Umatilla County

Department of Land Use Planning

AGENDA

Umatilla County Planning Commission
Public Hearing
Thursday, October 19, 2017, 6:30 p.m.
Justice Center Media Room, Pendleton, OR

Members of Planning Commission

Randy Randall, Chair
Gary Rhinhart, Vice-Chair
Tammie Williams
Don Wysocki
Don Marlatt
Suni Danforth
Cecil Thorne
Tami Green
Clive Kaiser

Members of Planning Staff

Bob Waldher, Planning Director
Carol Johnson, Senior Planner
Tierney Dutcher, Administrative Assistant
Gina Miller, Code Enforcement Coordinator

1. **Call to Order**

2. **Adopt Minutes** (Thursday, September 28, 2017)

3. **New Hearing:**

SCHUMANN WIND PROJECT CONDITIONAL USE PERMIT REQUEST #C-1289-17 & SCHUMANN WIND PROJECT LAND USE DECISION #LUD-219-17, Schumann Wind, LLC, Applicant; A. Brooks Lieuallen, Patrick Kelly & Ferguson Ranch, Inc., Property Owners

The applicant requests a Conditional Use Permit to construct and operate an 8 MW wind project on land owned by A. Brooks Lieuallen located 6 miles north of the City of Athena, west of Pine Creek and east of Harris Road. The wind turbines would be on property identified as Tax Lot 1600 on Assessor Map 5N34 & Tax Lot 2700 on Assessors Map 5N35. The application includes a request for a Land Use Decision for an associated transmission line extending southeast from the Lieuallen property across lands owned by Patrick Kelly and Ferguson Ranch Inc. where the transmission line connects to an existing underground transmission line serving the wind project located on Ferguson Ranch property.

The Conditional Use Permit Standards applicable to the applicant's request are found in the Umatilla County Development Code Sections 152.616 (HHH), 152.615, 152.061. The applicable Land Use Decision Standards for the transmission line are found in Umatilla County Development Code Sections 152.617 (II) (7).

4. **Adjournment**

Upcoming Meetings:
Thursday, November 16, 2017, 6:30 PM
Thursday, December 14, 2017, 6:30 PM

SCHUMANN WIND PROJECT

SCHUMANN Wind LLC, Applicant

CONDITIONAL USE PERMIT, # C-1289-17 and LAND USE DECISION, # LUD-219-17

PACKET LIST OCTOBER 19, 2017, PLANNING COMMISSION HEARING

1. Staff Memo, pages 1 & 2
2. Staff Report & Findings, pages 3-59
3. Applicant's Attachment B – Transportation Plan, pages 60-83
4. Applicant's Attachment C – Erosion Plan, pages 84-88
5. Applicant's Attachment D – Avian Impact Monitoring Plan, pages 89-117
6. Applicant's Attachment E – Emergency Response Plan, pages 118- 207
7. Applicant's Attachment F – Weed Management Plan, page 208
8. Applicant's Attachment G – Socioeconomic Impact Assessment, pages 209-213
9. Applicant's Attachment H – Decommissioning Plan, pages 214 & 215
10. Applicant's Attachment I – Noise Assessment and Addendum, Bruce Walker, Ph. D., Acoustical Engineering & Research, pages 216-230
11. Applicant's Attachment K – CTUIR Archaeological Survey Summary, page 231
12. Applicant's Attachment L – Inadvertent Discovery Plan, pages 232-235
13. Applicant's Attachment M – Traditional Use Study, page 236
14. Applicant's Attachment N – State Historic Preservation Office Letter, page 237
15. Applicant's Attachment O – Baseline Raptor Nest & Sensitive Species Surveys, pages 238-248
16. Sheldon Ferguson Comment Letter (email) dated October 10, 2017, pages 249 & 250
17. Project Vicinity Map, page 251

Umatilla County

Department of Land Use Planning

DIRECTOR
ROBERT
WALDHER

LAND USE
PLANNING,
ZONING AND
PERMITTING

CODE
ENFORCEMENT

SOLID WASTE
COMMITTEE

SMOKE
MANAGEMENT

GIS AND
MAPPING

RURAL
ADDRESSING

LIAISON,
NATURAL
RESOURCES &
ENVIRONMENT

MEMO

TO: **Umatilla County Planning Commissioners**
FROM: Carol Johnson, Senior Planner
DATE: October 10, 2017
CC: Robert Waldher, Planning Director

RE: **October 19, 2017, Planning Commissioner Hearing**
Schumann Wind Project and Transmission Line
Conditional Use Permit Request, #C-1289-17
Land Use Decision, #LUD-219-17

Request

The applicant, Schumann Wind LLC, (Schumann or the Project), requests a Conditional Use Permit and Land Use Decision to construct and operate an 8 MW wind project and 2.3 miles of transmission line. The Schumann Wind project would consist of four or five turbines depending on turbine availability for the final turbine model selection. The overall project consists of turbines, collector lines, access roads, project communication system, and associated transmission line. The associated transmission line is reviewed as a Utility Facility Necessary and processed as a Land Use Decision request. The Project will use existing transmission and substation facilities constructed in 2016 for the nearby Chopin Wind Project.

Applicable Standards

Applicable standards for the Schumann wind power generation facility and transmission line are provided in the table below:

Zone	Applicable Document and Section
EFU (Exclusive Farm Use)	Umatilla County Development Ordinance – Wind Facility Conditional Use Permit Section 152.616 (HHH), Section 152.615, Section 152.612 and Section 152.061
EFU (Exclusive Farm Use)	Umatilla County Development Ordinance – Transmission Line Land Use Decision Section 152.617 (II) (7)

Regulatory Authority

Regulatory authority for siting wind projects generating 105 MW, or more, is with the Oregon Energy Facility Siting Council (EFSC). Wind projects generating less than 105 MW,

such as the applicant's 8 MW Schumann Wind Project is a land use decision made by the local authorities.

Planning Commission Decision

The Planning Commissioners determine whether the Schumann Wind Project complies with the approval criteria and makes a decision that is appealable to the County Board of Commissioners.

Conclusion

The Planning Commissioners packets contain the Schumann Draft Findings and Applicant's Attachments which in part, include the Weed Control Plan, Erosion Control Plan, Re-vegetation Plan, Transportation Plan and Baseline Raptor Nest and Sensitive Species Survey. Project materials also are posted on the Planning Department web page under Wind Energy.

UMATILLA COUNTY BOARD OF COMMISSIONERS
DRAFT FINDINGS AND CONCLUSIONS
SCHUMANN WIND LLC – APPLICANT/PROJECT OWNER
SCHUMANN WIND PROJECT CONDITIONAL USE PERMIT, # C-1289-17,
ASSESSOR'S MAP # 5N34; TAX LOT # 1600,
ASSESSOR'S MAP # 5N35; TAX LOT # 2700
SCHUMANN WIND PROJECT LAND USE DECISION, # LUD-219-17
ASSESSOR'S MAP # 5N35; TAX LOTS# 1000, 2700, 3000 & 3100

1. **APPLICANT/PROJECT OWNER:**
   Schumann Wind, LLC
   BayWa r. e. Wind, LLC[1]
   5901 Priestly Drive, Suite 300
   Carlsbad, CA 92008

2. **LANDOWNERS:**
   Conditional Use Permit:
   A. Brooks Lieuallen

   Land Use Decision:
   A. Brooks Lieuallen
   Patrick Kelly
   Ferguson Ranch, Inc.

3. **ASSESSOR MAP NUMBER AND TAX LOT NUMBERS:**
   Map # 5N34; Tax Lots # 1600,
   Map # 5N35; Tax Lots # 1000, 2700, 3000 & 3100

4. **PROJECT ACREAGE:** 757.66 acres - Tax Lots # 1600 & 2700

5. **COUNTY COMPREHENSIVE PLAN MAP DESIGNATION**: North/South County Agriculture
   COUNTY ZONING MAP CLASSIFICATION: Exclusive Farm Use (EFU)

6. **PROJECT LOCATION:**
   The wind project area is located approximately six miles north of the City of Athena, to the west of Pine Creek and east of Harris Road. The 2.3 miles of transmission line will be routed east and connect to the transmission line constructed in 2016 for the nearby Chopin Wind Project. The Schumann project will utilize existing transmission line and substation facilities.

7. **REQUESTS:**
   The applicant, Schumann Wind LLC, (Schumann or the Project), requests a Conditional Use Permit and Land Use Decision to construct and operate an 8 MW wind project and 2.3 miles of transmission line. The Schumann Wind project consists of four or five turbines depending on turbine availability for the final turbine model selection. The overall project consists of turbines, collector lines, access roads, project communication system, and associated transmission line.

[1] BayWa r.e. Wind, LLC is a turn-key developer and operator of renewable energy projects in North America headquartered in San Diego, CA. It is a subsidiary of BayWa AG, the "BayWa Group", a 17,000 employee, 94 year-old company, with multiple business activities across three main sectors including building materials, agricultural products, and energy.

The associated transmission line is reviewed as a Utility Facility Necessary and processed as a Land Use Decision request. The Schumann project will utilize existing transmission and substation facilities constructed in 2016 for the nearby Chopin Wind Project.

8. PROJECT FEATURES:

Turbine Selection: The applicant is considering three different models of wind turbines, as described in the Table below. The final selection will determine the number of turbines constructed in order to fulfill the remaining 8 MW of the existing Small Generator Interconnection Agreement (SGIA). In no case will the amount of wind turbines exceed five. The selected wind turbine generators use smooth mono tube towers and are designed to eliminate perching opportunities for avian species. Each of these turbines is finished in a pale off white color designed to blend into the sky background. The color palette of the Project turbines will be the same, or nearly the same, as other wind turbines found in the area.

Proposed Turbine Models and Layout Table

Turbine Model	Power	Rotor Diameter	Hub Height
GE 1.79-100	1.79 MW	100 m	80 m
GE 1.7-103	1.7 MW	103 m	80 m
GE 2.3-116	2.3 MW	116 m	80 m

Four Turbine Layout	1 (each) GE 1.79-100 and 3 (each) GE 2.3-116
Five Turbine Layout	1 (each) GE 1.79-100 and 4 (each) GE 1.7-103

Turbine Foundation: As part of the micro-siting of the wind turbines, subsurface borings (Geotechnical Studies) will be analyzed for each preliminary turbine location. This information will be used to determine the final foundation design most suitable for the site. Preliminary Geotechnical Studies indicate that industry standard foundation types will be suitable for the Schumann Project.

Meteorological Towers: Measurements were used from two 80 meter meteorological (MET) towers erected in late 2009 to measure wind speed and direction (CUP #C-1153-09). With 7 years of wind data at turbine hub height collected and analyzed, the Project has a firm understanding of the available wind resource by extrapolating from these nearby towers. Wind measurements also were confirmed on the Project land by utilizing an advanced Sonic Detection and Ranging (SODAR) unit to sample various points over the past year. No new MET towers are proposed in connection with the Schumann Project.

Communication System: Schumann has selected three potential models of GE wind turbine for use in the Project. All GE turbines include advanced diagnostic software and sensor packages that constantly monitor turbine components to detect unusual vibrations and other anomalies. This sensory system, in combination with Supervisory Control and Data Acquisition (SCADA) system analysis, creates a comprehensive, proactive, diagnostic system that keep O&M staff informed of turbine health in real-time which can prevent component failures before they occur.

Operations and Maintenance Center (O & M): Schumann plans to contract with a regional GE Operations and Maintenance team for turbine maintenance on the Project. Shop area and spare parts storage will likely use leased space from the Chopin Wind Farm O&M building in Athena.

(4)

Access Route & Roads:

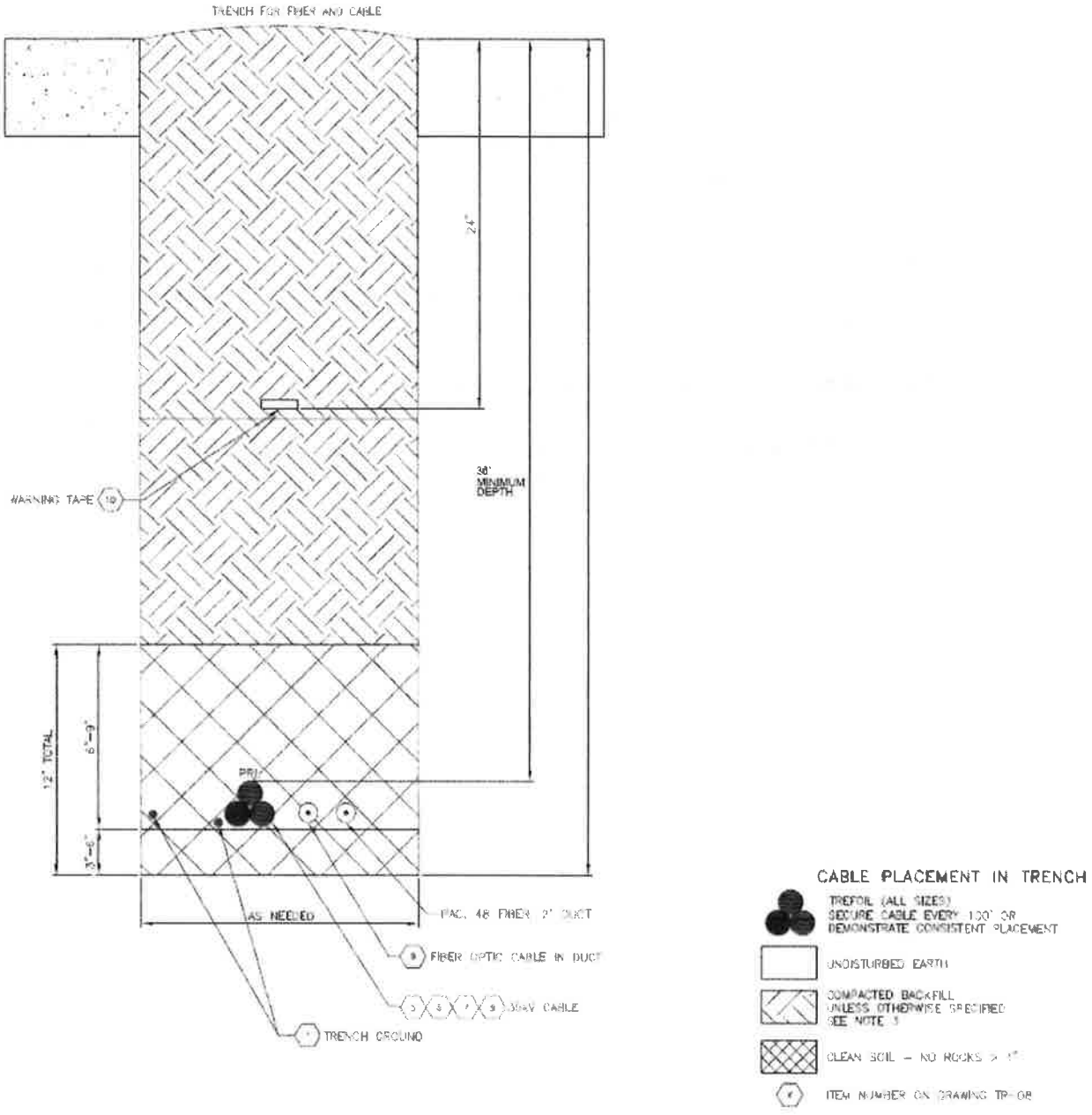
Schumann has had preliminary discussions regarding the transportation route with Tom Fellows, Umatilla County Public Works Director. The Project will develop a final routing and road modification plan in coordination with the Umatilla County Public Works Department and sign a Road Use Agreement.

The Project will have one access point for the wind turbines and up to three access points for the transmission line. Access for wind turbines and for the transmission line on the west side of Pine Creek will be from County Road No. 697 (Harris Road). The remaining access points for the transmission line east of Pine Creek would use existing access points established for the Chopin Project, which are at the west ends of Staggs Road and Ferguson Road.

Schumann has contracted with ATS, a world-wide transportation services company, to evaluate the haul route once deliveries leave the interstate freeway system. Based on the route options outlined in the study, the Waterman Road to Sanders Road likely will be utilized. The final route and other heavy haul considerations will be detailed in the Road Use Agreement with the County.

Collector lines: The project collection system lines will be buried to a minimum depth of 3 feet below surface grade except for that section traversing the steeper terrain across Pine Creek. An example of typical power cable burial design is depicted in Figure below. While the final design may be somewhat different, the design will follow pertinent Best Management Practices (BMP).

Buried Cable Example Figure



The majority of the Project transmission line is expected to be buried to a minimum depth of 3 feet. Preliminary assessment and engineering studies have concluded that the portion crossing Pine Creek, as well the steeper portions of the canyon, would likely use overhead transmission line and H-Frame pole structures. This would minimize disturbance on steep, and more erodible ground, as well as eliminate disturbance to Pine Creek itself. Engineers are currently studying the area to determine the most effective and least impactful way to cross the canyon and Pine Creek. This final design will conform to or exceed Avian Power Line Interaction Committee (APLIC) Standards.

(6)

Transmission Line[2] and Project Substation: Schumann is also applying for a permit to construct a 34.5kV overhead and underground transmission line to connect the Schumann Project to the existing Chopin Wind Project underground transmission line. Power would then be conveyed to the existing Chopin Wind Project substation, located just south of the point of interconnection (POI) with the utility, PacifiCorp, at the Weston Substation, north of the city limits of Weston.

The Project transmission line would be approximately 2.3 miles in length and primarily underground for those segments of the transmission line that run through arable land to minimize disturbance to agricultural operations. The transmission line would cross Pine Creek and the associated canyon by overhead line which will have the benefit of minimizing grading activities and disturbance to Pine Creek and riparian zone. This achieves a crossing with the least amount of disturbance.

Laydown Areas: There will be one temporary staging area of approximately one acre. The staging area will be restored to pre-disturbance condition, or better, at the close of the construction period.

9. **PROJECT ACCESS:** Proposed turbine access to the property would be via Waterman Road, County Road No. 725, Sanders Road, County Road No. 724 and Harris Road, County Road No. 697. Access to the Project transmission line would use Ferguson Road, County Road No. 672 or Staggs Road No 674.

10. **ADJACENT LAND USES:** Surrounding the wind project area is agricultural land primarily in dryland wheat.

11. **SOIL CLASSIFICATIONS:** The two wind project parcels consist of the following soil types. (High Value Soils are defined as Land Capability Class I and II.)

Soil Name, Unit Number, Description	Land Capability Class	
	Dry	Irrigated
114B: Walla Walla silt loam, 1 to 7 percent slopes	IIe	IIe
115D: Walla Walla silt loam, 12 to 25 percent slopes	IVe	---
60F: Nansene silt loam, 35 to 70 percent slopes	VIIe	---
49F: Lickskillet very stony loam, 35 to 70 percent slopes	VIIe	---
48E: Lickskillet very stony loam, 7 to 40 percent slopes	VIIe	---
6E: Anderly silt loam, 20 to 35 percent slopes	VIe	---
50F: Lickskillet rock outcrop complex, 40 to 70 percent slopes	VIIs	---
114C: Walla Walla silt loam, 1 to 7 percent slopes	IIIe	IIIe

Soil Survey of Umatilla County Area, 1989, NRCS. The suffix on the Land Capability Class designations are defined as "e" – erosion prone, "c" – climate limitations, "s" soil limitations and "w" – water (*Survey*, page. 172).

[2] Transmission lines on towers less than 200 feet in height on EFU zoned land are processed as "utility facilities necessary." The County Planning Department processes the application for the transmission line as a Land Use Decision concurrently with the conditional use application.

The project transmission line route consists of the following soil types.

Soil Name, Unit Number, Description	Land Capability Class	
	Dry	Irrigated
115D: Walla Walla silt loam, 12 to 25 percent north slopes	IVe	---
50F: Lickskillet rock outcrop complex, 40 to 70 percent slopes	VIIs	---
60F: Nansene silt loam, 35 to 70 percent slopes	VIIe	---
48E: Lickskillet very stony loam, 7 to 40 percent slopes	VIIs	---
114B: Walla Walla silt loam, 1 to 7 percent slopes	IIe	IIe
8B: Athena silt loam, 1 to 7 percent slopes	IIe	IIe

Soil Survey of Umatilla County Area, 1989, NRCS. The suffix on the Land Capability Class designations are defined as "e" – erosion prone, "c" – climate limitations, "s" soil limitations and "w" – water (*Survey*, page. 172).

12. **WATER:** The project property is farmed in dryland crops; there are no water rights.

    Water for the project construction and dust abatement would come from an offsite source.

13. **WASTEWATER:** During project construction portable toilets would be provided for onsite sewage which would be pumped and cleaned regularly by a licensed contractor.

14. **SIGNIFICANT GOAL 5 SITES:** The review of the County's inventory of Goal 5 sites was conducted for the project site including a one mile area around the project. Likewise the route for the transmission line route was reviewed. Inventoried Goal 5 sites were not found within the project site or along the proposed project transmission line.

15. **UTILITIES:** The area is served by Umatilla Electric and Qwest-Century Link

16. **HEARING NOTICE:** Mailed September 29, 2017, to area Property Owners and the following:

    FAA-Seattle, NAS-Whidbey Island, CTUIR-Natural Resources, USDA-NRCS, US Fish & Wildlife, BPA, Oregon Building Codes, DEQ, DLCD, ODF&W, ODOT, OWRD, SHPO, DOE-EFSC, Co Assessor, Co Public Works, East Umatilla Fire District, Milton-Freewater Rural Fire Dept, Walla Walla Watershed Council, Pacific Power & Light/PacifiCorp, UEC, PUC, City of Milton-Freewater, City of Weston, City of Athena and Blue Mountain Alliance.

17. **PLANNING COMMISSION HEARING DATE:** October 19, 2017

18. **COMMENTS RECEIVED:** None to date.

19. **CONDITIONAL USES PERMITTED ON LANDS ZONED EXCLUSIVE FARM USE (EFU) § 152.060 (F).** A Commercial Wind Power Generation Facility in an Exclusive Farm Use zone may be permitted conditionally subject to the applicable criteria in the Umatilla County Development Code § 152.061, § 152.615 and § 152.617 (I) (C) [152.616(HHH)]. Applications for Commercial Wind Power Generation Facilities are processed by following the county planning public hearing procedure. Approval of all conditional use permits, requires issuance of a zoning permit for each tax lot (parcel)

pursuant to § 152.025. The criteria (standards) are presented in underlined text followed by responses and Findings of Fact presented in standard text.

STANDARDS FOR CONDITIONAL USE PERMIT Commercial Wind Power Generation Facilities §152.616 (HHH) (1) – (11): The process for taking action on a request to establish a Commercial Wind Power Generation Facility is a Conditional Use Permit. A public hearing is held pursuant to §§ 152.750-152.755 and 152.771 to determine if the request meets the County siting requirements for construction and operation of a Commercial Wind Power Generation Facility. Throughout the findings Schumann Wind LLC, is referred to as Schumann or the Project.

§152.616 (HHH) (1) through (4) delineate the County Permit Procedure, Pre-Application Meeting, Authority to request Conditions of Approval and County and other agency permits.

(5) ***Application Requirements.*** Following is a summary of application requirements for a Commercial Wind Generation Facility Conditional Use Permit.

The following information shall be provided as part of the application:

(a) (1) A general description of the proposed Wind Power Generation Facility,
(2) A tentative construction schedule,
(3) The legal description of the property
(4) Identification of the general area for all components

(b) A map showing the location of components.

(c) (1) Provide information on wind monitoring data
(2) Transmission interconnect
(3) Route and plan for transmission line

(d) (1) Demonstrate compliance with § 152.061.
(2) Identify potential conflicts

(e) A Transportation Plan . . .

(f) A Re-vegetation and Erosion Control Plan . . .

(g) A Fish, Wildlife and Avian Impact Monitoring Plan. . . The plan shall include the formation of a technical oversight committee to review the plan, and consist of the following persons:
(1) The landowners/farm tenants.
(2) Wind Power Generation Facility owner/operator representative. (Chair)
(3) Oregon Department of Fish and Wildlife representative, if the agency chooses to participate.
(4) Two Umatilla County residents with no direct economic interest in the project and recommended by the applicants for appointment by the Umatilla County Board of Commissioners.
(5) U.S. Fish and Wildlife
(6) Umatilla County Planning Commission member.

(h) An Emergency Management Plan . . .
(1) . . . fire district and/or contract fire department responsible for providing emergency services.
(2) A Spill Prevention, Control and Counter Measure Plan (SPCC) . . .
(3) An Operations and Maintenance Plan . . .
(4) An Emergency Response Plan . . .

(i) A Weed Control Plan . . .

(j) A Socioeconomic Impact Assessment . . .

(l) A Dismantling, Decommissioning and Restoration Plan . . .

(k) Information on impacts:

(1) Wetlands and streams, including intermittent streams and drainages;
(2) Fish, avian and wildlife . . . ;
(3) Fish, avian and wildlife habitat;
(4) Criminal activity (vandalism, theft, trespass, etc.) . . .
(5) Open space, scenic, historic, cultural and archaeological resources as identified and inventoried in the Comprehensive Plan. The applicant shall consult with the CTUIR . . .

General Description;

The proposed Project is an 8 MW wind power facility in Umatilla County located on private farm land approximately 6 miles north of Athena. The Project will feed into the PacifiCorp grid using the existing Chopin Wind Project transmission line, located approximately 2 miles to the southeast. The Project developed route options to connect Schumann to the Chopin Wind transmission line, all of which use a combination of underground transmission construction through cultivated fields and overhead transmission to span Pine Creek and steeper terrain.

The Project is considering three different models of wind turbine, as described in the Table below. The final selection will determine the number of turbines constructed in order to fulfill 8 MW in the existing Small Generator Interconnection Agreement (SGIA) with PacifiCorp. In no case would the amount of wind turbines exceed five.

Proposed Turbine Models and Layout Table

Turbine Model	Power	Rotor Diameter	Hub Height
GE 1.79-100	1.79 MW	100 m	80 m
GE 1.7-103	1.7 MW	103 m	80 m
GE 2.3-116	2.3 MW	116 m	80 m

Four Turbine Layout	1 (each) GE 1.79-100 and 3 (each) GE 2.3-116
Five Turbine Layout	1 (each) GE 1.79-100 and 4 (each) GE 1.7-103

Quarry/Concrete Batch Plant

All rock, concrete and water will be sourced from local commercial businesses. No onsite quarry or concrete batch plant is needed. The Project will collaborate with Umatilla County to enter into a Road Use Agreement to address heavy hauls on County roads as well as temporary and/or permanent modifications within the County road rights-of-way.

Tentative Construction Schedule

The construction phase will last approximately 3.5 to 5 months. Start of construction can possibly be in Q4-2017/Q1-2018.

Wind Measurements

Wind measurements taken from the nearby Chopin Project were used to verify that sufficient wind resource is present. These measurements were obtained from two 80 meter meteorological (MET) towers erected in late 2009 to measure wind speed and direction (CUP #C-1252-15). With over 7 years of wind data at turbine hub height collected and analyzed, the Project has a firm understanding of the available wind resource by extrapolating from these nearby towers. No new MET towers will be installed in connection with the Project. Measurements were confirmed onsite by use of a Sonic Detection and Ranging (SODAR) unit over the past year.

Small Generator Interconnection Agreement
The Small Generator Interconnection Agreement (SGIA) allows for a total output of 18 MW. The Chopin Project consists of 10 MW and the remaining 8 MWs of capacity would be provided by the Schumann Project.

Transportation Plan
Schumann has contracted with ATS, a world-wide transportation services company, to evaluate the haul route once deliveries leave the interstate freeway system. They have made preliminary recommendations for routing and noted where temporary road modifications may be necessary. (See the Schumann Transportation Review, Applicant's Attachment B, for additional information.) Based on the route options outlined in the study, the route using Zerba Road is not practical and instead Waterman Road to Sanders Road is the preferred route. The final route will be detailed in the Road Use Agreement.

Schumann has had discussions regarding the transportation route with Tom Fellows, Umatilla County Public Works Director. The Project will develop a final routing and road modification plan in coordination with the Umatilla County Public Works Department and sign a Road Use Agreement.

The Project proposes one access point for the Project turbines and up to three access points for the transmission line. Access for wind turbines and for the transmission line west of Pine Creek would be from Harris Road, County Road No. 697. Access points for the transmission line east of Pine Creek would be from one of the existing accesses, Staggs and/or Ferguson Road, currently used for the Chopin Project.

Re-vegetation & Erosion Plan
A Re-vegetation and Erosion Control Plan is included as Applicant's Attachment C. This plan would be updated once the final layout is completed. Schumann will work with the Umatilla County Public Works Department, Soil and Water Conservation District and appropriate Watershed Council to ensure the final plan reflects their concerns and sufficiently protects any of the affected areas.

Fish, Wildlife and Avian Impact Monitoring Plan
Schumann has contracted with Western EcoSystems Technology, Inc. (WEST) to study the Project site and complete a Baseline Wildlife Survey. This study helped form the Fish, Wildlife and Avian Impact Monitoring Plan for the Project. An Impact Monitoring Plan, included in the Schumann Project application, Applicant's Attachment D, incorporates feedback from in depth discussions with USFWS and ODFW during the Technical Oversight Committee (TOC) meetings regarding the nearby Chopin Wind Project.

Technical Oversight Committee
Schumann will form a TOC to oversee the results of post-construction monitoring and inform changes, if needed, to the Monitoring Plan. The TOC will include persons as described in the Umatilla County Development Code (UCDC), but Schumann requests an exception to part (4), which requires two of the TOC members be Umatilla County residents. The Project owner suggests Mr. Mike Denny of College Place, Washington, for appointment to the TOC in place of one of the two Umatilla County residents.

Mike Denny resides in Walla Walla County, Washington, and has had an integral role in the Blue Mountain Audubon chapter. The Blue Mountain Audubon chapter is interested and concerned in avian species throughout the area, including those in Umatilla County. Mike Denny is familiar with wind project permitting and has addressed the Planning Commission and Board of Commissioners on behalf of the Blue Mountain Audubon Society during several previous public hearings. Mr. Denny currently sits on several area wind project TOCs, as well as the TOC overseeing the nearby Chopin Project. He is in a unique position to impart a broad range of knowledge on impacts to avian species. Schumann believes Mr. Denny's experience and knowledge would be beneficial to the Schumann TOC and merits approval of this request. In the event Mike Denny is unavailable, the Project owner suggests the County allow for an alternative with similar experience to Mr. Denny's.

Emergency Management Plan
The Project includes components that are both inside and outside of the East Umatilla Rural Fire Department (EURFD) service territory. Schumann Wind LLC has begun consultation with the EURFD to provide fire protection service for all Project features. These services will include fire protection for emergencies on the ground. All high angle rescue (high elevation) issues will be coordinated through the EURFD or contracted through an area specialist depending on availability of resources. Please find the attached Schumann Emergency Management Plan, Applicant's Attachment E.

Weed Control Plan
The Schumann Weed Control Plan, Applicant's Attachment F is attached. All contractors and agents of the Project would abide by this Plan.

Socioeconomic Impact Assessment
Socioeconomic Impact Assessment provided in Applicant's Attachment G

Decommissioning and Restoration Plan
Decommissioning and Restoration Plan provided in Applicant's Attachment H.

The application requirements listed above are examined against the Standards of Approval in § 152.616 (HHH) (6) below.

(6) *Standards/Criteria of Approval.*
The following requirements and restrictions apply to the siting of a Wind Power Generation Facility:

(a) Setbacks. The minimum setback shall be a distance of not less than the following:

(1) From a turbine tower to a city urban growth boundary (UGB) shall be two miles. The measurement of the setback is from the centerline of a turbine tower to the edge of the UGB that was adopted by the city as of the date the application was deemed complete.

(2) From turbine tower to land zoned Unincorporated Community (UC) shall be 1 mile.

(3) From a turbine tower to a rural residence shall be 2 miles. For purposes of this section, "rural residence" is defined as a legal, existing single family dwelling meeting the standards of §152.058 (F)(1)-(4), or a rural residence not yet in existence but for which a zoning permit has been issued, on a unit of land not a part of the Wind Power Generation Facility, on the date a Wind Power Generation Facility application is submitted. For purposes of this section, the setback does not apply to residences located on properties within the Wind Power Generation Facility project application. The measurement of the setback is from the centerline of the turbine tower to the center point of the rural residence.

(4) From a turbine tower to the boundary right-of-way of County Roads, state and interstate highways, 110% of the overall tower-to-blade tip height. Note: The overall tower-to-blade tip height is the vertical distance measured from grade to the highest vertical point of the blade tip.

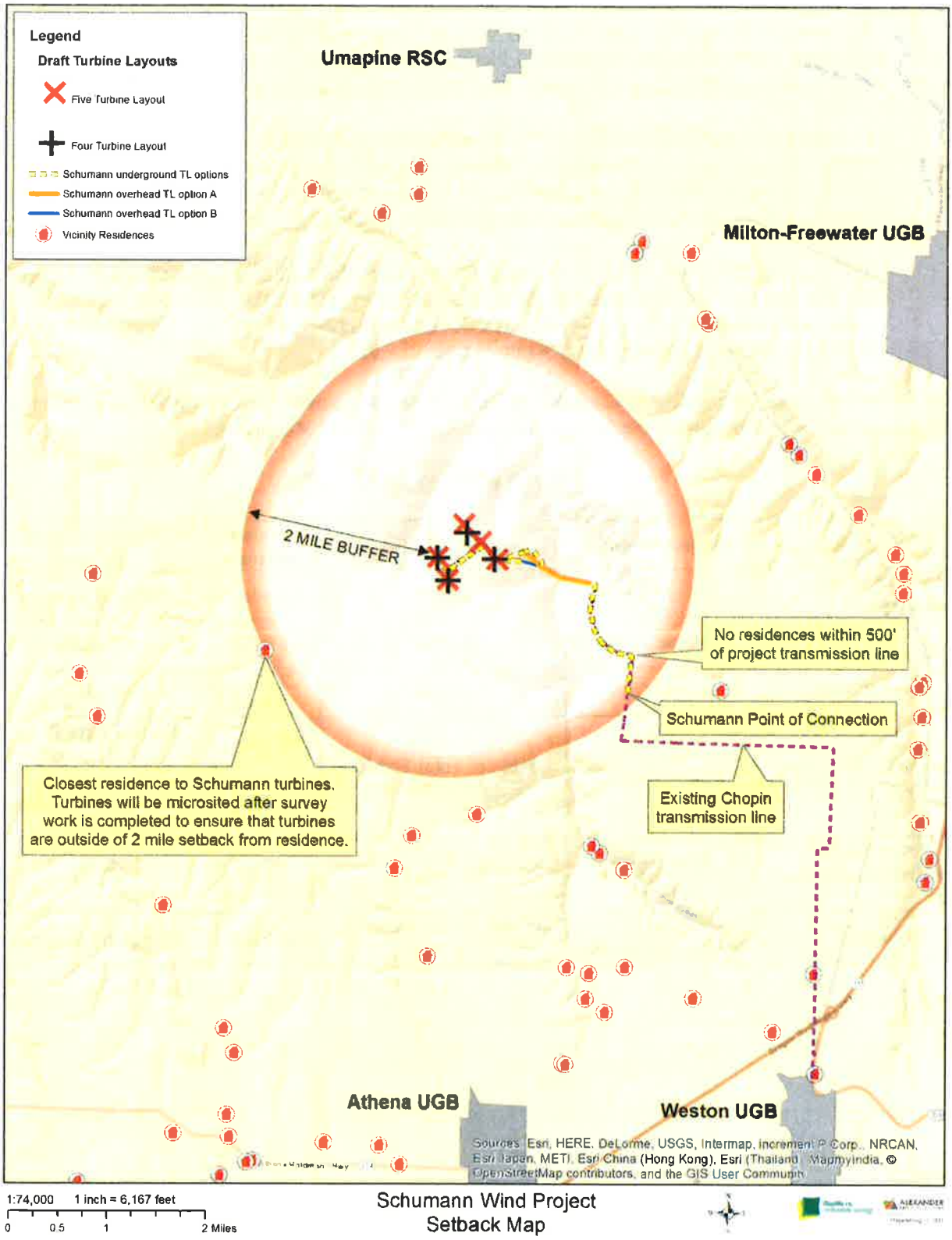
(5) From tower and project components, including transmission lines, underground conduits and access roads, to known archeological, historical or cultural sites shall be on a case by case basis, and for any known archeological, historical or cultural site of the Confederated Tribes of the Umatilla Indian Reservations the setback shall be no less than 164 feet (50 meters)

(6) New electrical transmission lines associated with the project shall not be constructed closer than 500 feet to an existing residence without prior written approval of the homeowner, said written approval to be recorded with county deed records. Exceptions to the 500 feet setback include transmission lines placed in a public right of way.

