permanent disturbance area and habitat impacts, nor would it impact any other protected resources. Elimination of the segment of permanent access road in Turbine String 9 would decrease the permanent disturbance area and habitat impacts. The result of the proposed facility changes, therefore, is a net reduction in permanent impacts.

Pursuant to OAR 345-027-0050(5), PGE requests a determination by the Oregon Department of Energy that the change outlined above does not require an amendment to the Site Certificate. OAR 345-027-0050(5) provides:

A certificate holder may ask the Department to determine whether a proposed change requires a site certificate amendment by submitting a written description of the proposed change, the certificate holder's analysis of the proposed change under sections

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(1) and (2) and the written evaluation described in section (3). The Department shall respond in writing as promptly as possible. The Department may refer its determination to the Council for concurrence, modification or rejection. At the request of the certificate holder or a Council member, the Department must refer its determination to the Council for concurrence, modification or rejection.

1. Analysis Under OAR 345-027-0050(1)

PGE requests a determination that the proposed change does not meet the threshold requirements for an amendment to the Site Certificate under OAR 345-027-0050(1). OAR 345-027-0050(2) is not directly relevant to PGE's request. OAR 345-027-0050(1) provides:

Except as allowed under sections (2) and (6), the certificate holder must submit a request to amend the site certificate to design, construct or operate a facility in a manner different from the description in the site certificate if the proposed change:

- (a) Could result in a significant adverse impact that the Council has not addressed in an earlier order and the impact affects a resource protected by Council standards;
- (b) Could impair the certificate holder's ability to comply with a site certificate condition; or
- (c) Could require a new condition or a change to a condition in the site certificate.

A. The proposed change would not result in a significant adverse impact that the Council has not addressed in an earlier order.

The certificate holder has evaluated the potential impacts of the new temporary crane path through studies designed to determine whether the new crane path would adversely impact any resources protected by Council rules. No adverse impacts were identified. The following summarizes the studies that have been performed and that are attached to this request:

(i) Threatened, Endangered and Sensitive Wildlife Species

Attached as Exhibit 1 is a Technical Memorandum from West, Inc., describing surveys performed in May 2007 for threatened, endangered and sensitive wildlife species. The location of the new temporary crane path is "Area D". The surveys found no threatened, endangered or sensitive wildlife species in Area D.

(ii) Habitat Impacts

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The proposed change involves the construction of a temporary crane path between Helm Lane and the northern end of Turbine String 10. The crane path does not create any permanent impacts, and the net impact of eliminating the permanent road segment in Turbine String 9 (and adding the two turnarounds) would be to reduce permanent impacts to Category 6 habitat by 1.74 acres and to reduce permanent impacts to Category 4 habitat by 0.07 acres, for a total reduction of 1.81 acres in permanent habitat impacts. Changes in permanent disturbance are summarized on the table attached as Exhibit 2.

(iii) Cultural Resource Impacts

Attached as Exhibit 3 is a Cultural Resource Survey by Archaeological Investigations Northwest, Inc. (AINW). The AINW report addresses two possible changes in the Biglow Canyon Wind Farm. With respect to the proposed temporary crane path between Helm Lane and the northern end of Turbine String 10, the survey by AINW found no archaeological or historical resources, and AINW concludes that the area does not have a high probability of prehistoric archaeological resources based on where such resources have been recorded in previous surveys.

(iv) Wetlands and Rare Plant Habitat

Attached as Exhibit 4 is a report from CH2M Hill, Inc. describing the results of surveys for wetlands or other jurisdictional waters of the United States or the State, and for rare plant habitat. As described in the report, the temporary crane path (Study Area D) would cross one intermittent stream, identified as Drainage D, which is a tributary of the John Day River. Drainage D is potentially a jurisdictional water under Section 404 of the Clean Water Act and the Oregon Removal-Fill Law. However, no fill or removal would occur in Drainage D. The only activity that would occur is the movement of a crane over the path. The report (at p. 4) notes: "Impacts to this potentially jurisdictional water could be avoided by implementing best management practices (BMPs) such as silt fencing and other erosion control measures to ensure no fill entered the channel." The certificate holder is required by Condition 26 of the Site Certificate to comply with an Erosion and Sediment Control Plan under an NPDES Storm Water Discharge General Permit #1200-C. In addition, Conditions 27-35 also ensure that the certificate holder will protect against erosion such that fill will not enter Drainage D.

No federal or state listed plant habitat or species were identified in Study Area D.

B. The proposed change would not impair the certificate holder's ability to comply with any site certificate condition.

The proposed change does not result in permanent disturbance in any area not previously evaluated. Moreover, as described above, the change does not create any net impacts to habitat, and does not create any adverse impact to other resources protected by Council rules. The Site Certificate already contains adequate conditions to address the potential impacts of the

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temporary disturbance associated with the additional crane path (for example, Soil Protection conditions 26-35 and Historic, Cultural and Archaeological conditions 69-73). Construction of the temporary crane path would not impair PGE's ability to comply with those conditions.

C. The proposed change would not require a new condition or a change to a condition of the site certificate.

As described above, the Site Certificate already contains adequate conditions to address any impacts (soil impacts, restoration of temporary disturbance areas, and impacts to previously undiscovered archaeological resources) that might arise from the facility changes addressed in this request.

2. Evaluation required by OAR 345-027-0050(3)

OAR 345-027-0050(3) requires that if the certificate holder concludes that a change does not require a site certificate amendment "based on the criteria in section (2), the certificate holder shall, nevertheless, complete an investigation sufficient to demonstrate that the proposed change in the design, construction and operation of the facility would comply with applicable Council standards." The certificate holder's justification for not requiring a site certificate amendment arises under OAR 345-027-0050(1), rather than OAR 345-027-0050(2). However, in order to ensure that the Department and the Council have all relevant information, we are providing the evaluation of compliance with applicable Council standards.

For the reasons described above, the certificate holder's proposal to use a temporary crane path between Helm Lane and the northern end of Turbine String 10, to eliminate over 3,000 feet of permanent access road in Turbine String 9, and to construct two turnarounds in Turbine String 9, does not alter the Council's prior findings that the Biglow Canyon Wind Project will comply with Council standards for Soil Protection (OAR 345-022-0022), Threatened and Endangered Species (OAR 345-022-0070), Fish and Wildlife Habitat (OAR 345-022-0060), and Historic, Cultural and Archaeological Resources (OAR 345-0220-0090). The proposed facility changes would not involve the construction of additional turbines, transmission facilities, or other structures, and would decrease the area of permanent disturbance associated with the Biglow Canyon Wind Farm. Therefore, the changes do not alter the Council's prior findings of compliance with standards regarding Organizational Expertise (OAR 345-022-0010), Retirement and Financial Assurance (OAR 345-022-0050), Land Use (OAR 345-022-0030), Protected Areas (OAR 345-022-0040), Scenic and Aesthetic Values (OAR 345-022-0080), Recreation (OAR 345-022-0100), Public Health and Safety for Wind Energy Facilities (OAR 345-024-0010), Siting Standards for Wind Energy Facilities (OAR 345-024-0015), Siting Standards for Transmission Lines (OAR 345-024-0090), Structural Standard (OAR 345-022-0020), Public Services (OAR 345-022-0110), Waste Minimization (OAR 345-022-0120), and Noise Control (OAR 340-035-0035).

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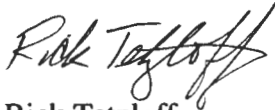
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For the reasons set forth in this letter, we request the Department's determination that the proposed addition of the temporary crane path and elimination of the approved (but not constructed) permanent access road segment do not require an amendment to the Site Certificate.