The Project meets all of the County setback requirements set out above. Setback distances are compared in the Setback Table and visually depicted in the Applicant's Setback Map below.

Setback Distance Table

Setback Rule	Project Feature	Required Distance	Proposed Distance	Nearest Setback Feature
(1) Urban Growth Boundary	Turbine Tower	2 miles	4.7 miles	Milton-Freewater
(2) Unincorporated Community	Turbine Tower	1 mile	4.6 miles	Umapine
(3) Rural Residence	Turbine Tower	2 miles	2.001 miles	Residence #1
(4) Public Road right-of-way	Turbine Tower	110% of Total Turbine Height (497.9 feet)	965 feet 1,764 feet	Harris Rd ROW (no existing road) Harris Rd ROW (Existing Harris Rd)
(5) Archeological, historical or cultural sites	Any Project Feature	50 meters	TBD	TBD
(6) Residence	Project Transmission Line	500 feet (unless waiver is obtained)	5,100 feet	Ferguson Residence



The Project map shows the proposed turbine locations and illustrates the two mile buffer line to the nearest Urban Growth Boundary. All proposed turbine locations are demonstrated at greater than two miles to an urban growth boundary.

The proposed turbine locations exceed the one mile setback to the nearest Unincorporated Community, Umapine. All proposed turbine locations are demonstrated at greater than one mile to the Unincorporated Community of Umapine.

The proposed project turbine locations also are illustrated to area residences with a two mile buffer area. One residence is located at this two mile buffer line and the applicant would make adjustments during micro-siting to ensure this two mile setback is satisfied.

Project turbines are proposed to be located greater than 110% of the overall tower base-to-blade tip height from public road rights-of-way, as demonstrated on the Project map.

There are no project features proposed within 50 meters of a known archeological, historical, or cultural site of the Confederated Tribes of the Umatilla Indian Reservation, as confirmed in the CTUIR Archaeological Survey (Applicant's Attachment K) and confirmed by the State Historic Preservation Office (SHPO) letter dated July 5, 2017, (Applicant's Attachment N). The study recommends during ground disturbance activities a cultural resource monitor is present.

The transimssion line is required to be located 500 feet from a nearby residence. The nearest residence is the Ferguson dwelling located over 5,000 feet from the Project proposed transmission line.

Findings and Conclusions

The County finds and concludes the turbine locations exceed the two mile setback requirement to an Urban Growth Boundary.

The County finds and concludes the turbine locations would be greater than the one mile setback requirement to an Unincorporated Community.

The County finds and concludes the Project mapping shows one residence at or near the two mile setback to a proposed turbine location. The applicant shall provide an updated setback map confirming the final design location (micro-siting) of all project turbines shall meet or exceed the two mile setback to residences as a condition of approval.

The County finds and concludes the proposed turbine locations meets and exceeds the 110% setback to public road rights-of-way.

The County finds and concludes as a condition of approval that archeological, historical or cultural sites are required to be setback 50 meters from towers, project components, transmission lines, underground conduits and access roads.

The County finds and concludes as a condition of approval to ensure protection of archeological, historical and cultural sites a resource monitor is present during ground disturbance activities.

The County finds and concludes there are no residences within the 500' setback requirement of the proposed project transmission line.

> (7) The turbine/towers shall be of a size and design to help reduce noise or other detrimental effects. At a minimum, the Wind Power Generation Facility shall be designed and operated within the limits of noise standard(s) established by the State of Oregon. A credible noise study may be required to verify that noise impacts in all wind directions are in compliance with the State noise standard.

The State of Oregon noise standard is found in OAR 340-035-0035. Noise levels generated by wind energy facilities are based on an assumed background L_{50} ambient noise level of 26 dBA unless the person owning the wind energy facility conducts measurements to determine the actual ambient L_{10} and L_{50} background level.

OAR 340-035-0035 essentially limits the median noise level from an industrial or commercial use to 50 dB at night and 55 dB during the day and evening. A facility complies with the ambient background standard if the increase in noise over either the assumed ambient noise level of 26 dBA, or to the actual ambient background L_{10} and L_{50} noise level, if measured, is not more than 10 dBA over this entire range of wind speeds.

The Schumann Wind Project proposes to install an array of up to five 1.7 – 2.3 MW wind turbines in Umatilla County, north of Athena, Oregon. The alternatives depicting both a four and five-turbine project design are described in greater detail in the Project Description, and in Figure 1 and Figure 2 in Applicant's Attachment I.

The five-turbine array is similar to the four-turbine array, with the former having three turbines in the more-distant row. The predominant wind direction is from the southwest, so the nearest residence is upwind of the turbine array approximately 72% of the time per wind direction data shown in Figure 7 in Applicant's Attachment I. Nearby existing turbines are located on the property to the north of Res 1, with the nearest turbine 0.4 miles northwest from the residence. These nearby turbines are not a part of the Schumann or Chopin Wind Projects and were constructed prior to adoption of the 2 mile setback rules.

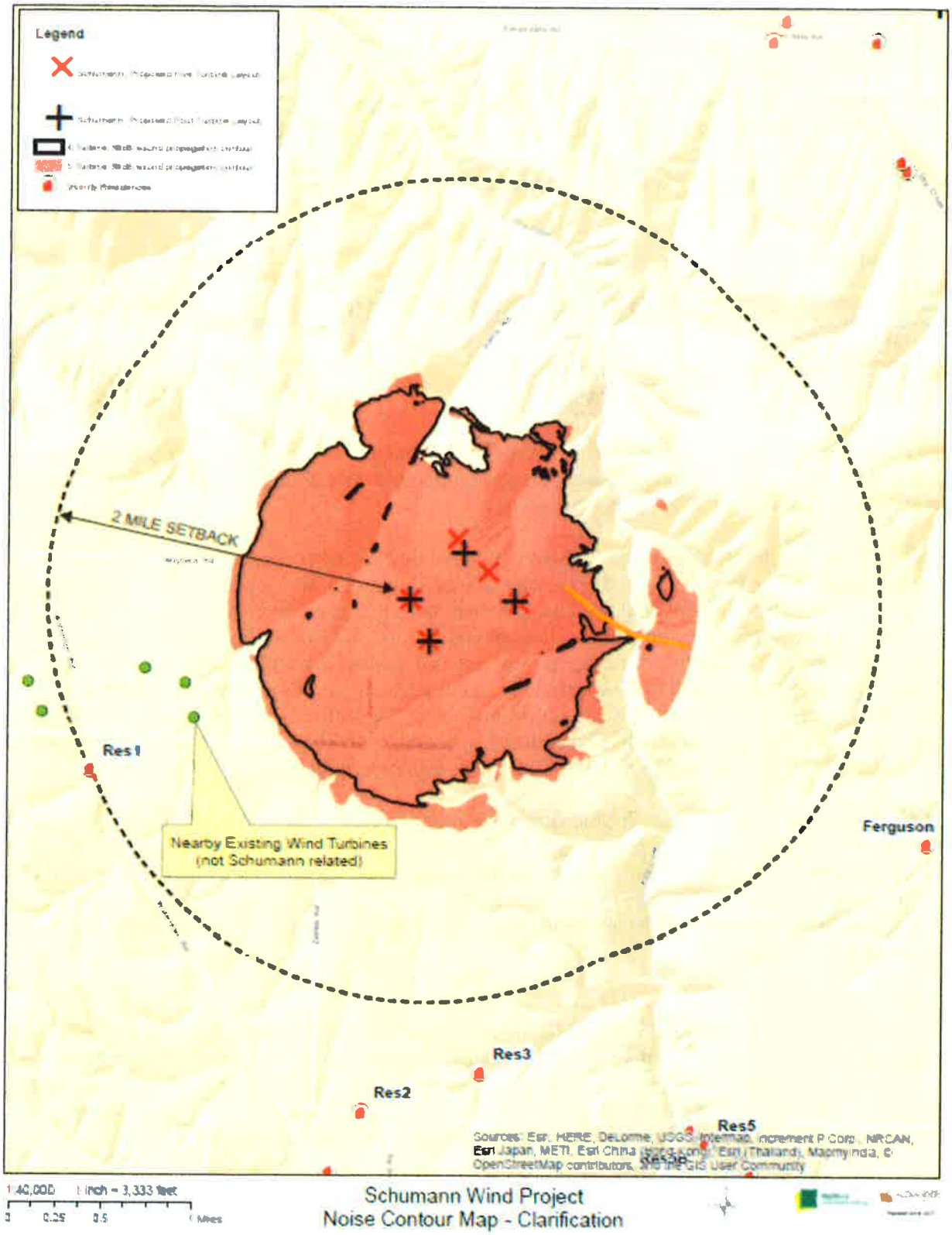
The County currently requires a minimum setback between turbines and residences of 2.0 miles (Res 1 to T-E1 and T-E2). Complementary to the two-mile setback requirement, State noise regulations limit wind-turbine noise to LA_{50} and LA_{10} of 36 dB or 10 dB above ambient noise, whichever is greater. With six existing turbines already within one mile of Res 1, background noise below the assumed ambient noise level of 26 dB is highly unlikely. Therefore, Schumann Wind has requested the off-site sound levels be predicted relative to the 36 dB State limit.

As described in the analysis, computations at all surrounding residences have demonstrated sound levels below 30 dBA and therefore the project would be in compliance with the State regulations and County requirements.

The State of Oregon and Umatilla County noise limits for wind turbine are based on the 50th and 10th percentiles, meaning sound levels that are exceeded 50% or 10% of the time during any measurement hour. The basic requirement is that neither of these may be increased more than 10 dB above ambient conditions. The ambient conditions can be determined by field measurements or assumed to be 26 dB.

Therefore, the minimum value of a wind turbine noise criterion is 36 dB (10 dB above the ambient baseline). In other words, the sound emitted by wind turbines may not exceed 36 dB at any residence for more than 10% of the time in any hour. In practice, noise levels in windy environments are usually 40 dB or greater, but Schumann Wind has opted to accept the baseline in lieu of field demonstrations.

The project will utilize either four or five GE wind turbines, mounted on towers with 80-meter hub height. Figure 1 and Figure 2 (Applicant's Attachment I) display the proposed project configurations for each alternative.



Schumann Wind Project
Noise Contour Map - Clarification

NOISE MODELING

Manufacturer's noise emission levels are presented as tables of octave or 1/3-octave effective sound power levels as functions of wind speed. In general, the noise level rises monotonically with wind speed but the octave band levels are sometimes higher at intermediate speeds. For purposes of conservatism, the highest octave band levels were combined to obtain composite spectra and overall levels. In addition, the composite levels were raised by 4 dB to allow for variations in turbine emissions and propagation conditions. The composite manufacturer's spectral data are shown in Figure 8 (Applicant's Attachment I). Overall emission levels, corresponding to spectra applied in modeling, including the +4 dB adjustment are shown in Table 1 below.

Noise Modeling Table 1 - Proposed Turbine Properties:

Turbine Type	Power	Rotor Diameter	Modeled L_{WA}
GE 1.79-100	1.79 MW	100 m	109.6 dB
GE 1.7-103	1.7 MW	103 m	111.8 dB
GE 2.3-116	2.3 MW	116 m	111.6 dB

Note that the emission levels are presented as A-weighted Sound Power Levels (LWA) and that these are not Sound Pressure Levels LA that are experienced or measured. At a distance of two miles, LA would be nominally 88 dB below LWA over flat, open ground.

Sound levels at off-site locations were computed using the ISO 9613-2 propagation model as implemented in SoundPlan 7.3. Ground absorption was entered as 0.5, which is typical for sandy soil and farmland. Terrain effects are fully modeled using SoundPlan's digital ground model, computed from area topographic maps. Atmospheric conditions were entered as 10°C, 70% Humidity, which sets a near minimum atmospheric absorption rate at frequency ranges dominant in wind turbine noise. SoundPlan treats all computation directions as "downwind" of sources, adding to conservatism. Results of the average (L_{eq}) sound level computations are shown in Table 2. Typically, L_{50} is approximately 1 dB lower than L_{eq} and L_{10} is approximately 2 dB higher than L_{eq}. Sound levels at all residences are well below the 36 dB minimum criterion level for either the four or five turbine configuration.

In addition to the individual off-site location computations, average (L_{eq}) sound levels were computed on a 10 x 10 meter grid in the area (approximately 1.6 million points) and then converted to noise contour maps. Noise contours for the four turbine array are shown in Figure 3 and contours for the five-turbine array are shown in Figure 4 as shown in Applicant's Attachment I. AutoCAD files for these and also the 36 dB criterion contour lines have been provided for overlay on site graphics (as shown in Figures 1 and 2 of Applicant's Attachment I).

CUMULATIVE NOISE

Predicted turbine sound levels of 25 dB and below could raise the overall ambient noise level slightly. The degree of increase is dependent upon the actual ambient level. For example, a rough computation of the combined noise from the 9 nearest existing turbines to Res 1 is 43 dB. Adding 25 dB from Schumann would result in a total of 43.07 dB. Changes in sound level of less than 1 dB are nearly impossible to detect under field conditions. Changes of less than 0.1 dB are virtually unmeasurable.

Where the ambient noise level is 26 dB (the State ambient base level) adding 25 dB turbine noise would raise the overall level to 28.5 dB. Although this is not a negligible change, it is well below the 10 dB change allowed by the State of Oregon wind turbine noise regulations and County requirements.

Extended measurements of background noise at Ferguson Ranch in 2011 indicated that the hourly ambient noise level in absence of wind turbines ranged from approximately 24 to 40 dB depending upon wind conditions, as shown in Figure 5 and Figure 6. At the low end of this range, which is likely applicable to other residences in the project area under locally calm conditions, turbine noise from the Schumann project would increase the ambient level between a fraction of a dB at the more remote locations and 2-3 dB at the nearest locations. At the upper end of the range, likely under windy conditions, the influence of Schumann project noise would be negligible.

A listing of computed ambient noise increases at each residence vs possible existing ambient noise from wind or other sources are shown in Table 4 of Applicant's Attachment I. Probable applicable conditions are shown in Bold.

CONCLUSION
Computations of project noise at all surrounding residences have demonstrated sound levels below 30 dB and therefore are in compliance with the State regulations and County requirements. (See details in Applicant's Attachment I).

Findings and Conclusions
The County finds and concludes the Schumann Wind Project must comply with the state noise standard in OAR 340-035-0035.

The County finds and concludes as a condition of approval, the Project owner operate the Schumann Wind Project in compliance with the State noise standard in OAR 340-035-0035.

(b) Reasonable efforts shall be made to blend the wind turbine/towers with the natural surrounding area in order to minimize impacts upon open space and the natural landscape.

Schumann is considering three possible GE wind turbines. Each of these turbines is finished in a pale off white color designed to blend into the sky background. The color palette of the Project turbines will be the same, or similar, to other wind turbines located in the area.

Findings and Conclusions
The County finds and concludes the Schumann Wind Project turbines would be of a color palette similar to the other installed wind turbines found in the area.

The County finds and concludes reasonable efforts to blend the wind turbines to the surroundings are proposed.

(c) The development and operation of the Wind Power Generation Facility will include reasonable efforts to protect and preserve existing trees, vegetation, water resources, wildlife, wildlife habitat, fish, avian, resources, historical, cultural and archaeological site.

Schumann contracted with local professionals, WEST Inc., to perform studies of the Project site and impacted areas. WEST, Inc has prepared the Project area Baseline Wildlife and Vegetation survey (Applicant's Attachment O). This report details the results of the final 2017 raptor and sensitive species survey and the showed no federally-listed threatened or endangered species, federal/state species of concern, or eagles observed during the 2017 surveys.

In addition to the Baseline Wildlife and Vegetation survey WEST also prepared a Project Avian Impact Monitoring Plan. The development of this plan comes after years of experience in performing area monitoring operations as well as collaborating with National and State Department of Fish and Wildlife

professionals, including detailed discussions regarding the nearby Chopin Project. In addition to avoidance and minimization measures, and the implementation of the Avian Impact Monitoring Plan, the Project has committed to the implementation of the Avian Power Line Interaction Committee (APLIC) guidelines (Applicant's Attachment J). The APLIC provides guidelines to minimize potential interactions with birds and overhead power lines from both a collision and electrocution risk perspective (APLIC 2006, 2012).

The Project also contracted with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) to perform an archeological survey of potential areas to be disturbed during construction of the Project. An archeological monitor will be present during construction to inspect disturbed soil and identify inadvertent archeological discoveries. The CTUIR has also developed an Inadvertent Discovery Plan (Applicant's Attachment L) to provide protocol for an inadvertent discovery of human remains and/or archaeological resources. A Traditional Use Study (applicant's Attachment M) also was developed by CTUIR. The archaeological study findings were shared with the State Historical Preservation Office (SHPO) for their review and SHPO confirmed receiving the study, Applicant's Attachment N.

Findings and Conclusions

The County finds and concludes the project owner has made reasonable efforts by completing surveys of the property to identify, avoid and minimize project impacts for the protection and preservation of existing trees, vegetation, water resources, wildlife, wildlife habitat, fish and avian resources, historical, cultural and archaeological sites.

(d) The turbine towers shall be designed and constructed to discourage bird nesting and wildlife attraction.

Schumann has selected modern wind turbine generators that use smooth mono tube towers designed to eliminate perching opportunities for avian species. The towers and turbines are not designed to attract wildlife species. The Project is committed to implementation of the APLIC guidelines to minimize potential interactions with birds. Such design measures will include nest and perch deterrence methods outlined in the APLIC guidelines, Applicant's Attachment J.

Findings and Conclusions

The County finds and concludes the towers are designed of smooth steel towers without nesting attractions and the applicant is committed to implementation of the APLIC guidelines to minimize potential interactions with birds.

(e) Private access roads established and controlled by the Wind Power Facility shall be gated and signed to protect the Wind Power Generation Facility and property owners from illegal or unwarranted trespass, illegal dumping and hunting and for emergency response.

All Project entrances will be gated and signed to keep out trespassers while allowing emergency response crews to quickly access the site in the event of an emergency. The western access point off of Harris Road (the main access to both the wind turbines and the western portion of the Project's transmission line) will be upgraded to a modern gate to allow authorized and emergency access while preventing unwarranted trespassers from entering. The eastern access points from Ferguson and/or Staggs Roads would be used for access to the eastern portion of the Schumann transmission line. These accesses already have modern gates to allow emergency personnel entrance.

Signage on all entrances will include "no trespassing". Schumann also may include an informative sign detailing specifics about the Project. This information may include Project owner, contact information, capacity, operation date and other general information about the Project.

Findings and Conclusions

The County finds and concludes as a condition of approval the access road entrance to the project site from Harris Road shall be gated and include no trespassing signage.

(f) Where practicable the electrical cable collector system shall be installed underground, at a minimum depth of 3 feet; elsewhere the cable collector system shall be installed to prevent adverse impacts on agriculture operations.

The terrain and geology of the Project turbine area is conducive to collector system burial. All collection system lines will be buried to a minimum depth of 3 feet below surface grade except for the section traversing the steeper terrain across Pine Creek. The design will follow pertinent Best Management Practices (BMPs) as well as be buried to the recommended minimum 3 foot depth.

Findings and Conclusions

The County finds and concludes the electrical cable collector system where practicable will be buried a minimum of 3 feet below grade and installed in accordance with electrical code to allow farming practices to continue.

(g) Required permanent maintenance/operations buildings shall be located off site in one of Umatilla County's appropriately zoned areas, except that such a building may be constructed on site if:

(1) The building is designed and constructed generally consistent with the character of similar buildings used by commercial farmers or ranchers, and

(2) The building will be removed or converted to farm use upon decommissioning of the Wind Power Generation Facility consistent with the provisions of §152.616 (HHH) (7).

Schumann proposes to contract with a regional GE Operations and Maintenance team for turbine maintenance on the Project. For shop work and spare part storage purposes, Schumann plans to lease space from the Chopin Wind Farm O&M building in Athena.

Findings and Conclusions

The County finds and concludes the project Operations and Maintenance building is not proposed on the Schumann wind project site.

(h) A Wind Power Generation Facility shall comply with the Specific Safety Standards for Wind Energy Facilities delineated in OAR 345-024 -0010 (as adopted at time of application).

OAR 345-024-0010:

(1) Can design, construct and operate the facility to exclude members of the public from close proximity to the turbine blades and electrical equipment.

(2) Can design, construct and operate the facility to preclude structural failure of the tower or blades that could endanger the public safety and to have adequate safety devices and testing procedures designed to warn of impending failure and to minimize the consequences of such failure.

Schumann, a wholly owned subsidiary of BayWa, has experience in the installation of over 220MW of wind energy in the United States since 2001, including the nearby Chopin Project. The experience gained from developing and constructing multiple wind projects will be applied to the construction of the Schumann Project.

Schumann has selected three potential models of GE wind turbine for use in the Project. All GE turbines include advanced diagnostic software and sensor packages that constantly monitor turbine components to

detect unusual vibrations and other anomalies. This sensory system, in combination with Supervisory Control and Data Acquisition (SCADA) system analysis, creates a comprehensive, proactive, diagnostic system that keep O&M staff informed of turbine health in real-time which can prevent component failures before they occur.

The Schumann layout and design does not provide opportunity for physical interaction with Project features by unauthorized persons. The turbines' nearest distance to a non-participating landowner is approximately 464' away from the property line (Applicant's Exhibit B Map), and 2 miles from the nearest residence of a non-participating landowner (Project Setback Map). Electrical equipment would be locked away from unauthorized access and the Project site access controlled by locked gates and informative signage. Turbine blades would be about 100' above the surface of the ground so farm workers, including their equipment, are not in danger of contacting moving parts of the turbines. In addition, the access road entrance will include no trespassing signage.

Findings and Conclusions

The County finds BayWa has experience in designing, constructing and operating multiple wind facilities in the U.S.

The County finds the access entrance to the project site would be gated and no trespass signs installed.

The County finds and concludes BayWa can design, construct, and operate, the wind project facility and implement public and project safety plans to minimize negative consequences.

The County finds and concludes as a condition of approval the Project team shall implement the wind project safety and maintenance protocols in the management of the Schumann Wind Project and transmission line.

(i) A Covenant Not to Sue with regard to generally accepted farming practices shall be recorded with the County. Generally accepted farming practices shall be consistent with the definition of Farming Practices under ORS 30.930. . The Wind Power Generation Facility owner/operator shall covenant not to sue owners, operators, contractors, employees, or invitees of property zoned for farm use for generally accepted farming practices.

Schumann will enter into and record a Covenant Not to Sue with the landowners prior to beginning construction. This Covenant will be drafted in coordination with the County to ensure that it meets all requirements prior to being signed and recorded.

Findings and Conclusions

The County finds and concludes a Covenant Not to Sue is a requirement of the conditional use permit. A condition of approval is imposed for the Project owner to coordinate with Umatilla County in drafting the Covenant Not to Sue and sign and record the document.

(j) Roads.

(1) County Roads. A Road Use Agreement with Umatilla County regarding the impacts and mitigation on county roads shall be required as a condition of approval.

(2) Project Roads. Layout and design of the project roads shall use best management practices in consultation with the Soil Water Conservation District. The project road design shall be reviewed and certified by a civil engineer. Prior to road construction the applicant shall contact the State Department of Environmental Quality and if necessary, obtain a storm water permit (National Pollution Discharge Elimination System).

Schumann has started consultation with the Public Works Department on issues regarding haul roads as well as temporary and permanent improvements within the County Road rights-of-way. A Road Use Agreement with Umatilla County will be developed and executed prior to construction activities. This Road Use Agreement ensures the Project is held liable for damages caused by the Project during construction, maintenance or decommissioning activities.

Schumann will work with the Soil Water Conservation District to ensure proposed BMPs are sufficient in the layout and design of the Project roads. Prior to construction, the road design will be reviewed and certified by a civil engineer. Additionally, a National Pollution Discharge Elimination System (NPDES) permit will be obtained prior to construction.

County roads used by the project would be upgraded where necessary and restored to their previous state or better upon the completion of construction. The Road Use Agreement will contain language to ensure dust control is adequate to protect residents in the area and crops along the route.

Project roads will be sited and constructed in a manner using current Best Management Practices (BMPs) to control and minimize erosion and to withstand heavy truck traffic during construction and subsequent project maintenance needs. Participating landowners will benefit by using project roads during their agricultural operations.

Findings and Conclusions

The County finds the project owner/operator will consult with the Umatilla County Public Works Director and sign a County Road Use Agreement prior to construction activities.

The County finds County Roads used by the project will be upgraded where necessary and restored to their previous state or better upon completion of Project construction.

The County finds project roads will be sited and constructed in a manner that uses current Best Management Practices and will be available for use by the landowner for their transportation use.

The County finds and concludes as a condition of approval the Project owner shall coordinate with the Umatilla County on completing the Road Use Agreement and submit verification of the Road Use Agreement.

The County finds and concludes as a condition of approval the Project owner shall comply with road improvements, limitations, and maintenance requirements according to the Road Use Agreement.

The County finds and concludes as a condition of approval the Project owner is required, prior to project road construction, to contact DEQ and if necessary, obtain a storm water permit.

(k) Demonstrate compliance with the standards found in OAR 660-033-0130 (37). See OAR 660-033-0130 (37) provided below.

OAR 660-033-0130 (37) For purposes of this rule a wind power generation facility includes, but is not limited to, the following system components: all wind turbine towers and concrete pads, permanent meteorological towers and wind measurement devices, electrical cable collection systems connecting wind turbine towers with the relevant power substation, new or expanded private roads (whether temporary or permanent) constructed to serve the wind power generation facility, office and operation and maintenance buildings, temporary lay-down areas and all other necessary appurtenances . . .

(a) For high-value farmland soils described at ORS 195.300(10), the governing body or its designate must find that all of the following are satisfied:

(A) Reasonable alternatives have been considered to show that siting the wind power generation facility or component thereof on high-value farmland soils is necessary for the facility or component to function properly or if a road system or turbine string must be placed on such soils to achieve a reasonably direct route considering the following factors:

(i) Technical and engineering feasibility;

(ii) Availability of existing rights of way; and

(iii) The long term environmental, economic, social and energy consequences of siting the facility or component on alternative sites, as determined under paragraph (B);

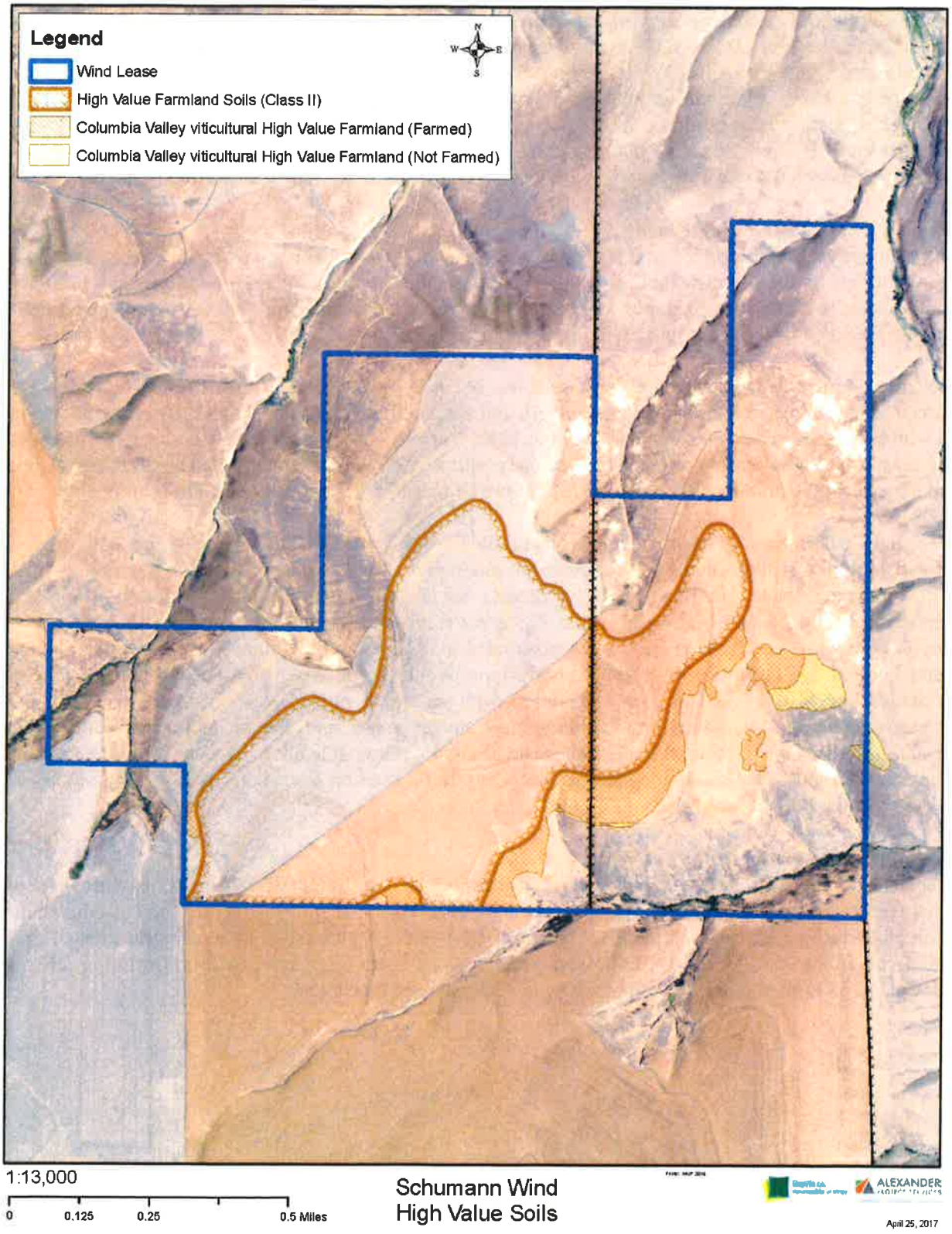
(B) The long-term environmental, economic, social and energy consequences resulting from the wind power generation facility or any components thereof at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located on other agricultural lands that do not include high-value farmland soils;

Reasonable Alternatives

OAR 660-033-0130 (37)(a)(A) requires the applicant to consider "reasonable alternatives" to locating the facility, or components of the facility, on high-value farmland. The applicant must show that the siting of the wind power generation facility on high-value farmland soils is necessary for the facility to function properly; and that access roads and turbine strings must be place on high-value farmland soil to achieve a reasonably direct route, considering the factors listed in subsections (i) through (iii).

Although the rule does not give specific factors to be considered in determining whether an alternative is reasonable, the applicant must analyze whether the facility could function properly in an alternative location. One consideration would be to determine whether an alternate project location on non-high value farmland is reasonable, given that a substantially similar wind resource is available on the non-high value farm land comparable to the wind resource at the proposed site. If there is not, then the alternative could not be determined to be reasonable.

Schumann High Value Soils Map



Schumann first performed a review of soils using National Resource Conservation Service (NRCS) spatial data and aspect/slope analysis to identify high-value soils and high-value farmland within the Project area. Results of this review show areas that have little slope within the wind lease area are composed of high-value soils. While the majority of the high-value farmland is designated high-value by soil type and slope, additional ground is identified as high-value farmland by state statute regardless of soil type or history of agricultural usage. These additional lands designated as high-value farmland are lands zoned EFU, no more than 3,000 feet above mean sea level with an aspect between 67.5° and 292.5° and slope between 0% and 15%, and that are located within the Columbia Valley viticulture area.

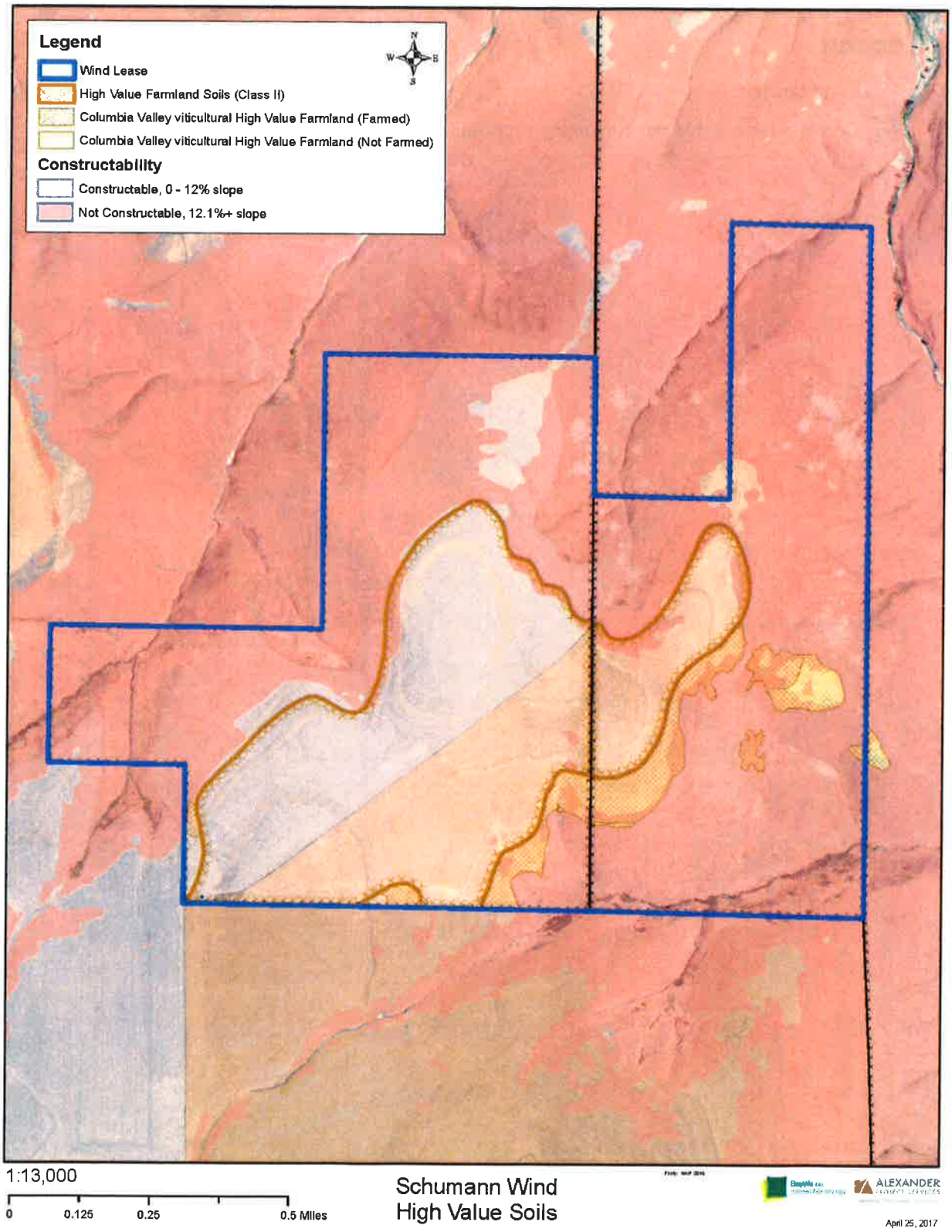
Technical and Engineering Feasibility
Slope analysis was performed for the Project area to identify reasonable constructible areas; these areas are identified in the Constructability Map. On this map, the areas shaded in red are not reasonably constructible because of steep slopes. It is apparent that both high-value soils and reasonably constructible lands share much of the same space within the Project lease area.

Modern commercial wind turbines, such as those selected by Schumann, must be sited on less sloped areas in order to be safely delivered, assembled, and anchored to the ground. Typically reasonable slopes on which to site turbines are slopes of less than 12%. Turbine access roads are constructed at 10% or less and cranes used to assemble turbines require pads built at a slope of less than 1%. Due to these technical and engineering requirements, the Project would not be feasible on steeper sloped terrain.

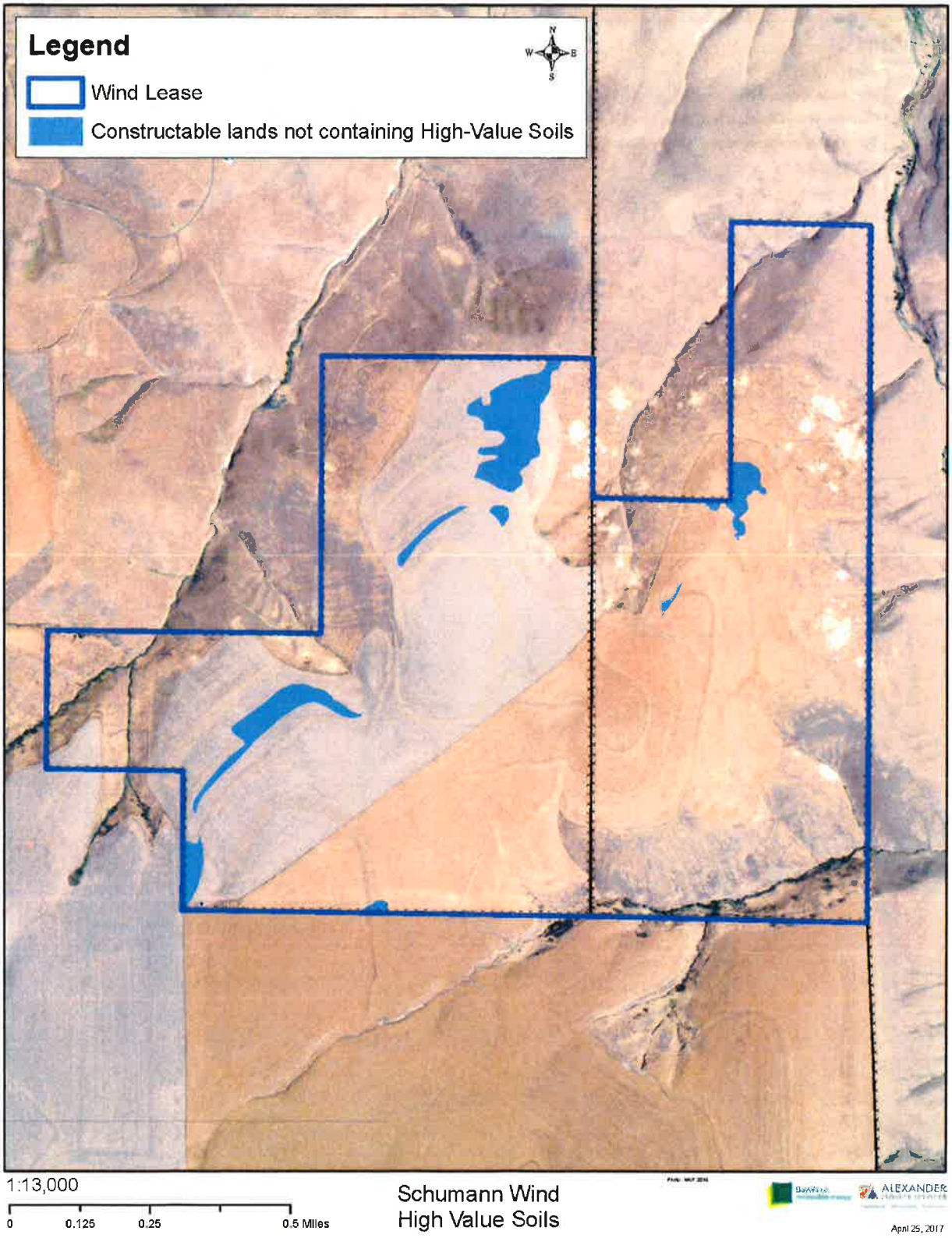
A second Constructability Map showing constructible areas located outside of high-value soils was also created to assess if these areas were reasonable alternatives for avoidance of high-value soils. In this map, the lands shaded in blue meet the criteria for technical and engineering feasibility in areas considered not to contain high-value soils. The areas (blue) are spread out mainly on the edges of the proposed Project area. If the project were constructed in these areas the turbines would be spread out and located around the perimeter of property and turbines would be in closer proximity to non-participating properties and also located at lower elevation with an undetermined wind source. In addition, the alternative locations would require building more access roads and require additional collector and transmission line construction; therefore, these areas are not reasonable alternatives to siting the Project as proposed. As such, Project components are necessary to be sited on lands consisting of high-value soils, as shown in the Project Map.

Availability of Existing Rights of Way
There are no rights-of-way within the Project boundary as confirmed with Umatilla County Records. Schumann proposes to minimize impacts to lands by utilizing existing infrastructure such as construction of the main turbine access road along an existing fence line. Additionally, an existing farm road found outside of arable land would be improved so it may be used for access to a transmission structure proposed to be located closer to the bottom of the canyon near Pine Creek.

Schumann Constructability Map



Schumann Constructible Lands Map and
Areas not considered as High Value



Environmental, Economic, Social and Energy Consequences
OAR 660-033-0130(37)(a)(B) requires the applicant to show that the long term environmental, economic social and energy consequences of the facility taking mitigation into account, are not significantly more adverse than would typically result from the same proposal being located on agricultural lands that do not include high-value farmland soils.

Placement of the proposed turbines would take some areas of farmland out of agricultural production during the operation period of the wind farm; however, the long term benefits to the landowner would outweigh the temporary farm production removed during the lease period. The project would result in funding to help diversify and stabilize the landowner's income stream and supplement the agricultural business operation.

Configuration of a wind power generation facility on land that does not contain high-value soils is not considered a reasonable alternative where the alternative locations are not contiguous but instead spread out across the property at elevations with undetermined wind energy levels. Additionally, the areas with non-high value soils are located on steeper slopes where development increases the potential for erosion more than development in areas with minimal slope. The 2 mile setback requirement also has effectively left a narrow area available for turbine siting. Therefore, siting wind turbines on non-high value farmland soils is not a reasonable alternative as described in OAR 660-033-013(37)(a)(A).

Findings and Conclusions
The County finds and concludes with respect to the list of factors, the applicant has considered an alternative to siting the Project on high-value farmland soils.

The County finds and concludes to achieve a reasonably direct route the applicant must use high-value farmland soils.

The County finds the applicant has shown that the long term environmental, economic social and energy consequences of the facility are not significantly more adverse than would typically result from the same proposal located on agricultural lands that do not include high-value farmland soils.

> (C) Costs associated with any of the factors listed in paragraph (A) may be considered, but costs alone may not be the only consideration in determining that siting any component of a wind power generation facility on high-value farmland soils is necessary;

OAR 660-033-0130(37)(a)(C) includes that costs associated in considering "reasonable alternatives" may not be the determining factor in selecting to site the project on high value farmland soils.

Locations were selected in consideration of the engineering feasibility for constructing roads and installation of turbines. Alternative lands without high value soils consistently required development on more severe slopes. These steeper sloped areas would not be considered reasonable alternatives where it is not feasible for turbine development or access road construction. Additionally, development on steep slopes would pose an increase in impacts from a spread out, larger development footprint, and result in a higher potential for erosion.

Therefore, locating the turbines at the proposed sites are the most reasonable option for the project as well as the best option in terms of agricultural impacts given the greater impacts to the land for construction on steeper slopes. Additionally Project location is driven by wind measurements and forecasting

(29)

Findings and Conclusions

The County finds and concludes the project owner/operator has looked at other factors and not cost alone in determining Project siting.

> (D) The owner of a wind power generation facility approved under subsection (a) shall be responsible for restoring, as nearly as possible, to its former condition any agricultural land and associated improvements that are damaged or otherwise disturbed by the siting, maintenance, repair or reconstruction of the facility. Nothing in this subsection shall prevent the owner of the facility from requiring a bond or other security from a contractor or otherwise imposing on a contractor the responsibility for restoration; and
> (E) The criteria of subsection (b) are satisfied.

OAR 660-033-130(37)(a)(D) requires the owner of the a wind facility to restore agricultural land damaged by installation, maintenance, repair and reconstruction of the wind power facility. During the construction phase, the acreage of land disturbed will be greater than the final footprint. This temporary disturbance area will be restored and rehabilitated to pre-construction state upon completion of the Project.

At the end of the project lifecycle, the applicant will remove project features and restore disturbed land to the previous, or better, land condition. All restoration will follow re-vegetation and erosion control plans.

Findings and Conclusions

The County finds and concludes as a condition of approval the Project owner shall restore agricultural land damaged by the construction of the facility satisfies the obligation contained OAR 660-033-0130(37)(a)(D).

(b) For arable lands, meaning lands that are cultivated or suitable for cultivation, including high-value farmland soils described at ORS 195.300(10), the governing body or its designate must find that:

> (A) The proposed wind power facility will not create unnecessary negative impacts on agricultural operations conducted on the subject property. Negative impacts could include, but are not limited to, the unnecessary construction of roads, dividing a field or multiple fields in such a way that creates small or isolated pieces of property that are more difficult to farm, and placing wind farm components such as meteorological towers on lands in a manner that could disrupt common and accepted farming practices;
> (B) The presence of a proposed wind power facility will not result in unnecessary soil erosion or loss that could limit agricultural productivity on the subject property. This provision may be satisfied by the submittal and county approval of a soil and erosion control plan prepared by an adequately qualified individual, showing how unnecessary soil erosion will be avoided or remedied and how topsoil will be stripped, stockpiled and clearly marked. The approved plan shall be attached to the decision as a condition of approval;
> (C) Construction or maintenance activities will not result in unnecessary soil compaction that reduces the productivity of soil for crop production. This provision may be satisfied by the submittal and county approval of a plan prepared by an adequately qualified individual, showing how unnecessary soil compaction will be avoided or remedied in a timely manner through deep soil decompaction or other appropriate practices. The approved plan shall be attached to the decision as a condition of approval; and
> (D) Construction or maintenance activities will not result in the unabated introduction or spread of noxious weeds and other undesirable weeds species. This provision may be satisfied by the submittal and county approval of a weed control plan prepared by an adequately qualified individual that includes a long-term maintenance agreement. The approved plan shall be attached to the decision as a condition of approval.

(c) For nonarable lands, meaning lands that are not suitable for cultivation, the governing body or its designate must find that the requirements of OAR 660-033-0130(37)(b)(D) are satisfied. (d) In the event that a wind power generation facility is proposed on a combination of arable and nonarable lands as described in OAR 660-033-0130(37)(b) and (c) the approval criteria of OAR 660-033-0130(37)(b) shall apply to the entire project.

Arable Lands

OAR 660-033-130(37)(b), (c) and (d) provide additional criteria for wind power generation facilities located on "arable" or "non-arable" land. Subsection (b) defines "arable land" as "lands that are cultivated or suitable for cultivation, including high value farmland soils" and provides criteria for locating a facility on arable land. Subsection (c) defines "non-arable land" as land "not suitable for cultivation" and identifies the criteria applicable on non-arable land. Subsection (d) provides that when a proposed wind power generation facility is located on a combination of arable and non-arable land, then the criteria in subsection (b) apply to the entire facility.

Schumann is proposing components on both arable (turbines, access road, and collection system) and non-arable lands (native grade service road, transmission structures), thus the Project addresses the criteria found under OAR 660-033-0130(37)(b).

While Schumann has determined that the Project must be sited on arable (high-value) farmland, it has developed the preliminary turbine and road layout which works with the historical farming pattern of the land in order to minimize disturbance to the farming operation. The landowner has farmed this piece of land for a minimum of 23 years in a traditional grow/fallow split where approximately half is cropped one season while the other half is left fallow for one season. Schumann has planned the majority of the road at the split between cropped land and fallow. This, along with micro-siting spur roads to avoid splitting up lands into non-farmable pieces, would allow the farmer to resume farming the land without significantly changing his operation or methods.

Negative impacts to agricultural operations have been considered and are minimized by the design and minimum layout of the Project. The construction and layout of the roads are also designed so that they follow along existing field boundaries when possible and consist of the minimum amount of primary and spur roads necessary to access each turbine location. The layout is proposed not to cut the field up into inaccessible, difficult to farm areas. Project roads are designed with sweeping curves so farm equipment can cultivate right up to the edge of the access road, thus allowing the maximum amount of land for farm production. The Project roads will be available for farm use for the life of the project.

Soil and Erosion Control Plan

The Project Soil and Erosion Control Plan (Applicant's Attachment C) will be followed during the construction, operation, and decommissioning of the project unless a more effective plan is deemed appropriate based on the Best Management Practices (BMPs). Schumann will work with the County to ensure that an accepted Soil and Erosion Control Plan is in place and used by the Project.

De-compaction

Some land would be temporarily compacted during construction. Temporary compacted areas include areas for access roads, crane pad locations and the laydown yard. The turbine access road would be constructed approximately twice the width of the final (post-construction) road to accommodate traffic during the construction phase. Each crane pad area also would be compacted and rocked for use during construction to erect and assemble turbines at each selected turbine site. In addition, the laydown yard would be compacted and rocked for stockpiling materials, equipment, trailers and for personnel parking.

These features would only be needed during the construction phase of the project and removed prior to

the Project's commercial operation. Some rock would be collected and used on permanent Project roads or hauled off the Project site for disposal at an appropriate location. Compacted soils will be loosened with a grader bulldozer and/or other heavy equipment equipped with a ripping device then the area would be contoured and tilled to blend with the surrounding land.

Noxious Weeds
Schumann proposes to construct and maintain all Project features in accordance with the Weed Control Plan (Applicant's Attachment F). Schumann will work with the County to ensure that an accepted Weed Control Plan is in place and followed by the Project.

Findings and Conclusions
The County finds the applicant has proposed components on both arable and non-arable lands.

The County finds the proposed wind power facility will use existing farm patterns and will not create unnecessary, or significant, negative impacts on agricultural operations conducted on the farmland.

The County finds at the close of the construction phase, the temporary disturbed field areas will be restored and re-contoured.

The County finds the proposed wind power facility will not result in unnecessary soil compaction or erosion and that the facility construction or maintenance activities will follow the Soil and Erosion Control.

The County finds during construction and maintenance activities the applicant will follow the Weed Control Plan to prevent introduction and spread of noxious weeds and other undesirable weed species.

The County finds and concludes, as a condition of approval the applicant is required to implement Erosion Control, Revegetation, and Weed Control Plans for all project development.

The County Concludes the Schumann Wind Project complies with the standards found in OAR 660-033-0130 (37).

(l) Submit a plan for dismantling of uncompleted construction and/or decommissioning and/or re-powering of the Wind Power Generation Facility as described in §152.616 (HHH) (7).

The applicant submitted a Decommissioning Plan (Applicant's Attachment H) for dismantling and decommissioning as provided in §152.616 (HHH) (7).

(m) A surety bond shall be established to cover the cost of dismantling uncompleted construction and/or decommissioning of the Wind Power Generation Facility, and site rehabilitation pursuant to §152.616 (HHH) (7) and (8). The intent of this requirement is to guarantee performance (not just provide financial insurance) to protect the public interest and the county budget from unanticipated, unwarranted burden to decommission wind projects. For projects being sited by the State of Oregon's Energy Facility Siting Council (EFSC), the bond or letter of credit required by EFSC will be deemed to meet this requirement.

The Schumann Project has developed a Decommissioning Plan for the decommissioning of the Project in the event construction is not completed and/or after the Project ends.

Decommissioning includes the removal of all installed features related to the wind Project to a depth of at

least 3 feet below the surface and the rehabilitation of the land to a condition consistent with its pre-construction state. Some roads, fences and other improvements would be left for landowner usage as requested by the landowner and as allowed under the applicable zoning regulations. Improved farm roads used by the Project would be left for the landowner's use. If the Project is permitted for re-power, features which are used in the next life of the Project would not be removed. All Project features which are not used in a re-powered Project or kept by the landowner would be removed according to this plan.

All necessary permits for decommissioning the Project would be obtained by the Project owner and/or contractors in a timely manner once decommissioning is deemed necessary. Oil and other lubricants/fluids would be removed before dismantling wind turbine and substation components to avoid land contamination. Best Management Practices (BMPs) would be utilized to control dust and debris from the dismantling and decommissioning of Project features. Notice will be given to the appropriate Fire Department(s) prior to the commencement of operations and BMPs will be followed to minimize dangers to wildfire. All Project features will be removed from the site and sold on the secondary market or disposed of in an appropriate manner according to existing laws and regulations.

The site will be returned to as near pre-construction condition as practical by contouring the land to match the surroundings and spreading soils over disturbed areas that were previously farmed. Project features will be removed to at least 3 feet below surface to allow farming practices where practices occurred at the time of the start of construction. Some Project roads, fences and/or other improvements may be left as requested by the landowner as allowed under applicable laws. Any improvements left for the landowners use would become owned and maintained by the landowner. Rehabilitation of the land will occur according to the standards of the Re-vegetation and Erosion Control Plan and the Weed Control Plan.

The Project will secure a bond for the estimated cost of decommissioning and rehabilitation. Following are cost estimates for decommissioning and rehabilitation. The cost of decommissioning for some components will be null or a net profit on the secondary market. These include the turbine towers and generators, transformers, and the transmission line.

The following is an estimate of the cost to restore the property to a useful non-hazardous condition closely resembling or better than the condition at the start of the Schumann Wind Project. During decommissioning all material removed from abandoned roads would be hauled and disposed of in an appropriate offsite location in accordance with applicable laws. Bond values would be updated to reflect changes in quantities of removal features (roads) per landowner request.

ESTIMATED COSTS FOR SITE RESTORATION
(Reclamation bond Requirements)

Project Feature for Removal	Unit Cost	Units	Cost of Feature Removal
Turbine Foundation Removal	$6,000 per turbine	5	$30,000
Rehabilitation of Disturbed Area	$1,000 per acre	7	$7,000
Removal of All Weather Roads (not requested to be kept by landowner)	$25 per foot	8,604	$215,100
Removal of New Native Grade Roads (not requested to be kept by landowner)	$10 per foot	1,800	$180,000
Crane for Turbine Removal	$24,000 per turbine	5	$120,000
Overhead Powerline Removal	Cost of removal expected to be less than resell value	NA	$0
TOTAL			$552,100

Findings and Conclusions

The County finds and concludes the Schumann Wind Project has submitted a decommissioning plan according to County regulations.

The County finds and concludes the condition to require Schumann Wind LLC to obtain a bond in a dollar amount that allows Umatilla County to decommission the project and pay for the removal of all facility features in the event the project owner cannot fulfill its' obligation to decommission the Schumann Wind Project.

(n) The actual latitude and longitude location or Stateplane NAD 83(91) (suitable for GPS mapping) coordinates of each turbine tower, connecting lines, O & M building, substation, project roads and transmission lines, shall be provided to Umatilla County on or before starting electrical production.

Latitude and longitude coordinates for all turbine towers, connecting [collector] lines and transmission lines will be provided once the As-Built Survey is completed and prior to electrical production.

Findings and Conclusions

The County finds and concludes as a condition of approval the Project owner submit Latitude and Longitude coordinates for all turbine towers, connecting [collector] lines, roads and transmission line is imposed.

(o) An Operating and Facility Maintenance Plan shall be submitted and subject to County review and approval.

Once the Operations and Maintenance Group has been secured an outline of the expected maintenance schedule will be provided.

The County finds and concludes as a condition of approval an Operating and Facility Maintenance Plan must be provided and followed.

(p) A summary of as built changes to the original plan, if any, shall be provided by the Wind Power Generation Facility owner/operator 90 days of starting electrical production.

The Schumann Wind facility owner/operator shall provide Umatilla County a detailed copy of the facility plan and as-built changes, if any.

Findings and Conclusions

The County finds and concludes as a condition requiring the Schumann Wind Project facility owner/operator to submit a detailed copy of the facility plan and as built changes if any, to Umatilla County within 90-days of commencing commercial electrical production satisfies the criterion.

(q) Submit a Socioeconomic Assessment of the Wind Power Generation Facility.

The following socioeconomic impact assessment is an evaluation of the social, economic, public service, cultural, visual, and recreational impacts on affected communities during the construction, operation, and decommissioning phases of the proposed Schumann Wind Facility.

Social Impacts

Wind energy projects create new short and long term jobs. This section examines social impacts from changes that may occur due to the creation of these jobs and a potential increase to the local population.

During the construction phase, Schumann is expected to employ approximately 40 people. These positions will be temporary due to the short-term nature of the construction phase of the Project. As much as possible, development and construction phase positions will be filled from the local labor/trade and materials suppliers' pool. Due to the need for a specialized skill set, however, several positions will require hiring from outside the community. Once the construction phase is complete, most of the temporary work force from outside the community is expected to leave.

During the operations phase of the Project, Schumann is expected to employ two to three full or part time staff. These are permanent positions for which experienced and appropriately trained personnel are needed. Every effort will be made to fill these positions from the local community.

Fewer individuals are expected to be hired during the decommissioning of the Project compared to the construction phase. These positions will be temporary due to the short-term nature of the decommissioning phase of the Project. It is expected that only some of the workforce will be hired from the local community because the decommissioning of this Project requires specialized personnel and equipment that may not be available in the immediate area. The temporary work force is expected to leave upon completion of the decommissioning phase.

Economic

This section examines economic impacts for which a potential change in the local economy could occur. New short and long term wind energy project jobs affect the local economy in positive ways.

During the construction phase, the Schumann Project should provide stimulus to the local economy through its construction workforce of approximately 40 people. Workforce personnel brought in from outside the immediate community would purchase local goods and services as well as pay for housing, food, meals, and other personal necessities. Local earth moving contractors and local building materials such as gravel and concrete may also be used in the construction of the facility. Secondary and tertiary economic benefits of wind projects are documented and result from meals served in local establishments,

buying fuel and vehicle maintenance from local service stations, and supplies from local hardware and building supply stores.

During the operations phase, the Project is expected to add to the tax base of the county which in turn will stimulate the local economy. Permanent employees will have jobs that pay a living wage or greater. They will also be added to the local tax base which will increase county tax revenue. Because they will be living in the immediate community they will also be part of the local economy, purchasing local goods and services, as well as paying for housing. Secondary and tertiary economic benefits related to operations include meals served in local establishments, fuel and vehicle maintenance purchases from local service stations, and obtaining supplies from local hardware, building supply, and office supply stores.

During the decommissioning phase, Schumann is expected to stimulate the local economy through its decommissioning workforce. Any workforce brought in from outside the immediate community will be purchasing local goods and services as well as paying for temporary housing. Additionally, purchases from local vendors may be made for the decommissioning work, including meals, fuel, vehicle maintenance, and any necessary supplies. Local wrecking contractors may also be used in the decommissioning of the facility.

Public Services
This section considers potential impacts on community public services during the construction, operations, and decommissioning phases.

Construction related traffic is short-term and not expected to have a long term impact on normal traffic patterns or emergency response crew's ability to provide service.

Temporary workers hired from outside the community are expected to use existing buildings and RV facilities already covered by fire and emergency services. Also see the Emergency Response Plan (Applicant's Attachment E) for details on how the Project construction will interface with local emergency response crews in the event of an emergency.

During the operations phase, the Project is not expected to hinder day-to-day operations of local emergency response services. Safety measures observed during operations should minimize need for emergency response to the Project site.

The decommissioning phase will employ fewer people than the construction phase and will similarly have a minimal impact on emergency response.

The construction, operation, and decommissioning of a wind Project may create potential for criminal activity (theft, vandalism, trespassing). The Project will provide appropriate security measures to dissuade criminal activity. However, little to no criminal activity is expected to occur during, or after, the Project's construction. Wind projects are not expected to attract criminal activity from outside the area.

Nearby health facilities include St. Anthony's Hospital in Pendleton, Oregon and Providence St. Mary Medical Center in Walla Walla, Washington. Both facilities provide 24-hour emergency care and are expected to adequately deliver services to construction, operations, and decommissioning personnel if it is necessary. The temporary workforce is not large enough to expect additional strain on community health facilities.

Local school systems are not expected to be impacted. The temporary work force is not expected to move their families to the area due to the short-term nature of a construction phase. Permanent personnel hired

from outside the community are expected to bring family with them. The two or three permanent personnel expected to be hired during the operation phase may have families. Using two children as an average number of children per household would mean four to six children could be added to the affected communities for Project associated families moving to the area. These children spread across the affected communities should not cause strain on local school systems. As in the construction phase, the decommissioning phase would use temporary work forces and should not cause negative impacts on the local school systems.

The temporary work force expected to be hired from outside the immediate community will need adequate temporary housing during construction and decommissioning. The temporary work force will likely find housing in rental houses, apartments, hotel rooms, and RV camp sites. A Google search shows sufficient hotels and motels in the Walla Walla Valley area. There are RV parks in the immediate region as well. This abundance of rental, hotel, and camping options provides for adequate temporary housing for the construction workforce. Additionally, the housing used by temporary workforce will result in increased profits to local housing providers.

During the customary 20-plus year operation phase the permanent workforce hired from outside local communities will need adequate permanent housing. The permanent work force will presumably find permanent housing through either rental properties or home ownership although the latter is more likely because permanent positions provide a wage substantial enough to fund a mortgage. According to the 2010 US Census Bureau there is a home vacancy rate of 9.4% in Umatilla County. This rate is similar for Pendleton, Milton-Freewater, and Athena and greater for the town of Helix. This abundance of vacant housing units will provide adequate housing for the permanent workforce. Additionally, the new permanent home owners will provide local economic stimulus as well as a slight increase in county revenues due to new property tax payers.

All sewage generated on site during construction and decommissioning will be collected in portable toilets and disposed of on a regular basis by a local contractor. This is not expected to strain a sewage system. All drinking water is expected to be brought onto the site by a local bottled water provider. Thus local water treatment and delivery systems should not be affected.

During the construction period, there is expected to be a short period of increased local traffic, primarily affecting the town of Athena, due to the delivery of Project components and construction members commuting to and from the Project site. During this period, the number of trucks per day is estimated to be 20 to 30.

Similarly, there will be an increase in traffic during the decommissioning phase due to the transportation of outgoing components. Day to day operations of the Schumann Wind Project may involve several trips by the permanent workforce between the operations and maintenance building and wind turbines. Standard pickup truck vehicles (not heavy or large trucks) would be used by maintenance staff and are not expected to add a significant increase in local traffic flows. See the Transportation Plan (Applicant's Attachment B) on details for how local transportation systems will be used.

All solid waste generated on site during construction and decommissioning will be properly disposed of in trash receptacles and routinely collected by a local solid waste management firm. The amount of solid waste is not expected to adversely impact these services and would provide additional revenue to the local disposal service. The solid waste removal for the operations and maintenance building also would be provided by a local waste removal service.

Cultural Impacts
The history and culture of the farm area is strongly tied to agriculture including wheat farming, sheep and cattle ranching along with several other livestock products, timber harvesting and more recently a transition to wine making. Like power generation, most of these products are exported outside the community.

The Confederated Tribes of the Umatilla Indian Reservation have been contracted to perform archaeological and cultural surveys of the project area and transmission route. Review of these surveys and in consultation with the State Historic Preservation Office the final project design (micro-siting) will be completed to ensure all recommended setbacks to sensitive historic sites are observed.

Recently some areas of the county have shifted from traditional farm crops such as grains and fruit trees to growing grapes and producing wine. Transformation also has occurred in the local economy with the growth of wind energy production and the addition of IT companies to the local economy. Wind farms such as the Schumann Wind Project allow local land owners to diversify and expand how they use their land to provide both farm products and energy.

Wind farms have been found to be compatible with farming practices as demonstrated by the Eurus Combine Hills and NextEra's (FPL) Stateline wind energy facilities. The Schumann Project would be built in an area that will not conflict with other wind Projects or with traditional energy producers such as the Boardman Coal Fire plant.

Recreational Activities Impacts
Common recreational activities in Umatilla County include hunting, fishing, camping, and hiking, off road vehicle riding, horseback riding, mountain biking, and bird watching.

Due to many years of agricultural production on the Project property there is not a history of the above referenced recreational activities taking place. Also, the Project property has not been licensed for ODFW hunting program. All of the Project's property is zoned Exclusive Farm Use (EFU), and limited for commercial recreational uses. Due to intensive agricultural usage, the property is not a particularly attractive location for bird watching. Therefore, due to the limited recreational activities on the Project property the Schumann Wind Project is not expected to have significant impacts on recreational activities.

Visual, Noise and Other Impacts
This section focuses on visual and noise impacts associated with the Schumann Wind Project during the construction, operation, and decommissioning phases. The Project has been configured to limit impacts.

Unavoidable impacts during the short construction phase will consist primarily of truck noise, road dust (mitigated through dust control measures), and construction traffic. Once the Project is fully assembled, it will be visible to specific locations; however, this Project is limited in size and situated away from dwellings and other the rural communities. (The nearest town is Milton-Freewater, which is over four miles away.) Regulations by the Federal Aviation Administration (FAA) include lighting requirements on towers. This required lighting will be visible at night from various locations. Although wind turbines are large and have a visual presence, through careful siting and adhering to the County's adopted setback standards visual impacts will be diminished as much as possible.

During the Project decommissioning phase large equipment would be used by decommissioning crews to dismantle the facility. This work could be visible during dismantling. Project components, including turbines and transmission lines would be dismantled, salvaged locally, or removed from the area. The Project footprint will be restored to its original condition. After Project decommissioning is complete visibility of the Project would be eliminated.

Finding and Conclusions

The Schumann Wind Project application has been reviewed against the County Commercial Wind Power Generation Facility conditional use standards. The socioeconomic assessment can be viewed as either positive or negative and provides information on potential benefits or impacts that could occur.

The County finds the Socioeconomic Assessment may be viewed as either positive or negative for benefits or impacts.

The County finds and concludes the applicant satisfied the criterion for submission of a Socioeconomic Assessment.

(7) ***Dismantling/Decommissioning.***

A plan for dismantling and/or decommissioning that provides for completion of dismantling or decommissioning of the Wind Power Generation Facility without significant delay and protects public health, safety and the environment in compliance with the restoration requirements of this section. The Applicant's recommended plan is included in Applicant's Attachment H.

In accordance with Umatilla County Development Code, the following language describes a plan for decommissioning of the wind Project in the event construction is not completed or after the lifetime of the Project. For this plan, decommissioning pertains to the removal of all installed features related to the wind Project to a depth of at least 3-4 feet below the surface and the rehabilitation of the land to a condition consistent with its pre-construction state. Some roads, fences and other improvements will be left for landowner usage as requested by the landowner and allowed by the applicable zoning. If the project is permitted for a re-power then features which are used in the next life of the project would be reused. All project features which are not used in a re-powered project will be removed according to this plan.

All permits necessary to decommission the project will be obtained by the project owner in a timely manner once decommissioning is deemed necessary. Oil and other lubricants/fluids will be removed before dismantling of wind turbine and the substation components to avoid contamination of surrounding land. Best Management Practices will be utilized to control dust and debris from the dismantling and decommissioning of the Project features. Notice will be given to the appropriate Fire Department(s) prior to the commencement of operations and BMPs will ensure that wildfire danger as a result of operations will be minimized. All Project features will be removed from the site and sold on the secondary market or disposed of in an appropriate manner according to the laws and regulations at that time.

The site will be returned to as near pre-construction condition as practical by contouring the land to match the surrounding land and spreading soils over areas previously farmed. Project features will be removed to at least 3-4 feet below surface in order to allow farming practices where practices occurred at the time before construction. Some project roads, fences and/or other improvements may be left as requested by the landowner and as allowed under applicable law. Any improvements left for the landowners use will become owned and maintained by the landowner. Rehabilitation of the land will occur according to the standards of the Re-vegetation, Erosion Control Plan and the Weed Control Plan.

The Project will secure a bond for the estimated cost of decommissioning and rehabilitation.

Findings and Conclusions

The County finds the Schumann Wind Project decommissioning plan includes the removal of all installed features related to the wind project, including the removal of turbine bases to a depth of at least 3 feet below the ground surface and the rehabilitation of the land to pre-construction condition.

The County finds some Schumann Wind Project roads or other improvements could remain at the request of the landowner.

The County finds the Schumann Wind Project would follow the Decommissioning and Rehabilitation Plan utilizing Best Management Practices to control dust and debris, maintain erosion plans, and weed control plans, and revegetation plans while dismantling and decommissioning project features.

The County finds and concludes as a condition of the permit the project owner is required to follow the Decommissioning and Rehabilitation Plan using BMPs to control dust and debris from the dismantling and decommissioning of the project features. The Project owner is required to maintain erosion control, weed control and revegetation plans during decommissioning and remove oil and other lubricants/fluids using BMPs before dismantling wind turbines and substation components.