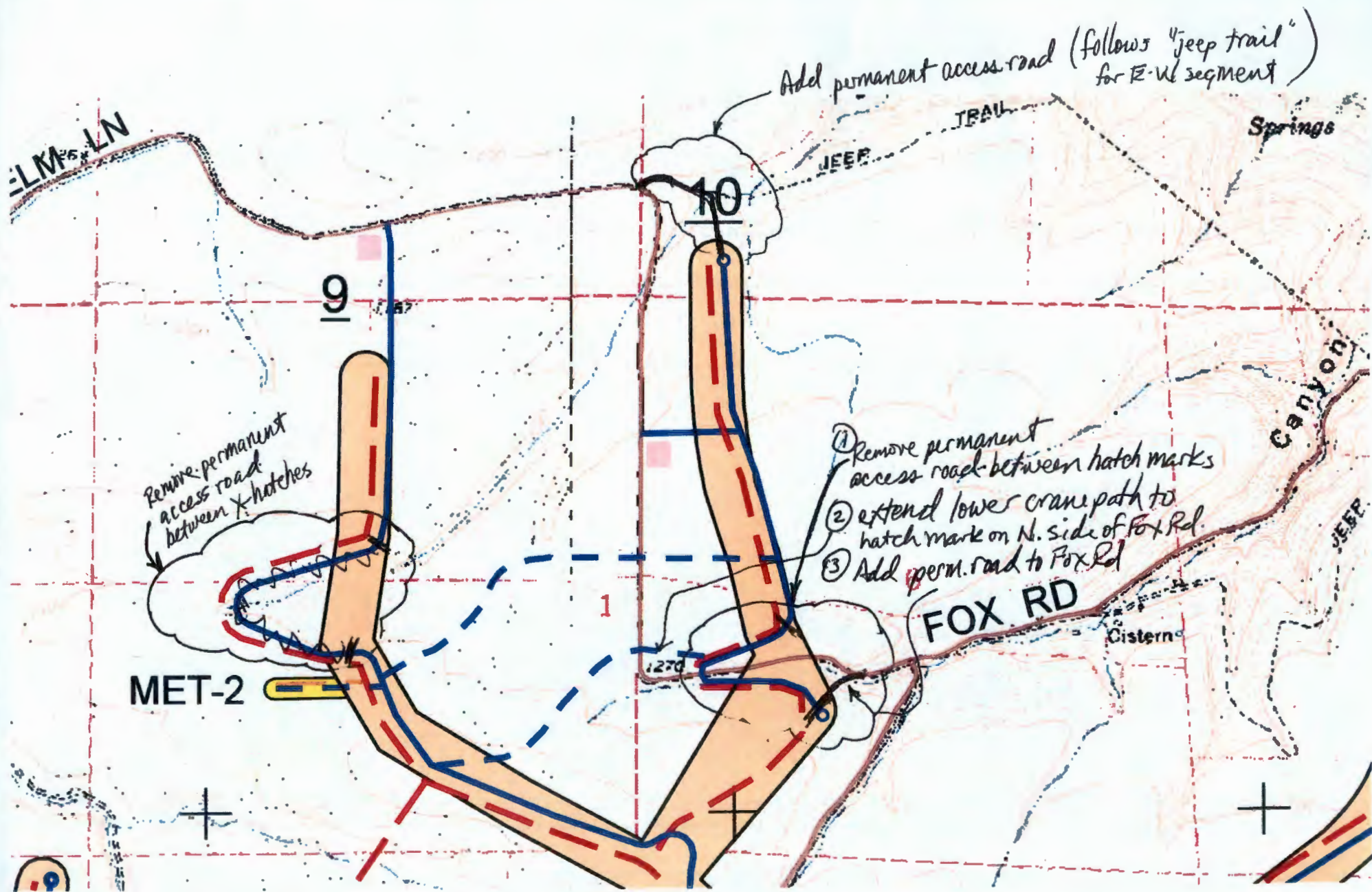
Sincerely,

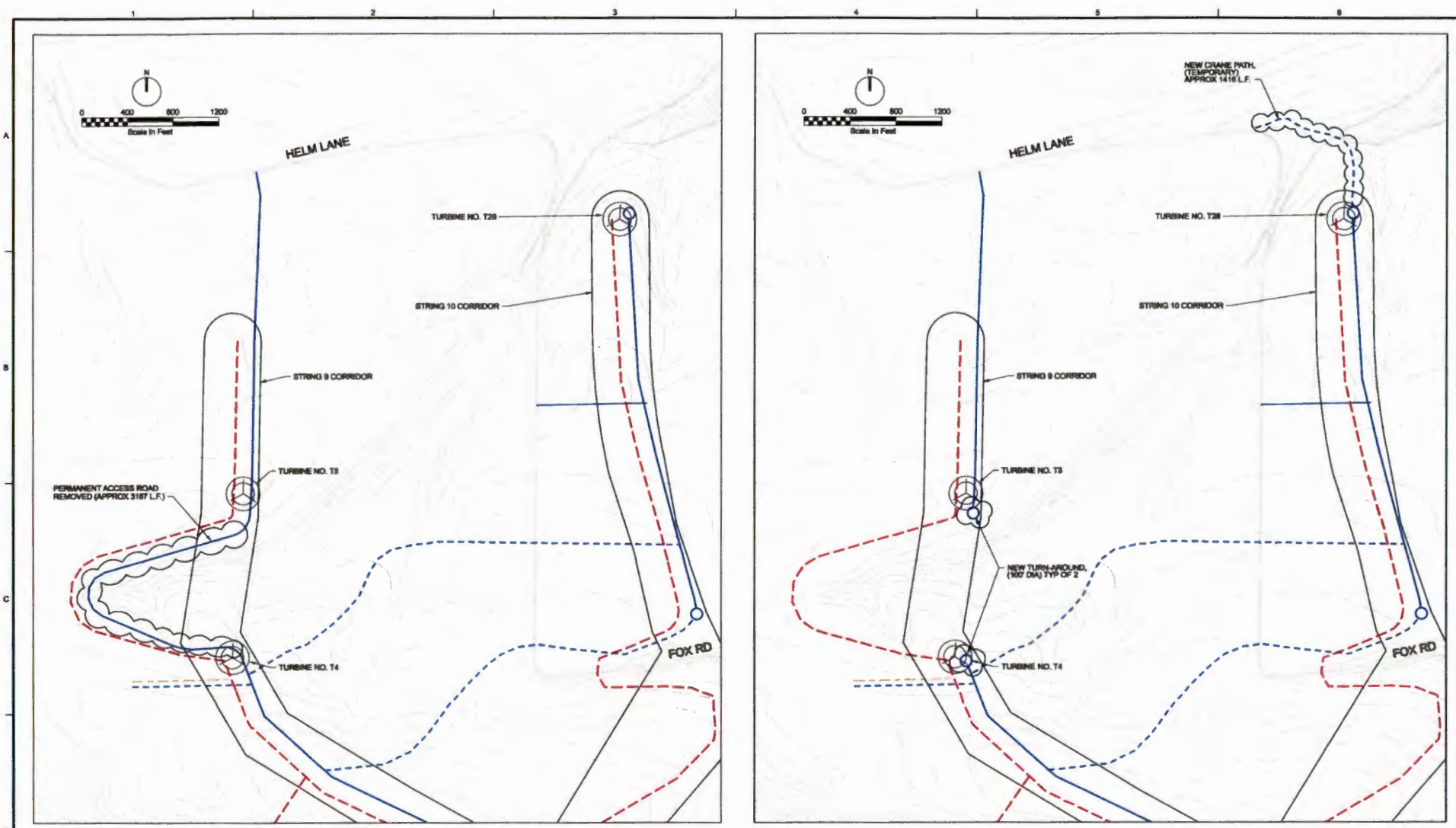
A handwritten signature in black ink, appearing to read "Rick Tetzloff". The signature is stylized and cursive.

Rick Tetzloff

Attachments

cc: Richard Allan (via email)
Kelley Marold (via email)





ORIGINAL FACILITY LAYOUT

REVISED FACILITY LAYOUT

- LEGEND:**
- PROPOSED PERMANENT ACCESS ROAD
 - - - TEMPORARY PATH FOR CRANE TRAVEL OR MET ACCESS
 - - - PROPOSED ELECTRICAL COLLECTION LINE

FIGURE 1
 FACILITY MODIFICATIONS FOR CHANGE REQUEST NO. 2
 BLOLOW CANYON WIND FARM
 JUNE 2007



EXHIBIT 2

Biglow Wind Project

12-Jun-07

Change Request #2 - Permanent Disturbance changes due to access road changes between T3 and T4 at Box Canyon:

	Cat 6 agriculture-nonvalue	Cat 6 agriculture-highvalue	Cat 4 Grassland	Total
Remove from project	38639	2680	413	41732
	44545		2685	47230
Total Removal: (s.f.)	83184	2680	3098	88962
Total Removal: (acres)	1.91	0.06	0.07	2.04

Add to Project	2475	2517		4992
	2543	2500		5043
Total Addition: (s.f.)	5018	5017	0	10035
Total Addition: (acres)	0.12	0.12	0.00	0.23

Net Change: (acres)	(1.79)	0.05	(0.07)	(1.81)
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Project Date: 6/13/2007
 Project: Biglow Canyon Wind Farm
 Describes CL of Project Features

Miscellaneous Project Features Coordinates				
Corridor Alignment (Center Lines):	OR State Plane, NAD83, Int'l Ft		Geocedic, NAD83, decimal degrees	
	Northing (Y)	Easting (X)	Latitude	Longitude
Temporary Crane paths, 200' wide corridors				
Crane Path 1: Northern path between Strings 9 & 10				
Crane Path 1 start point	735430.03	8168134.40	N 45.68379704	W 120.63289943
Crane Path 1 mid point	735568.96	8168370.71	N 45.68417913	W 120.63197568
Crane Path 1 mid point	735728.13	8168668.42	N 45.68461698	W 120.63081181
Crane Path 1 mid point	736058.26	8169001.49	N 45.6852385	W 120.62951063
Crane Path 1 mid point	736329.44	8169134.13	N 45.68626815	W 120.62899331
Crane Path 1 mid point	736453.24	8169272.67	N 45.68660828	W 120.62845198
Crane Path 1 mid point	736529.88	8169667.65	N 45.68682018	W 120.62690690
Crane Path 1 end point	736506.07	8171367.27	N 45.68676201	W 120.62025615
Crane Path 2: Southern path between Strings 9 & 10				
Crane Path 2 start point	734573.99	8169124.66	N 45.68145373	W 120.62901940
Crane Path 2 mid point	734584.47	8169219.61	N 45.68148288	W 120.62864796
Crane Path 2 mid point	734690.58	8169443.63	N 45.68177487	W 120.62777211
Crane Path 2 mid point	735259.47	8169929.98	N 45.68333716	W 120.62587266
Crane Path 2 mid point	735539.49	8170233.59	N 45.68410642	W 120.62468640
Crane Path 2 mid point	735604.33	8170386.86	N 45.68428489	W 120.62408707
Crane Path 2 mid point	735627.91	8170557.82	N 45.68435028	W 120.62341828
Crane Path 2 mid point	735549.72	8171308.31	N 45.68413895	W 120.62048128
Crane Path 2 end point	735646.83	8171591.75	N 45.68440643	W 120.61937280
Crane Path 3: Path between southern tip of String 9 and String 14				
Crane Path 3 start point	726824.38	8173591.51	N 45.66021829	W 120.61150043
Crane Path 3 mid point	726730.10	8173588.26	N 45.65995971	W 120.61151263
Crane Path 3 mid point	726543.19	8173633.85	N 45.65944727	W 120.61133332
Crane Path 3 mid point	726292.46	8173807.08	N 45.65876028	W 120.61065445
Crane Path 3 mid point	726173.93	8173984.87	N 45.65843587	W 120.60995847
Crane Path 3 mid point	726110.11	8174180.90	N 45.65826157	W 120.60919145
Crane Path 3 mid point	726059.96	8174563.84	N 45.65812544	W 120.60769350
Crane Path 3 mid point	726059.96	8174955.89	N 45.65812686	W 120.60616019
Crane Path 3 mid point	726164.81	8175489.27	N 45.65841633	W 120.60407466
Crane Path 3 mid point	726415.55	8176050.00	N 45.65910595	W 120.60188286
Crane Path 3 mid point	726493.05	8176442.06	N 45.65931985	W 120.60034986
Crane Path 3 end point	726497.61	8176951.88	N 45.65933407	W 120.59835592
Crane Path 4: Short N-S path segment between Crane Path 3 and access road (between String 14 & Herin Ln)				
Crane Path 4 start point	725581.83	8174377.36	N 45.65681346	W 120.60842032
Crane Path 4 end point	726069.25	8174377.36	N 45.65815024	W 120.60842288
Crane Path 5: Path between southern tip of String 9 and northern portion of String 13				
Crane Path 5 start point	723496.51	8171702.01	N 45.65108402	W 120.61887142
Crane Path 5 mid point	723953.81	8172339.15	N 45.65234073	W 120.61638244
Crane Path 5 mid point	724154.39	8172512.39	N 45.65289152	W 120.61570609
Crane Path 5 mid point	724528.21	8172708.42	N 45.65391751	W 120.61494156
Crane Path 5 mid point	724974.97	8172781.36	N 45.65514306	W 120.61465879
Crane Path 5 mid point	726028.34	8172779.24	N 45.65803199	W 120.61467293
Crane Path 5 mid point	726201.60	8172868.58	N 45.65850751	W 120.61432448
Crane Path 5 end point	726492.64	8173376.51	N 45.65930766	W 120.61233952
Crane Path 6: Path between String 13 and southern portion of String 14, just north of Substation/O&M Facility				
Crane Path 6 start point	722731.28	8172162.87	N 45.64898717	W 120.61706487
Crane Path 6 mid point	722891.61	8173146.06	N 45.64943073	W 120.61322110
Crane Path 6 mid point	723005.58	8173415.03	N 45.64974433	W 120.61216993
Crane Path 6 mid point	723083.08	8173807.08	N 45.64995836	W 120.61063726
Crane Path 6 mid point	723128.67	8174203.70	N 45.65008487	W 120.60908654
Crane Path 6 mid point	723224.40	8174627.66	N 45.65034897	W 120.60742916
Crane Path 6 mid point	723516.16	8175142.80	N 45.65115101	W 120.60541620
Crane Path 6 end point	723686.58	8175463.46	N 45.65161953	W 120.60416311
Crane Path 7: Path between String 8 (east of Met-3) and String 13				
Crane Path 7 start point	718635.10	8166520.87	N 45.63772857	W 120.63909989
Crane Path 7 mid point	718613.38	8167398.69	N 45.63767310	W 120.63566761
Crane Path 7 mid point	718650.59	8167984.80	N 45.63777782	W 120.63337639
Crane Path 7 mid point	718790.14	8168449.96	N 45.63816264	W 120.63155869
Crane Path 7 mid point	719041.33	8168766.28	N 45.63885296	W 120.63032357
Crane Path 7 mid point	720074.00	8169612.88	N 45.64168883	W 120.62701998
Crane Path 7 mid point	720548.47	8170096.65	N 45.64299217	W 120.62513137
Crane Path 7 mid point	720743.83	8170403.66	N 45.64352925	W 120.62393214
Crane Path 7 mid point	720836.87	8170747.88	N 45.64378586	W 120.62258679
Crane Path 7 mid point	720874.08	8171268.86	N 45.64389006	W 120.62054996
Crane Path 7 mid point	720883.38	8171817.76	N 45.64391780	W 120.61840380
Crane Path 7 end point	720844.15	8172327.78	N 45.64381224	W 120.61640938
Crane Path 8: Between Helm Rd and North end String 10				
Crane Path 8 start point	740134.57	8170490.69		
Crane Path 8 mid point	740210.47	8170693.08		
Crane Path 8 mid point	740214.68	8170773.19		
Crane Path 8 mid point	740164.09	8170849.08		
Crane Path 8 mid point	740126.14	8170933.41		
Crane Path 8 mid point	740075.54	8171135.80		
Crane Path 8 mid point	740037.60	8171232.77		
Crane Path 8 mid point	739961.70	8171308.67		
Crane Path 8 mid point	739817.20	8171340.94		
Crane Path 8 mid point	739666.94	8171339.93		
Crane Path 8 end point	739585.25	8171337.05		
Electrical Routing - 250' wide corridors				

1-31-07 edits

added 6-24-07

added 6-15-07
 added 6-12-07
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 added 6-12-07
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 added 6-12-07
 added 6-12-07

Project Date: 6/13/2007
 Project: Biglow Canyon Wind Farm
 Describes CL of Project Features

Miscellaneous Project Features Coordinates				
Corridor Alignment (Center Lines):	OR State Plane, NAD83, Int'l Ft		Geodetic, NAD83, decimal degrees	
	Northing (Y)	Easting (X)	Latitude	Longitude
90				
91	Elec route outside (W) of String 13 in T2N R18E Sect 30 running N-S just south of where Strings 13 & 13a intersect			
92				
93				
94				
95	Elec route running E-W from Substation to String 13			
96				
97				
98				
99	Elec route from tip of String 13a to intersection of Biglow Rd & Emigrant Springs Ln			
100				
101				
102				
103				
104				
105				
106	Elec route outside (E) of String 13 in T2N R18E Sect 19 running N-S just north of where Strings 13 & 13a intersect, then E into Substation			
107				
108				
109				
110				
111	Elec route from southern tip of String 14, south to Herin Ln, then west to Substation			
112				
113				
114				
115				
116	Elec route on west side of String 19 and north of Emigrant Springs Ln - has N-S and E-W segments			
117				
118				
119				
120				
121	Elec route from Emigrant Springs Ln, south to String 19 - short segment			
122				
123				
124				
125	Elec route between Strings 20 and 13 along Emigrant Springs Ln - E-W only			
126				
127				
128				
129				
130				
131				
132				
133	Elec route from southern tip of String 3, south to Herin Ln, then east to northern tip of String 4			
134				
135				
136				
137				
138				
139				
140				
141	Elec route from northern tip of String 4 SSE to String 8			
142				
143				
144				
145				
146				
147				
148				
149				
150				
151				
152				
153				
154	Elec route between Strings 7 & 13 along Medler Ln - E-W only			
155				
156				
157				
158				
159	Elec route from String 8 just south of Herin Ln, ESE to northern tip of String 13, then east to Herin Ln			
160				
161				
162				
163				
164	Elec route between Strings 8 & 13 - E-W segment due west of Substation			
165				
166				
167				
168	Elec route from northern tip of String 8 on NE alignment to String 9 (referred to Crossing "G" in rare plants/wetlands survey report)			
169				
170				
171				
172	Elec route between southern tip of String 8 to Medler Ln - short N-S segment			
173				
174				
175				
176	Elec route from southern tip of String 9, south to Herin Ln, then east to Substation			
177				
178				

1-31-07 edits

changed order

changed order

changed order

changed order

Project Date: 6/13/2007
 Project: Biglow Canyon Wind Farm
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Miscellaneous Project Features Coordinates				
Corridor Alignment (Center Lines):	OR State Plane, NAD83, Int'l Ft		Geodetic, NAD83, decimal degrees	
	Northing (Y)	Easting (X)	Latitude	Longitude
179 Elec route, String 9 to Sub, mid point	726206.64	8173284.74	N 45.65852294	W 120.61269689
180 Elec route, String 9 to Sub, mid point	726116.34	8173328.34	N 45.65827545	W 120.61252587
181 Elec route, String 9 to Sub, mid point	725936.28	8173376.93	N 45.65778181	W 120.61233486
182 Elec route, String 9 to Sub, mid point	725704.54	8173317.38	N 45.65714602	W 120.61256649
183 Elec route, String 9 to Sub, mid point	725605.15	8173188.68	N 45.65687295	W 120.61306929
184 Elec route, String 9 to Sub, mid point	722894.96	8173169.52	N 45.64944000	W 120.61312938
185 Elec route, String 9 to Sub, end point	722879.62	8173572.69	N 45.64939947	W 120.61155273
186				
187 Met Tower corridors - 200' wide for temporary access roads, met towers, and SCADA/electrical routing				
188				
189 Met 1 corridor, start point	728032.40	8173667.35	N 45.66353164	W 120.61121031
190 Met 1 corridor, end point	728235.04	8173122.58	N 45.66408531	W 120.61334223
191				
192 Met 2 corridor, start point	735258.39	8167008.04	N 45.68332115	W 120.63730549
193 Met 2 corridor, end point	735271.17	8167647.90	N 45.68335915	W 120.63480196
194				
195 Met 3 corridor, start point	718681.39	8166015.19	N 45.63785312	W 120.64107701
196 Met 3 corridor, end point	718645.96	8165061.71	N 45.63775132	W 120.64480450
197				
198 Met 4 corridor, start point	709218.63	8165276.37	N 45.61189711	W 120.64389962
199 Met 4 corridor, end point	709209.00	8165788.40	N 45.61187318	W 120.64189863
200				
201 Met 5 corridor, start point	715763.66	8194232.36	N 45.62993330	W 120.53075418
202 Met 5 corridor, end point	716585.64	8194240.98	N 45.63218766	W 120.53072170
203				
204 Met 6 corridor, start point	722592.89	8188948.93	N 45.64865563	W 120.55142449
205 Met 6 corridor, end point	722364.74	8189455.29	N 45.64803078	W 120.54944389
206				
207 Met 7 corridor, start point	717446.75	8180320.51	N 45.63452195	W 120.58514356
208 Met 7 corridor, mid point	717649.42	8180509.19	N 45.63507833	W 120.58440676
209 Met 7 corridor, mid point	717801.24	8180767.94	N 45.63549545	W 120.58339581
210 Met 7 corridor, end point	717830.53	8181066.51	N 45.63557662	W 120.58222868
211				
212 Met 8 corridor, start point	727880.72	8183810.12	N 45.66314711	W 120.57153743
213 Met 8 corridor, end point	728147.49	8184320.59	N 45.66387996	W 120.56954169
214				
215 Met 9 corridor, start point	729962.64	8156193.96	N 45.66879403	W 120.67957242
216 Met 9 corridor, mid point	730016.89	8156309.69	N 45.66888867	W 120.67912001
217 Met 9 corridor, mid point	729943.17	8156600.49	N 45.66868825	W 120.67798184
218 Met 9 corridor, mid point	729718.10	8156798.84	N 45.66807218	W 120.67720401
219 Met 9 corridor, mid point	729435.22	8156898.75	N 45.66729697	W 120.67681077
220 Met 9 corridor, mid point	729135.53	8156885.24	N 45.66647497	W 120.67886105
221 Met 9 corridor, end point	728913.38	8156825.04	N 45.66586536	W 120.67709463
222				
223 Met 10 access road (to Oehman Rd), start point	723031.77	8170404.67	N 45.64980409	W 120.62394192
224 Met 10 access road, end point	723031.77	8170666.24	N 45.64980519	W 120.62291906
225 Met 10 corridor (to String 13), start point	723031.77	8170681.24	N 45.64980525	W 120.62286041
226 Met 10 corridor, mid point	722798.77	8170677.36	N 45.64916621	W 120.62287419
227 Met 10 corridor, end point	722798.77	8171675.79	N 45.64917031	W 120.61896993
228				
229 Access Roads (permanent), 200' wide corridors				
230				
231 Access road from the northern tip of String 12 east to Oehman Rd - short segment				
232 Access road N end String 12, start point	717053.43	8170249.87	N 45.63340740	W 120.62451122
233 Access road N end String 12, end point	717053.43	8170327.24	N 45.63340773	W 120.62420876
234				
235 Access road from eastern end of String 13a west to Biglow Rd				
236 Access road, String 13a to W, start point	717488.38	8176984.97	N 45.63462575	W 120.59818368
237 Access road, String 13a to W, end point	717528.87	8175838.60	N 45.63473288	W 120.60266550
238				
239 Between Emigrant Springs Ln and String 13b, there are 4 access roads (E-W) connecting WTG sites to N Klondike Rd.				
240 The 4 access roads are labeled below as Driveways 1-4 in order from north to south.				
241 Driveway 1, String 13 to Klondike Rd, start point	714417.08	8173180.77	N 45.62618881	W 120.61303900
242 Driveway 1, String 13 to Klondike Rd, end point	714417.08	8173143.45	N 45.62618867	W 120.61318488
243				
244 Driveway 2, String 13 to Klondike Rd, start point	713659.86	8173180.77	N 45.62411207	W 120.61303486
245 Driveway 2, String 13 to Klondike Rd, end point	713659.86	8173080.90	N 45.62411168	W 120.61342522
246				
247 Driveway 3, String 13 to Klondike Rd, start point	712977.12	8173173.36	N 45.62223956	W 120.61306009
248 Driveway 3, String 13 to Klondike Rd, end point	712977.12	8173082.36	N 45.62223921	W 120.61341577
249				
250 Driveway 4, String 13 to Klondike Rd, start point	712201.17	8172563.30	N 45.62010908	W 120.61544020
251 Driveway 4, String 13 to Klondike Rd, end point	712199.37	8173167.41	N 45.62010649	W 120.61307909
252				
253 Access road from southern portion (not end) of String 14 west to Herin Ln through middle of R18E T2N Sect 18				
254 Access road, String 14 to W, start point	725492.10	8176275.89	N 45.65657412	W 120.60099487
255 Access road, String 14 to W, mid point	725576.72	8174051.36	N 45.65679824	W 120.60969526
256 Access road, String 14 to W, mid point	725234.94	8173494.75	N 45.65585879	W 120.61187027
257 Access road, String 14 to W, end point	725232.77	8173259.65	N 45.65585194	W 120.61278970
258				
259 Access road between southern tip of String 15a and String 15				
260 Access road, String 15 to 15a, start point	722274.58	8182721.71	N 45.64776920	W 120.57577403
261 Access road, String 15 to 15a, mid point	722673.42	8183571.92	N 45.64886518	W 120.57245085
262 Access road, String 15 to 15a, mid point	723010.28	8184591.86	N 45.64979148	W 120.56846361
263 Access road, String 15 to 15a, mid point	723234.24	8184975.80	N 45.65040659	W 120.56696296
264 Access road, String 15 to 15a, mid point	723969.47	8185555.70	N 45.65242430	W 120.56469757
265 Access road, String 15 to 15a, end point	724476.62	8185873.59	N 45.65381589	W 120.56345598
266				
267 Access road between northern tip of String 2 and Herin Ln				

1-31-07 edits

changed order

changed order

changed order

changed order

changed order

Project Date: 6/13/2007
 Project: Biglow Canyon Wind Farm
 Describes CL of Project Features