The County finds and concludes a condition of approval requiring the Schumann Wind Project follow the project Decommissioning and Rehabilitation Plan satisfies the requirement.

(8) ***Decommissioning Fund.***

The Wind Power Generation Facility owner/operator shall submit to Umatilla County a bond acceptable to the County, in the amount of the decommissioning fund naming Umatilla County beneficiary or payee. Schumann Wind LLC has applied to Umatilla County for land use approval of an 8 MW Commercial Wind Power Generation Facility and is not applying for a site certificate from the State Energy Facility Siting Council (EFSC); therefore, Umatilla County's financial assurance requirements apply. As a Condition of Approval the Schumann Wind Project owner/operator shall submit an acceptable bond in the amount of the required decommissioning fund naming Umatilla County as the beneficiary or payee.

Findings and Conclusions

The County finds and concludes that the Schumann Wind Project is not a project application to the Energy Facility Siting Council and Umatilla County's financial assurance requirement applies.

The County finds and concludes as a condition of the permit Schumann Wind LLC shall provide an acceptable bond in the amount of the stated decommissioning fund naming Umatilla County the beneficiary or payee to satisfy the bonding requirement.

(9) ***Annual Reporting.***

Within 120 days after the end of each calendar year the Wind Power Generation Facility owner/operator shall provide Umatilla County a written and oral annual report including the following information, in part:

(a) Energy production,
(b) Wind conditions,
(c) Minor changes to the project,
(d) Summary of fish, wildlife and avian monitoring program,
(e) Summary of employment impacts during and after construction,
(f) Update on weed control practices,
(g) Status of the bond,
(h) Summary of erosion control activities and effectiveness,
(i) Summary comments on the project.

Schumann Wind LLC will submit an annual report within 120 days after the end of each calendar year and can provide an annual oral presentation, if requested.

Findings and Conclusions

The County finds and concludes as a condition of the permit the Schumann Wind Project owner/operator is required to provide Umatilla County an annual report including the information listed in Section 152.616 (HHH) (9) to satisfy the requirement.

(10)(a) ***Permit Amendments.***

The Wind Power Generation Facility requirements shall be facility specific, but can be amended as long as the Wind Power Generation Facility does not exceed the boundaries of the Umatilla County conditional use permit where the original Wind Power Generation Facility was constructed.

(b) An amendment to the conditional use permit shall be subject to the standards and procedures found in §152.611. Additionally, any of the following would require an amendment to the conditional use permit:

(1)Expansion of the established Wind Power Generation Facility boundaries;
(2) Increase the number of towers;
(3) Increase generator output by more than 25 percent relative to the generation capacity authorized by the initial permit due to the re-powering or upgrading of power generation capacity; or
(4) Changes to project private roads or access points to be established at or inside the project boundaries.

(c) In order to assure appropriate timely response by emergency service providers, Notification (by the Wind Power Generation Facility owner/operator) to the Umatilla County Planning Department of changes not requiring an amendment such as a change in the project owner/operator of record, a change in the emergency plan or change in the maintenance contact are required to be reported immediately. An amendment to a Site Certificate issued by EFSC will be governed by the rules for amendments established by ESC [EFSC].

While amendments are not expected for the Project, any proposed changes to the Project would undergo the necessary permitting process in place at that time.

Changes that do not require an amendment would be reported to all stakeholders, including Umatilla County in a timely manner.

Findings and Conclusions

The County finds and concludes the Schumann Wind Project is a new conditional use permit and not an amendment of an approved conditional use permit.

(11) ***Walla Walla Watershed.***

Lands located within the Walla Walla Sub-basin east of Highway 11 shall be subject to additional standards. The purpose of these criteria is to prevent impacts to the following: highly erodible soils (as defined by the Oregon Department of Agriculture) and federally listed threatened and endangered species. The standards are also designed to protect sensitive streams and to be consistent with the Clean Water Act.

(a) There shall be no construction of project components, including wind turbines, transmission lines and access roads on soils identified as highly erodible. The highly erodible soils are those soils identified by the Oregon Department of Agriculture as highly erodible.
(b) The application shall demonstrate that the Wind Power Generation Facility and its components will be setback a minimum of two miles from streams and tributaries that contain federally listed threatened and endangered species, and, that the project will generate no runoff or siltation into the streams.

The energy generated from the Schumann Wind Project would ultimately be delivered to the existing Weston Substation located within the City of Weston's Urban Growth Area. The Weston Substation is located southeast of Highway 11 and could be looked at as east of Highway 11 and thus in the area defined in number 11 above; however, construction is not proposed within this area.

The power would be conducted via a short segment of transmission line and interconnect into existing infrastructure currently serving the Chopin Wind Project located to the east of the Schumann Project area.

Findings and Conclusions

The County finds the Schumann Wind Project will deliver power to the existing Weston Substation.

The County finds the power generated by the Schumann Wind Project will not result in new construction of project features within the area defined as east of Highway 11 and in the Walla Walla Sub-basin.

The County finds and concludes the additional standards for the Walla Walla Watershed Sub-basin identified as east of the Highway are not applicable.

20. STANDARDS FOR ALL CONDITIONAL USES ON EFU LANDS § 152.061

The following limitations shall apply to all conditional uses in an EFU zone. Uses may be approved only where such uses:

(A) Will not force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; and (B) Will not significantly increase the cost of accepted farm or forest practices on lands devoted to farm or forest use.

Existing land uses surrounding the Project include dryland wheat farming and cattle grazing. No forest lands are in the vicinity of the Project. Common dryland wheat farming practices involve transporting or driving equipment onto the fields at various times of the year for soil preparation, seeding, fertilizing, harvest and crop treatments (insecticides, herbicides, etc.) which may be applied by ground or less by air applications. Discussions with the landowner have revealed that occasionally he will apply treatments for rust by ground and/or rotary wing aircraft (i.e. helicopters).

Schumann has developed a turbine and road layout which works with the historical farming pattern of the land to minimize disturbance to the landowner's farming operation. The landowner has farmed this land for a minimum of 23 years in a traditional grow/fallow split where approximately half is cropped one season while the other half is left fallow for one season. Schumann has planned the majority of the turbine road at the split between cropped land and fallow. This, along with micro-siting spur roads to avoid splitting up lands into non-farmable pieces, allows the farmer to resume farming the land without significantly changing his operation or methods.

Additionally, turbine access roads would be laid out so that farm equipment can make smooth turns, accessing all parts of the field outside and around the four or five Project turbines using normal farm practices. The turbine sites are circular and would allow agricultural equipment to easily farm around turbines (See Photo for Example of Turbine Site). Crop treatments can continue to be applied by a combination of the landowner's existing methods and, as reported by the landowner, he expects this will not be a significant issue. Project roads will be high quality all weather rated gravel roads that can be used by the landowner for agricultural purposes. Access to the property would need improvements because the final approximate half mile of the existing County road base is not adequate; therefore, this area is planned to be upgraded by the Project owner to accommodate heavy hauls.

Wind energy is compatible with dryland agriculture as demonstrated in Umatilla County by wind energy facilities operating alongside agricultural lands. Because there would not be a significant change in

farming practices on the property it is anticipated there would not be a significant increase in the cost of farming on the Project land or nearby lands. In addition to the farm owner's crops he would also receive a financial benefit from the Project that could help mitigate a poor crop production year and low crop prices. This should help the farmer to further maintain traditional farming practices even in periods when agricultural crops and prices fluctuate.

Upon decommissioning the Project towers would be removed and the land reclaimed by the Project owner to its pre-construction condition or better. Costs associated with Project construction and decommissioning would be paid by the Project owner.

Example of Turbine Site on Agricultural Lands

Findings and Conclusions:

The County finds dryland grain crops are the predominant farming operation on the subject property and the surrounding area.

The County finds that temporarily disturbed ground around the proposed wind turbines and along the project roads will be rehabilitated.

The County finds the areas disturbed around the towers and along the project road, not replanted, will be controlled for weeds under appropriate conditions and in consideration of other properties and area corps, the cost of the on-going weed control would be the responsibility of the Schumann Wind Project owner.

The County finds that project roads would be available to the landowner for use in management of the farming operation.

The County finds that income loss from the cultivation of a grain crop would be compensated by lease agreement payments to the farm operator.

The County finds that upon decommissioning of the project the project features would be removed and the land reclaimed to its pre-construction condition (or better) at the expense of the Schumann Wind Project owner.

The County finds lands managed for timber and forest use are located miles from the project site and do not occur within the project area or on lands surrounding the project area.

The County finds and concludes that the Schumann Wind Project would not force a significant change in accepted farm practices on surrounding lands devoted to farm use nor significantly increase the cost of accepted farm practices on lands devoted to farm use.

The County concludes the Schumann Wind Project would not force a significant change in accepted forest practices nor significantly increase the cost of accepted forest practices on the subject property or surrounding lands.

The County finds and concludes the condition of approval requiring the project owner to consult and coordinate with the landowner to minimize farming interruptions prior to wind project construction is imposed.

21. ADDITIONAL CONDITIONAL USE PERMIT RESTRICTIONS § 152.615

In addition to the requirements and criteria listed in this subchapter, the Hearings Officer, Planning Director or the appropriate planning authority may impose the following conditions upon a finding that circumstances warrant such additional restrictions:

(A) Limiting the manner in which the use is conducted, including restricting hours of operation and restraints to minimize such environmental effects as noise, vibration, air pollution, glare or odor;

The Project operates consistent with other energy power producers operating day and night, as climatic conditions dictate. The facility will be monitored remotely by one or more technicians via computer and/or smartphone technologies. Implementation of the one and two mile setback requirements was adopted to effectively build in mitigation for nuisances such as noise, vibration, glare, etc. The Project will meet these setback requirements. Other factors such as odor, air or water pollution are not inherent to wind power facilities. Turbine noise is more specifically addressed in Section 152.616 (HHH) (6) (a) (7).

Findings and Conclusions

The County finds the Schumann Wind Project would operate 24 hours per day per year as wind conditions dictate similar to the operations of other wind projects in the County.

The County finds the Schumann Wind Project is required to meet the one and two mile setback requirements.

The County finds effects such as odor, air or water pollution are not common impacts from wind facilities.

The County concludes additional circumstances are not present to warrant additional conditions.

(B) Establishing a special yard, other open space or lot area or dimension;

The Project will establish a temporary onsite laydown yard during the construction phase. This laydown area is proposed at approximately one acre in size (see Project map). At each turbine location, a smaller staging area with crane pad will be established temporarily to facilitate the assembly of the wind turbine. All staging/laydown areas will be restored to pre-disturbance condition or better by the end of the construction period.

Findings and Conclusions

The County finds and concludes that the area proposed to be used as the laydown area and the areas at each turbine location are sufficient special yards areas and circumstances do not warrant the need for additional special yards, open spaces, lot area or dimensions.

The County finds and concludes that the area proposed to be used as the laydown area and the special yard area at each turbine site will be restored to preconstruction condition.

The County concludes additional circumstances are not present to warrant conditions for additional special yard areas.

(C) Limiting the height, size or location of a building or other structure;

Besides the project turbines and transmission line no buildings or other structures would be built within the project area. The project Operation and Maintenance Building is proposed at this time to share space with the Chopin Operation and Maintenance Facility located in Athena.

Findings and Conclusions

The County finds the project plan does not include the construction of buildings within the project site; therefore, conditions limiting building height, size or location are not necessary.

The County finds and concludes no buildings or other structures would be built within the project area and circumstances do not warrant additional limitations to the height, size or location of a building or structure.

(D) Designating the size, number, location and nature of vehicle access points;

Access points onto County Roads require an access approach permits. That portion of the transmission line located east of Pine Creek will be accessed from either Staggs or Ferguson Roads. The Staggs and Ferguson Road access approaches have been previously permitted. The applicant plans one access point for the Project from Harris Road, County Road No. 697. The access is proposed using the existing farm property access point. The Project plans to obtain an access approach permit for the access to Harris Road from the County Public Works Department.

Findings and Conclusions

The County finds the proposed access point to Harris Road for the wind project is a circumstance that warrants a condition.

The County finds and concludes the condition to obtain an access approach permit from the County Public Works Department satisfies the requirement for a vehicle access point.

(E) Increasing the required street dedication, roadway width or improvements within the street right of way;

Some roads will require improvements to allow Project components to be delivered to the site. These improvements include firming road shoulders on certain corners to allow for wider turning radius as well, widening road surfaces at a particular bend and improving existing County road subsurface in order to accommodate heavy hauls. All such improvements will be detailed in the final Road Use Agreement with Umatilla County and the City of Athena, which will be executed and submitted prior to the start of construction.

Findings and Conclusions

The County finds and concludes circumstances are present to impose a condition requiring the Schumann Wind Project to comply with upgrades to County Road rights-of-way, as determined in the Road Use Agreement.

(F) Designating the size, location, screening, drainage, surfacing or other improvement of a parking or loading area;

Schumann proposes to construct an onsite temporary laydown yard for material staging. This area will also be used as construction employee parking. This yard area is expected to be approximately one acre and be reclaimed and restored to pre-Project use at the end of the construction period.

Findings and Conclusions

The County finds and concludes the parking area is part of the laydown area and is a temporary improvement and circumstances do not warrant imposing additional conditions.

(G) Limiting or otherwise designating the number, size, location, height and lighting of signs;

The project would not require typical business identification or advertising signage. The project owner proposes onsite informational and safety signage that typically include turbine identification, safety signage near potential electrical hazards and identification of underground transmission line locations at field entry and exits. Other signs would include "No Trespassing" and informational signs at the Project's entrances. These information signs may include name of the Project owner, Project details/facts and contact information.

Findings and Conclusions

The County finds and concludes the project proposes onsite informational and safety signage and additional signage is not planned or required and circumstances do not warrant additional conditions.

(H) Limiting the location and intensity of outdoor lighting and requiring its shielding;

Wind projects are required by the Federal Aviation Administration (FAA) to use turbine marking lights at the top of designated turbines for aviation safety. The light design, quantity, and location are determined by the FAA and are not optional. Schumann does not anticipate needing any additional outdoor lighting for the Project beyond what is required by the FAA. In the event outdoor lighting is determined to be necessary, light fixtures which shield and focus the light would be used, whenever practical in order to minimize emitted light.

Findings and Conclusions

The County finds safety lighting would be installed on selected wind turbines as prescribed by the Federal Aviation Administration.

The County finds additional outdoor lighting is not anticipated and circumstances do not warrant additional lighting conditions.

(I) Requiring diking, screening, landscaping or other methods to protect adjacent or nearby property and designating standards for installation and maintenance;

Prior to the beginning of construction, the Project civil contractor will obtain a National Pollutant Discharge Elimination Systems (NPDES) permit from Department of Environmental Quality (DEQ). To obtain this permit the applicant would provide a suitable plan for addressing erosion and runoff. This plan, in concert with the Re-Vegetation and Erosion Control Plan also would add protections to adjacent and nearby properties.

The Schumann project is proposed on farm zoned property and landscaping would not helpful or even visible to area properties. However, erosion controls and revegetation are proposed to be used to protect the project area and neighboring properties by use of Best Management Practices (BMPs) in the Civil Plan. Such measures would be incorporated into the project's storm water pollution prevention plan.

Findings and Conclusions

The County finds to protect the Project property and nearby properties compliance with erosion and revegetation plans, according to the Schumann Wind Project Erosion and Revegetation Plans, are circumstances that warrant a condition.

The County finds and concludes a condition of approval that Schumann Wind Project comply with revegetation, according to the Schumann Wind Project Revegetation Plan, and follow erosion controls for disturbed area, including project roads, protects adjacent and nearby properties.

(J) Designating the size, height, location and materials for a fence;

The Schumann Project will use fencing around the interconnection facility at the point of interconnection with the underground Chopin transmission line. This will be located on private land and typically uses a chain-link fence. The fence will be approximately 7' in height, to prevent access from unauthorized persons. (Additional details concerning the transmission line are addressed in the Land Use Decision section of this report.)

Findings and Conclusions

The County finds and concludes circumstances do not warrant additional condition s to require additional fencing.

(K) Protecting and preserving existing trees, vegetation, water resources, wildlife habitat, or other significant natural resources;

The wind turbines are proposed on areas previously cultivated. Trees and native vegetation that may have been grown on and around this area have been removed through agricultural activities.

A Baseline Wildlife and Vegetation survey for the Project area was performed. The results show that no federally-listed threatened or endangered species, federal/state species of concern, or eagles were observed during 2017 surveys at the Project. There are no trees or significant vegetation that would need to be removed or disturbed during the construction of the project.

Findings and Conclusions

The County finds the Schumann Wind Project would be constructed on cultivated land.

The County finds disturbed project areas would be restored according to the Revegetation Plan.

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(L) Parking area requirements as listed in §§ 152.560 through 152.562 of this chapter.

During the construction period, the Project will use the proposed temporary laydown yard for employee/contractor parking. This area will be removed and rehabilitated by the end of construction and the land returned to its previous use. Permanent designated parking areas during Project operations are not proposed or necessary.

Findings and Conclusions

The County finds and concludes parking needs are temporary during the project construction phase. Permanent parking areas are not proposed or needed; therefore, circumstances do not warrant additional conditions.

22. LAND USE DECISIONS – EFU LANDS.

The Exclusive Farm Use Code Section 152.059 (C) allows the establishment of certain utility facilities through the approval of a local Land Use Decision. Umatilla County has incorporated State standards from ORS 215.274 and 215.275 into §152.617(II) (7) of the Umatilla County Development Code (UCDC) for utility facilities. Approval of Land Use Decisions is followed by issuance of a county zoning permit for each project tax lot prior to establishing the land use, as provided in §152.025 & §152.612 (D).

Project Overview

Schumann Wind LLC (Schumann or the Project) is applying for a conditional use permit for an 8MW wind generation project and Land Use Decision to construct a 34.5kV overhead and underground transmission line. The transmission line would connect the Schumann Project to the existing Chopin Wind Project underground transmission line located to the southeast of the propose Schumann Wind Project. The power would then be conveyed through the existing Chopin transmission line to the existing substation located along the north edge of the City of Weston. The Small Generation Interconnection Agreement (SGIA) with PacifiCorp was for a total output capacity of 18 MW. 10MWs of the 18MWs is currently supplied by the existing Chopin Wind Project the remaining 8MWs is proposed to be filled by the Schumann Wind Project.

The Project transmission line is expected to be approximately 2.3 miles in length and primarily placed underground. Those segments of the transmission line through arable land would be located underground in an effort to eliminate disturbance to agricultural operations. The transmission line would cross Pine Creek and the associated canyon by way of overhead line on pole structures which would have the benefit of minimizing grading activities and disturbance to Pine Creek and riparian areas as well as achieving a crossing with the least amount of disturbance.

Cultural and Environmental Considerations

The Project contracted with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) to perform an archeological survey of the proposed Project areas. The survey results did not reveal archaeological sites, thus setbacks are not currently proposed. However, an archeological monitor will be present during initial ground disturbance periods of construction to inspect disturbed soil and identify any inadvertent archeological discoveries. The CTUIR has also provided a Traditional Use Study and developed an Inadvertent Discovery Plan to provide a protocol for discovery of human remains. The Archeological Survey report was provided with the Conditional Use Permit Application as Applicant's Attachment K. In addition, the Inadvertent Discovery Plan is included as Applicant's Attachment L, and the Traditional Use Study is Applicant's Attachment M. This archaeological study performed by CTUIR also has been shared with, and reviewed, by the State Historical Preservation Office (SHPO). SHOP

confirmed the results as provided in the Conditional Use Permit support materials as Applicant's Attachment N.

A baseline Wildlife and Vegetation survey for the Project area was completed by WEST, Inc. The purpose of the survey was to identify areas that contain sensitive species of plants and animals that may require special consideration or avoidance. The results of the survey were used during the Project layout to ensure sensitive habitat and vegetation are protected.

In addition to the Baseline Wildlife and Vegetation survey, WEST prepared the Project's Avian Impact Monitoring Plan. The development of this plan comes from years of experience in performing monitoring in the area as well as collaborating with National and State Department of Fish and Wildlife professionals, including discussions regarding the nearby Chopin Project.

In addition to avoidance and minimization measures, and the implementation of the Avian Impact Monitoring Plan, the Project has committed to implementation of the Avian Power Line Interaction Committee (APLIC) guidelines to minimize potential interactions with birds and overhead power lines from both a collision and electrocution risk perspective (*Avian Power Line Interaction Committee (APLIC). 2006. Suggested practices for avian protection on power lines: the state of the art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington D.C. and Sacramento, CA. Avian Power Line Interaction Committee (APLIC). 2012. Reducing avian collisions with power lines: the state of the art in 2012. Edison Electric Institute and APLIC. Washington, D.C.).* See Applicant's Conditional Use Permit Application support materials, Attachment J.

As part of the ongoing development, Schumann will continue to consult with stakeholders, including the Walla Walla Watershed Council, Oregon Department of Fish and Wildlife and other area groups and agencies. Schumann will work with the Walla Walla Watershed Council and the Oregon Department of Agriculture to address water quality concerns in Pine Creek. Any and all necessary Federal, State, local and crossing permits would be obtained prior to construction.

Setbacks

Umatilla County Development Code describes setback requirements specific to wind project transmission lines. The Project transmission route has been planned and will be designed to comply with this setback requirement, as addressed in the conditional use request section.

> **HHH(6)(a)(5)** From tower and project components, including transmission lines, underground conduits and access roads, to known archeological, historical or cultural sites shall be on a case by case basis, and for any known archeological, historical or cultural site of the Confederated Tribes of the Umatilla Indian Reservations the setback shall be no less than 164 feet (50 meters).

Schumann contracted with the CTUIR to perform archaeological and cultural surveys of the Project area. Surveys have been completed. The Archeological Study can be found as Attachment K, the Inadvertent Discovery Plan can be found as Attachment L, the Traditional Use Study can be found as Attachment M, and a letter from the State Historical Preservation Office can be found as Attachment N of the CUP application. The results of these surveys have informed the final design of the transmission line, ensuring that no archeological, historical, or cultural sites be disturbed. To that end, Schumann will comply with the recommended setbacks in the event that important sites are discovered.

> **HHH(6)(a)(6)** New electrical transmission lines associated with the wind project shall not be constructed closer than 500 feet to an existing residence without prior written approval of the homeowner, said written approval to be recorded with county deed records. Exceptions to the 500

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feet setback include transmission lines placed in a public right of way.

The nearest residence to the proposed Project transmission line is over 5,000 feet away. Therefore, no new transmission facilities will be located within 500 feet of an existing residence.

Typical Transmission Line Features
The Project transmission line will be constructed with both above ground and below ground portions. Of the estimated total 2.3 miles of transmission route, approximately .75 miles will be overhead and the remaining 1.55 miles will be placed underground.

Buried Cable
In an effort to minimize disturbance to agricultural operations, those portions of the transmission route through cultivated fields will be underground. These underground portions will be buried to a minimum depth of 3 feet to ensure traditional farming practices can be maintained. Prior to trenching for the transmission line, the topsoil will be stockpiled to one side. The excavated material will be kept separate to ensure other materials such as large rocks are not intermingled with the topsoil. While the final design of the underground transmission line is not finished at the time of this report, a typical underground method and design would be followed.

Overhead Cable
Outside of cultivated fields, the transmission line will be overhead. The transmission route would cross Pine Creek and a fairly steep canyon. To cross this portion of land, overhead line would be used in long spans for a minimum amount of pole installation. This plan has the benefit of incurring a minimal amount of disturbance to the land while still crossing more difficult area of terrain. Preliminary engineering studies have identified pole locations and design. The latest APLIC standards and recommendations to minimize negative impacts to area avian species will be followed. Both H-frame style wooden poles and steel mono-pole are considered. The ¾ mile overhead line may use a combination of these, depending on feasibility of construction and recommendations by wildlife professionals.

Point of Connection
The power generated from the Schumann Wind Project will be delivered to the PacifiCorp grid at the Weston Substation, on the outskirts of Weston, Oregon. Schumann would connect to the Chopin Wind transmission line within the Project boundary and use the existing underground Chopin Wind Project transmission line for power delivery. A small switching and metering yard will be placed adjacent to the Chopin transmission line on the Ferguson property. This will allow PacifiCorp to differentiate between energy generated by both projects and provide isolation switches and other necessary equipment.

Operations and Maintenance of the Transmission Line Facility
The transmission line will be managed by the BayWa r.e. Wind, LLC (BayWa) in close coordination with local service providers selected based upon specific criteria, such as providing respond times of less than 4 hours. In addition, a Shared Facilities Agreement will specify the shared project facilities between Chopin and Schumann and the responsibilities of each entity.

Contact information related to the transmission line will be provided along with (if different) the contact information for the completed Project prior to commercial operation of the facility.

ORS 469.300 defines an Associated Transmission Line as "new transmission lines constructed to connect an energy facility to the first point of junction of such transmission line or lines with either a power distribution system or an interconnected primary transmission system or both or to the Northwest Power Grid. As such, Schumann Wind LLC finds that the Project transmission line meets the definition as an Associated Transmission Line and thus must provide evidence that it satisfies the requirements of

152.617(II)(7)(B). Further review indicates that the Project must meet the requirements of paragraph (2) below, since it cannot meet the requirements of paragraph (1).

The criteria in §152.617(II) (7) (B) applies to the Project associated transmission line and is reviewed below. The criteria are provided in underlined text followed by responses in standard text.

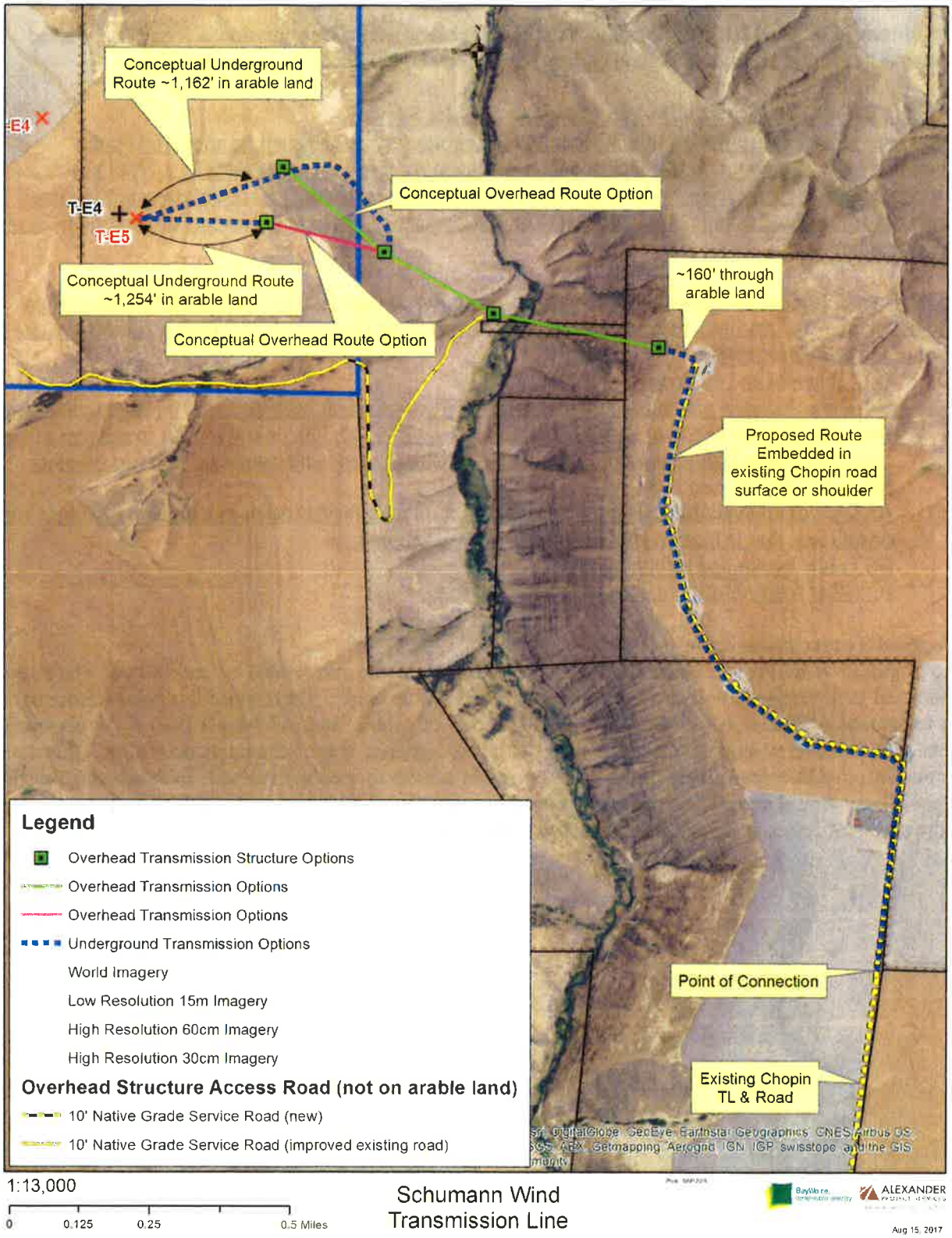
§152.617(II) (7) *Utility Facility Necessary for Public Service.*
(B) An associated transmission line is necessary for public service and shall be approved by the governing body of a county or its designee if an applicant for approval under ORS 215.283(1)(c) demonstrates to the governing body of the county or its designee that the associated transmission line meets either the requirements of paragraph (1) of this subsection or the requirements of paragraph (2) of this subsection.

(2) After an evaluation of reasonable alternatives, an applicant demonstrates that the entire route of the associated transmission line meets, subject to paragraphs (C) and (D) [(3) & (4)] of this subsection, *two or more* of the following criteria:

(a) Technical and engineering feasibility;
(b) The associated transmission line is locationally-dependent because the associated transmission line must cross high-value farmland, as defined in ORS 195.300, or arable land to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;
(c) Lack of an available existing right of way for a linear facility, such as a transmission line, road or railroad, that is located above the surface of the ground;
(d) Public health and safety; or
(e) Other requirements of state or federal agencies.

Proposed Transmission Line
The proposed Wind Project Generation Facility is located on and surrounded by arable land. The Project associated transmission line is on both arable and non-arable lands. The connection point (terminus) of the transmission line is also located on and surrounded by arable land, see Map 1 below. An alternative route was considered and investigated using existing rights-of-way. Schumann determined this route would not provide a reasonably direct route or lessen effects to area agricultural. In fact, using existing rights-of-way would significantly increase the amount of disturbance to agricultural lands in comparison to the proposed route, as described in response (c) to follow.

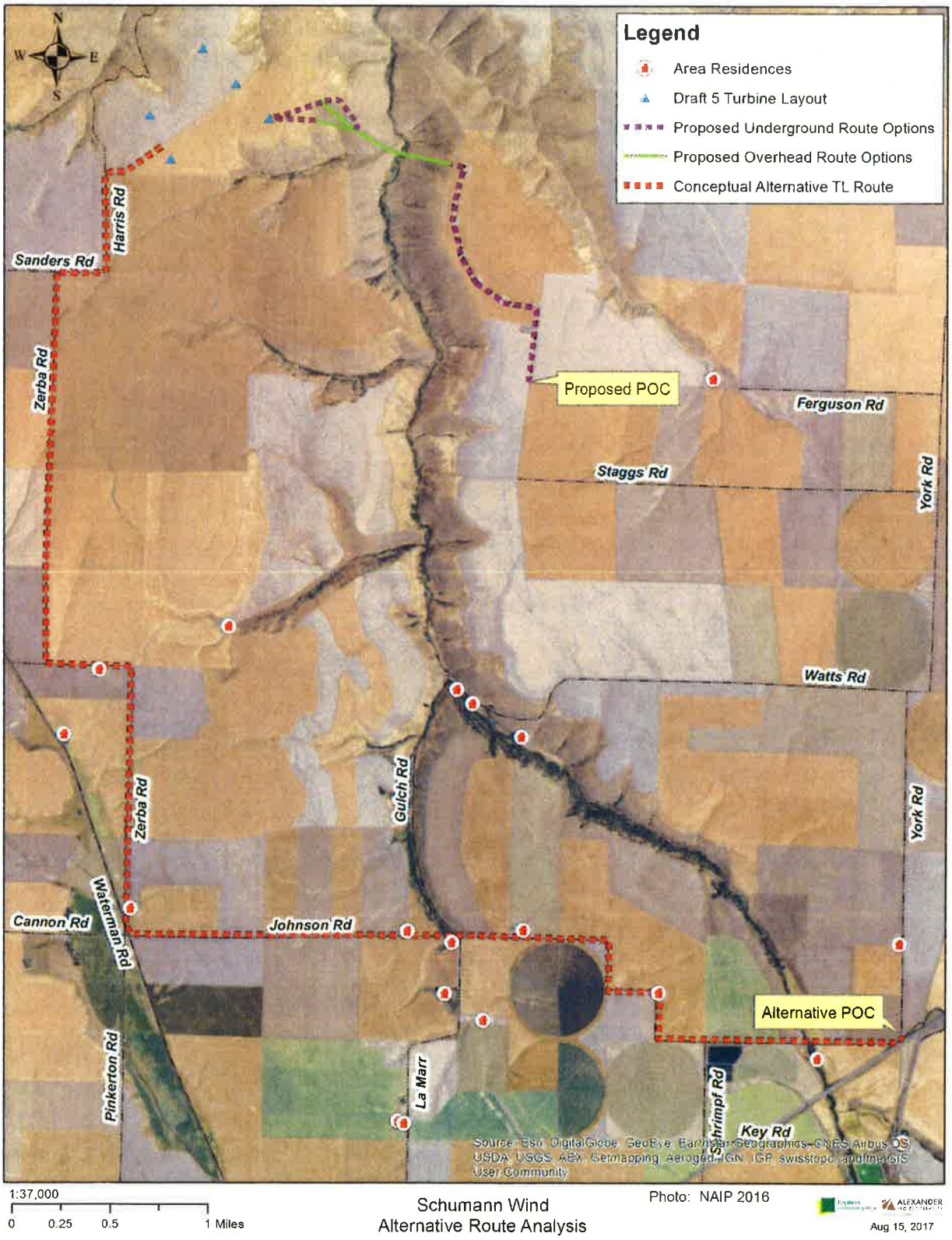
Map 1 Transmission Line Facilities



Once the line spans overhead across Pine Creek on overhead pole structures, the line will be placed underground for the remainder of the route. Approximately 160' of the Schumann transmission line would span across arable land until reaching an existing Chopin Wind Farm access road. From this point, the line would continue underground within the road bed or on the shoulder of the Chopin Project road (along the existing linear facility) until reaching the POI located on the south side of Chopin Project land, approximately ½ mile north of the Staggs Rd.

This alternative transmission line is shown in Map 2, below.

Map 2 Alternative Transmission Line Route



Alternative Transmission Line
Even the most direct route using existing road rights-of-way would increase the transmission line length from 2.3 miles to 9 miles. This longer route adds potential for disturbance to nonparticipating agricultural operations along the route. Farming occurs all along the 9 mile alternative route except for approximately 700' (~1%) of the route. The landowners along the alternative route are not within the Project boundary. In addition the alternative route would pass in front of 7 residences. This route requires the addition of an overhead transmission line segment to be installed in front of one of the residences where the line would pass this residence at the crossing of Pine Creek.

Line Comparison
The proposed route temporarily impacts approximately .25 miles of arable land; all located on the participating Project landowner's land. The proposed route also uses existing transmission infrastructures which would not be the case for the longer alternative route. The alternative transmission line route would be approximately 9 miles along other area farming operations increasing potential effects to nonparticipating landowners including several residences. Due to the increased potential for impacts of a longer alternative transmission line route, the number of nonparticipating landowners and additional residences located along the alternative route, the proposed shorter route across Project land would have less potential effects overall.

Comparing and analyzing the shorter proposed route with the longer alternative route, shows that the shorter proposed route provides the best way to transmit electricity from the proposed wind generation facility to the Point of Interconnect.

Findings and Conditions
The County finds there are no other lands in the vicinity of the Project zoned for non-resource use; and the Project associated transmission line must cross EFU land to achieve a reasonably direct route.

The County finds the Project transmission line will use an existing linear facility (Chopin transmission line) to deliver energy from the Project site to the Weston substation.

(3) As pertains to paragraph (2), the applicant shall present findings to the governing body of the county or its designee on how the applicant will mitigate and minimize the impacts, if any, of the associated transmission line on surrounding lands devoted to farm use in order to prevent a significant change in accepted farm practices or a significant increase in the cost of farm practices on the surrounding farmland.

(4) The governing body of a county or its designee may consider costs associated with any of the factors listed in paragraph (B) of this subsection, but consideration of cost may not be the only consideration in determining whether the associated transmission line is necessary for public service.

Proposed Transmission Route
The point of beginning for the transmission line is at the Schumann Project facility (west side of Pine Creek) and would begin at the turbine closest to the east field edge. From this beginning point, the line would be buried in the most direct route practical through arable lands to the first overhead transmission line pole structure, located on non-arable land. The route will continue overhead across non-arable land and Pine Creek using a long span overhead line. Once the line is at elevation and at a slope favorable for trenching, the route will continue underground to the existing footprint of the Chopin Wind Project. From there, it will continue underground within or next to the footprint of the Chopin project road until reaching the interconnection point with the existing Chopin transmission line. At this point, a small metering yard will facilitate the connection with the Chopin line to provide measurements of the amount of electricity added to the Chopin line.

While approximately .25 miles of the transmission line and metering yard are proposed to be located on arable land, Schumann has planned the transmission route to minimize impacts on arable land by using as much underground construction as feasible. All underground routing through cultivated fields will be buried to a depth of 3 feet or greater, once buried the line would not impact or change farming practices during Project operations.

The above ground transmission line segment would be approximately a quarter mile to the closest nonparticipating Project landowner. The distance between the underground transmission line features and nonparticipating Project landowners is even further at approximately 1/3 of a mile. Impacts to nonparticipating landowners from the Project transmission line is de minimis.

Additionally, the approximate 2.3 miles of proposed transmission line across Project landowners' land represents a cost effective means of conveying the power to the grid and is commensurate with the size of the generation facility and lessens potential for disturbance to agriculture and traffic.

Findings and Conditions

The County finds and concludes the proposed Project site is located on land zoned Exclusive Farm Use.

The County finds and concludes the proposed Project has planned the transmission route to minimize impacts by using as much underground construction as feasible.

The County finds and concludes all of the land between the proposed Project site and the point of interconnect with the Chopin transmission line are zoned Exclusive Farm Use and that non-resource zoned lands are not available.

The County finds and concludes the Project transmission line would construct the 2.3 miles of transmission line on the Project land would not involve nonparticipating Project landowners.

The County finds and concludes land disturbed by construction of the Project transmission line would be restored as nearly as possible to former pre-project condition.

The County finds and concludes the condition requiring the Project owner design and construct the transmission line in compliance with Oregon Public Utility Commission (OPUC) is imposed.

The County finds and concludes the condition to require the Project owner to obtain necessary Federal, State and local crossing permits as well as all other applicable Federal and State permits, including, but not limited to, a storm water permit from DEQ, is imposed.

The County finds and concludes the condition to require the Project owner submit final design and survey work for the transmission line route is imposed.

The County finds and concludes the condition requiring the Project owner to provide Umatilla County with contact information for the operation and maintenance provider prior to beginning power generation is imposed.

The County finds and concludes the condition requiring the Project owner secure a surety bond for the decommissioning and rehabilitation of the Project transmission line is imposed.

24. <u>PROCEDURE FOR TAKING ACTION ON A CONDITIONAL USE OR LAND USE DECISION APPLICATION § 152.612</u>.

(D) An applicant granted a conditional use permit or land use decision must obtain a County zoning permit for each tax lot before commencing construction.

The County finds and concludes as the condition of approval of the Schumann Conditional Use Permit and Land Use Decision the Project owner must obtain a County Zoning Permit for each tax lot prior to commencing construction on project features (i.e., including towers, access roads, and collector and transmission lines).

DECISION: BASED ON THE FOREGOING FINDINGS OF FACT AND CONCLUSIONS OF LAW, UMATILLA COUNTY APPROVES THE SCHUMANN WIND PROJECT CONDITONAL USE PERMIT AND LAND USE DECISION REQUEST FOR AN 8 MW WIND POWER GENERATION FACILITY AND PROJECT TRANSMISSION LINE UPON COMPLETION OF THE CONDITIONS LISTED BELOW.

PRECEDENT CONDITIONS: Umatilla County Planning Department must be presented with verification that the precedent conditions are satisfied prior to commencing project construction.

1. The Project owner shall obtain a bond naming Umatilla County as the beneficiary in a dollar amount that would allow Umatilla County to decommission the Project and pay for the removal of all facility features in the event the Project owner cannot fulfill its' obligation to decommission the Schumann Wind Project.

2. The Project owner shall sign and record a Covenant Not to Sue.

3. The Project owner shall coordinate with the Umatilla County Public Work Director on the County Road Use Agreement and provide verification to the Planning Department that the Agreement is finalized.

4. The Project owner shall contact DEQ prior to project road construction and if necessary, obtain a storm water permit.

5. The Project owner shall obtain an access approach permit from the County Public Works Department for access to Harris Road.

SUBSEQUENT CONDITIONS:

6. The Project owner shall obtain a County Zoning permit from the Umatilla County Planning Department for each tax lot where project features will be constructed prior to commencing construction. Each zoning permit requires a site plan illustrating the location of all project features such as the turbine tower locations, access roads, laydown area and collector line and transmission routes. The site plan for the Zoning Permit shall include an updated project map to confirm and show the final design location, or micro-siting, of all Project turbines meet the two mile setback to all rural residences.

7. The Project owner shall consult with area landowners prior to commencing project construction and implement measures to reduce or avoid impacts to farming practices.

8. The Project owner shall submit final design and survey work for the final transmission line route.

9. The Project owner shall gate the access road entrance to the project site from Harris Road and install no trespassing signs.

10. The Project owner shall implement the wind project safety and maintenance protocols in the management of the wind turbine facility and transmission line.

11. The Project owner shall observe the 50 meter setback to all archeological, historical or cultural sites from all project components including project towers, transmission lines, underground conduits and access roads.

12. The Project owner shall have a resource monitor present during ground disturbance activities to ensure the protection of existing or discovered archeological, historical and cultural sites.

13. The Project owner shall operate the Chopin Wind Project in compliance with the State noise standard in OAR 340-035-0035.

14. The Project owner shall implement Erosion Controls and the Revegetation and Weed Control Plans.

15. The Property owner submit the Latitude and Longitude location of each turbine, connecting [collector] lines, project substation and transmission lines to Umatilla County prior to starting commercial electrical production .

16. The Project owner shall submit a detailed copy of the facility plan and as built changes if any, to Umatilla County within 90-days of commencing commercial electrical production.

17. The Project owner shall implement and follow the County Road Use Agreement.

18. The Project owner shall provide the Umatilla County Planning Department an annual report including the information as provided in Section 152.616 (HHH) (9).

19. The Project owner shall comply with the revegetating project disturbed areas, according to the Schumann Wind Project Revegetation Plan, and implement erosion controls.

20. The Project owner shall design and construct the transmission line in compliance with Avian Power Line Interaction Committee (APLIC) and Oregon Public Utility Commission (OPUC) standards.

21. The Project owner shall obtain all necessary Federal, State and local crossing permits as well as applicable Federal and State permits.

22. The Project owner shall provide Umatilla County with contact information for the operation and maintenance provider prior to beginning power generation.

23. The Project owner shall maintain a surety bond for the decommissioning and rehabilitation of the Project area and Project transmission line.

24. The Project owner shall implement and follow Project Decommissioning and Rehabilitation Plan and follow Best Management Practices (BMPs) to control dust and debris from dismantling and decommissioning project features. Maintain and follow erosion, weed and revegetation plans during decommissioning. Remove oil and other lubricants/fluids using BMPs prior to dismantling wind turbines to avoid contamination of surrounding land.

UMATILLA COUNTY PLANNING COMMISSION

Dated _____day of _____, 20____

_____

Randy Randall, *Planning Commission Chair*

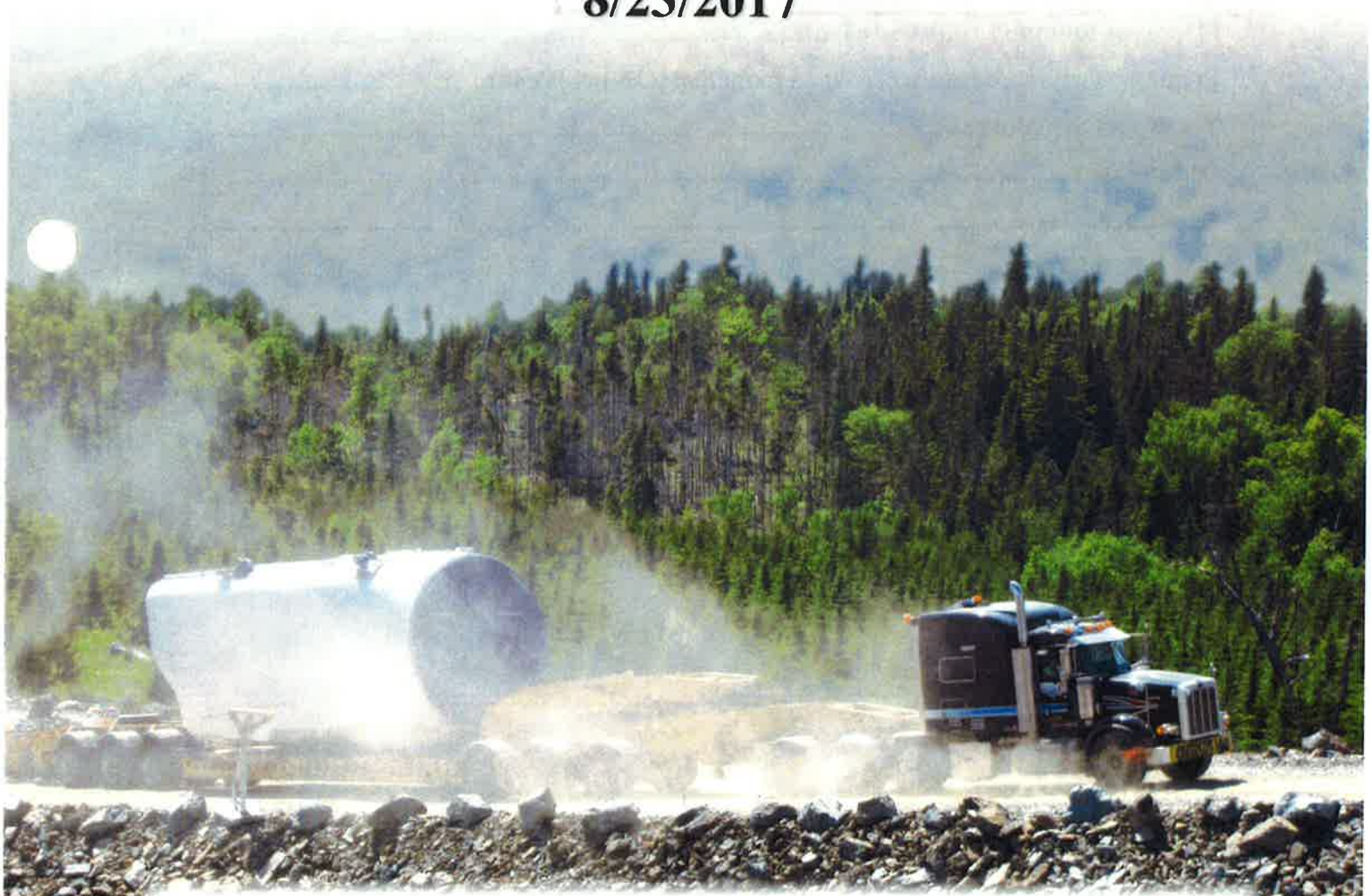
Mailed _____day of _____, 20____

projects WIND ENERGY SERVICES

725 Opportunity Drive • Saint Cloud, MN 56301 • 877-556-9420 • www.atsinc.com

Schumann Wind Project Review

8/23/2017



There is much more to just hauling freight. It's securing the route, removing the obstacles and, literally, stopping traffic. We make it happen with in-house permitting, our very own escorts, and expert project managers who make it seem like no big deal.

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Purpose

The Purpose of the report is to perform a detailed transportation study for the movement of wind turbine components to a location near Pendleton, OR.

Goal: To assess and determine that the routes leading to site are adequate to support cargo of determined sizes.

1. **Route Survey** – Checks for 3 key areas of road transport including: cornering, grade, and visual limitations on roads (i.e. bridges, wires, trees, and other obstructions, etc.) Confirmation of a clear route (dimensionally) will be completed by an ATS representative. A visual inspection of bridges and culverts will be completed but will not be an engineered assessment. Permit applications have not been submitted to the State of Oregon.
2. **Equipment Study** – At certain sites, the equipment to transport large equipment over the road is not acceptable to get to the unloading point. If this is determined to be the case, an alternate plan to utilize proper equipment will be presented. If certain routes to the site need specific equipment due to certain obstructions, it will be identified in this survey.
3. **Site Study** – The scope of this survey will end at the county roads leading to the site entrance.

Project Description

Customer	GE
Project Name	Schumann Wind Project
Project Location	Athena, Oregon
Contractor Name	TBD
Type of Turbine	GE 1.79-100 and GE 1.7-103 on 80 m towers
Quantity of Turbines	1 – GE 1.79-100 and 4 – GE 1.7-103
Receiving Hours	TBD
Project Deliveries Start Date	TBD

Review Starting Point

The starting point is I84W MM 216 exit near Pendleton, OR.

Project Overview

ATS has reviewed first hand each segment of the primary routing within this document. ATS has not applied for permits from the State of Oregon.

From February 9 through February 10 Stephen Jones from ATS physically reviewed the proposed transport route and collaborated on the route improvements outlined in this document.

The route review beginning on page 9 shows the entire route detail along with noted areas of improvement. These improvements are based upon ATS equipment and transportation methods.

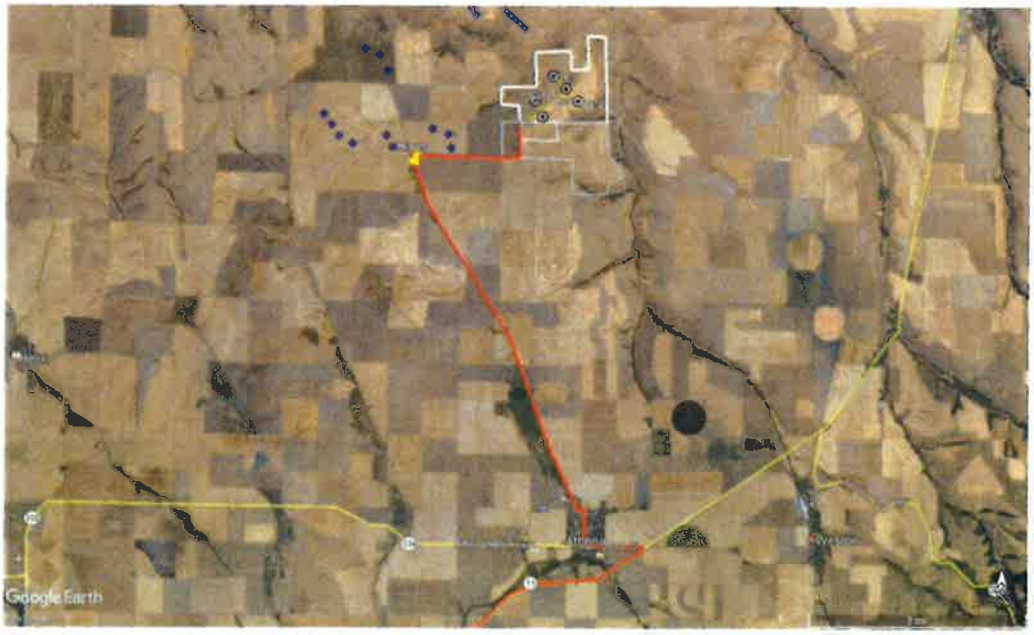
Attendees	Company	Contact Information
Stephen Jones	ATS	stephenj@atsinc.com

Review Summary

At the time of this review, test transport permits have not been applied for from the State of Oregon. A compilation of worst case dimensions and weights will be used to ensure the proposed route will be suitable for transport.

1. Transport equipment listed in this document is a typical representation of the equipment that will be used. The exact equipment has not been selected.
2. The review was conducted assuming transports will utilize the I84W MM 216 exit near Pendleton, OR.
3. Roads were surveyed at 16' 1" vertical clearance. Road width requirements will also need to be met; a minimum of 16' usable road width is required for straight-line travel.
4. There are bridges that will be crossed in or near the project site. ATS will need confirmation the structures are approved and will support loaded transports. ATS did not order any permits within the project boundary or off of the main delivery route and assumes that these will be covered in local road use agreements.
5. Detailed improvement drawings were created using scaled Google Earth images. Shown improvements will be a good representation of what is needed however all improvement areas should be surveyed and exact dimensions of improvements to be confirmed prior to any construction.
6. The vertical clearances of all overpasses were checked along the proposed route; however the entire route will need to be checked for utility and tree clearances prior to deliveries. It is recommended that a "high pole" run the entire route approximately 6 months prior to the start of deliveries to ensure adequate time for any tree trimming or to raise any utilities that will interfere with the safe transport of components.
    a. ATS will be able to schedule a "high pole" as needed.
7. This review was conducted using all information available at the time.

Map 1: Route of Travel from Exit 216 I84 West near Pendleton, Oregon to site near Athena, Oregon.



Primary Route of Travel for WECs from Exit 216 I84 West to Schumann Wind Site

WEC Transport Route	Direction of Travel	Improvements Needed		Miles
Exit 216 I84W	West	☐ Yes	☒ No	0.3
OR331	North	☐ Yes	☒ No	4.4
OR11	North/East	☐ Yes	☒ No	13
Main	West	☐ Yes	☒ No	0.9
2nd Street	North	☒ Yes	☐ No	0.5
Sherman	West	☒ Yes	☐ No	0.1
Waterman	North	☐ Yes	☒ No	5.5
Sanders[1]	East - dirt	☒ Yes	☐ No	1.5
Harris[2]	North - dirt	☒ Yes	☐ No	0.5

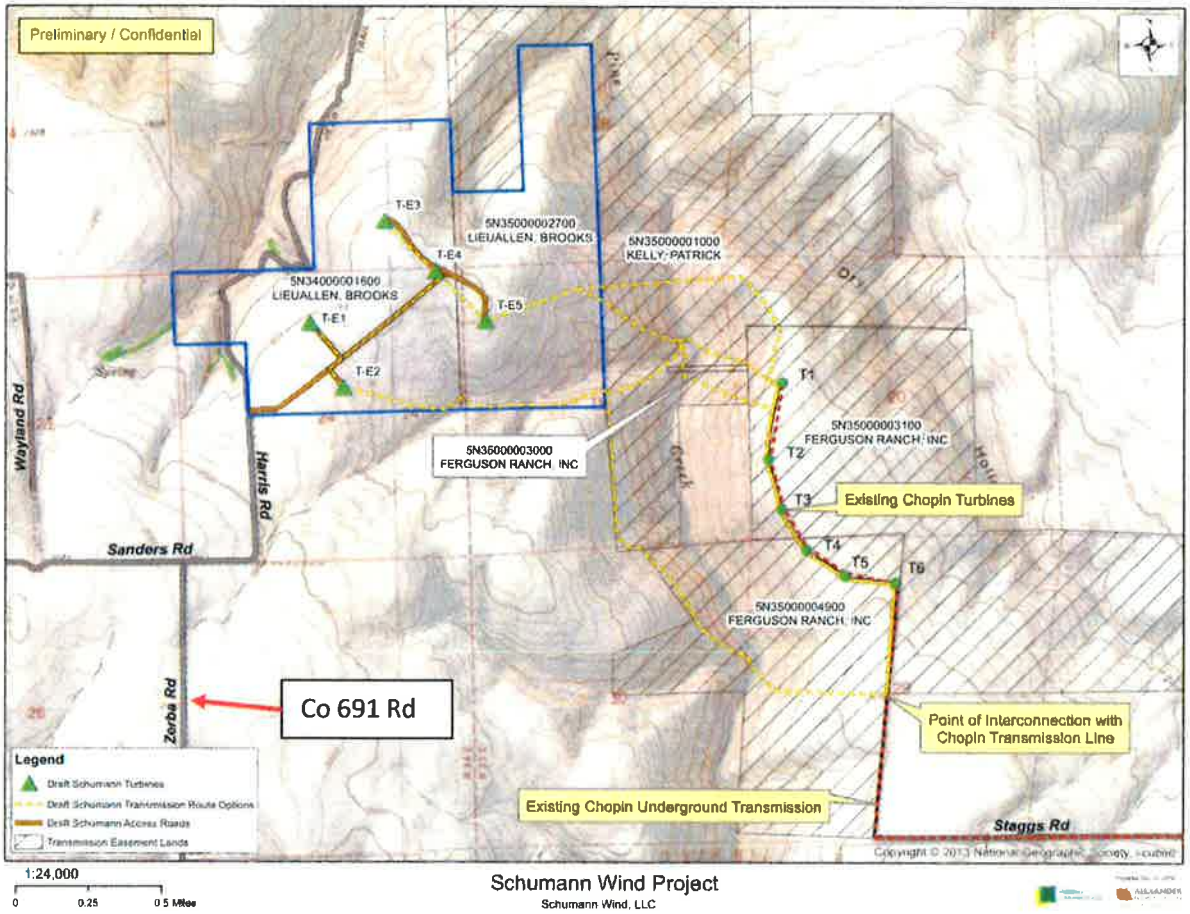
26.7 miles to site entrance

Improvements Needed:
Fill and compact as needed; pages 13, 14 and 16
Sleeve and remove signs; pages 13 and 14
Remove unused utility pole; page 14
Watch guy wire; page 14

[1] Not Reviewed due to snow on route
[2] Not Reviewed due to snow on route

Map 2: Schumann Site Location

Map 3: Schumann Project Site Plan



Primary/Preferred Route for WECs from Exit 216 I84 West to Site

Exit 216 I84 W

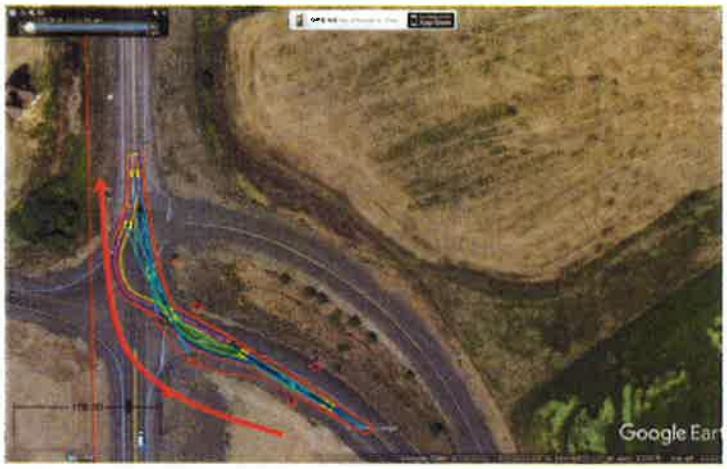
No Improvements Needed.

Exit Ramp to OR331

No Improvements Needed.

Manual Steer Blades

Exit Ramp to OR331 continued

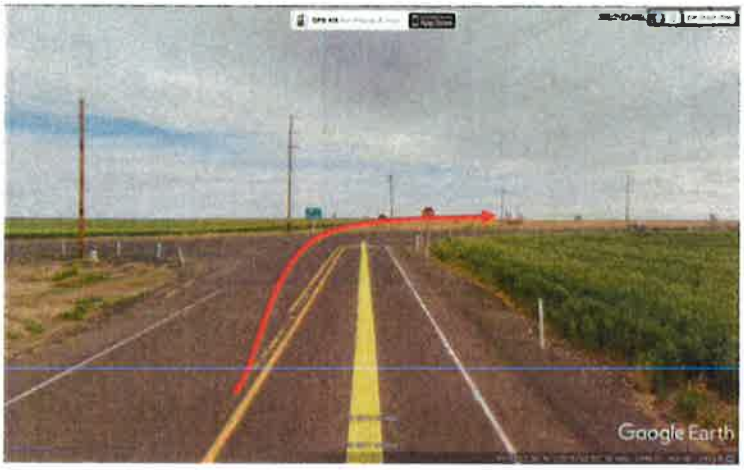


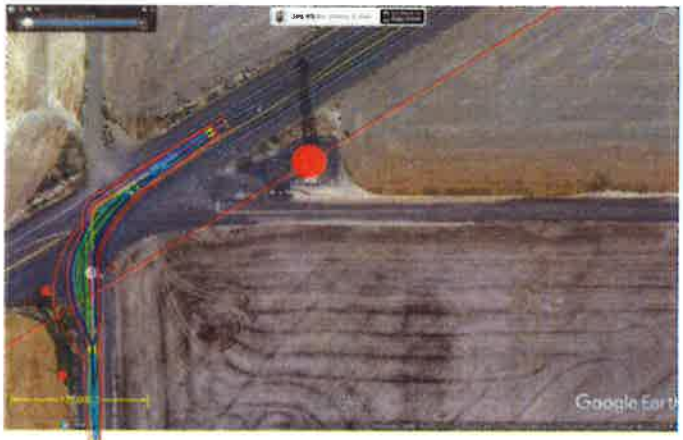
RR #809036X
10 Trains per day
5 to 10 mph
Track Rating Good

(69)

OR331 to OR11

No Improvements Needed.





OR11 to Main

No Improvements Needed.

Main to 2nd St

IMPROVEMENT NEEDED

Verify impacted area is adequate when snow is melted. Fill and compact as needed.
Sleeve and remove sign if it is reinstalled.

Manual steer blades and towers.

2nd St to Sherman

IMPROVEMENT NEEDED

Add fill and compact.
Remove unused utility pole by fire hydrant.
Sleeve and remove sign.
Watch guy wire and area of blade swing.

Manual Steer blades and towers

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Sherman to Waterman

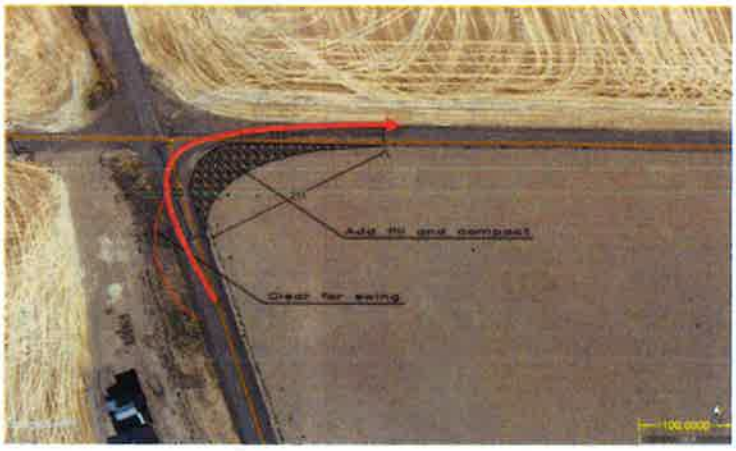
No Improvements Needed.

Manual Steer blades.

Waterman to Sanders

IMPROVEMENT NEEDED

Build turn to GE specifications.
Snow covered at time of survey.
Unable to proceed after this intersection.
Image from Google Earth.