Miscellaneous Project Features Coordinates					
Corridor Alignment (Center Lines):	OR State Plane, NAD83, Int'l Ft		Geodetic, NAD83, decimal degrees		
	Northing (Y)	Easting (X)	Latitude	Longitude	
266 Access road, String 2 to Herin Ln, start point	730480.38	8158448.52	N 45.67017251	W 120.67075726	
269 Access road, String 2 to Herin Ln, mid point	730700.05	8158515.03	N 45.67077535	W 120.67049890	
270 Access road, String 2 to Herin Ln, mid point	730851.86	8158714.06	N 45.67119285	W 120.66972157	
271 Access road, String 2 to Herin Ln, end point	731044.80	8158831.95	N 45.67172267	W 120.66926197	
272					
273 Access road between southern tip of String 3 and Herin Ln - short segment					
274 Access road, String 3 to Herin Ln, start point	729992.84	8162626.47	N 45.66885847	W 120.65441012	
275 Access road, String 3 to Herin Ln, end point	730221.34	8162948.57	N 45.66948682	W 120.65315184	
276					
277 Access road that curves to east side of the southern portion of String 8 in R17E T2N Sect 25 - short segment					
278 Access road, near String 8, start point	714351.46	8166482.73	N 45.62598016	W 120.63921994	
279 Access road, near String 8, mid point	714631.56	8166613.69	N 45.62674898	W 120.63870992	
280 Access road, near String 8, end point	714869.48	8166448.01	N 45.62740071	W 120.63935914	
281					
282 Access road from southern tip of String 8, SSW to Medler Ln					
283 Access road, String 8 to Medler Ln, start point	712430.03	8164973.27	N 45.62070319	W 120.64510662	changed order
284 Access road, String 8 to Herin Ln, mid point	712549.45	8164999.47	N 45.62103084	W 120.64500506	
285 Access road, String 8 to Medler Ln, mid point	712683.78	8165147.14	N 45.62139997	W 120.64442884	
286 Access road, String 8 to Medler Ln, end point	713117.38	8166007.42	N 45.62259333	W 120.64106941	
287					
288 Access road between northern tip of String 9 and Helm Ln					
289 Access road, String 9 to Helm Ln, start point	738278.41	8168128.96	N 45.69180879	W 120.63293905	
290 Access road, String 9 to Helm Ln, mid point	739551.19	8168126.15	N 45.69509941	W 120.63295825	
291 Access road, String 9 to Helm Ln, end point	739758.86	8168088.45	N 45.69566878	W 120.63310713	
292					
293 Access road, String 10 to Helm Ln, start point	737728.91	8171066.47	N 45.69011445	W 120.62144038	added 3-2-2007
294 Access road, String 10 to Helm Ln, start point	737718.13	8170541.63	N 45.69008270	W 120.62349413	added 3-2-2007
295					
296 Access road, String 10 to Fox Rd, start point	735151.46	8172377.09	N 45.68305100	W 120.61629710	added 5-24-07
297 Access road, String 10 to Fox Rd, mid point	735200.03	8172435.07	N 45.68318443	W 120.61607052	added 5-24-07
298 Access road, String 10 to Fox Rd, mid point	735251.72	8172512.48	N 45.68332650	W 120.61576792	added 5-24-07
299 Access road, String 10 to Fox Rd, mid point	735338.50	8172681.77	N 45.68356516	W 120.61510601	added 5-24-07
300 Access road, String 10 to Fox Rd, end point	735372.69	8172771.65	N 45.68365928	W 120.61475452	added 5-24-07
301					
302 Combined Access Road (200' wide) / Electrical Route (250' wide) corridors					
303					
304 Electrical route curving outside (W) of String 10 at Fox Rd					
305 Electrical route near String 10, start point	735644.56	8171592.83	N 45.68440021	W 120.61936856	removed road - elec only 5-24-07
306 Electrical route near String 10, mid point	735470.17	8171135.45	N 45.68392007	W 120.62115719	removed road - elec only 5-24-07
307 Electrical route near String 10, mid point	735381.00	8171125.00	N 45.68367548	W 120.62119755	removed road - elec only 5-24-07
308 Electrical route near String 10, mid point	735305.29	8171165.98	N 45.68346801	W 120.62103676	removed road - elec only 5-24-07
309 Electrical route near String 10, end point	735310.20	8171474.90	N 45.68348274	W 120.61982806	removed road - elec only 5-24-07
310					
311 Access road/elec route that curves to NE side of String 1 (intersects with Met-9 corridor).					
312 Access road/elec route, near String 1, start point	728927.14	8156529.85	N 45.66590131	W 120.67824939	
313 Access road/elec route, near String 1, mid point	728886.24	8156778.50	N 45.66579064	W 120.67727644	
314 Access road/elec route, near String 1, mid point	728795.69	8156973.56	N 45.66554348	W 120.67651268	
315 Access road/elec route, near String 1, mid point	728581.79	8157060.42	N 45.66495737	W 120.67617110	
316 Access road/elec route, near String 1, mid point	728323.48	8157068.25	N 45.66424898	W 120.67613827	
317 Access road/elec route, near String 1, end point	728133.37	8157020.82	N 45.66372731	W 120.67632217	
318					
319 Access road/elec route between southern tips of Strings 1 & 2					
320 Access road/elec route, String 1 to 2, start point	727134.42	8157869.50	N 45.66099267	W 120.67299427	changed order
321 Access road/elec route, String 1 to 2, mid point	727164.01	8160377.05	N 45.66108813	W 120.66318695	
322 Access road/elec route, String 1 to 2, mid point	727607.71	8161097.31	N 45.66230896	W 120.66037330	
323 Access road/elec route, String 1 to 2, end point	727932.53	8161088.41	N 45.66319975	W 120.66041063	
324					
325 Access road/elec route between southern tip of String 9 and Herin Ln in N-S alignment					
326 Access road/elec route, String 9 to Herin Ln, start point	726676.54	8173463.33	N 45.65981234	W 120.61200096	changed order
327 Access road/elec route, String 9 to Herin Ln, mid point	726324.57	8173352.37	N 45.65884662	W 120.61243302	
328 Access road/elec route, String 9 to Herin Ln, mid point	726122.76	8173419.64	N 45.65829340	W 120.61216883	
329 Access road/elec route, String 9 to Herin Ln, mid point	725936.43	8173464.38	N 45.65778255	W 120.61199284	
330 Access road/elec route, String 9 to Herin Ln, mid point	725668.78	8173400.77	N 45.65704827	W 120.61224017	
331 Access road/elec route, String 9 to Herin Ln, end point	725562.55	8173272.28	N 45.65675643	W 120.61274210	
332					
333 Access road/elec route between southern tip of String 11 and String 9					
334 Access road/elec route, String 9 to 11, start point	731093.94	8173255.45	N 45.67192650	W 120.61283814	
335 Access road/elec route, String 9 to 11, mid point	731303.48	8174136.31	N 45.67250450	W 120.60939335	
336 Access road/elec route, String 9 to 11, mid point	731965.67	8175722.10	N 45.67432630	W 120.60319903	
337 Access road/elec route, String 9 to 11, end point	732001.27	8176054.71	N 45.67442510	W 120.60189199	
338					
339 Access road/elec route connecting north side of Medler Ln with String 12 in R17E T2N Sect 25 - short N-S segment					
340 Access road/elec route, String 12 to Medler Ln, start point	712726.80	8169499.51	N 45.62153804	W 120.62741794	
341 Access road/elec route, String 12 to Medler Ln, end point	712429.08	8169498.07	N 45.62072151	W 120.62742173	
342					
343 Access road/elec route that cuts SE corner of intersection between Strings 13 & 13a - short segment					delete- now in corridor
344					
345 Access road/elec route between southern tip of String 14 and Herin Ln - short N-S segment					
346 Access road/elec route, String 14 to Herin Ln, start point	722849.68	8175754.42	N 45.64932530	W 120.60302111	
347 Access road/elec route, String 14 to Herin Ln, end point	723071.16	8175776.04	N 45.64993280	W 120.60293767	
348					
349 Access road/elec route between southern tip of String 16 and Emigrant Springs Ln - short N-S segment					
350 Access road/elec route, String 16 to Emig Sp Ln, start point	714746.99	8184178.08	N 45.62712779	W 120.57005366	
351 Access road/elec route, String 16 to Emig Sp Ln, end point	715001.34	8184182.38	N 45.62782538	W 120.57003771	
352					
353 Access road/elec route between northern tip of String 16 and southern tip of String 17 in E-W alignment					
354 Access road/elec route, String 16 to 17, start point	721164.89	8186120.09	N 45.64473377	W 120.56248197	
355 Access road/elec route, String 16 to 17, mid point	721288.19	8186168.34	N 45.64507203	W 120.56229368	
356 Access road/elec route, String 16 to 17, mid point	721335.83	8186254.09	N 45.64520287	W 120.56195853	

Project Date: 6/13/2007
 Project: Biglow Canyon Wind Farm
 Describes CL of Project Features

Miscellaneous Project Features Coordinates				
Corridor Alignment (Center Lines):	OR State Plane, NAD83, Int'l Ft		Geodetic, NAD83, decimal degrees	
	Northing (Y)	Easting (X)	Latitude	Longitude
357 Access road/elec route, String 16 to 17, mid point	721364.41	8189303.08	N 45.64528704	W 120.55003666
358 Access road/elec route, String 16 to 17, end point	721434.71	8189356.33	N 45.64547994	W 120.54982861
359 -----				
360 Access road/elec route between southern portion of String 2 and middle of String 4				
361 Access road/elec route, String 2 to 4, start point	728349.13	8161006.39	N 45.66434185	W 120.66073469
362 Access road/elec route, String 2 to 4, mid point	728413.41	8161092.33	N 45.66451861	W 120.66039904
363 Access road/elec route, String 2 to 4, mid point	728426.59	8162599.66	N 45.66456281	W 120.65450328
364 Access road/elec route, String 2 to 4, mid point	727566.68	8163206.08	N 45.66220762	W 120.65212496
365 Access road/elec route, String 2 to 4, mid point	727398.68	8163444.11	N 45.66174810	W 120.65119272
366 Access road/elec route, String 2 to 4, mid point	727341.51	8163749.24	N 45.66159286	W 120.64999887
367 Access road/elec route, String 2 to 4, end point	727341.51	8163929.55	N 45.66159378	W 120.64929363
368 -----				
369 Access road/elec route between southern tip of String 4 and middle of String 8				
370 Access road/elec route, String 4 to 8, start point	723963.49	8164201.59	N 45.65233074	W 120.64820537
371 Access road/elec route, String 4 to 8, end point	723201.54	8166221.61	N 45.65025093	W 120.64030068
372 -----				
373 Access road/elec route between southern tip of String 5 and String 8				
374 Access road/elec route, String 5 to 8, start point	720823.37	8163001.45	N 45.64371262	W 120.65287542
375 Access road/elec route, String 5 to 8, mid point	720258.10	8164443.85	N 45.64216967	W 120.64723158
376 Access road/elec route, String 5 to 8, mid point	719993.75	8165669.22	N 45.64145070	W 120.64243867
377 Access road/elec route, String 5 to 8, end point	719994.55	8166125.52	N 45.64145509	W 120.64065460
378 -----				
379 Access road/elec route between northern tip of String 6 and String 8				
380 Access road/elec route, String 6 to 8, start point	717330.44	8163570.51	N 45.63413593	W 120.65062492
381 Access road/elec route, String 6 to 8, mid point	717753.46	8163649.73	N 45.63529650	W 120.65031830
382 Access road/elec route, String 6 to 8, end point	717756.68	8166303.53	N 45.63531841	W 120.63994345
383 -----				
384 Access road/elec route connecting S side of Medler Ln and String 7				
385 Access road/elec route, String 7 to Medler Ln, start point	711928.65	8160810.96	N 45.61930646	W 120.66137081
386 Access road/elec route, String 7 to Medler Ln, mid point	712146.75	8161030.66	N 45.61990581	W 120.66051384
387 Access road/elec route, String 7 to Medler Ln, mid point	712265.58	8161087.24	N 45.62023202	W 120.66029363
388 Access road/elec route, String 7 to Medler Ln, end point	712443.65	8161088.96	N 45.62072041	W 120.66028829
389 -----				
390 Access road/elec route that curves outside the W edge of the upper portion of String 9 (upper end of Box Canyon) in R17E T2N Sect 1				
391 Access road/elec route, near String 9, start point	736489.73	8167564.98	N 45.68670072	W 120.63513438
392 Access road/elec route, near String 9, mid point	736259.01	8166763.97	N 45.68606424	W 120.63826718
393 Access road/elec route, near String 9, mid point	736126.14	8166628.33	N 45.68569920	W 120.63879704
394 Access road/elec route, near String 9, mid point	735984.09	8166643.95	N 45.68530970	W 120.63873497
395 Access road/elec route, near String 9, mid point	735881.69	8166743.64	N 45.68502933	W 120.63834420
396 Access road/elec route, near String 9, mid point	735620.57	8167361.57	N 45.68431608	W 120.63592460
397 Access road/elec route, near String 9, end point	735594.39	8167458.25	N 45.68424473	W 120.63554614
398 -----				
399 Staging Areas, coordinates at center of approximate area (S2 = 2 acre area; S5 = 5 acre area)				
400 -----				
401 S2-2 (near northern end of String 2 along south side of Herin Ln)	730816.4091	8158891.958	N 45.67109664	W 120.66902535
402 S2-2a (near southern end of String 2)	728511.1344	8160855.131	N 45.66478533	W 120.66132759
403 S2-3 (near southern end of String 3 along north side of Herin Ln)	730243.1255	8162730.194	N 45.66954543	W 120.65400625
404 S2-4 (near northern end of String 4 along south side of Herin Ln)	729333.4188	8165137.587	N 45.66706272	W 120.64458263
405 S2-5 (near southern end of String 5)	720714.9238	8163653.824	N 45.64341855	W 120.65032384
406 S2-6 (near northern end of String 6)	717511.1692	8163759.563	N 45.63463256	W 120.64988716
407 S2-7 (inside String 7 along N side of Medler Ln)	712672.2989	8160187.496	N 45.62134254	W 120.66381341
408 S2-7a (near String 7 along S side of Medler Ln)	712288.3585	8161234.805	N 45.62029530	W 120.65971706
409 S2-8 (along W edge of String 8 along N side of Herin Ln)	726401.7576	8167894.896	N 45.65903551	W 120.63377806
410 S2-8a (along W edge of String 8 along S side of Herin Ln)	725998.8475	8167669.574	N 45.65792948	W 120.63465669
411 S2-8b (near southern end of String 8 along N side of Medler Ln)	712703.9351	8164867.479	N 45.62145387	W 120.64552203
412 S2-9 (north of String 9 along south side of Helm Ln)	739533.2941	8167908.661	N 45.69504935	W 120.63380929
413 S2-9a (along SW edge of String 9 along N side of Oehman Rd)	732807.8521	8170949.982	N 45.67661780	W 120.62186717
414 S2-9b (in String 9 along N side of Oehman Rd - NE of S2-9a)	732992.7706	8171284.551	N 45.67712632	W 120.62055932
415 S2-9c (near southern end of String 9 along E side of Herin Ln)	725410.1725	8173409.445	N 45.65633905	W 120.61220483
416 S2-10 (W of String 10 along E side of Herin Ln in R18E T2N Sect 6)	737518.4193	8170711.168	N 45.68953570	W 120.62282950
417 S2-11 (SW of southern end of String 11)	731877.1427	8174993.126	N 45.67408093	W 120.60604442
418 S2-12 (in String 12 along N side of Medler Ln)	712725.507	8169181.856	N 45.62153312	W 120.62865948
419 S2-12a (in String 12 along S side of Medler Ln)	712261.7115	8168394.482	N 45.62025763	W 120.63173397
420 S2-13 (W of northern end of String 13 along Oehman Rd)	724641.4863	8170582.949	N 45.65421959	W 120.62325437
421 S2-13a (E of northern end of String 13b along N Klondike Rd)	711959.7051	8172967.722	N 45.61944842	W 120.61385823
422 S2-14 (near southern end of String 14 along S side of Herin Ln)	722671.0491	8176036.139	N 45.64883638	W 120.60191860
423 S2-15 (near E edge of String 15 along N side of Emigrant Springs Ln)	715004.3987	8180484.188	N 45.62782407	W 120.58449369
424 S2-15a (in String 15 along S side of Emigrant Springs Ln)	714602.9632	8180017.612	N 45.62672174	W 120.58631583
425 S2-16 (between southern end of String 16 and Emigrant Springs Ln)	715012.1268	8184357.677	N 45.62785538	W 120.56935252
426 S2-18 (on E edge of String 18 along S side of Emigrant Springs Ln)	714569.9032	8190225.23	N 45.62665407	W 120.54641567
427 S2-19 (on W edge of String 19 along N side of Emigrant Springs Ln)	714951.5851	8193654.415	N 45.62770549	W 120.53301211
428 S2-19a (on E edge of String 19 along N side of Emigrant Springs Ln)	714948.8182	8194140.805	N 45.62769843	W 120.53111084
429 S2-20 (at southern end of String 20 along N side of Emigrant Springs Ln)	714882.6955	8197958.751	N 45.62752015	W 120.51618674
430 -----				
431 S5-9 (along NE edge of String 9 along SE side of Oehman Rd)	732941.7863	8171946.238	N 45.67698917	W 120.61797029
432 S5-12 (E of String 12, N of Medler Ln, along W side of Oehman Rd)	713446.5661	8170074.016	N 45.62351453	W 120.62517685
433 S5-13 (near northern end of String 13 along W side of Oehman Rd)	724437.7948	8170154.549	N 45.65365915	W 120.62492850
434 S5-13a (E of String 13 along N side of Emigrant Springs Ln)	715230.3482	8174200.051	N 45.62842311	W 120.60905911
435 S5-15 (near W edge of String 15 along N side of Emigrant Springs Ln)	715131.3636	8179616.672	N 45.62816974	W 120.58788529
436 S5-18 (near W edge of String 18 along N side of Emigrant Springs Ln)	715046.9448	8189544.651	N 45.62796130	W 120.54907708
437 -----				
438 Other Project Features (Center Coordinates)				
439 -----				
440 Substation and O&M Facility	722680.288	8174010.158	N 45.64885443	W 120.60984099
441 -----				

1-31-07 edits

changed order

changed order

removed road - elec only 6-12-07
 removed road - elec only 6-12-07
 removed road - elec only 6-12-07
 removed road - elec only 6-12-07
 removed road - elec only 6-12-07
 removed road - elec only 6-12-07

EXHIBIT 1



Western EcoSystems Technology, Inc. P.O. Box 2095, Walla Walla, WA 99362
Phone & Fax: 509.529.7523. WWW.west-inc.com

TECHNICAL MEMORANDUM

Date: May 24, 2007
To: Rick Tetzloff, PGE
From: Jay Jeffrey, WEST, Inc.
Subject: Biglow Canyon Wind Farm
TES Wildlife Spring 2007 – Additional Areas Survey

We have completed surveys for threatened, endangered, or sensitive (TES) wildlife species that could potentially occur in those areas identified as not being previously surveyed in the permitted Biglow Canyon Wind Farm (Figure 1 and 2). This memorandum reports results of spring 2007 surveys. No state or federally protected or sensitive-classified species were observed. Details of the surveys are as follows. The areas identified were each surveyed twice in May 2007 following the same methods identified in the 2005 *Oregon EFSC Site Certificate Application for the Biglow Canyon Wind Farm, Sherman County, Oregon*. These methods were previously discussed and approved by the Oregon Department of Fish and Wildlife (ODFW). Results of the surveys are as follows.

Table 1. Biglow Canyon Additional Areas Survey – TES Wildlife, May 2007.

Area	Dates Surveyed	General Habitat	TES Presence
A	PREVIOUSLY SURVEYED 2006	--	--
B	May 7 and 15, 2007	Narrow draw surrounded by ag fields; degraded with non-native veg	NO TES
C	May 7, 2007 ^a	100% Wheat	NO TES
D	May 8 and 15, 2007	Native veg in patches and small draws within ag field; degraded with non-native veg	NO TES
E	PREVIOUSLY SURVEYED 2005	--	--
F	May 15 and 17, 2007	Limited native habitat at Fox road and east in Fox Canyon drainage; degraded	NO TES

^aNo second survey conducted due to lack of habitat.

PGE Biglow Canyon Wind Farm
Technical Memo, TES Results, May 2007

Results of the surveys do not raise additional concerns for the project. No raptor nests, burrowing owls, or shrub-steppe obligate species were located that may have required construction delays, avoidance, or mitigation. This letter is intended to report completion of the sensitive wildlife species surveys for all areas of the final layout of the Biglow Canyon Wind Farm. Please address any questions regarding this report to myself:

Jay D. Jeffrey
WEST, Inc
Office: 509.529.7523
Cell: 509.386.0450
Email: jjeffrey@west-inc.com

Sincerely,



Jay Jeffrey
Research Coordinator/Ecologist

cc: Wally Erickson, WEST

Figure 1. Additional 2007 TES Wildlife survey areas A-E.

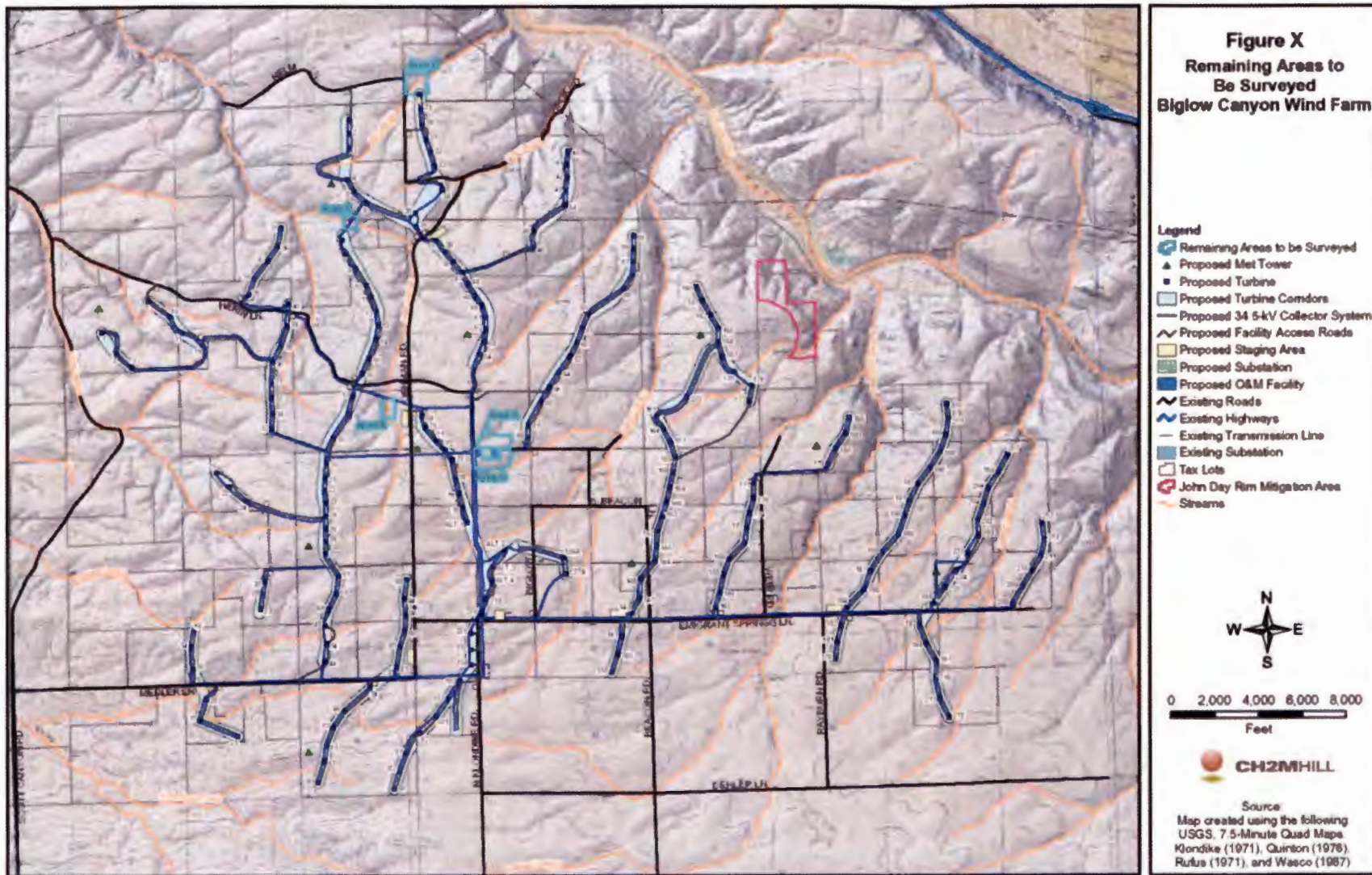
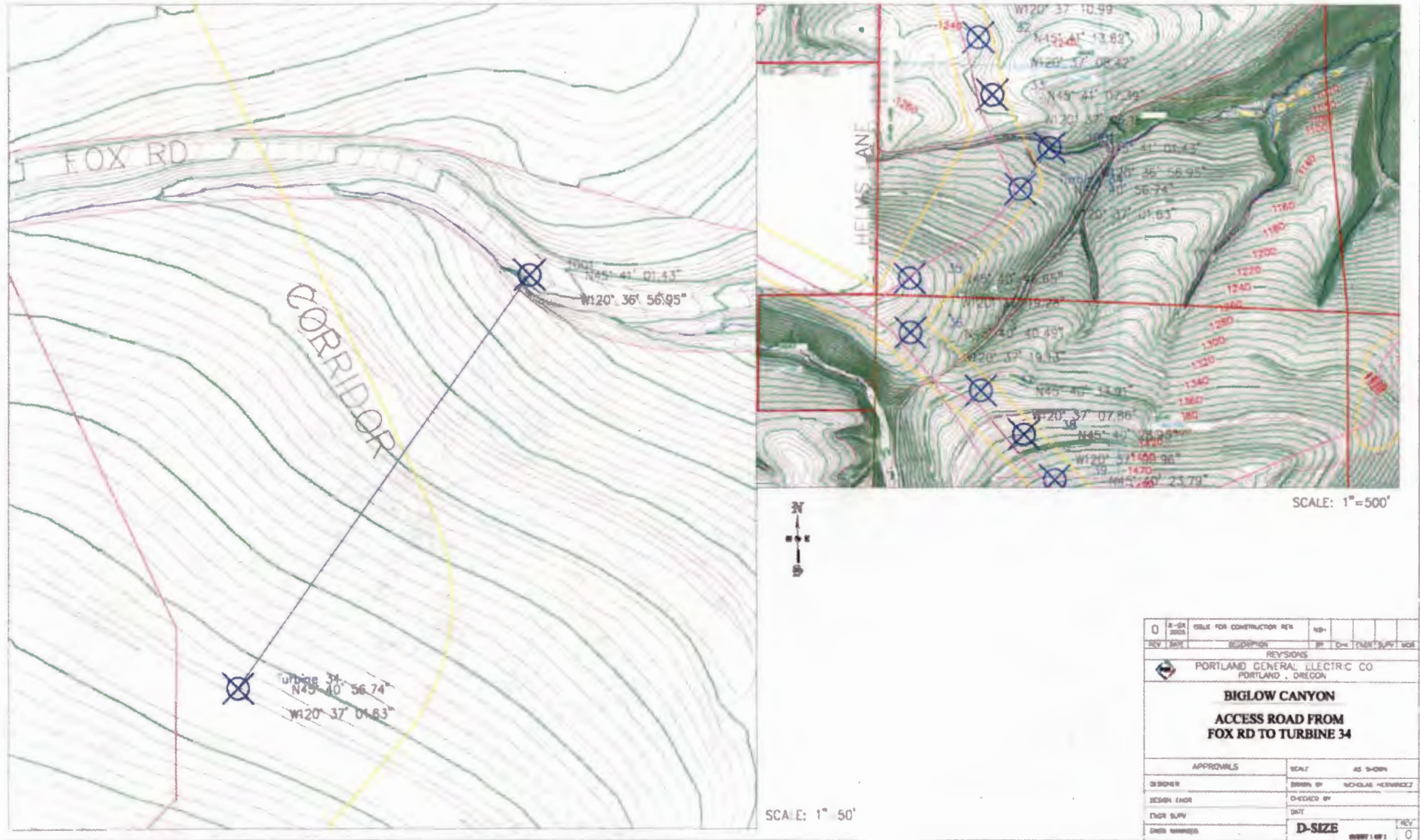