End of Route

75

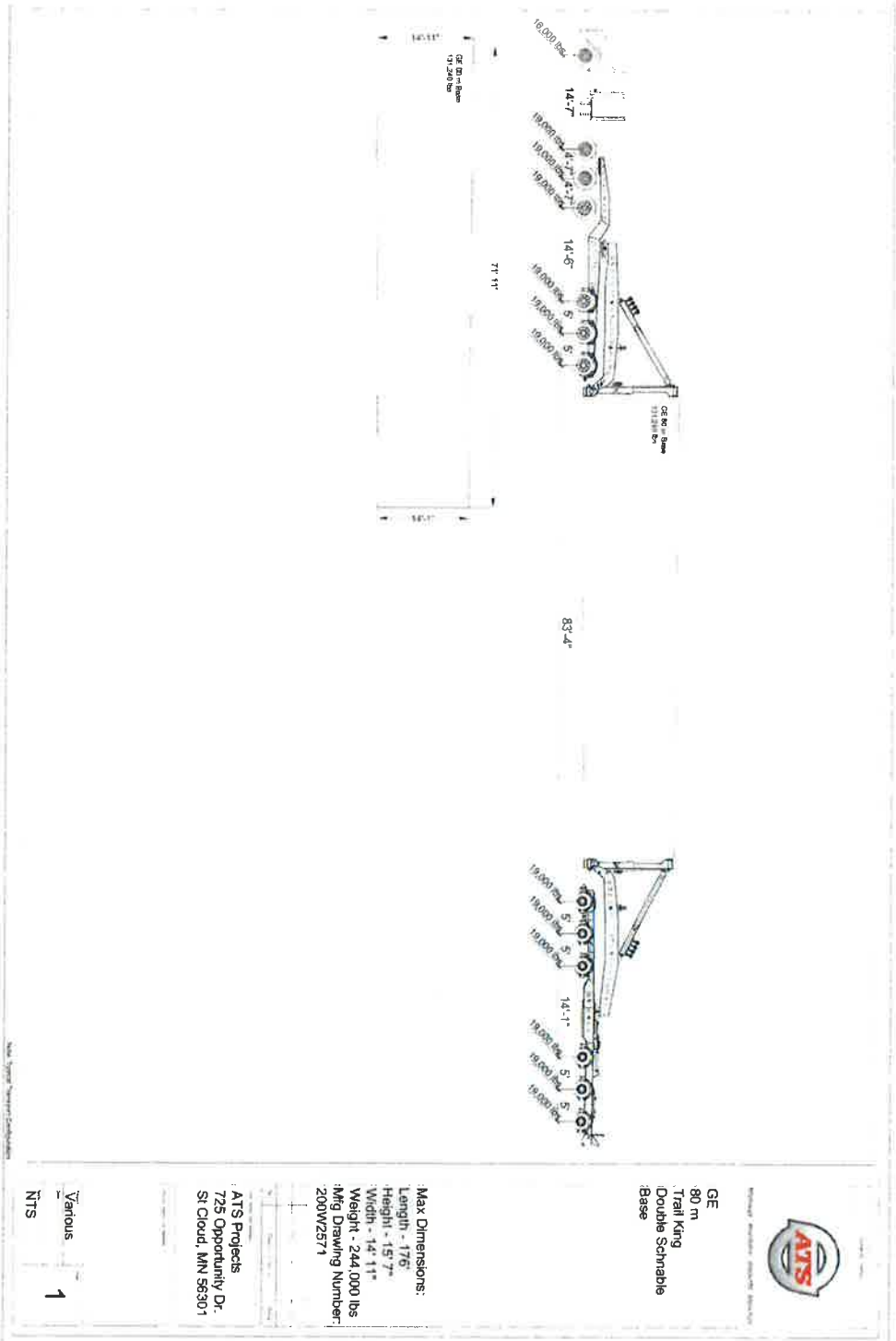
Transport Schedule

TBD

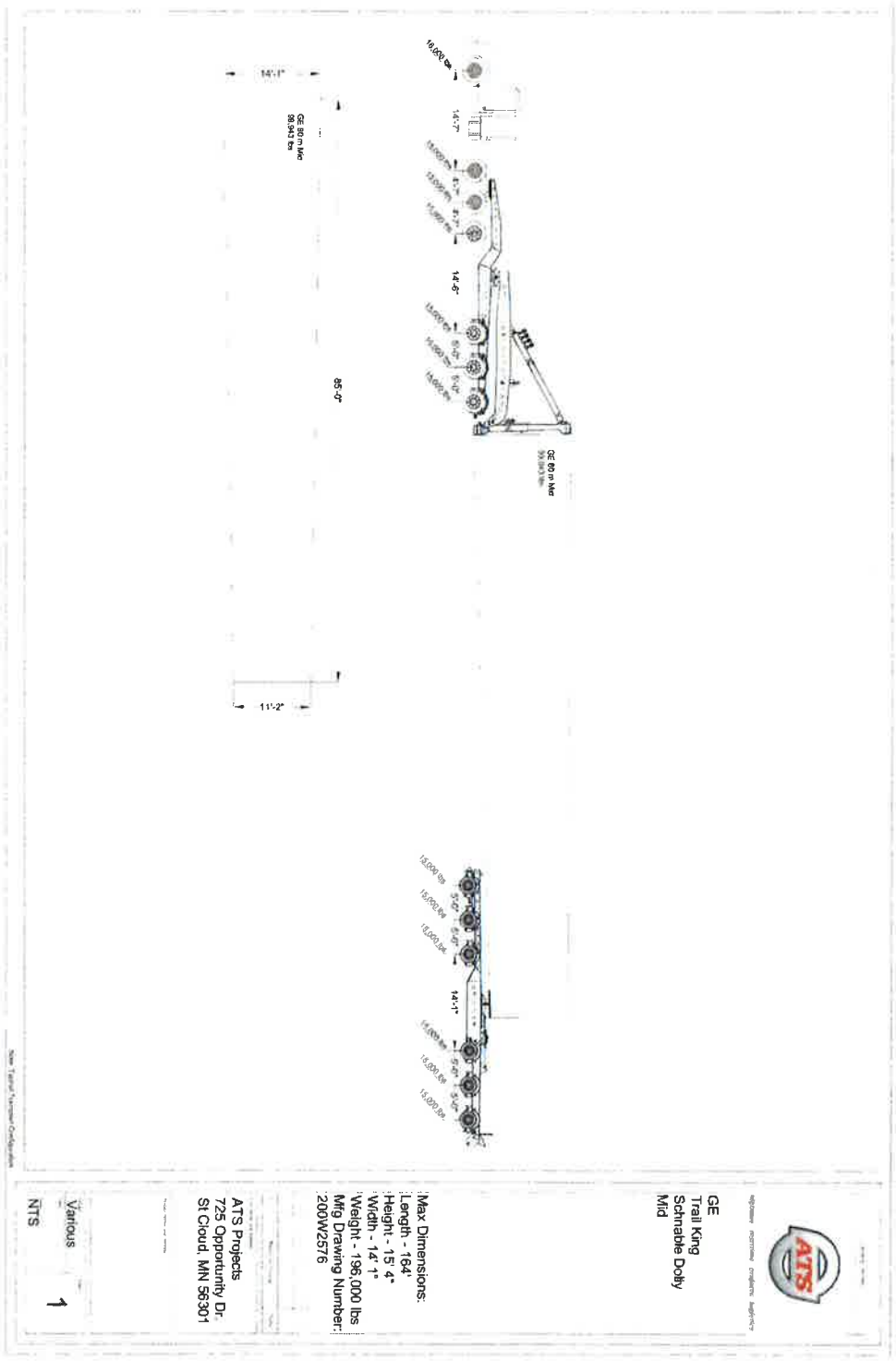
Comments

1. The trailers listed are examples and are subject to change at the time of transport.

Appendix

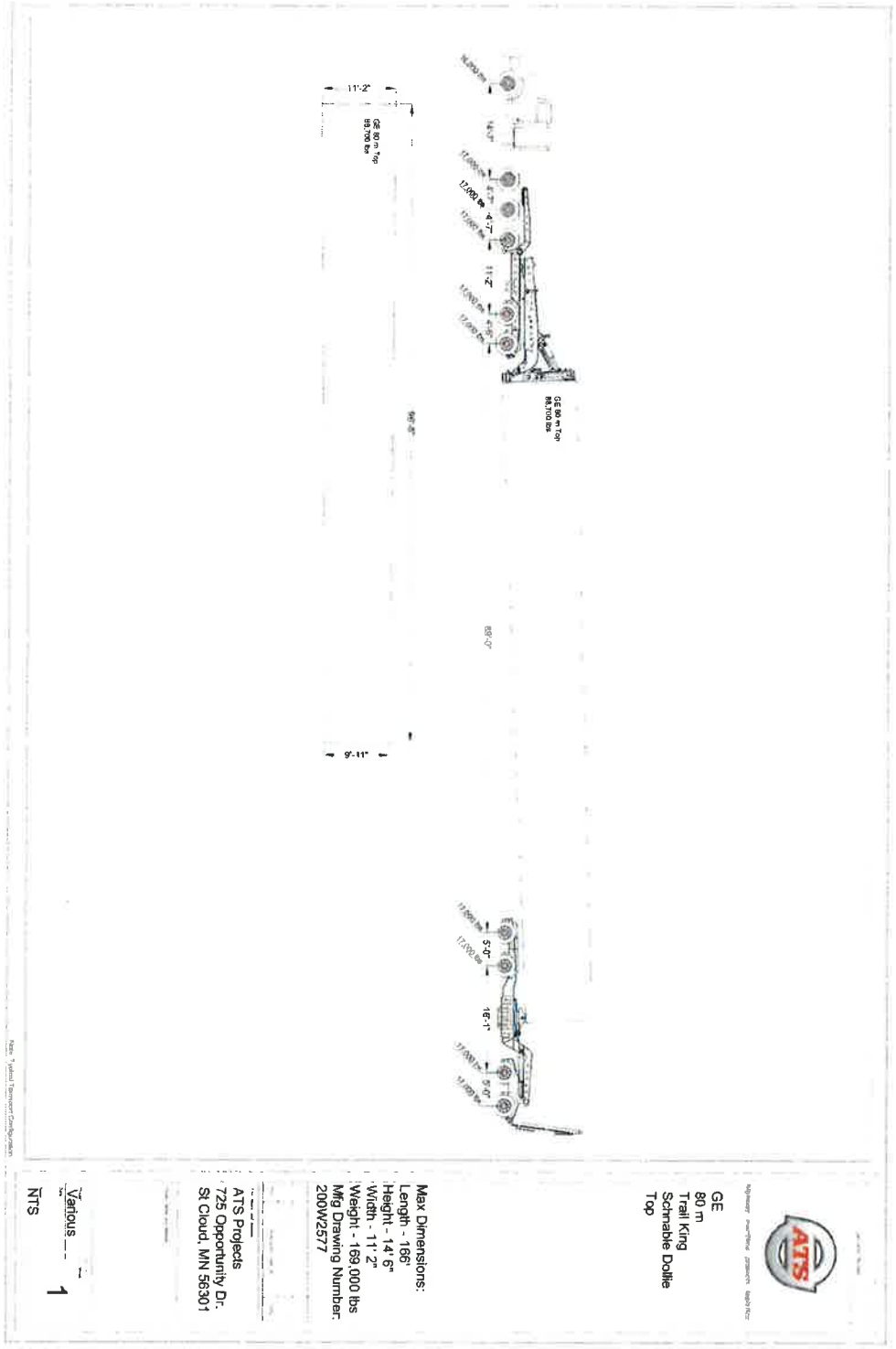


80 m Base Section

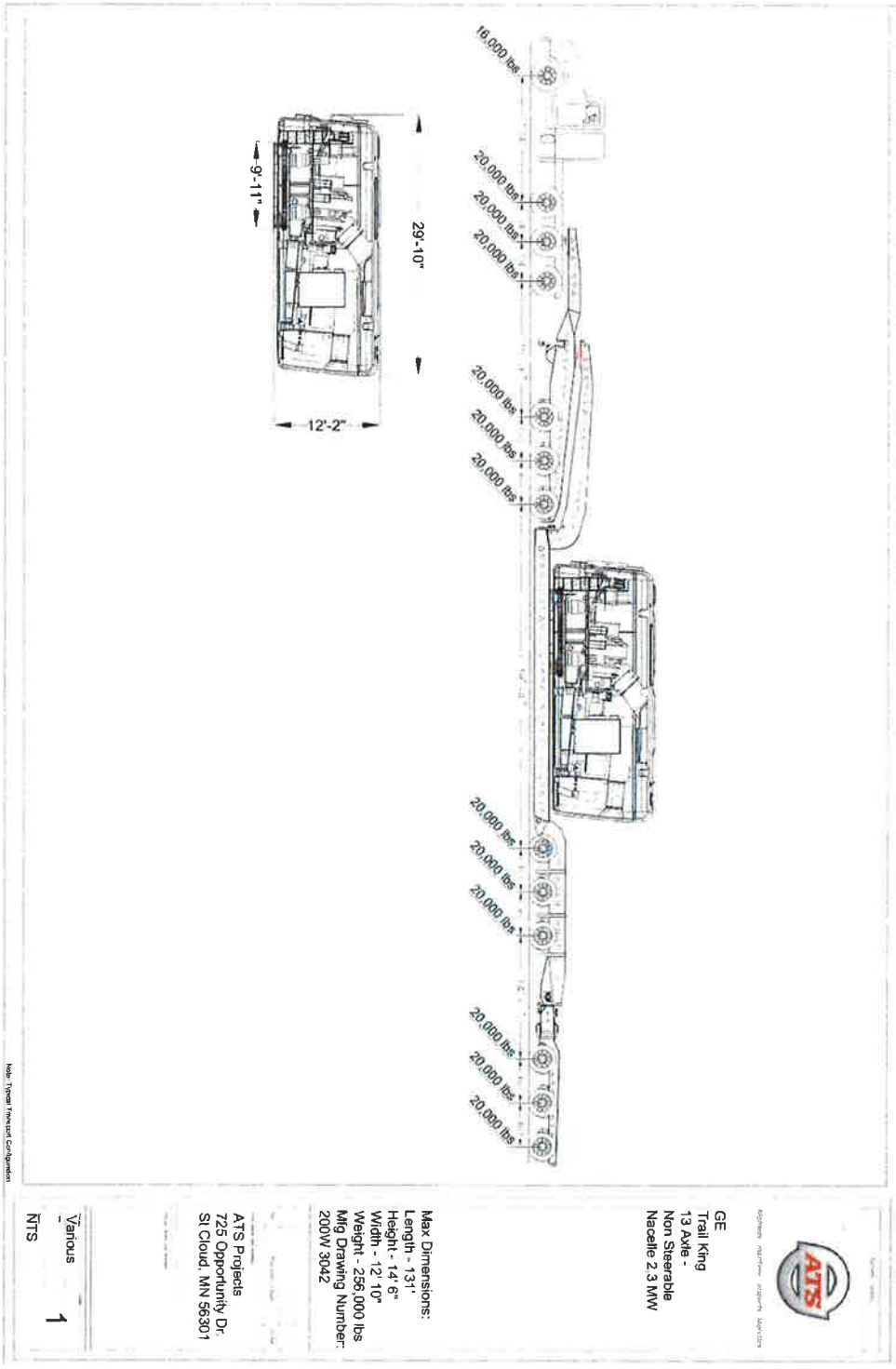


80 m Mid Section

79

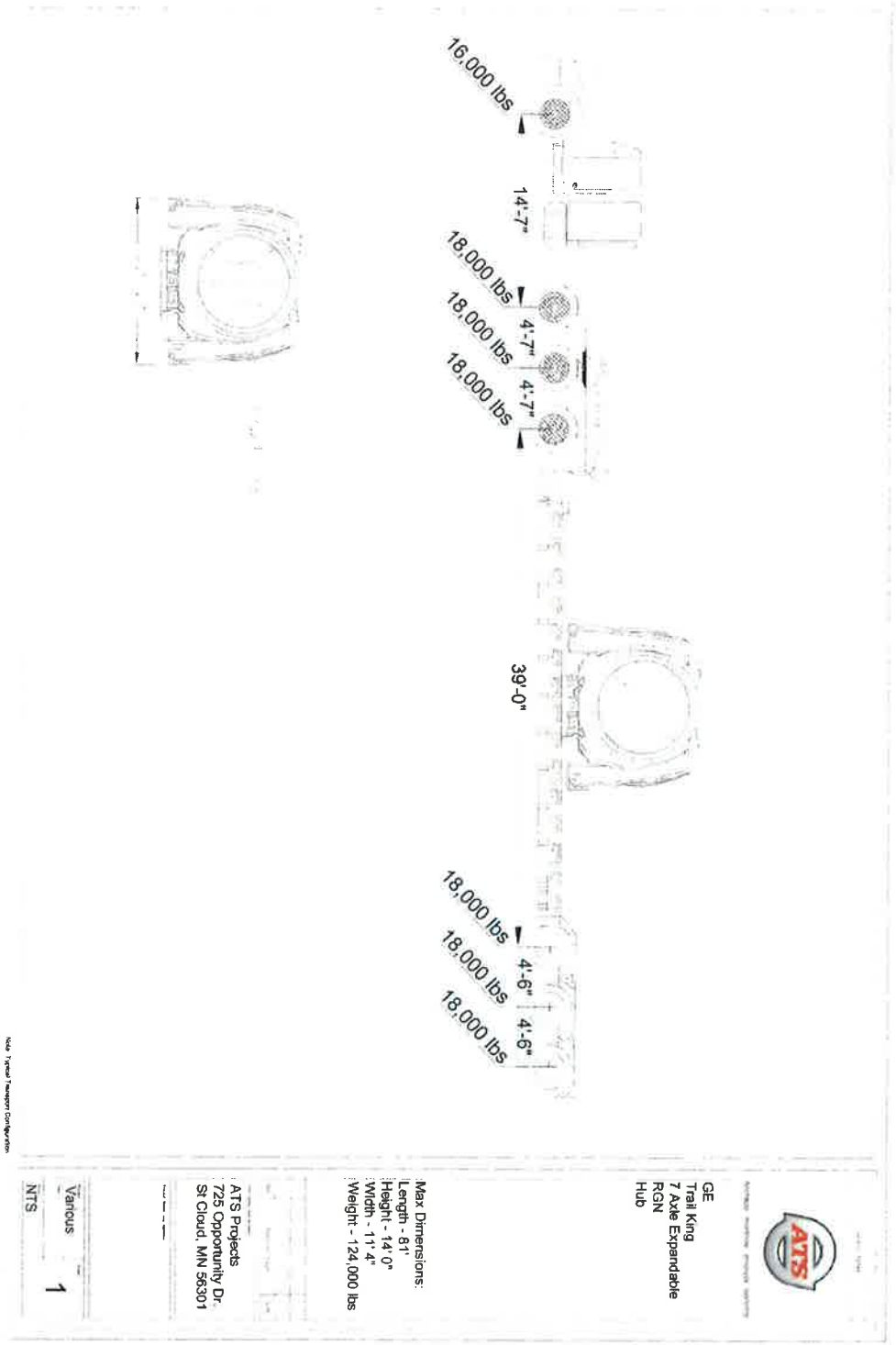


80 m Top Section

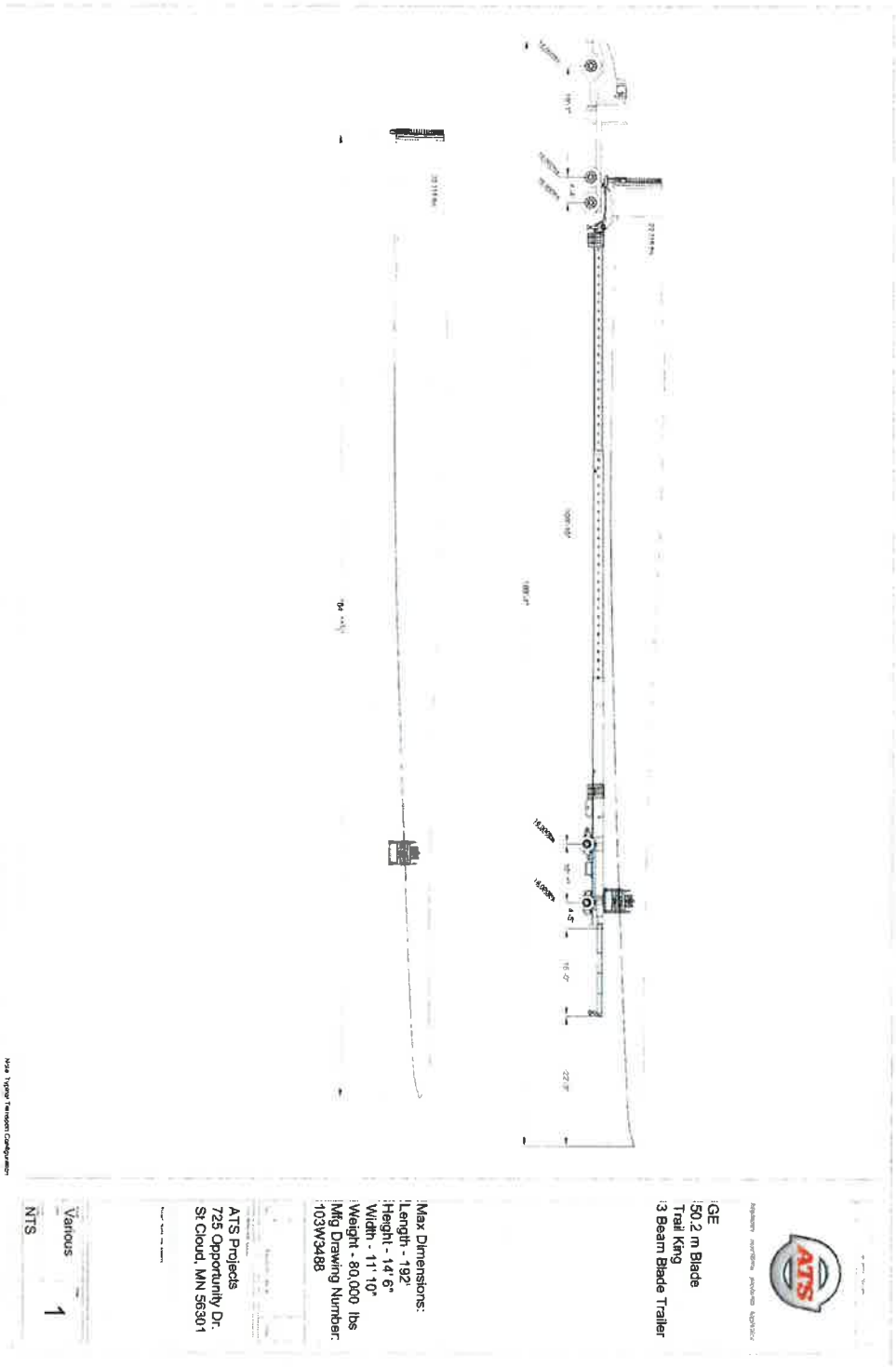


Nacelle – 13 Axle

81


16,000 lbs
14'-7"
18,000 lbs
4'-7"
18,000 lbs
4'-7"
18,000 lbs
39'-0"
18,000 lbs
4'-6"
18,000 lbs
4'-6"
18,000 lbs
GE
Trail King
7 Axle Expandable
RGN
Hub
Max Dimensions:
Length - 61'
Height - 14' 0"
Width - 11' 4"
Weight - 124,000 lbs
ATS Projects
725 Opportunity Dr.
St Cloud, MN 56301
Various
NTS
1

Hub



GE 50.2 m Blade

INSPECTION FREQUENCY	
1. ACTIVE PERIOD	DAILY WHEN STORMWATER RUNOFF, INCLUDING RUNOFF FROM SNOWMELT, IS OCCURRING
2. PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY	ONCE TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING ORDER. ANY NECESSARY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE
3. INACTIVE PERIODS GREATER THAN SEVEN (7) CONSECUTIVE CALENDER DAYS	ONCE EVERY TWO (2) WEEKS
4. PERIODS DURING WITH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER	IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION

STANDARD EROSION & SEDIMENT CONTROL PLAN DRAWING NOTES

1. HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS. (SCHEDULE A.5.B.I.(3))
2. THE ESCP MUST BE KEPT ONSITE AND ALL EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED IN SUCH A MANNER TO ENSURE THAT SEDIMENT OR SEDIMENT LADEN WATER THAT ENTERS OR IS LIKELY TO ENTER SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATER, ROADWAY, OR OTHER PROPERTIES DOES NOT OCCUR. (SCHEDULE A.3.A.) AND (SCHEDULE B.3.B.)
3. THE IMPLEMENTATION OF THE ESCP AND CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THE EROSION AND SEDIMENT CONTROL MEASURES IS THE RESPONSIBILITY OF THE PERMIT REGISTRANT UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED BY THE LOCAL DEVELOPMENT AGENCY AND VEGETATION/LANDSCAPING IS ESTABLISHED. (SCHEDULE A.4.A.) AND (SCHEDULE D.3.)
4. THE PERMIT REGISTRANT MUST BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH LOCAL, STATE, OR FEDERAL REGULATIONS. (SCHEDULE A.5.A.) AND (SCHEDULE A. 6.A.)
5. EROSION AND SEDIMENT CONTROL MEASURES INCLUDING PERIMETER SEDIMENT CONTROL MUST BE IN PLACE BEFORE VEGETATION IS DISTURBED AND MUST REMAIN IN PLACE AND BE MAINTAINED, REPAIRED, AND PROMPTLY IMPLEMENTED FOLLOWING PROCEDURES ESTABLISHED FOR THE DURATION OF CONSTRUCTION, INCLUDING PROTECTION FOR ACTIVE STORM DRAIN INLETS AND CATCH BASINS AND APPROPRIATE NON-STORMWATER POLLUTION CONTROLS. (SCHEDULE A.5.B.II.(2)), (SCHEDULE A.5.B.II.(7)), (SCHEDULE A.7.D.I.(2)) & (SCHEDULE A.7.F.)
6. BEGIN LAND CLEARING, EXCAVATION, TRENCHING, CUTTING OR GRADING AND EARTHWORK-SURFACE ROUGHING AFTER INSTALLING APPLICABLE SEDIMENT, EROSION PREVENTION AND RUNOFF CONTROL MEASURES NOT IN THE DIRECT PATH OF WORK. (SCHEDULE A.5.B.II.(5)(A)), (SCHEDULE A.7.C.I.(1)) AND (SCHEDULE A.7.C.II.(1))
7. APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES AND FOR ALL ROADWAYS INCLUDING GRAVEL ROADWAYS. (SCHEDULE A.5.B.II.(5).(B), (SCHEDULE A.5.B.II.(5)(C) & SCHEDULE A.5.B.II.(6).)
8. WET WEATHER BMPS: CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND ON SLOPES GREATER THAN FIVE (5) PERCENT FROM OCTOBER 1 THROUGH MAY 31 EACH YEAR. (SCHEDULE A.7.A.I.)
9. WET WEATHER BMPS: TEMPORARY STABILIZATION OF THE SITE MUST BE INSTALLED AT THE END OF THE SHIFT BEFORE A HOLIDAY OR WEEKEND OR AT THE END OF EACH WORKDAY IF RAINFALL IS FORECAST IN THE NEXT 24 HOURS AND EACH WEEKEND AND HOLIDAY. (SCHEDULE A.7.A.II.)
10. IDENTIFY, MARK, AND PROTECT (BY FENCING OFF OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS. PRESERVE EXISTING VEGETATION AND RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. (SCHEDULE A.5.B.I.(1) & (2)) AND (SCHEDULE A.7.C.III.(1))
11. PROVIDE PERMANENT EROSION PREVENTION MEASURES ON ALL EXPOSED AREAS TO PREVENT FROM BECOMING A SOURCE OF EROSION AND REMOVE ALL TEMPORARY CONTROL MEASURES, UNLESS LOCAL ORDINANCES REQUIRE OTHERWISE, AS AREAS ARE STABILIZED. (SCHEDULE A.5.B.II.(8)) AND (SCHEDULE A.7.C.II.(2))
12. ALL TEMPORARY SEDIMENT CONTROLS MUST REMAIN IN PLACE UNTIL PERMANENT VEGETATION OR OTHER PERMANENT COVERING OF EXPOSED SOIL IS ESTABLISHED. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED. (SCHEDULE A.7.C.III.(3)) & (SCHEDULE A.7.C.III.(4))
13. SEDIMENT CONTROLS MUST BE INSTALLED AND MAINTAINED ALONG THE SITE PERIMETER ON ALL DOWN GRADIENT SIDES OF THE CONSTRUCTION SITE AND AT ALL ACTIVE AND OPERATIONAL INTERNAL STORM DRAIN INLETS AT ALL TIMES DURING CONSTRUCTION. (SCHEDULE A.7.D.I.(1) – (2))
14. PRIOR TO ANY LAND DISTURBING ACTIVITIES EACH SITE MUST HAVE GRAVELED, PAVED, OR CONSTRUCTED ENTRANCES, EXITS AND PARKING AREAS WITH EXIT TIRE WASH TO REDUCE THE TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS. (SCHEDULE A.7.D.III.(1))
15. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER WATERTIGHT TRUCKS MUST BE USED OR LOADS MUST BE DRAINED ON-SITE UNTIL DRIPPING HAS BEEN REDUCED TO MINIMIZE SPILLAGE ON ROADS. (SCHEDULE A.7.D.III(3))
16. TEMPORARY STABILIZATION OR COVERING OF SOIL STOCKPILES AND PROTECTION OF STOCKPILE LOCATED AWAY FROM CONSTRUCTION ACTIVITY MUST OCCUR AT THE END OF EACH WORKDAY OR OTHER BMPS, SUCH AS DIVERSION OF UNCONTAMINATED FLOWS AND INSTALLATION OF SEDIMENT FENCES AROUND STOCKPILES, MUST BE IMPLEMENTED TO PREVENT TURBID DISCHARGES TO SURFACE WATERS. (SCHEDULE A.7.E.I.(1)) & (SCHEDULE A.7.E.II.(1) – (3))
17. BMPS WILL BE USED TO PREVENT OR MINIMIZE STORMWATER FROM BEING EXPOSED TO POLLUTANTS FROM SPILLS, NO DISCHARGE OF CONCRETE TRUCK WASH WATER, VEHICLE AND EQUIPMENT CLEANING, VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE, OTHER CLEANING AND MAINTENANCE ACTIVITIES, AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, LEFTOVER PAINTS, SOLVENTS, AND GLUES FROM CONSTRUCTION OPERATIONS. (SCHEDULE A.7.E.I.(2))
18. ANY USE OF TOXIC OR OTHER HAZARDOUS MATERIALS MUST INCLUDE PROPER STORAGE, APPLICATION, AND DISPOSAL. (SCHEDULE A.7.E.III.(2))
19. SOLID WASTE AND HAZARDOUS MATERIALS MANAGEMENT. FOLLOW PROJECT WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES; REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY; AND MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, MATERIAL USE, COVERED STORAGE AREAS FOR WASTE AND SUPPLIES. (SCHEDULE A.7.E.III(3))
20. THE PERMITTEE MUST PROPERLY MANAGE HAZARDOUS WASTES, USED OILS, CONTAMINATED SOILS, CONCRETE WASTE, SANITARY WASTE, LIQUID WASTE, OR OTHER TOXIC SUBSTANCES DISCOVERED OR GENERATED DURING CONSTRUCTION AND MEET ALL STATE AND FEDERAL REGULATIONS AND APPROVALS. (SCHEDULE A.7.E.III.(4))
21. THE ESCP MEASURES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE MEASURES MUST BE UPGRADED AS NEEDED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL EROSION AND SEDIMENT CONTROL REGULATIONS. CHANGES TO THE ESCP MUST ALSO BE SUBMITTED IN THE FORM OF AN ACTION PLAN TO DEQ OR ITS AGENT FOR APPROVAL. (SCHEDULE A.7.F.)
22. SIGNIFICANT AMOUNTS OF SEDIMENT, WHICH LEAVES THE SITE, MUST BE CLEANED UP WITHIN 24 HOURS AND PLACED BACK ON THE SITE AND STABILIZED OR PROPERLY DISPOSED. THE CAUSE OF THE SEDIMENT RELEASE MUST BE FOUND AND PREVENTED FROM CAUSING A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIME FRAME. (SCHEDULE A.7.F.I.(1))
23. VACUUMING OR DRY SWEEPING MUST BE USED TO CLEAN-UP RELEASED SEDIMENT AND MUST NOT BE INTENTIONALLY WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATER BODIES. (SCHEDULE A.7.F.I.(2))
24. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. TIME-RELEASE FERTILIZERS SHOULD BE USED WITH CARE WITHIN ANY WATERWAY RIPARIAN ZONE. (SCHEDULE A.7.F.I.(3))
25. SEDIMENT MUST BE REMOVED FROM BEHIND A SEDIMENT FENCE WHEN IT HAS REACHED A HEIGHT OF 1/3 THE HEIGHT OF THE FENCE ABOVEGROUND AND BEFORE FENCE REMOVAL. (SCHEDULE A.7.F.II.(1))
26. SEDIMENT MUST BE REMOVED FROM BEHIND BIO BAGS AND OTHER BARRIERS IT HAS REACHED A HEIGHT OF TWO (2) INCHES AND BEFORE BMP REMOVAL. (SCHEDULE A.7.F.II.(2))
27. REMOVAL OF TRAPPED SEDIMENT IN A SEDIMENT BASIN OR SEDIMENT TRAP OR CATCH BASINS MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY (50)% AND AT COMPLETION OF PROJECT. (SCHEDULE A.7.F.II.(3) & (4))
28. DEQ MUST APPROVE OF ANY TREATMENT SYSTEM AND OPERATIONAL PLAN THAT MAY BE NECESSARY TO TREAT CONTAMINATED CONSTRUCTION DEWATERING OR SEDIMENT AND TURBIDITY IN STORMWATER RUNOFF. (SCHEDULE A.7.F.III.)
29. SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR THIRTY DAYS OR MORE, THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD. (SCHEDULE A.8.A.)
30. SHOULD CONSTRUCTION ACTIVITIES CEASE FOR FIFTEEN (15) DAYS OR MORE ON ANY SIGNIFICANT PORTION OF A CONSTRUCTION SITE TEMPORARY STABILIZATION IS REQUIRED FOR THAT PORTION OF THE SITE WITH STRAW, COMPOST, OR OTHER TACKIFIED COVERING THAT PREVENT SOIL OR WIND EROSION UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SCHEDULE A.8.B.)
31. DAILY INSPECTIONS WHEN RAINFALL AND RUNOFF OCCURS OF THE BMPS AND DISCHARGE OUTFALLS MUST BE BY THE PROJECT ESCP INSPECTOR. THESE INSPECTIONS AND OBSERVATIONS MUST BE RECORDED IN A LOG THAT IS AVAILABLE ON SITE. (SCHEDULE A.6.B.I.) & (SCHEDULE B.1.B(1))
32. BMPS MUST BE INSPECTED BEFORE, DURING, AND AFTER SIGNIFICANT STORM EVENTS. (SCHEDULE A.7.F.)
33. ALL ESCP CONTROLS AND PRACTICES MUST BE INSPECTED VISUALLY ONCE TO ENSURE THAT BMPS ARE IN WORKING ORDER PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY AND MUST BE INSPECTED VISUALLY ONCE EVERY TWO (2) WEEKS DURING INACTIVE PERIODS GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS. (SCHEDULE B.1.B.(2)-(3))
34. IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION DURING PERIODS WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER. (SCHEDULE B.1.B.(4))

RE-VEGETATION:

1. THE CONTRACTOR SHALL COORDINATE THE SEEDING OPERATIONS WITH THE GRADING OPERATIONS TO DETERMINE MOBILIZATION FREQUENCY AS EMBANKMENT AND CUT SLOPES ARE FINISHED THROUGHOUT THE DURATION OF THE PROJECT. SEEDING SHALL BE DONE DURING SUITABLE WEATHER AND SOIL CONDITIONS FOR TILLAGE AND PLACEMENT OF MATERIALS. SEEDING OPERATIONS SHALL NOT BE PERFORMED WHEN WIND WOULD PREVENT UNIFORM APPLICATION OF MATERIALS OR WOULD CARRY SEEDING MATERIALS INTO AREAS NOT DESIGNATED TO BE SEEDED.
2. FOLLOWING FINAL GRADING, THE AREAS TO BE RE-VEGETATED SHALL BE PREPARED WITH A RIPPER BAR, CHISEL PLOW OR WITH OTHER MECHANICAL DEVICES WHICH WILL PROVIDE THOROUGH SOIL CULTIVATION. FOR AREAS TOO STEEP TO BE PREPARED FOR SEEDING AFTER THE SLOPE HAS BEEN COMPLETED, TILLAGE SHALL BE ACCOMPLISHED WITH APPROPRIATE EQUIPMENT AS THE SLOPE IS BEING CONSTRUCTED. ON SLOPE AREAS, ALL TILLAGE SHALL BE DIRECTIONAL ALONG THE CONTOURS OF THE AREAS INVOLVED. ALL AREAS WHICH ARE ERODED SHALL BE RESTORED TO THE SPECIFIED CONDITION, GRADE AND SLOPE AS SHOWN ON PLANS PRIOR TO SEEDING.
3. CUT SLOPES FLATTER THAN 3:1 (HORIZONTAL TO VERTICAL) SHALL BE TILLED TO A MINIMUM DEPTH OF 12 INCHES. FILL SLOPES FLATTER THAN 3:1 (HORIZONTAL TO VERTICAL) SHALL BE TILLED TO A MINIMUM DEPTH OF 6 INCHES.
4. DEBRIS/TRASH/ROCKS OF SIGNIFICANT SIZE SHALL BE REMOVED PRIOR TO TILLING AND SEEDING OF SOIL.
5. SOIL TESTING SHALL BE COMPLETED PRIOR TO PERMANENT SEEDING COMMENCING TO DETERMINE IF FERTILIZERS AND/OR SOIL AMENDMENTS ARE NECESSARY FOR RE-VEGETATION GROWTH.
6. APPLY FERTILIZERS AND/OR SOIL AMENDMENTS AS NECESSARY FOLLOWING SOIL TESTING.
7. TEMPORARY AND PERMANENT SEED APPLICATION SHALL BE IMPLEMENTED UTILIZING DRILL SEEDING, HYDROSEEDING OR BROADCASTING.
   - 7.1. DRILL SEEDING WITH STRAW MULCH AND HYDROSEEDING SHALL BE CONSIDERED AS THE PREFERRED METHOD OF SEED APPLICATION.
   - 7.2. SEEDS NOT SUITABLE FOR DRILL SEEDING AND HYDROSEEDING SHALL BE BROADCASTED MANUALLY AFTER THE FINAL SOIL TILLAGE.
   - 7.3. STRAW MULCH OR HYDRAULICALLY APPLIED STRAW MULCH SHALL BE APPLIED ON DRILLED OR HYDROSEEDED AREAS WITH CRIMPING AND TACKING WITHIN 24 HOURS OF SEED APPLICATION.
8. TEMPORARY SOIL STABILIZATION SHALL BE COMPLETED USING THE SEED MIXTURE QUICKGUARD, A STERILE, NON-RESEEDING VEGETATION BY GRANITE SEED. APPLICATION RATES FOR QUICKGUARD CAN BE FOUND IN TABLE 3.
9. PERMANENT SOIL STABILIZATION SHALL USE THE SEED MIXTURE IN TABLE 4 OR APPROVED EQUAL.

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TABLE 3: TEMPORARY SEED APPLICATION RATES FOR QUICKGUARD	
APPLICATION METHOD	APPLICTION RATE (LB/ACRE)
DRILL SEEDING	60 LB/ACRE
HYDROSEEDING	80 LB/ACRE
BROADCAST SEEDING	100 LB/ACRE

TABLE 4: PERMANENT SEED APPLICATION RATES	
SEED MIX	APPLICTION RATE (LB/ACRE)
INDIAN RICE GRASS	4 LB/ACRE
SQUIRREL TAIL	2 LB/ACRE
SLENDER WHEAT GRASS	3 LB/ACRE
IDAHO FESCUE	1 LB/ACRE
BASIN WILD RYE	3 LB/ACRE
SANDBURG BLUEGRASS	0.5 LB/ACRE
BLUEBUNCH WHEAT GRASS	3 LB/ACRE
QUICKGUARD	2 LB/ACRE

BMP MATRIX FOR CONSTRUCTION PHASES

	Clearing	Mass Grading	Utility Installation	Civil & Turbine Foundation Const.	Turbine Erection	Final Stabilization	Wet Weather (Oct. 1-May 31st)
Erosion Prevention							
Preserve Natural Vegetation	**X	X	X	X	X	X	X
Ground Cover							
Hydraulic Applications							
Plastic Sheeting	X	X					
Matting							
Dust Control	X	X	X	X	X		X
Temporary/Permanent Seeding	X	X	X	X	X	X	X
Buffer Zone							
Other: EC Blankets		X		X	X	X	X
Sediment Control							
Sediment Fence (Perimeter)							
Sediment Fence (Interior)	**X	X	X	X	X		X
Straw Waddles		X		X			X
Filter Berm							
Inlet Protection							
Dewatering					X		
Sediment Trap							
Other:							
Run Off Control							
Construction Entrance	X	X	X	X	X		X
Pipe Slope Drain							
Outlet Protection							
Surface Roughening	X	X	X	X	X		X
Check Dams	X	X		X			X
Other:							
Pollution Prevention							
Proper Signage	X	X	X	X	X	X	X
Hazardous Waste Management	X	X	X	X	X	X	X
Spill Kit On-Site	X	X	X	X	X	X	X
Concrete Washout Area				X	X		
Other:							

** Signifies BMP will be installed prior to any upslope disturbance

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STUDY PLAN

Avian Impact Monitoring Plan for the Schumann Wind Energy Facility Umatilla County, Oregon

Prepared for:

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May 16, 2017

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INTRODUCTION AND BACKGROUND

Schumann Wind Energy Facility (Project or Facility) is an 8 megawatt (MW) wind energy conversion facility. The Project consists of up to five General Electric wind turbine generators (either 1.70 or 2.3 MW each) mounted on 80 meter (m; 262 foot [ft]) steel towers, and an interconnection transmission line (Figure 1). The Project transmission line will interconnect with the existing transmission line for the nearby Chopin Wind Energy Facility to carry power to the Weston substation.