Figure 2. Additional 2007 TES Wildlife survey area F (Turbine 34 to Fox Road; left below).

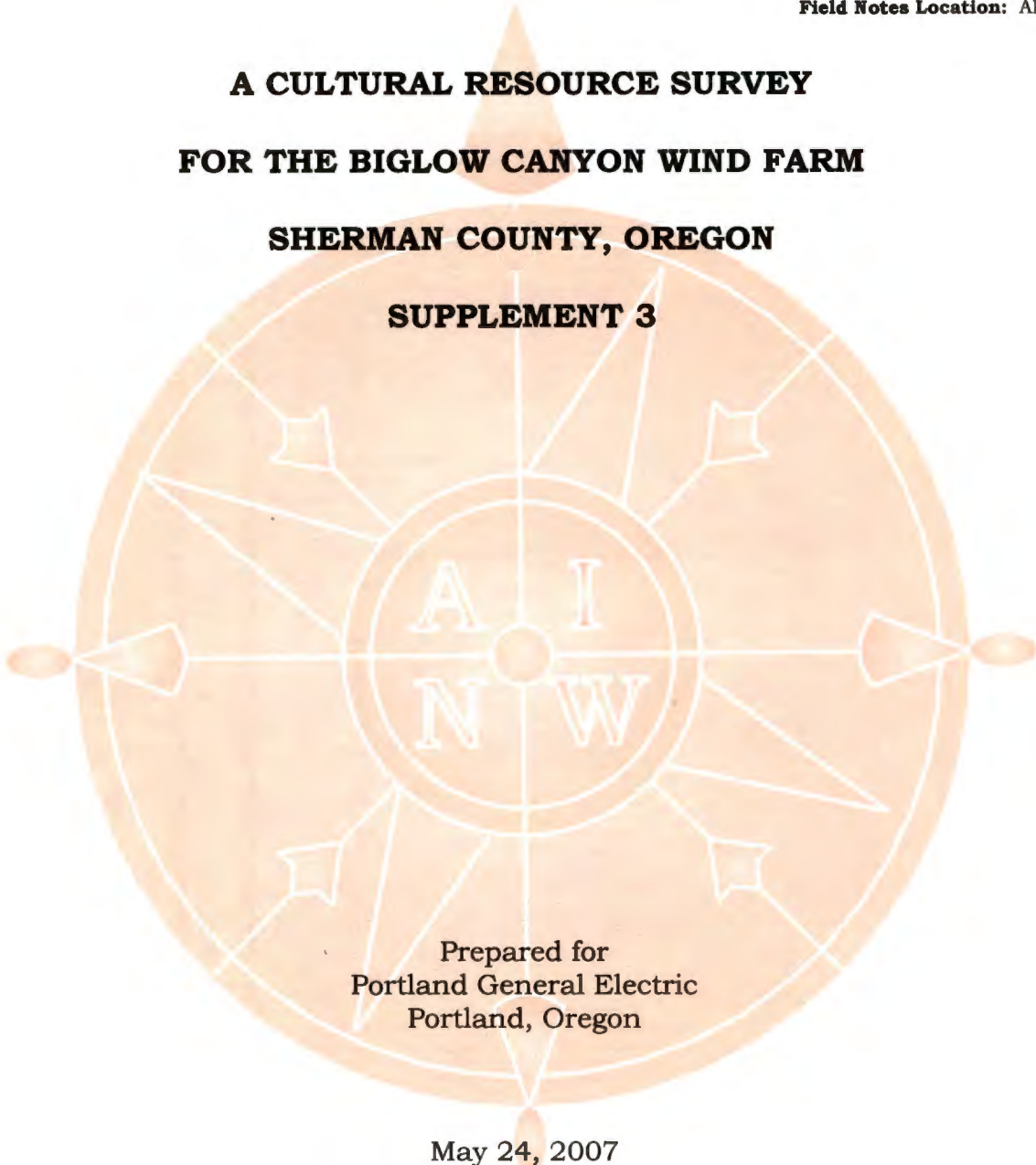


0	8-04 2005	DATE FOR CONSTRUCTION PER	10-						
REV	DATE	DESCRIPTION	BY	DATE	THRU	DATE	BY	DATE	THRU
REVISIONS									
 PORTLAND GENERAL ELECTRIC CO PORTLAND, OREGON									
BIGLOW CANYON ACCESS ROAD FROM FOX RD TO TURBINE 34									
APPROVALS					SCALE AS SHOWN				
DESIGNER					SCALE BY	NICHOLAS KORNICKI			
DESIGN ENGINEER					CHECKED BY				
ENGR SUPV					DATE				
ENGR WARRANT					D-SIZE	REV	0		

Findings: (-)
County: Sherman
Township, Range, Section: T1N, R18E, Section 6;
T3N, R18E, Section 31;
T3N, R17E, Section 36
USGS Quad: *Quinton, Oreg.-Wash.*, 7.5', 1971
Total Project Acres: 10
Total Acres Surveyed: 10
Project Type: Survey
Field Notes Location: AINW

**A CULTURAL RESOURCE SURVEY
FOR THE BIGLOW CANYON WIND FARM
SHERMAN COUNTY, OREGON**

SUPPLEMENT 3



Prepared for
Portland General Electric
Portland, Oregon

May 24, 2007

REPORT NO. 1926

Archaeological Investigations Northwest, Inc.

2632 SE 162nd Ave. • Portland, OR • 97236

Phone 503 761-6605 • Fax 503 761-6620

Biglow Canyon Wind Farm - Supplemental Wetlands and Waters Determination and Rare Plant Habitat Survey

PREPARED FOR: Rick Tetzloff/PGE
PREPARED BY: Nichole Coulter, Peggy O'Neill and Joel Shaich/CH2M HILL
COPIES: Mike Pappalardo/CH2M HILL
DATE: May 24, 2007

Summary

CH2M HILL conducted a wetland and waters determination for the proposed Biglow Canyon Wind Farm in the summer of 2005. Supplemental determinations were performed in both the summer and winter of 2006 based on the addition of a collector line in the project area. Results of previous field work efforts can be found in the original wetland and rare plant tech memo (July 2006), the EFSC Application (February 2006), and the collection line and access roads tech memo (December 2006). This memo serves as an amendment to the three existing reports discussed above.

The purpose of this determination was to investigate additional changes to the December 2006 facilities layout (Site Certificate Amendment 2) and to satisfy the site certificate Condition 55 criteria of performing a spring survey for rare plant species. CH2M HILL conducted site visits on May 7 and May 22, 2007 to determine the presence and extent of wetlands and/or jurisdictional waters, as defined under Section 404 of the Clean Water Act and the Oregon Removal-Fill Law. Suitable habitat for and presence of federal and state listed plant species were also investigated. Study Areas A, B, C, D, E and F (Figure 1) were investigated for the potential presence of federal and/or state listed plant species. Study Areas C, D and F were also investigated for the presence of potentially jurisdictional wetlands and/or waters (Figure 1).

No jurisdictional wetlands were identified within the study areas. One potentially jurisdictional water was identified at Study Area D. Study Area D includes one intermittent stream (Drainage D), which is a tributary of the John Day River. Impacts to the potentially jurisdictional water identified at Drainage D will be avoided as no fill or removal will occur at this drainage. Study Area F includes one intermittent stream (Drainage F), which is a tributary of the John Day River. However, the Department of State Lands previously determined (Appendix B) that this drainage is non-jurisdictional and exempt from state permit requirements.

No federal or state listed plant habitat or species were identified within any of the study areas (A-F).

Methods

Office Review

Prior to conducting the site investigation, the following documents were reviewed:

- U.S. Geological Survey (USGS) Topographic Map, Klondike, Oregon quadrangle (USGS, 1971); Quinton, Oregon quadrangle (USGS, 1976); Rufus, Oregon quadrangle (USGS, 1971); Wasco, Oregon quadrangle (USGS, 1987)
- National Wetland Inventory (NWI) Map, Klondike, Oregon quadrangle (USFWS, 1991); Quinton, Oregon quadrangle (USFWS, 1983); Rufus, Oregon quadrangle (USFWS, 1983); Wasco, Oregon quadrangle (USFWS, 1988)
- Natural Resource Conservation Service (NRCS) Soil Survey of Sherman County, Oregon (NRCS, 1992)
- Hydric Soils List: Sherman County, Oregon (NRCS, 2000)
- Oregon Natural Heritage Information Center (ORNHIC) Species List (April 2007)
- US Fish and Wildlife Service (USFWS) County Species List (March 2007)
- A facilities map provided by PGE Energy (March 2, 2007), indicating the location and extent of the five survey areas (Figure 1).

Site investigation

The site investigation was performed to complete the following:

- Conduct a preliminary estimate of the area of potentially jurisdictional wetlands and/or waters within Study Areas C, D and F that may be affected by construction.
- Document occurrence of and/or potential habitat for sensitive plant species within the vicinity of Study Areas A-F.

Qualified CH2M HILL biologists conducted the site investigations for Study Areas A-E on May 7, 2007 and for Study Area F on May 22, 2007.

Results

Office Review

USGS Topographic Map

The site is located in the Klondike, Quinton, Rufus, and Wasco, Oregon 7.5-minute quadrangle of the USGS topographic maps. Potentially jurisdictional waters were identified

on the USGS map as occurring within Study Area D and F. No jurisdictional wetlands or waters were identified on the USGS map within Study Area C.