The Project site consists of approximately 743 acres of privately owned land with one landowner. Specifically, the proposed Project would be located west of Highway 11 and Pine Creek in Umatilla County, Oregon. The site has generally rolling topography, with current land uses consisting primarily of dry agriculture and limited livestock grazing (Figure 2).

Schumann Wind, LLC (Schumann Wind) contracted Western EcoSystems Technology, Inc. (WEST, see key personnel resumes in Appendix A) to prepare an Avian Impact Monitoring Plan ("Plan") for the Facility. Post-construction monitoring is necessary to meet requirements set forth in Chapter 5 of section HHH - Commercial Wind Power Generation Facility of the Umatilla County Development Code and this Plan will be included as part of the Facility's application for a Conditional Use Permit (CUP) from Umatilla County.

Fish have not been included in this Plan, as no streams or wetlands lie within the Project's impact area and no impacts on fish are expected. Furthermore, the Project lies entirely within cultivated agricultural areas, surrounded by degraded and fragmented grasslands. Due to both the poor habitat quality and small Project size, non-avian wildlife impacts are not anticipated for the Project. While a specific wildlife component has not been included in this Plan, the Project's direct impacts on bats will be documented during the avian impact monitoring study. However, prior to Project development, WEST will conduct raptor nest and sensitive species surveys to assess, and, if applicable, inform possible avoidance and minimization measures to be implemented during Project construction and operation.

AVIAN IMPACT MONITORING PLAN

Introduction

This Avian Impact Monitoring Plan is developed to comply with the requirements of Section 152.616 (HHH)(5)(G) of the Umatilla County Development Code. The protocols are based on currently accepted fatality monitoring practices, follow the guidance provided in the USFWS Wind Energy Guidelines (USFWS 2012), and will be similar to other regional project protocols that went through Oregon's Energy Facility Siting Council's permitting process. This approach also facilitates comparison to regional fatality estimates, and incorporates feedback received from an advisory committee for the nearby Chopin Wind Energy Facility.

Monitoring objectives will include developing bird and bat fatality rates associated with operation of the Facility and evaluating potential effects on nesting raptors. The primary components of the Plan include:

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- Fatality Monitoring Program
  - Standardized Carcass Searches
  - Searcher Efficiency Trials
  - Carcass Removal Trials
  - Wildlife Incident Response and Handling System
- Raptor Nest Surveys

Fatality Monitoring Program

The primary objective of the fatality studies is to estimate the number of avian and bat fatalities attributable to collisions for the entire Project (i.e., wind turbines and any permanent meteorological (met) tower) on an annual basis. The fatality and injured wildlife monitoring phase of the study will begin once all the turbines are constructed and operational. Injured birds and bats found during the monitoring study will also be factored into the annual estimate. The study will be conducted for one year, with a less intensive monitoring program (incidental monitoring) in place for the life of the Project. The methods are broken into four primary components: 1) standardized carcass searches, 2) searcher efficiency trials, 4) carcass removal trials, and 4) an incidental casualty and injured bird reporting system.

The following dates will be used for defining seasons in the study:

Spring Migration	March 16 – May 15
Summer/Breeding	May 16 – August 15
Fall Migration	August 16 – October 31
Winter	November 1 – March 15

Standardized Carcass Searches

The number of avian and bat fatalities attributable to wind turbine or met tower collisions will be estimated based on the number of avian and bat fatalities found in the casualty search plots whose death appears related to collision with these structures. All carcasses located within areas surveyed, regardless of species, will be recorded and a cause of death determined, if possible, based on inspection of the carcass. Some carcasses may be necropsied to aid in determining cause of death. Total number of avian and bat carcasses will be estimated by adjusting for "removal bias" (scavenging), search frequency, and searcher detection bias.

Traditional Survey Methods

Personnel trained in proper search techniques will conduct the carcass searches. All five (or four, if 2.3 MW turbines are selected) Project turbines will be included in the standardized searches. Square plots ~270 m (885 ft; or double turbine tip height) on a side and centered on the turbine will be searched by walking parallel transects (Figure 3). Studies at many wind facilities (Erickson et al. 2000, Johnson et al. 2000, Higgins et al. 1996, Young et al. 2006) indicate nearly all fatalities are found in this area, with a large majority of carcasses found within 40 m (131 ft) of the turbine. Transects will be set approximately 10 m (33 ft) apart in the area to be searched under most conditions. If planted crops become tall enough to impact detection ability, transect widths will be reduced accordingly. A searcher will walk at a rate of approximately 45-60 m per minute (~2 miles per hour) along each transect searching both sides

out to 5 m (16 ft) for casualties. Search area and speed may be adjusted by habitat type after evaluation of the first searcher efficiency trial. It should take approximately 120 minutes to search each turbine plot depending on the visibility and transect width. For example, plots in planted wheat fields will take longer to search than fields that are fallow or plowed.

The condition of each carcass found will be recorded using the following condition categories:

- Intact – a carcass that is completely intact, is not badly decomposed, and shows no sign of being fed upon by a predator or scavenger.
- Scavenged – an entire carcass, which shows signs of being fed upon by a predator or scavenger, or a portion(s) of a carcass in one location (e.g., wings, skeletal remains, legs, pieces of skin, etc.).
- Feather Spot - 10 or more feathers or 2 or more primaries at one location indicating predation or scavenging.

Appendix B contains examples of various field and laboratory forms for the carcass searches and fatalities discovered. All carcasses found will be labeled with a unique number, bagged and frozen for future reference and possible necropsy. A copy of the data sheet for each carcass will be maintained, bagged and frozen with the carcass at all times. For all casualties found, data recorded will include species, sex and age when possible, date and time collected, GPS location, condition (e.g., intact, scavenged, feather spot), and any comments that may indicate cause of death. All casualties located will be photographed as found and mapped on a detailed map of the study area showing the location of the wind turbines and associated facilities such as overhead power lines and met towers.

Road and Pad Survey Methods

It is recognized that for turbines placed in cropland, searching during summer growing periods when crops are high may not be prudent due to the very low probability of finding carcasses. Currently, the farmland within search plots is expected to be fallow during the monitoring year. However, active agricultural practices may be encountered. If so, it is recommended that only roads and pads be searched during these time periods, as WEST has done on other projects. At the Project, winter wheat (*Triticum aestivum*) is the primary crop; if planted, wheat is expected to be too dense and tall for traditional survey methods to be effective from June 1 to August 1. For consistency, all summer searches at all Project turbines will be road and pad searches if the search plots are actively farmed during the monitoring year.

Casualties or fatalities found outside the formal search area by carcass search technicians but within 150 m (492 ft) of a wind turbine, meteorological tower, substation, or Project overhead powerline will be treated following the above protocol as closely as possible. Casualties or fatalities found by maintenance personnel and others not conducting the formal searches within 150 m of a wind turbine, meteorological tower, substation or project overhead powerline will be documented using a wildlife incident reporting system (see below). Any carcass found within the standardized carcass search areas (i.e., within 135 m [443 ft] of turbines that are to be searched), but not during a scheduled search, will be collected or marked when first documented to avoid double counting. When non-study personnel discover carcasses or injured animals, a digital photograph will be taken, the Project Wildlife Coordinator will be notified and

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will identify the casualty, or a Project biologist will be contacted to identify the casualty. Personnel potentially involved in searches will receive training prior to working in the Project. Casualties or fatalities found in non-search areas will be treated as incidental discoveries.

Any injured native birds found will be carefully captured by a trained Project biologist and transported to Blue Mountain Wildlife Rehabilitation Center or a nearby veterinary clinic in a timely fashion, after notifying appropriate agency personnel. The example protocol for handling injured birds provided in Appendix C will be used for this project. With WEST's assistance, Schumann Wind, LLC will obtain the appropriate collection permits from ODFW and USFWS, including a Special Purpose Utility Permit (SPUT). Collection of state or federal endangered, threatened, or protected species will be coordinated with the USFWS and ODFW through these permits.

Schedule

Carcass searches will be conducted at the sampled turbines and all permanent met towers once every month. Surveys will be conducted for one year which will begin when Project operation commences. If formed, a Technical Oversight Committee (see below) will convene at the end of the study to discuss monitoring results and the need for additional study.

The first search will be conducted approximately one month after the date all turbines become operational (commercially producing electricity). A hypothetical schedule for a search plot is illustrated below assuming all turbines become operational in September 2018 (Table 1). An extra fall search has been included in the Schumann schedule based on TOC feedback for the nearby Chopin Wind Energy Facility. This additional search will decrease the search interval during the fall season, when the agencies and Blue Mountain Audubon have the most concern regarding potential Project impacts on wildlife.

Table 1. Search schedule assuming turbines become operational in September 2018.

Date	Search #
10/15/2018	1
11/1/2018	2
12/1/2018	3
1/1/2019	4
2/1/2019	5
3/1/2019	6
4/1/2019	7
5/1/2019	8
6/1/2019	9
7/1/2019	10
8/1/2019	11
9/1/2019	12
10/1/2019	13

Searcher Efficiency Trials

Searcher efficiency studies will be conducted in the same areas carcass searches occur. Trials will be conducted by season within the major habitat type (cultivated agriculture). Searcher efficiency will be estimated by size of carcass, plot type (road and pad or full plot, and season.

Estimates of searcher efficiency will be used to adjust the number of carcasses found, correcting for detection bias.

Searcher efficiency trials will begin when turbines are placed into operation. Personnel conducting the searches will not know when trials are conducted or the location of the detection carcasses. During each season, approximately eight carcasses of birds of two different size classes[1] will be placed in the search area during each of the four seasons, for a total of approximately 64 searcher efficiency trial carcasses for the entire year. A minimum of two dates will be used each season for a minimum total of eight trial dates. An attempt will be made to use several small brown birds (house sparrows) during the summer and fall seasons to simulate bat carcasses if bat carcasses are not available. Legally obtained bat carcasses will be used if available.

All carcasses will be placed at random locations within areas being searched prior to the carcass search on the same day. If avian scavengers appear attracted by placement of carcasses, the carcasses will be distributed before dawn. Carcasses will be placed in a variety of postures to simulate a range of conditions.

Each trial carcass will be discreetly marked so that it can be identified as a study carcass after it is found. The number and location of the detection carcasses found during the carcass search will be recorded. The number of carcasses available for detection during each trial will be determined immediately after the trial by the person responsible for distributing the carcasses.

Carcass Removal Trials

The objective of carcass removal trials will be to determine the average length of time a carcass remains in the search plot and is available for detection by searchers, and the trial results will be used to adjust bird and bat fatality estimates for removal bias resulting from scavengers or agricultural activities. Carcass removal trials will be conducted throughout the year to incorporate seasonal variability in weather, vegetation, and scavenger densities. During each season within the major habitat type (cultivated agriculture), approximately eight carcasses of birds of two different size classes will be placed in the search during each of the four seasons, for a total of approximately 64 removal trial carcasses for the entire year. Trials will not be conducted at search turbines to minimize the potential for confusing a trial bird with a turbine casualty.

Two size classes of trial carcasses (small and large) will be randomly placed in an area that is similar in size to the carcass search plots. Carcasses generally include the same species used for the searcher efficiency trials, but will include large raptors if available. Field technicians will monitor the trial carcasses over a 40-day trial period, checking them every day for the first four days and then on days seven, 10, 14, 20, 30, and 40. Removal trial carcasses will be discreetly marked with electrical tape to distinguish from non-trial carcasses. The day on which the carcass is no longer present will be recorded, and any carcasses or evidence (e.g., feathers) remaining at day 40 will be removed.

[1] Carcass that will be used for searcher efficiency trials will consist of non-native or commercially available species: house sparrows, rock doves, and hen mallards or hen pheasants.

Wildlife Incident Response and Handling System

The Wildlife Incident Response and Handling System (WIRHS) is a monitoring program for reporting and handling avian and bat casualties or injured wildlife found incidentally by construction, operations, and maintenance personnel. Project personnel commonly on site will be trained in the methods. This monitoring program includes reporting of carcasses discovered incidental to construction, operation, and maintenance activities. This system will be in place for the life of the Project.

Any carcasses discovered by maintenance personnel will be recorded, photographed, and reported to the designated Project Wildlife Coordinator. The Wildlife Coordinator will be a Project point of contact responsible for identifying the fatality or contacting a Project biologist to have the fatality identified. The fatality will be collected or marked unless it is a protected species or unless given other direction from ODFW or USFWS. If injured birds are discovered by maintenance personnel, the procedure in Appendix C will be followed.

Analysis

Quality assurance and quality control (QA/QC) measures will be implemented at all stages of the study, including field studies, data entry, data analysis, and report writing. All field data sheets will be inspected for completeness, accuracy, and legibility. A sample of records from the electronic database will be compared to the raw data forms and any errors detected will be corrected. Irregular codes or data suspected as questionable will be discussed with the observer and/or project manager. Errors, omissions, or problems will be traced back to the raw data forms and rectified. All data sheets and electronic data files will be retained for reference.

Annual fatality estimates will be calculated for all birds, all bats, small birds, large birds, raptors, nocturnal avian migrants, raptor species of special concern, target grassland birds, and state sensitive avian species. Fatality estimates will be based upon the number of carcasses found during standardized searches as adjusted for searcher efficiency bias (proportion of trial carcasses not found by searchers), carcass removal bias (probability that a carcass remained in the study plot and was available for detection by the searchers over the 40-day trial period), and the density-weighted proportion of area searched (in the case of road and pad surveys). The following define the statistical methods utilized to develop adjusted annual fatality estimates. Several fatality estimation models exist (e.g. Shoenfeld, 2004, Huso 2010, etc.); the Huso estimator will be used to estimate fatalities for this study, unless a more appropriate estimator is available at the time of analysis.

Definition of Variables

The following variables are used in the equations below for the Huso estimator (Huso 2010; Huso USGS Guide, 2012):

c_i total number of carcasses in category i (e.g., combinations of size, visibility, season, search interval, etc.)

n number of turbines sampled at the Project

k number of carcass categories

$\hat{a}_i$ density-weighted area correction for category i

l_i time interval between the previous search and discovery for category *i*

$\hat{\hat{l}}_i$ effective search interval for carcasses in category *i*

$\hat{r}_i$ average probability of persistence for carcass in category *i*

$\hat{p}_i$ probability of detection for carcass in category *i*

$\hat{\pi}$ the estimated probability that a carcass is both available to be found during a search and is found, as determined by the removal trials and the searcher efficiency trials

$\hat{F}_i$ per turbine mortality for category *i*

$\hat{m}$ total per turbine mortality

Estimation of Carcass Persistence Rates

Estimates of carcass persistence rates are used to adjust carcass counts for removal bias. Carcass persistence is modeled as a function of carcass size, and possibly other variables including plot type, season, ground visibility, and the interactions between these variables. The average probability of persistence of a carcass $\hat{r}_i$, is estimated from an interval censored survival regression model. Exponential, log-logistic, lognormal, and Weibull distributions are fit and the best model is selected using an information theoretic approach known as AICc, or corrected Akaike Information Criteria (Burnham et al. 2002).

Estimation of Searcher Efficiency Rates

Searcher efficiency rates, $\hat{p}_i$, are estimated for each size class using a logistic regression model. Additional covariates for this logistic regression model may include plot type, season, ground visibility, and the interactions between these variables. The logistic regression models the natural logarithm of the odds of finding an available carcass as a function of the above covariates. The model assumes that searchers have a single opportunity to discover a carcass. The best model is selected using AICc.

Density-weighted Area Correction

The size of each search plot is selected to encompass the area underneath each turbine where fatalities are most likely to fall; however, it is not always possible to search an entire plot due to ground cover (e.g., tall crops) and terrain. The carcass density-weighted proportion (DWP) of area searched will be modeled to account for unsearched area; separate estimates will be calculated for birds and bats. Searched area is weighted as a function of distance from the turbine, because the areas near the turbine tend to have a higher density of carcasses than areas farther from the turbine (Huso et al. 2014). The result is an estimate of the proportion of fatalities expected to land within searched areas around a turbine. If there are enough carcasses of a given type, a maximum likelihood estimation (MLE) modeling approach will be used. If carcass counts are too low to fit a MLE approach, a physics-based model which predicts the maximum fall distance for a given turbine height and rotor diameter will be used (Hull & Muir 2013). Area corrections based on the Hull & Muir model assume a linear decrease in density of carcasses from the turbine base out to the maximum predicted fall distance.

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Modeling methods: Maximum Likelihood Estimates

Model parameters for six distributions are fit, via MLE, to carcass distance data. Fitted distributions include normal, gamma, Weibull, loglogistic, Gompertz, and Rayleigh. The candidate distributions can take a variety of shapes which may describe fatalities falling from a turbine. Models will be compared via AICc with the relative best-fit model being that with the lowest AICc (or within two AICc points of the lowest AICc score). Models are fit to the carcass distance data, taking into account the proportion of area searched in the 1-m wide annulus in which the carcass was found, as well as the probability that the carcass was found and available. These factors will be incorporated into the model by use of a weighted MLE/weighted distribution method. Once a model is selected, the density-weighted proportion (DWP) of area searched is calculated. To calculate the DWP, the proportion of area searched in each 1-m annulus from the base of the turbine out to the maximum plot radius is weighted by the selected model and summed from the minimum to the maximum distance searched underneath turbines.

Modeling methods: Hull & Muir Method

A physics-based model was developed in Hull and Muir (2010) to predict the maximum fall distance of animal carcasses around turbines. The model uses turbine hub height, rotor diameter, and size of the carcass (e.g. small, large bird, bat) to determine the maximum theoretical fall distance relative to the turbine base. A linear density is assumed from the turbine base out to the maximum fall distance. The DWP of area searched is estimated based on the linear density and the proportion of area searched in each 1-m annulus from the turbine base out to the maximum fall distance.

Carcasses Excluded from Fatality Estimation

One of the underlying assumptions of the Huso model is that searchers have a single opportunity to discover a carcass (Huso et. al. 2016). In practice, particularly when carcass persistence times are long, carcasses may be discovered that have been available for more than one search. In order to meet the assumptions of the Huso model, the estimated time since death is determined for each carcass, in the field. A carcass is excluded from fatality estimation if the estimated time since death is longer than the search interval associated with that carcass; in other words, a carcass with estimated time since death longer than the search interval is assumed to have been available for more than one search. Carcasses excluded from fatality estimation are also excluded from the calculation of a density-weighted area correction. However, all carcasses found during the study will be reported.

Adjusted Facility-Related Fatality Rates

The estimated probability that a carcass in category *i* was available and detected is:

$$\hat{\pi}_i = \hat{a}_i \cdot \hat{p}_i \cdot \hat{r}_i \cdot \hat{v}_i$$

where $\hat{v}_i = \min(1, \hat{\hat{I}}_i/I_i)$. The model assumes that searchers have a single opportunity to find each carcass, even though some carcasses may persist through multiple searches before being detected. Therefore, a carcass is included in adjusted fatality estimates if it has been available since the last search, and no longer. The probable time since death, recorded in the field, is used to evaluate each carcass for inclusion in the final fatality estimates.

The total number of fatalities ($\hat{f}_i$) in category *i*, based on the number of carcasses found in category *i* is given by

$$\hat{f}_i = \frac{c_i}{\hat{\pi}_i}$$

The total per turbine fatality rate ($\hat{m}$) is estimated by

$$\hat{m} = \frac{\sum_{i=1}^{k} \hat{m}_i}{n}$$

The standard errors and 90% confidence intervals will be calculated using bootstrapping (Manly 1997). Bootstrapping is a computer simulation technique that is useful for calculating point estimates, variances, and confidence intervals for complicated test statistics. A total of 1,000 bootstrap samples will be used. The standard deviation of the bootstrap estimates will be the estimated standard error. The lower 5th and upper 95th percentiles of the 1,000 bootstrap estimates will be estimates of the lower limit and upper limit of 90% confidence intervals.

Raptor Nest Survey

The primary objectives of raptor nest surveys are: 1) to estimate the size of the local breeding populations of tree-nesting raptor species within two miles (3.2 kilometers) of the turbine locations, and 2) to collect data to assist in determination of potential operational effects on the nesting activity or nesting success in the local populations of target raptor species: Swainson's hawk (*Buteo swainsoni*), red-tailed hawk (*Buteo jamaicensis*), and great-horned owl (*Bubo virginianus*) and other tree nesting raptor species (e.g., ferruginous hawks [*Buteo regalis*]) that may be found in the area. No golden eagle (*Aquila chrysaetos*) nests are known to occur within 10 miles of the Project (see Enk et al. 2011, Enk 2011).

Following construction, ground-based raptor nest surveys will be conducted to gather nest success statistics on active nests, nests with young, and number of young fledged. Schumann Wind will share the data with state and federal biologists. Raptor nests will be monitored for one year prior to construction in 2017. Post-construction nest monitoring will also involve intensive ground surveys in April, May, and June in the first breeding season following construction of the Project. Nests documented during previous survey efforts that occur within two miles of the current layout will be checked for occupancy (Figure 4). Searches for new nest locations will also occur. All nests will be given identification numbers, and nest locations will be recorded on topographic maps. Global positioning system (GPS) coordinates will be recorded for any new nests not previously recorded. Locations of inactive nests will be recorded as they may become occupied during future years. Nest occupancy will be determined. For occupied nests of the target raptor species (listed above) within two miles of the Project, nesting success will be determined by a minimum of one ground visit (if land access is granted) to verify species, number of young, and nesting success. A successful nest means that the young have successfully fledged (flown from the nest).

TECHNICAL OVERSIGHT COMMITTEE

A Technical Oversight Committee (TOC) may be required as part of the CUP issued by Umatilla County, should one be granted. If formed, the TOC will serve as a recommending body for the Project. The TOC's role will be to review protocols and make recommendations to the Umatilla County Planning Commission based on the data collected during the course of the monitoring study. An introductory meeting to present this Project Plan to TOC members will occur prior to surveys taking place. Input received during this meeting may result in modifications to the Plan. TOC membership will be dictated by the CUP, but may include:

- a primary landowner/lessee;
- a facility owner/operator representative (chair);
- a representative from Oregon Department of Fish and Wildlife;
- one Umatilla County residents with no direct economic interest in the Project (appointed by the Umatilla County Board of Commissioners);
- a member of the Blue Mountain Audubon Society or a second Umatilla County resident;
- a representative from US Fish and Wildlife Service; and
- a member of the Umatilla County Planning Commission.

Following completion of the monitoring effort, the TOC will reconvene to discuss the results. All carcasses found during the study and estimated fatality rates will be evaluated. Of particular interest will be any fatalities or injuries to species of concern (e.g., golden eagle, ferruginous hawk). In such cases, the circumstances around each event, to the extent that they are known, will be provided by WEST for consideration. Additional monitoring may be recommended by the TOC, if appropriate.

REPORTING

This monitoring program will provide data for evaluating the impacts of the Project on birds and bats through fatality estimates. In addition, information on the occupancy and breeding success of raptors (those identified during 2010 helicopter surveys and other identified nests) within the vicinity of the turbines will be gathered. WEST will provide monthly updates on survey activities and fatalities via email, and WEST will notify Schumann Wind within 24 hours if any state- or federally-listed wildlife species or an eagle is found during searches. Schumann Wind will notify (email and phone) the USFWS within 24 hours if any federally-listed species or eagles are discovered. All data collection and reporting requirements identified in the Project's SPUT permit will be met, including quarterly and annual reports describing search effort and carcasses discovered and/or collected.

An annual report will be prepared at the end of the first year of monitoring and will be discussed with the TOC (if applicable) to review and provide recommendations. The final report will include all methods, analyses, trials results, fatality estimates, and comparisons to other studies in North America. In the final reporting process, data will be used to determine if fatality rates at the Project are lower, higher, or similar to rates reported at other wind energy facilities within the region and in the U.S., and to assess overall impacts of the Project on birds and bats. WEST

will evaluate and describe any spatial or temporal trends observed in the fatality data, and will assess any potential relationships with land cover and vegetation communities, topography, and weather patterns.

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Enk, T., K. Bay, and D. Solick. 2011. Wildlife Baseline Studies for the Chopin Wind Resource Area, Umatilla County, Oregon, 2010-2011 Final Report. Technical Report prepared for WKN Chopin LLC. Western EcoSystems Technology, Inc. Cheyenne, Wyoming, and Walla Walla, Washington.

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Johnson, G. D., W. P. Erickson, M. D. Strickland, M. F. Shepherd, and D. A. Shepherd. 2000. Avian Monitoring Studies at the Buffalo Ridge Wind Resource Area, Minnesota: Results of a 4-Year Study. Final report prepared for Northern States Power Company, Minneapolis, Minnesota, by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming. September 22, 2000. 212 pp. http://www.west-inc.com

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(101)

US Fish and Wildlife Service (USFWS). 2012. Final Land-Based Wind Energy Guidelines. March 23, 2012. 82 pp. Available online at: http://www.fws.gov/windenergy/docs/WEG_final.pdf

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Young, D.P., Jr., J. Jeffrey, W. P. Erickson, K. Bay, V. K. Poulton, K. Kronner, R. Gritski, and J. Baker. 2006. Eurus Combine Hills Turbine Ranch. Phase 1 Post Construction Wildlife Monitoring First Annual Report: February 2004 - February 2005. Technical report prepared for Eurus Energy America Corporation, San Diego, California, and the Combine Hills Technical Advisory Committee, Umatilla County, Oregon. Prepared by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming, and Walla Walla Washington, and Northwest Wildlife Consultants, Inc. (NWC), Pendleton, Oregon. February 21, 2006. Available online at: http://wind.nrel.gov/public/library/young7.pdf

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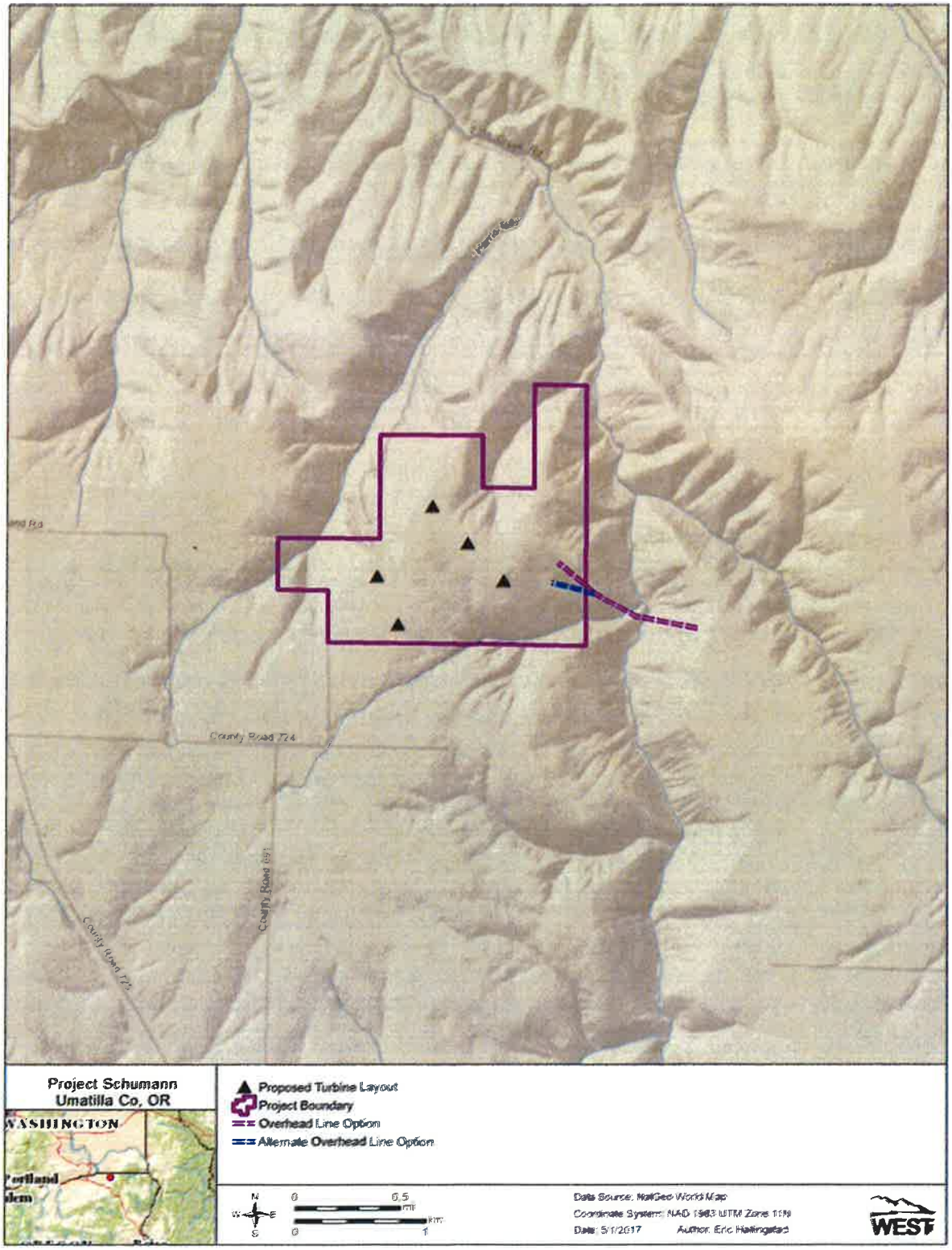

Figure 1. Overview of the Schumann Wind Energy Facility.

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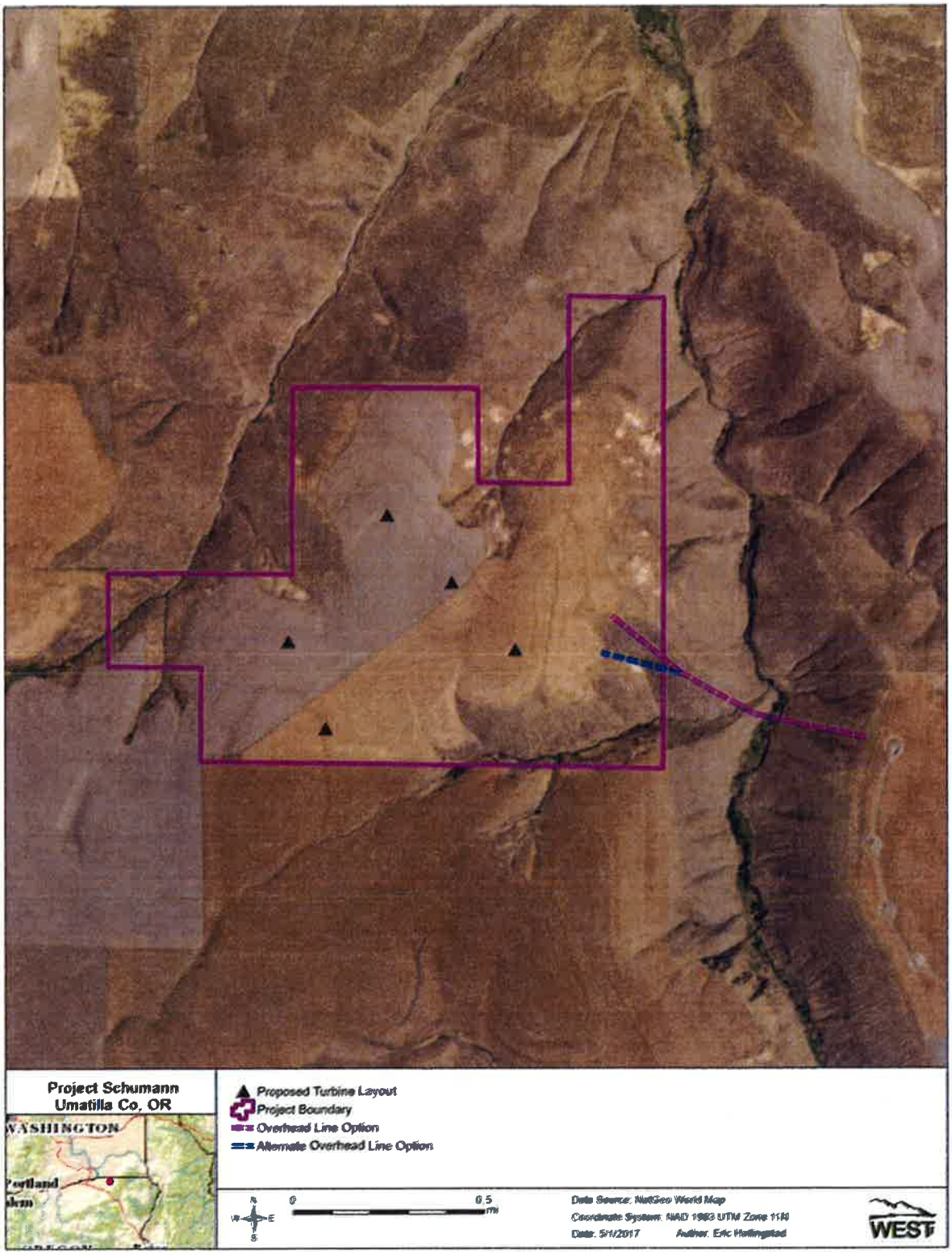

Figure 2. Aerial image of the Schumann Wind Energy Facility.

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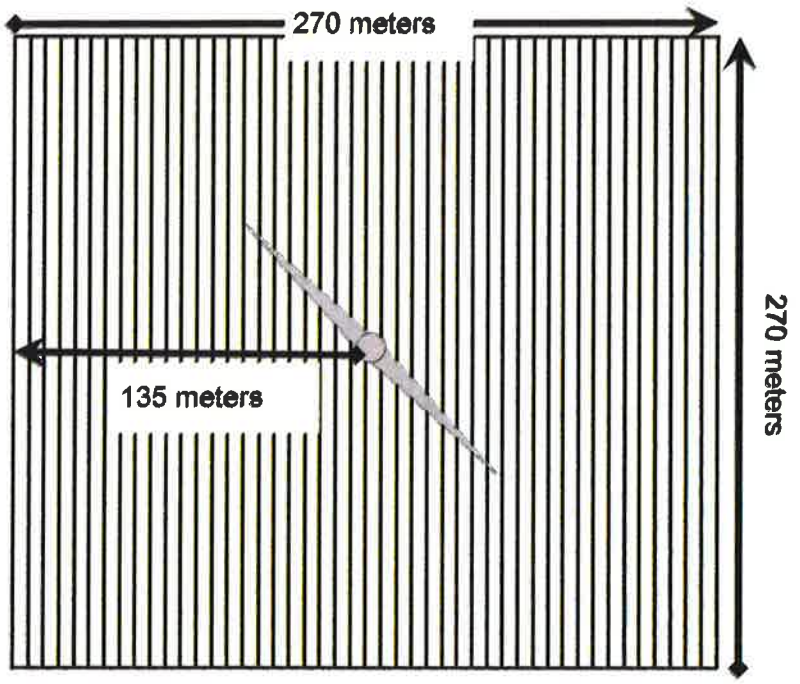

Figure 3. Schematic of turbine search plot dimensions and transects.