Sherman County Soil Survey

A review of the soil types mapped within Study Areas D and F determined that none are listed as hydric (Table 1).

TABLE 1

Mapped Soils Study Areas D and F (Sherman County, OR)

Soil ID	Soil Name	Hydric	Hydric Inclusions
3D	Anderly silt loam, 15 to 35 percent south slopes	No	No
16D	Licksillet very stony loam, 7 to 40 percent south slopes	No	No
31C	Walla Walla silt loam, 7 to 15 percent	No	No
32D	Walla Walla silt loam, 15 to 35 percent north slopes	No	No
33D	Walla Walla silt loam, 15 to 35 percent south slopes	No	No
36D	Wato very fine sandy loam, 15 to 35 percent south slopes	No	No

PGE Facilities Map (March 2007)

The map provided by PGE indicated potentially jurisdictional waters within the boundary at Study Area D and F (Figure 1).

Site investigation

The site investigation was conducted on May 7, 2007 at Study Areas A-E. Weather during the site investigation was warm (~65 F) and sunny, with no precipitation. Study Area F was investigated on May 22, 2007. Weather was warm (~70 F) and sunny. Representative site photos are presented in Appendix A.

Wetlands and Waters Survey

No vegetated wetlands were identified within Study Areas C, D or F. Other waters were present in Study Areas D and F.

Drainage D

The potentially jurisdictional channel identified on the USGS map at Study Area D was verified to be potentially jurisdictional in the field. This channel is identified as Drainage D to correlate to the study area in which it is located.

Drainage D is an intermittent stream located within Box Canyon in Study Area D and is a tributary of the John Day River. This drainage is located east of Helm Lane at the northernmost portion of the project site (Figure 2). Vegetation within the channel included

species such as cheat grass (*Bromus tectorum*, NI), bulbous bluegrass (*Poa bulbosa*, NI), and Russian thistle (*Salsola kali*, UPL). There was no flow in the channel during the site visit. Indicators of hydrology including evidence of flow, bed and banks, eroded soil and exposed rock were observed at the time of the site investigation. A large box culvert is located at this drainage, indicating that the channel may receive high flows during the wet months. (Appendix A, Photos 4 and 5).

Potential temporary impacts to the jurisdictional water identified at Drainage D may occur during construction of the adjacent turbines (turbines 28-33). Impacts to this potentially jurisdictional water could be avoided by implementing best management practices (BMPs) such as silt fencing and other erosion control measures to ensure no fill entered the channel. If impacts are unavoidable, mitigation for temporary impacts to this resource would be required by the regulatory agencies.

Drainage F

The potentially jurisdictional channel identified on the USGS map at Study Area F was verified to be potentially jurisdictional in the field. This channel is identified as Drainage F to correlate to the study area in which it is located.

Drainage F is an intermittent stream located within Fox Canyon within Study Area F and is a tributary of the John Day River. This drainage is located south of Helm Lane at the northern portion of the project site (Figure 3). Vegetation along the channel banks was primarily cheat grass (*Bromus tectorum*, NI). There was no flow in the channel during the site visit. Indicators of regular flow included a scoured unvegetated bed, sediment deposits on the bed, and eroded banks (Appendix A, Photos 8 and 9).

Rare Plant Habitat Survey

Existing literature and scientific data were reviewed to determine species distribution and potential for occurrence within Study Areas A-F. The ORNHIC database and USFWS were consulted for documented and potential occurrences of candidate, proposed, and listed species.

ORNHIC and USFWS database searches revealed four listed or candidate plant species that might occur within the study area: Northern wormwood (*Artemisia campestris* var. *wormskioldii*), Laurence's milk-vetch (*Astragalus collinus* var. *laurentii*), Henderson's ricegrass (*Achnatherum hendersonii*), disappearing monkeyflower (*Mimulus evanescens*) (Table 2).

TABLE 2

Federal and State Listed or Candidate Plant Species Potentially Occurring Within the Study Areas (based on April 2007 ONHIC data)

Common Name	Scientific Name	Federal Status ¹	State Status ¹	Notes on Habitat Occurrence
Northern wormwood	<i>Artemisia campestris</i> var. <i>wormskioldii</i>	C	LE	No suitable habitat
Laurence's milk-vetch	<i>Astragalus collinus</i> var. <i>laurentii</i>	SOC	LT	No suitable habitat
Henderson's ricegrass	<i>Achnatherum</i> <i>hendersonii</i>	SOC	C	No suitable habitat
Disappearing monkeyflower	<i>Mimulus evanescens</i>	SOC	C	No suitable habitat

¹ State and Federal Status Definitions

LE—Listed Endangered. Taxa listed by the USFWS or National Marine Fisheries Service (NMFS) as Endangered under the Endangered Species Act (ESA), or by the Departments of Agriculture (ODA) and Fish and Wildlife (ODFW) of the state of Oregon under the Oregon Endangered Species Act of 1987 (OESA). Endangered taxa are those which are in danger of becoming extinct within the foreseeable future throughout all or a significant portion of their range.

LT—Listed Threatened. Taxa listed by the above agencies as Threatened; defined as those taxa likely to become endangered within the foreseeable future.

C—Candidate. Candidate taxa for which NMFS or USFWS have sufficient information to support a proposal to list under the ESA, or which is a candidate for listing by the ODA under the OESA.

SOC—Species of Concern. Former Category 2 candidates for which additional information is needed in order to propose as threatened or endangered under the ESA; these species are under review for consideration as Candidates for listing under the ESA.

Study Area A

This study area is located within Conservation Reserve Program (CRP) land north of Herin Lane. Vegetation includes species such as cheat grass, cultivated wheat, bluegrass, big sagebrush (*Artemisia tridentate*), Russian thistle, common yarrow (*Achillea millefolium*), whitlow grass (*Draba verna*), crested wheatgrass (*Agropyron cristatum*), rabbitbrush (*Chrysothamnus nauseosus*), and blue wildrye (*Elymus glaucus*) (Appendix A, Photo 1). Suitable habitat was not identified within the study areas for any of the listed plant species.

Study Area B

This study area is located west of Oehman Road and south of Herin Lane. Vegetation includes species such as cheat grass, cultivated wheat, bluegrass, Russian thistle, common yarrow, crested wheatgrass, blue wildrye, common groundsel (*Senecio vulgaris*), and biscuitroot (*Lomatium triternatum*) (Appendix A, Photo 2). Suitable habitat was not identified within the study areas for any of the listed plant species.

Study Area C

This study area is located south of Herin Lane and south of the on-going construction for the substation and O&M facility in a cultivated wheat field. Suitable habitat was not identified within the study areas for any of the listed plant species (Appendix A, Photo 3).

Study Area D

This study area is located east of Helm Lane at the northernmost portion of the project site. Vegetation includes species such as cheat grass, bulbous bluegrass, and Russian thistle (Appendix A, Photos 4 and 5). Suitable habitat was not identified within the study areas for any of the listed plant species.

Study Area E

This study area is located west of Oehman Road and south of Helm Lane. Vegetation includes species such as cheat grass, common yarrow, bluegrass, lupine (*Lupinus* sp.), crested wheatgrass, yellow salsify (*Tragopogon dubius*), arrowleaf balsamroot (*Balsamorhiza sagittata*), rabbitbrush, fleabane (*Erigeron* sp.), fiddleneck (*Amsinckia spectabilis*), and phlox (*Phlox* sp.) (Appendix A, Photos 6 and 7). Suitable habitat was not identified within the study areas for any of the listed plant species.

Study Area F

This study area is located south of Helm Lane at the northern portion of the project site. Most of the study area is an active wheat field. Drainage F flows between the wheat field and the road embankment of Helm Lane. Vegetation along the drainage banks and on the road embankment was primarily cheatgrass (*Bromus tectorum*) (Appendix A, Photo 8). No rare plant species or suitable habitat were observed.

Conclusion

An office review of USGS data, NWI and soils maps, and the PGE facilities map identified two potentially jurisdictional waters within the Study Areas. A field visit performed on May 7, 2007 confirmed Drainage D as a potentially jurisdictional water of the U.S. and the State of Oregon (see Figure 2-Drainage D). A field visit performed on May 22, 2007 confirmed Drainage F as a potentially jurisdictional water of the U.S. and the State of Oregon (see Figure 3-Drainage F).

Impacts to the potentially jurisdictional water identified at Drainage D will be avoided as no fill or removal will occur at this drainage. Avoiding impact at this drainage obviates the need for subsequent wetland delineation reports, modifications to the existing permit authorizations, and the submittal of a mitigation and restoration plan to the resource agencies. Since there are no impacts at Drainage D, there is no need to revise the existing state and federal permits.

Impacts to the potentially jurisdictional water identified at Drainage F may include installation of a culvert and fill material for an access road. The Corps of Engineers previously authorized activities associated with drainage crossings for the Biglow Canyon Wind Farm Project. A Regional General Permit- Category E was issued on September 26,

2006 (Corps No: 200500689). Modifications to the existing Corps of Engineers permit is not necessary as the activities associated with placing a culvert at this drainage F are covered under the existing RGP and the threshold of 0.5 acres of impacts to waters of the U.S. will not be exceeded. The Department of State Lands has previously determined (Appendix B) that this drainage is non-jurisdictional and exempt from state permit requirements.

No jurisdictional wetlands were identified within the study areas. No rare plants or rare plant habitat were identified within the study areas.

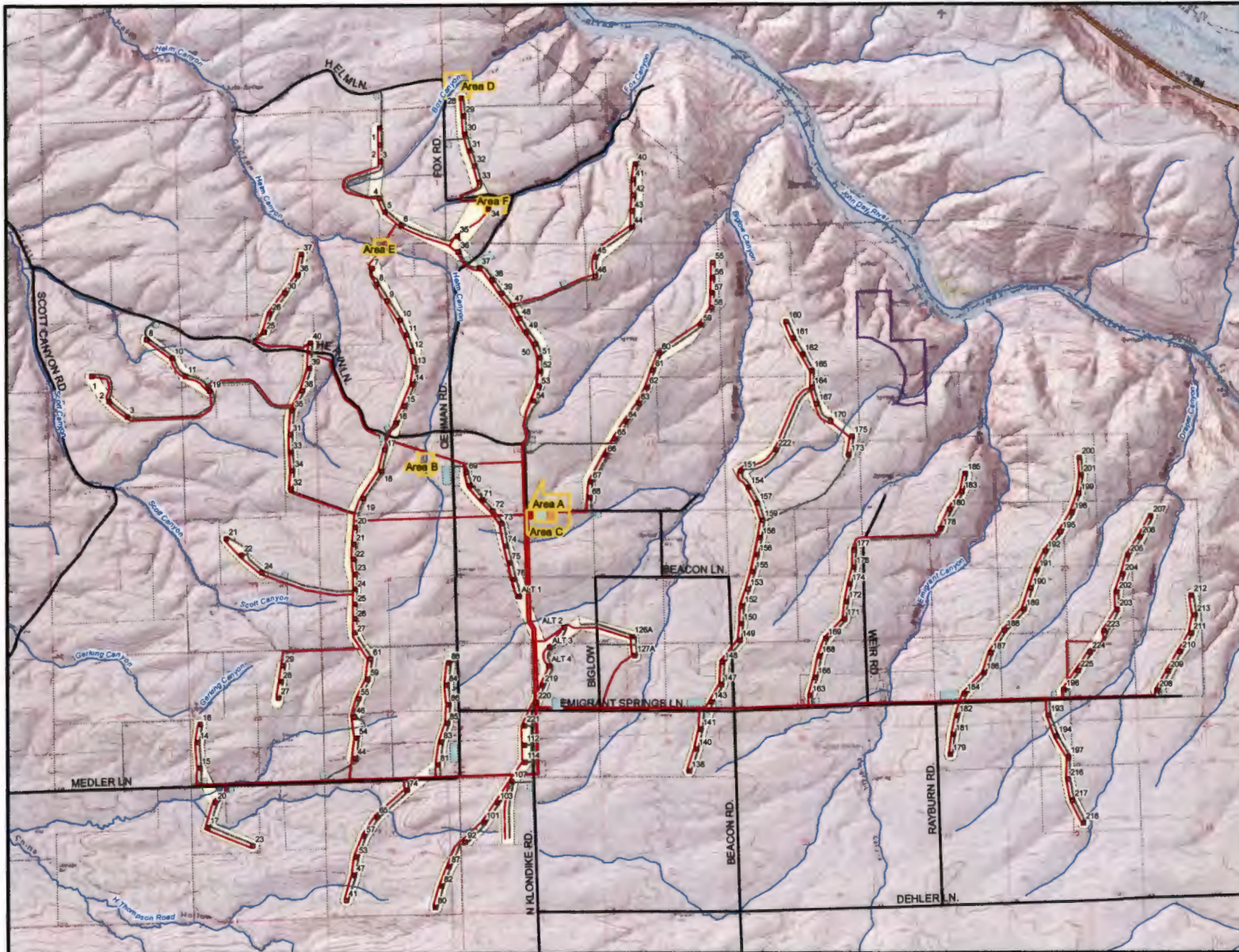
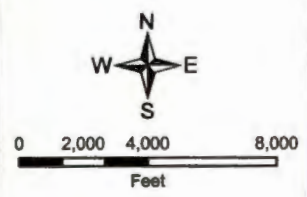


Figure 1
Study Areas
 May 7th & 22nd, 2007 Survey
 Biglow Canyon Wind Project

- Legend**
- Proposed Turbine
 - Study Areas
 - ▭ Proposed Turbine Corridors
 - Proposed 34.5-kV Collector System
 - ~ Proposed Facility Access Roads
 - ▭ Proposed Staging Area
 - ▭ Proposed Substation
 - ▭ Proposed O&M Facility
 - ~ Existing Roads
 - ~ Existing Highways
 - Existing Transmission Line
 - ▭ Existing Substation
 - ▭ Tax Lots
 - ⊕ John Day Rim Mitigation Area
 - ~ Drainage

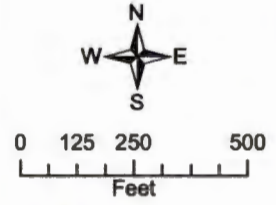


Source:
 Map created using the following
 USGS, 7.5-Minute Quad Maps:
 Klondike (1971), Quinton (1976),
 Rufus (1971), and Wasco (1987)



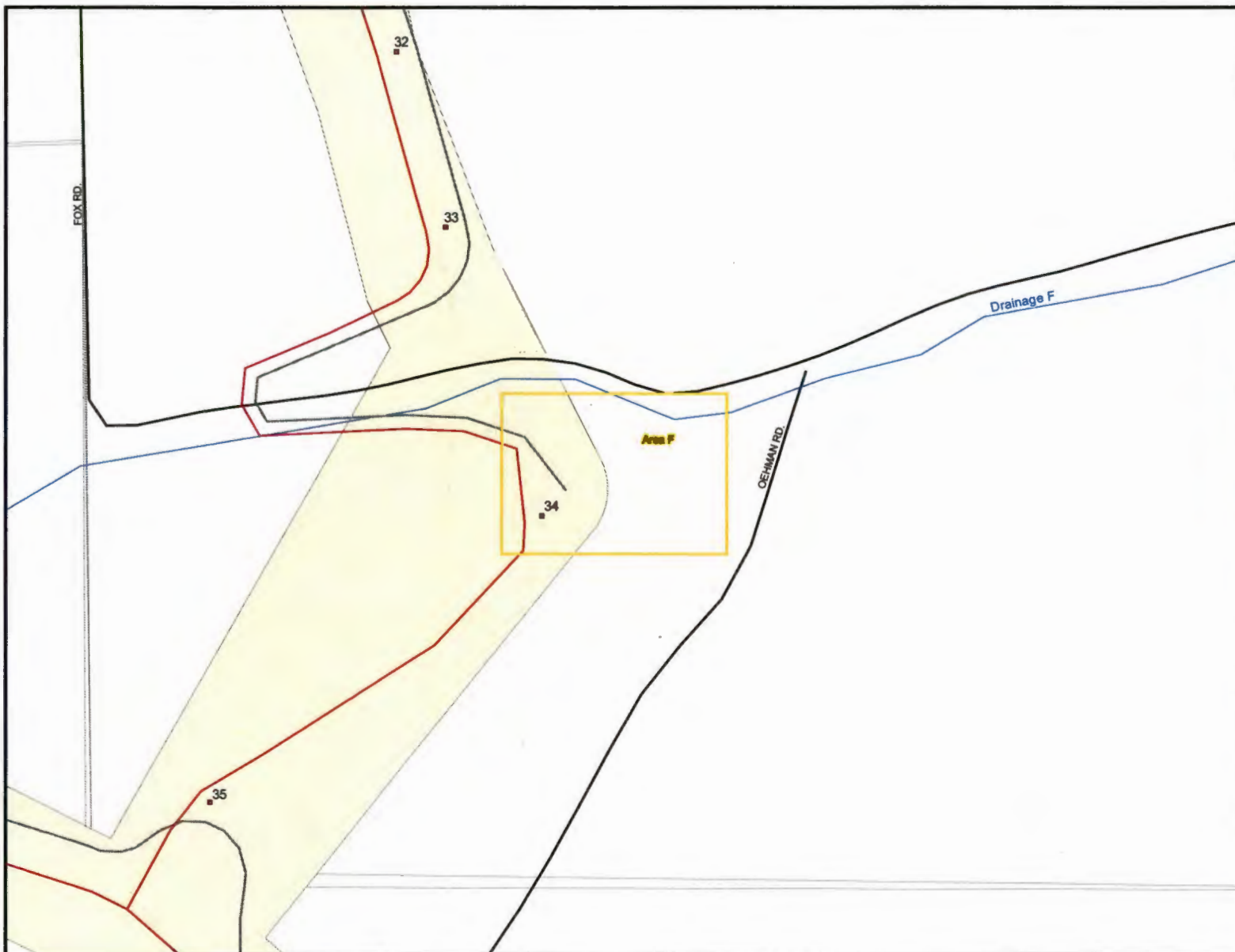
Figure 2
Study Area D
Biglow Canyon Wind Project

- Legend**
- Study Area
 - Proposed Turbine
 - Proposed Turbine Corridors
 - Proposed 34.5-kV Collector System
 - Proposed Facility Access Roads
 - Proposed Staging Area
 - Proposed Substation
 - Proposed O&M Facility
 - Existing Roads
 - Existing Highways
 - Existing Transmission Line
 - Existing Substation
 - Tax Lots
 - John Day Rim Mitigation Area
 - Drainage



Source:
 Map created using the following
 USGS, 7.5-Minute Quad Maps:
 Klondike (1971), Quinton (1976),
 Rufus (1971), and Wasco (1987)

Figure 3
Study Area F
Biglow Canyon Wind Project



- Legend**
- Proposed Turbine
 - Study Areas
 - Proposed Turbine Corridors
 - Proposed 34.5-kV Collector System
 - Proposed Facility Access Roads
 - Proposed Staging Area
 - Proposed Substation
 - Proposed O&M Facility
 - Existing Roads
 - Existing Highways
 - Existing Transmission Line
 - Existing Substation
 - Tax Lots
 - John Day Rim Mitigation Area
 - ~ Drainage



Source:
 Map created using the following
 USGS, 7.5-Minute Quad Maps:
 Klondike (1971), Quinton (1976),
 Rufus (1971), and Wasco (1987)



Oregon

Theodore R. Kulongoski, Governor

BCWOPS DOC 70



**OREGON DEPARTMENT
OF ENERGY**

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June 27, 2007

Mr. Rick Tetzloff
Portland General Electric
121 SW Salmon Street
Portland OR 97204

Re: Biglow Canyon Wind Farm
Crane Path

Dear Rick:

We have reviewed your request, dated June 14, for a Department determination under OAR 345-027-0050(5) that a proposed new crane path does not require an amendment of the site certificate.

The new crane path would extend from the north end of String 10 to Helm Lane. This would allow moving the crane between Strings 9 and 10 (via Helm Lane and the access road to String 9) without dismantling the crane. Although there is an access road that runs west from Turbine 30 to Helm Lane where it parallels String 10, you have explained that the crane cannot travel the segment of Helm Lane to the north of that access road (due to topography).

The crane path track would be approximately 30 feet wide, and the path would be approximately 1,416 feet long. It would follow a route that, in part, consists of existing dirt access road ("jeep trail" on USGS maps). The remainder of the route would traverse a field that is currently planted in wheat. The crane path would be used in the late summer or fall. If the crane path were used before summer harvest of the wheat, PGE would compensate the property owner for any crop damage. You have stated that both the landowner and the farmer have no objection to the crane path.

There is a drainage in the area that a CH2M HILL report has identified as a "potentially jurisdictional water" (*Biglow Canyon Wind Farm - Supplemental Wetlands and Waters Determination and Rare Plant Habitat Survey, May 24, 2007*). The report describes the drainage as an intermittent stream that is a tributary of the John Day River.



June 27, 2007

Page 2

Jurisdictional status has not been confirmed by the Department of State Lands or the US Army Corps of Engineers. There was no flow in the drainage channel at the time of the survey. Although the crane path would cross the drainage, no removal or fill would be done. Accordingly, a Removal/Fill Permit is not needed. Site certificate Condition 26 requires PGE to implement appropriate erosion and sediment control measures to protect the drainage.

The CH2M HILL survey also investigated the area for the presence of federal or state-listed rare plants. There were no observations of rare plants or suitable habitat.

In your request, you included a technical memorandum from WEST, Inc., regarding a survey of the area for the presence of threatened, endangered and sensitive wildlife species (*TES Wildlife Spring 2007, May 24, 2007*). No state or federally-protected or State Sensitive species were observed in the area of the proposed crane path.

You also included a report from Archaeological Investigations Northwest, Inc., on a survey for cultural resources in the area (*A Cultural Resource Survey for the Biglow Canyon Wind Farm, May 24, 2007*). No archaeological or historic resources were observed in the area, and the area is not considered to have a high probability for prehistoric resources. Any resources discovered during construction would be subject to the requirements of Condition 72.

The crane path would increase the area of temporary construction impacts on habitat. The overall area of impact would be less than one acre. Most of the affected habitat is Category 6 (0.95 acres) and the remainder is Category 4 shrub-steppe (0.03 acres). Mitigation of any adverse impact to the Category 6 area (a wheat field) would be addressed by PGE in negotiation with the landowner. No vegetation would be removed in the Category 4 habitat area, and the impact of the crane path is not expected to be significant.

In your request, you have also proposed the elimination of a previously-approved access road. The road has not been built. The previously-approved road would have provided access between Turbines 3 and 4 in String 9 (as shown on Figure 1 of your request). Without this road, there would be no route of access from Turbine 3 to Turbine 4. Access to Turbines 1, 2 and 3 would be from the north, off Helm Lane, and access to Turbines 4, 5 and 6 would be from the south. Turn-arounds approximately 100 feet in diameter would be constructed near Turbines 3 and 4.

The effect of not building the road would be a reduction in the area of permanent and temporary habitat impact. The net habitat impact of eliminating the road and adding the turn-arounds would be a reduction of permanent impact by approximately

June 27, 2007

Page 3

1.81 acres. Most of the reduction would be in Category 6 farmland habitat (1.74 acres), with the remainder in Category 4 grassland (0.07 acres). In addition, there would be a net reduction in temporary impact to Category 6 habitat (0.43 acres) and Category 4 habitat (0.03 acres). These reductions in habitat impact more than offset the new temporary impact of the proposed crane path.

The Department agrees with your conclusion that the new crane path is consistent with Council standards. The current site certificate conditions adequately address the impacts of the crane path. For the reasons described above, we have determined that a site certificate amendment proceeding is unnecessary and that you may use the crane path as proposed in your request. Please include a description of this change request and our determination in the next semi-annual construction progress report and in the next annual report required under OAR 345-026-0080. Include in your report a description of any unanticipated impacts resulting from the use of the crane path and how those impacts were addressed by PGE.

Sincerely,



John G. White
Senior Analyst