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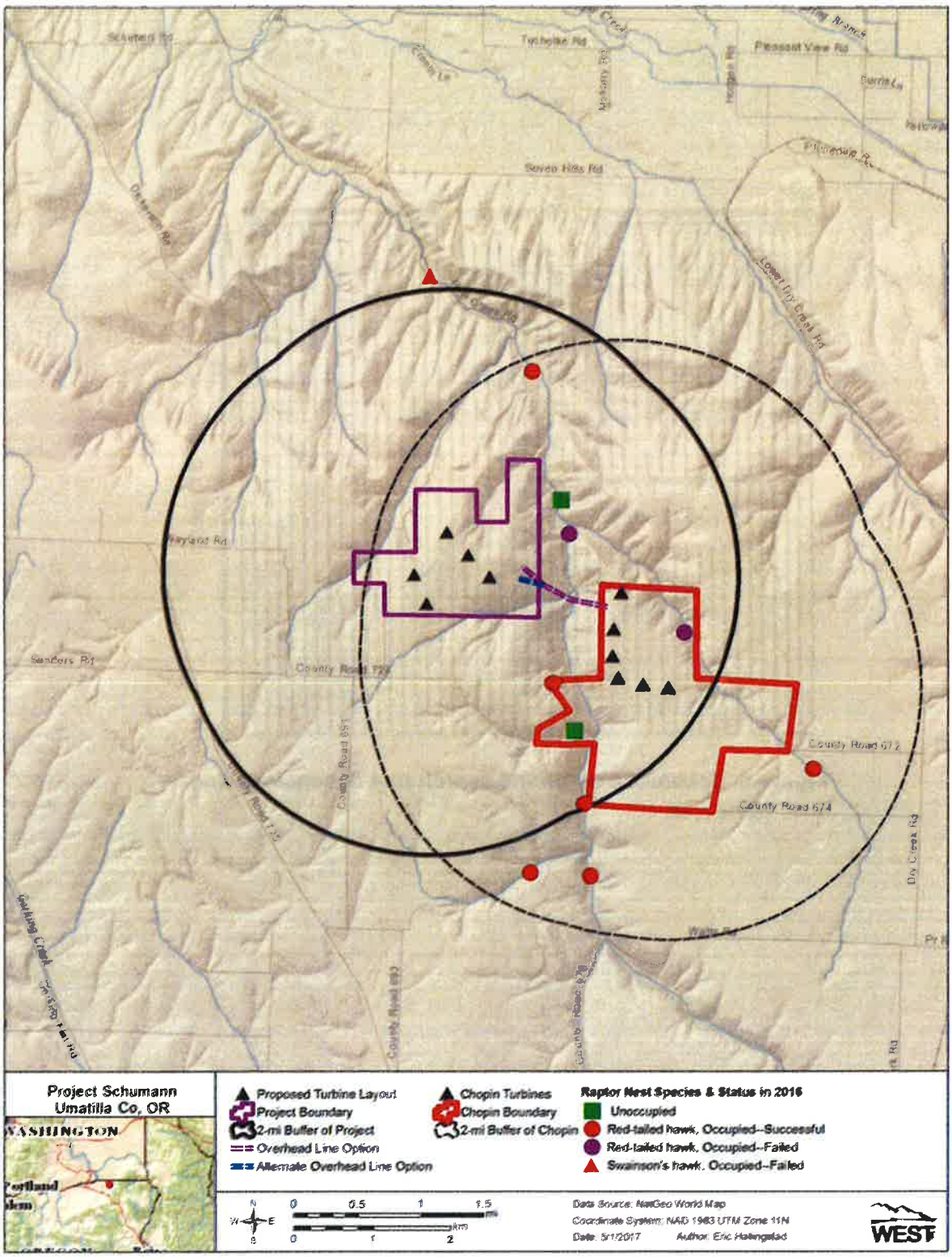

Figure 4. 2016 raptor nest survey results within two miles of Schumann Wind Energy Facility turbines. Surveys were performed for the nearby Chopin Wind Energy Facility.

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APPENDIX A

RESUMES OF KEY PERSONNEL

Eric Hallingstad, *Wildlife Biologist*

PROFESSIONAL EXPERIENCE

2010-present	*Project Manager,* WEST, Inc.
2008-2009	*Field Technician,* WEST, Inc.
2008-2009	*Technical Writer,* United States Forest Service
2004-2008	*Hawk Trapper,* Idaho Bird Observatory
2007	*Avian Research Consultant,* Tetra Tech Environmental Consulting, Inc.
2007	*Seasonal Wildlife Biologist,* Idaho Fish and Game
2007	*Wildlife Research Consultant,* United States Forest Service
2006	*Shrubsteppe Avian Technician,* Idaho Bird Observatory
2005	*Goshawk Surveyor,* United States Forest Service
2004	*Avian Biologist,* Sage Science Consulting

FIELD EXPERIENCE

Project Management: Responsible for completion and reporting of all necessary vegetation and wildlife survey efforts in support of several wind projects throughout the Pacific Northwest. Coordinated survey design and implementation with the state and federal resource agencies and clients to ensure that surveys are conducted in accordance with appropriate protocols and are completed in a timely and cost-efficient manner. Clients include EDPR, EDF Renewables, and Iberdrola.

Field Supervisor: Supervisory experience with baseline wildlife and natural resource studies, including Site Characterization Studies, threatened and endangered species surveys, and pre-construction avian and bat studies. Has led many field crews on a variety of studies under a wide array of circumstances.

Raptor Studies: Graduated from the Raptor Biology program at Boise State University with a thesis focused on the seasonal variation of physiological parameters in the American kestrel. Contributed to eight raptor ecology studies including hawk migration, spotted owl demography, and harpy eagle reintroduction efforts. Assisted with capture and GPS instrumentation of both bald and golden eagles. Conducted aerial and ground-based eagle and other raptor nest surveys for multiple wind and pipeline projects. Experienced with leg-hold, net launcher, bow net, mist-net, dho-ghaza, bal-chatri, hand-grab, and noose pole capture techniques.

Wildlife Studies: Worked as a field biologist on 12 different non-raptor wildlife studies throughout the western US. Extensive experience in avian research, as well as threatened and endangered wildlife issues. Study species include Canada lynx, gray wolf, pileated woodpecker, Columbia spotted frog, willow flycatcher, greater sage-grouse, and other sensitive sagesteppe obligates.

ADDITIONAL TRAINING AND CERTIFICATION

Raptor Bander	North American Banding Council
Advanced Bat Capture	Bat Conservation International

EDUCATION

M.S.
Boise State University
Boise, Idaho
2008
Raptor Biology

B.S.
University of Wisconsin-Eau Claire, Wisconsin
1998
Biology, minor: Chemistry

SCIENTIFIC ORGANIZATION MEMBERSHIPS

Raptor Research Foundation

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Joel L. Thompson, *Wildlife Biologist/Project Manager*

PROFESSIONAL EXPERIENCE

2008-Present	*Wildlife Biologist/Project Manager,* Western EcoSystems Technology, Inc., Cheyenne, Wyoming
2008	*Field Biologist,* Western EcoSystems Technology, Cheyenne, Wyoming
2008	*Consulting Wildlife Biologist,* Green Diamond Resource Co., Korbel, California
2007-2008	*Hunting Guide/Ranch Hand,* Ringneck Ranch Inc., Tipton, Kansas
1998-2006	*Wildlife Survey Coordinator,* Green Diamond Resource Co., Korbel, California
1997	*Wildlife Assistant,* Arizona Game and Fish Department, Phoenix, Arizona
1993-1997	*Wildlife Field Specialist,* Simpson Timber Co., Korbel, California
1991-1992	*Research Assistant,* HSU Foundation, Humboldt State University, Arcata, California

EDUCATION

M.S.
Humboldt State University
Arcata, California
Natural Resources: Wildlife

B.S.
Humboldt State University
Arcata, California
Wildlife Management

SCIENTIFIC ORGANIZATION MEMBERSHIPS

The Wildlife Society

The Western Section of The Wildlife Society

Central Mountains and Plains States Section of The Wildlife Society

The Southwest Section of The Wildlife Society

SPECIALTY AREAS

Wildlife Research: Experience with various aspects of wildlife research, including project planning, data collection and management, supervision of field staff, and report/manuscript preparation. Extensive work with special status species in managed forest landscapes.

Wind and Solar Power Projects: Experience conducting pre-construction baseline and post-construction monitoring studies for wind and solar power projects in New Mexico, Arizona, California, and Kansas, including design and implementation of survey protocols, agency correspondence, and development of final reports.

Threatened, Endangered, and Sensitive Species: Extensive work experience with with spotted owls (northern and Mexican subspecies), fisher, and tree voles. Experience conducting species-specific surveys for southwestern willow flycatcher, peregrine falcon, bald eagle, golden eagle, burrowing owl, greater sage grouse, and lesser prairie chicken as well as general surveys for forest raptors, aquatic and terrestrial amphibians, and small mammals.

Field Related: Map and compass, orienteering, air photo interpretation, vegetation sampling, GPS, ATV and 4x4 vehicle use, boating on inland and ocean waters (inboard/outboard/jet), remote camera sampling, radio telemetry, aerial surveys (fixed-wing and helicopter), mist nesting, raptor banding, and snorkel surveys.

ADDITIONAL TRAINING AND CERTIFICATION

Animal Restraint and Handling
ATV certification, Chainsaw use, Hunters Safety Certificate
Wyoming Pocket Gopher Training
Desert Tortoise Handling Workshop

SELECTED PUBLICATIONS AND PRESENTATIONS

Thompson et al., IN PREP, Journal of Wildlife Management. Density of Fisher on Managed Timberlands in North Coastal California

Thompson et al., April 2002, *Northwestern Naturalist.* Relative abundance, nest site characteristics and nest dynamics of Sonoma tree voles in managed forests of north coastal California.

October 2010; Assessing Golden Eagle Use of Wind Resource Areas Using Observational Data. Poster presentation at the NWCC National Wildlife Research Meeting VIII, Lakewood, CO.

June 2010: Wildlife and Wild Lands Issues Associated with Wind Energy Development in Arizona. Invited speaker at Permitting Wind Development - What Counties Need to Know workshop, Northern Arizona University, Flagstaff, AZ.

Spring 2008. Humboldt State University M.Sc. Thesis: Abundance and density of fisher on managed timberlands in north coastal California.

Feb 2006: *Martes* symposium, Fisher and Marten in California – Invited Poster – Density of fisher on managed timberlands in north coastal California.

March 2004: Redwood Region Symposium - Oral Presentation – Summary of Pacific Fisher studies on Green Diamond Resource Co. Lands.

Jerry E. Baker, *Wildlife Biologist*

PROFESSIONAL EXPERIENCE

2006-Present	*Wildlife Biologist,* Western EcoSystems Technology, Inc., Walla Walla, Washington
2001-2006	*Wildlife Biologist,* Northwest Wildlife Consultants, Pendleton, Oregon
1980-2007	*Professional Photographer,* Jerry Baker Photography, Athena, Oregon
1992-2000	*Partner/Owner,* Bar M Dude Ranch, Adams, Oregon
1975-1992	*Public Relations/Personnel Manager,* Bar M Dude Ranch, Adams, Oregon

EDUCATION

Continued Education
Blue Mountain Community College
Pendleton, Oregon
1987-1988
Studies in Botany, Ornithology, Zoology, and General Biology

B.S.
Oregon State University
Corvallis, Oregon
1982
[illegible]ess: Minor in Forestry

SCIENTIFIC ORGANIZATION MEMBERSHIPS

The Native Plant Society of Oregon

The Audubon Society

Trout Unlimited

Blue Mountain Wildlife

WILDLIFE, THREATENED AND ENDANGERED SPECIES SURVEYS

Washington ground squirrel surveys for the Stateline Wind Project and Leaning Juniper Wind Project, Oregon

Bull trout surveys on the Umatilla River, ODFW protocol, Oregon

Rare plant surveys for the White Creek Wind project, Washington

Avian surveys for 25 different Wind Projects, Oregon, Washington and Nevada

Conducted and supervised surveys for sensitive species for the Pebble Springs Wind Project, Oregon

Winter big game surveys for the Elkhorn Wind Project, Oregon

Ferruginous and Swainson's Hawk nest monitoring for the Stateline Wind Project, Oregon

SELECTED PROFESSIONAL PUBLICATIONS

Erickson, W., **J. Baker** 2008 Site characterization study for the East Klickitat Wind Project. Final report to Horizon Wind.

Kronner, K, R. Gritski, **J. Baker**, 2005. Wildlife baseline study for the Leaning Juniper Wind Project, Oregon. Summary of results from 2004-2005 wildlife surveys. Final report to PPM Energy.

Kronner, K., R. Gritski, **J. Baker**, 2005. Baseline avian studies for the Bighorn Wind Project, Washington. Summary of results from 2004-2005 wildlife surveys, Klickitat County, Washington. Final Report to PPM Energy.

Kronner, K., **J. Baker**, 2006. Habitat description for a proposed transmission line, White Creek Wind Project, Klickitat County, Washington. Final Report to Klickitat County PUD,Washington.

SPECIAL TRAINING AND COURSES

Basic Wetland Delineation, Portland, Oregon, 2002

Bat Identification and Monitoring, Springfield, Oregon, 2001

Forest Bird Identification, hosted by USFS, Bar M Ranch, Oregon, 1998

APPENDIX B

CARCASS SEARCH AND SEARCHER EFFICIENCY TRIAL DATA FORMS

CASUALTY SEARCH FORM-keep with carcass **Schumann Wind Energy Facility**

DATE:_____ OBSERVER(s):_____ TURBINE NO.: _____
TIME BEGIN:_____ TIME END:_____ (observer #2) TIME BEGIN:_____ TIME END:_____

CASUALTIES FOUND:

Species	Casualty ID (e.g. 010109-BARS-1-1)	Dominant Veg Cover	Visibility Index

SEARCHER EFFICIENCY CARCASSES FOUND:

Species	Distance (m)/Bearing from turb	Id Tag	Dominant Veg Cover	Visibility Index
	/			
	/			

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CASUALTY INFORMATION FORM - FIELD FORM ***Schumann Wind Energy Facility***

DATE:_____TIME:_____OBSERVER:_____

FOUND DURING (check one): SCHEDULED CARCASS SEARCH_____INCIDENTAL FIND ____

COLLECTED? Yes No SAMPLE NO.: _____ FILM ROLL/PHOTO NO: _____

PLOT TYPE (circle one): turbine met tower powerline other PLOT NO.: _____

LOCATION IF NOT ON PLOT _____

HABITAT: _____

SPECIES: _____ SEX(circle): M F U AGE(circle): A J U

CONDITION (circle one): injured intact scavenged dismembered feather spot other

DISTANCE & BEARING FROM NEAREST TOWER/POLE:

DESCRIPTION	DISTANCE (m)	BEARING (degrees)
Part 1 _____	_____	_____
Part 2 _____	_____	_____
Part 3 _____	_____	_____
Other _____		

Comments:

ESTIMATED TIME SINCE DEATH/INJURY: _____
WEATHER HISTORY [If carcass is estimated to be less than one week old, circle any of the following weather conditions that occurred at or before the estimated time of death/incident]:
clear calm fog cloudy rain snow storm gusty wind violent storm blizzard

WEATHER NOTES:

GENERAL COMMENTS (e.g. behavior observed if bird is injured; details of carcass - body parts missing, injuries, number of feathers in feather spot; indications of cause of death, field marks for identification, USFWS band no., etc.):

Agency Contact
USFWS Contact: Date:_____ Time: _____ Recovery Approval: yes no
Contact Person(s): Comments:
Disposition of Find _____
Transported to freezer _____ Date: _____ Time: _____
Release to USFWS: Person: _____ Date: _____ Time: _____

Searcher Efficiency Trials: Carcass Placement Log ***Schumann Wind Energy Facility***

General Information: Season_____ Month_____ Other_____

No.	Species/Age	Placed By	Date	Time	Plot: Location	Found? (yes/no)	Retrieved? (yes/no)	Notes
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

Weather notes for days that carcasses are placed:

Date_____ Time_____ Temp_____ Wind Dir._____ Wind Speed_____ Precip_____
Date_____ Time_____ Temp_____ Wind Dir._____ Wind Speed_____ Precip_____
Date_____ Time_____ Temp_____ Wind Dir._____ Wind Speed_____ Precip_____
Date_____ Time_____ Temp_____ Wind Dir._____ Wind Speed_____ Precip_____

Carcass Removal Trials Form

_____ ***Wind Energy Facility***

General Information: Season _____ Trial Period (e.g., 1 or 2) _____ Other _____

Information Regarding Carcass When Placed											UTM datum (1983)		Condition[6] of Carcass on Day Checked										
Carcass #	Placed by	Date	Time	Species[1]	Age[2]/ Size[3]	Dom Veg Cover[4]	Visibility Index[5]	Turbine #	Dist from Turbine (m)	Bearing from Turbine	Northing	Easting	Day	Day	Day	Day	Day	Day	Day	Day	Day	Day	Possible Scavenge[7]
1					/																		
2					/																		
3					/																		
4					/																		
5					/																		
6					/																		
7					/																		
8					/																		
9					/																		
10					/																		
											CHECKED BY:												

[1] Species = 4 letter code (e.g., MALL = mallard; BARS = barn swallow).
[2] Age: A =adult; J = juvenile; C = chick.
[3] Size: SB=Small Bird, LB=Large Bird, BAT.
[4] Dominant Veg: B = bare ground/gravel (e.g., dirt road or gravel pad); R = large rocks/boulders; GR = grassland; CRP=CRP; FR = forest/woodlot; CR = crop (e.g., corn, soybean, wheat); OT = other.
[5] Visibility Index: E = Easy (e.g., ≥90% bare ground; vegetation <6" tall); M = Moderate (e.g., 26-89% bare ground; vegetation <6" tall); D = Difficult (e.g., ≤25% bare ground; ≤25% of ground cover is ≥12" tall vegetation or rock/scrub); VD = Very difficult (e.g., ≤25% bare ground; >25% of ground cover is ≥12" tall vegetation or rock/scrub)
[6] Condition: I = intact, no evidence of scavenging, S = evidence of scavenging, FS = feather spot, P = partial carcass 0 = carcass not present or <10 feathers; SC = snow covered.
[7] Insects (IN) – external scavenging/consumption by insects compared to infestation, Small carnivore (SC), Large carnivore (LC), Rodent (RO), Corvid or other bird (BIRD), Unknown (UNK). If scavenger was observed include the information in the notes on the back of this page. Also include if the scavenger was identified to species.

Brief Notes about habitat at carcass location. Condition by day noted on back, e.g., D#4=moved 5 m S, covered w/ ants, carrion beetles,etc.):

(1-4)_____

_____

(5-8)_____

_____

(9-12)_____

_____

Survey day weather, general comments / notes about location of each carcass, and other carcass specific comments:

APPENDIX C

INJURED WILDLIFE – PROCEDURES FOR REPORTING AND CARE

INJURED WILDLIFE – PROCEDURES FOR REPORTING AND CARE

The following procedures apply to injured birds or other wildlife:

RECORD DATA ON CASUALTY INFORMATION FORM but first, the primary objective is to provide immediate care for the injured animal. Capture the animal by covering it with a dark cloth or blanket. This will calm down the animal so it can be more easily handled. Place the animal in a box that has a towel or other material for the animal to hide under or grasp on to.

Quickly look the immediate area over for other injured animals as there may have been a flock, or a pair.

While capturing the animal, assess the injury so you'll know what to report to the Project Wildlife Coordinator or Project biologist, as well as the wildlife rehabilitator or veterinarian.

Do not provide additional stress. Keep the animal cool if it is a hot day, or keep it slightly warm if it is a cool day by placing the box in an office. Darken room if possible.

If it is a federally-listed or Oregon State Sensitive species, the Project Wildlife Coordinator or a Project biologist shall phone the Schumann Wind, LLC Representative (if other than the Project Wildlife Coordinator). They will contact Mark Kirsch, Oregon Department of Fish and Wildlife, at 541-276-2344, and Suzanne Anderson, USFWS at 541-962-8584. If the injured animal is found after normal weekday office hours, report it the next available working day.

If you can't reach the Project Wildlife Coordinator or Project biologist, phone Blue Mountain Wildlife directly (Lynn Tompkins, 541.278.0215). They will instruct you further. The rehabilitation center is required to report any injured raptor within 24 hours ODFW and USFWS. If it is an eagle, it is reported to Oregon State Police (in addition, all birds that may have been gunshot are reported to them). Describe the injury to the rehabilitation center and they will determine if it should go directly to a veterinary clinic.

Deliver the animal to the specified location. The doctor will need to fill out the "Casualty Examination Form." The clinic will make arrangements to deliver the animal to the designated rehabilitation center. The Project operator or owner(s) will pay for all veterinary bills.

Schumann Wind, LLC

Wind Turbine Facility Schumann Wind, LLC.
Emergency Response Procedures

Date: May 2017

APPROVAL DOCUMENT

Schumann Wind, LLC Emergency Plan Approval:	_____ (approval name & title)	
	_____ (approval signature)	_____ (date)
Site/Facility Plan Approval:	_____ (approval name & title)	
	_____ (approval signature)	_____ (date)
Effective Date:	May 22, 2017	
Plan Review:	These wind turbine facility Emergency Response Procedures shall be reviewed and updated at an interval not to exceed 15 months, but at least once each calendar year. Also, when major revisions to the plan occur, the appropriate Managers/Supervisors shall re-approve this plan.	
Purpose:	This Emergency Response Plan outlines the procedures and methods Schumann Wind, LLC will utilize in providing a safe place for operators or contractors while attending to the facility maintenance or operational needs.	
Applies To:	This Plan applies to the wind turbine facility "SCHUMANN WIND LLC" in Umatilla County Oregon.	

Introduction and Scope

Scope of Manual:

The purpose of this manual is to provide procedures to be followed by wind turbine facility operators/personnel in any emergency involving the wind turbine facility "SCHUMANN WIND, LLC". These procedures are written to assure the welfare and safety of the public and all emergency response personnel. Property is to be protected, but only after it is ascertained that the public is adequately protected from any consequences of the failure or accident. This plan is designed to facilitate the operator and local emergency responders in achieving the best and safest outcome should an emergency occur.

Description wind turbine facility

See attached "Fact Sheet."

SCHUMANN WIND, LLC

Wind Turbine Facility Fact Sheet

Date: May 2017

FACT SHEET

Basic Description:	**Schumann Wind project "SCHUMANN WIND, LLC." is a 4 or 5 turbine facility located in Umatilla County Oregon. The system consists of four "80 meter" tall towers each topped by GE wind turbine generators: 1 GE 1.79-100 and 3 GE 2.3-116, or five "80 meter" tall towers: 1 GE 1.79-100 and 4 GE 1.7-103. These wind turbines are fitted with a three (3) blade sweep system. The GE 1.7MW machines have a 103m blade sweep, the 1.79MW machines have a 100m blade sweep, and the 2.3MW machines have a 116m blade sweep.** **The system is located in the rolling landscape consistent with adaptation to a wind environment that facilitates optimum use of local topography. The localized wind features are suitable for consistent and reasonable use of the local environment to enhance the local communities need for additional GREEN POWER. A plus is the enhancement to the localized tax base and providing an additional income stream to the communities affected by the facilities output as well as local employment during and after the initial construction phase.** **The projects over all effect will be a needed addition to enhancing both local and regional GREEN ENERGY needs.**
Jurisdictional:	Local Agency, State of Oregon, Federal Public Utilities Commission
Type of Turbines:	GE 1.7-103, GE 1.79-100 or GE 2.3-116
# Facility Turbines:	4 or 5 Turbines
Size of Turbines:	Tower 80 Meters / Blades with either 100, 103 or 116 meter rotor sweep
Turbine Manufacturer:	GE
Turbine Type:	3 Bladed pitch regulated upwind turbine with active yaw
Turbine Facility Operator/Owner:	
Power Output:	1.7, 1.79 or 2.3 MW per unit
Facility ID #:	
Normal Operating Output:	
Max. Operating Potential/Output:	
Method Determined:	
Emergency Shutdown System:	Braking, Short Circuit Protections, Over speed Protection, Lightning Protections, Earthling, Corrosion Protection
Over Output Protection:	See Above
Facility Start Up Date:	

Glossary of Terms and Acronyms

ACGIH	American Conference of Governmental Industrial Hygienists. This group is best known for developing TLV's for occupational chemical exposures.
AHM	Acutely hazardous material (CH & SC Sec. 25532 et seq.)
ANSI	American National Standards Institute
APWA	American Public Works Association
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
BLEVE	Boiling-liquid expanding-vapor explosion. The possible result of a Complex sequence of event involving the impingement of flame on the exterior of a container of liquefied gas.
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
CHRIS	Chemical Hazards Response Information System
CMA	Chemical Manufacturers Association
CWA	Clean Water Act
DOHS	Department of Health Services ().
DOT	Department of Transportation (federal agency)
DEQ	Department of Environmental Quality
EHS	Extremely hazardous substance (SARA Title III). Any of 406 chemicals identified by EPA as toxic and listed under SARA Title III, 40 CFR 355, Appendix A. The list is subject to periodic revision.
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act of 1986. A.k.a. SARA Title III (42 U.S.C. Sec. 9601 et seq.)
ERPG	Emergency Response Planning Guide
ESD	Emergency Shutdown
FEMA	Federal Emergency Management Agency
HAZMAT	Hazardous Materials
HAZWOPER	Hazardous Waste Operations and Emergency Response 29 CFR 1910.120.
HCS	Hazard Communication Standard (HAZCOM)
ICS	Incident Command System. The organizational arrangement by which One person, normally the Fire Chief of the impacted district, is in charge of both an integrated, comprehensive emergency response organization and the emergency incident site and is backed by an Emergency Operations Center staff with resources, informational, and advice.
IDLH	Immediately Dangerous to Life or Health
LEPC	Local Emergency Planning Committee

LEL	Lower explosive limit or lower flammable limit (**LFL**). By percentage, The lowest concentration of a substance in air, which will ignite.
LFL	See **LEL**.(Lower Flammable Limit)
MSDS	Material Safety Data Sheet
NACE	National Association of Corrosion Engineers
NCRIC	National Chemical Response and Information Center
NFPA	National Fire Protection Association
NIMS	National Incident Management System
NIOSH	National Institute of Occupational Safety and Health
NRC	National Response Center.
NRT	National Response Team
ODEQ	Oregon Department of Environmental Quality
ODF	Oregon Department of Forestry
OERS	Oregon Emergency Response System
OSP	Oregon State Police
OSFM	Oregon State Fire Marshal
OSHA	Occupational Safety & Health Administration (federal).
OWQ-GWPP	Oregon Water Quality- Ground Water Protection Plan
PPb	Parts per billion
Ppm	Parts per million
SARA	Superfund Amendments and Reauthorization Act of 1986
SPCC	Spill prevention, control, and countermeasures plan (from CWA).
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TPQ	Threshold planning quality (from EPCRA). A quantity designated for Each chemical on the list of extremely hazardous substances that triggers Notification by facilities to a State Emergency Response Commission that such facilities are subject to emergency planning requirements under SARA Title III.
TWA	Time-Weighted Average
UEL	Upper explosive limit or upper flammable limit (**UFL**). The maximum Percentage of substance in air which will ignite. (See also **LEL**).
UFC	Uniform Fire Code.
UFL	Upper Flammable Limit
ULCC	Utility Location and Coordination Council
USCG	U.S. Coast Guard
U.S. EPA	United States Environmental Protection Agency.
U.S.F.S.	United States Forest Service

PRE-EMERGENCY PLANNING

This Emergency Response Plan shall be reviewed and updated at least once per calendar year not to exceed 15 months. In addition to updating the Plan, several additional activities shall be completed before responding to emergencies. Below is a summary list of these activities followed by a detailed description of these items.

Summary of Potential Pre-Emergency Activities

- Review and update emergency plan.
- Emergency drills and training.
- Liaison with public officials.
- Public education program.
- HAZWOPER training [29 CFR 1910.120]
- High Angle Rescue
- Emergency Utilization Rotary Wing Aircraft
- Roadway Maintenance-Annual Fire Prevention
- Facility Safety Zones
- Post Emergency Activities

Emergency Drills and Training

Periodically, a simulated emergency shall be conducted to test the Emergency Plan, train personnel, and test their competency in implementing the plan. These drills shall be as realistic as possible without endangering any lives or property or reducing services to any party at the wind turbine facility " SCHUMANN WIND, LLC.". These drills may be field exercises, table top drill, or class room training, or a combination of these methods. Note that an actual emergency may be used as a drill or training method if the actual emergency is reviewed and documented as required.

Appropriate emergency response groups and agencies may be invited to partake in the drill when appropriate. These groups may include local fire departments, county emergency response agencies, State Police or Highway Patrol, U.S. Coast Guard, and local police departments. All aspects of the Emergency Plan shall be tested including inter-agency cooperation.

Facility Supervisors will verify that employee training is effective by administering a written exam, oral interviews, or table top drills. After verification is completed, a record of each person's training shall be placed in the facilities files.

PRE-EMERGENCY PLANNING (cont.)

Liaison With Public Officials & Other Emergency Response Agencies

The Company will establish and maintain liaison with appropriate fire, police and other emergency response agencies to enhance response communications as well as agency response capabilities. Face to face meetings with representatives from these agencies is the preferred method. The purpose of the meeting includes the following purposes:

- Learn the responsibility and resources of each government organization that may respond to a wind turbine facility emergency.
- Acquaint the officials with the operator's ability in responding to a wind turbine facility emergency.
- Identify the types of emergencies of which the operator notifies the officials.
- Plan how the operator and officials can engage in mutual assistance to minimize the hazards to life or property.

The Company will provide the agencies with a copy of this Emergency Plan or an abbreviated version applicable to emergency response personnel.

Public Education Program

The Company will conduct a limited/informational continuing education program for the general public residing within the surrounding communities should one be required.

- Description of facts and information about the wind turbine facility
- Explanation on how to recognize and report a facility emergency.
- How to contact SCHUMANN WIND, LLC using the 24 hour number ( ) to report an emergency or discovery of a possible facility problem.
- Importance of reporting any signs of a facility problem no matter how slight.

PRE-EMERGENCY PLANNING (cont.)

HAZWOPER Training (Hazardous Waste Operations and Emergency Response)

Company contracted personnel who may be called upon to respond to emergencies involving releases of hazardous materials must comply with OSHA regulations in 29 CFR 1910.120. Company employees, who would be called upon to respond to emergencies involving a hazardous materials release, or substantial threat of release, will be suitably trained under the requirements of the HAZWOPER regulations. First Responder Awareness (FRA) a minimum.

HAZWOPER requirements also apply to contractors and sub-contractor personnel. Company personnel will ensure contract personnel have received proper HAZWOPER training appropriate for the job being performed.

PRE-EMERGENCY PLANNING (cont.)

HAZWOPER Training Levels

Company or contracted response employees shall never work beyond their level of training or capabilities during an emergency. Below is a summary of the expected training levels for each job title for the Company employees who may be expected to respond to a facility emergency situation. See federal regulations, 29 CFR 1910.120 for details.

Job Title	Hazwoper Training Level	Initial Training Required	Annual Refresher Training Required
General Manager or Contracted Responder Incident Commander	Incident Commander (IC)	24 hr	Whatever it takes to cover appropriate topics (See duties below)
Facility Supervisor or Maintenance Supervisor or Operations Supervisor or Contracted Responder	Incident Commander (IC)	24 hr	Whatever it takes to cover appropriate topics (See duties below)
Regulatory Compliance Advisor	Incident Commander (IC)	24 hr	Whatever it takes to cover appropriate topics (See duties below)
Facility Operator or Contracted Responder	1st Responder Awareness (FRO)	8 hr	Whatever it takes to cover appropriate topics (See duties below)
Facility Technician	1st Responder Awareness (FRA)	8 hr	Whatever it takes to cover appropriate topics (See duties below)

Mechanic	1st Responder Awareness (FRA)	8 hr	Whatever it takes to cover appropriate topics (See duties below)
Maintenance Worker	1st Responder Awareness (FRA)	8 hr	Whatever it takes to cover appropriate topics (See duties below)

PRE-EMERGENCY PLANNING (cont.)

HAZWOPER: FRA First Responder Awareness

CBT Training for awareness level only:

Identify
Isolate
Notify

HAZWOPER: FRO Description of Training Required

The First Responder needs to be trained in the following areas:

- Knowledge of the basic hazard and risk assessment techniques.
- Know how to select and use proper PPE provided to the first responder operational level.
- An understanding of basic hazardous materials terms.
- Know how to perform basic control, containment, and/or confinement operations and rescue injured or contaminated persons within the capabilities of the resources and PPE available with their unit.
- Know how to implement basic equipment, victim, and rescue personnel decontamination procedures.

HAZWOPER: IC Description of Training Required

The Incident Commander needs to be trained in the following areas:

- Know and be able to implement the employer's incident command system.
- Know how to implement the employer's emergency response plan.
- Know and understand the hazards and risks associated with employees working in chemical protective clothing.
- Know of the state emergency response plan and of the Federal Regional Response Team.
- Know and understand the importance of decontamination procedures.

HAZWOPER: Refresher Training

- Annual refresher training of sufficient content and duration to maintain their competencies, or shall demonstrate competency in those areas at least yearly.
- A statement shall be made of the training or competency; and if a statement of competency is made, the employer shall keep a record of the methodology used to demonstrate competency.

- Classroom or Computer Based Training Modules will be utilized to insure facility employees retain the annual Hazwoper Refresher (First Responder Operational) FRO for the faculties emergency response needs.

PRE-EMERGENCY PLANNING (cont.)

Verification of Approved Contractors

The Company shall verify and approve emergency contractors before contractors are called upon at the scene of an emergency. Approved contractors shall meet the following compliance criteria:

****Drug Plan and testing *If required by local, state or federal regulation.

- Operator Qualification *See Hazwoper Training Levels (Page 3)
- HAZWOPER Certifications [29 CFR 1910.120]

High Angle Rescue @ Project "SCHUMANN WIND, LLC"

The turbines at project "SCHUMANN WIND, LLC." due to their height may require the utilization of the rescue services that are termed "High Angle Rescue". The nearest Fire Department will respond in the event of an emergency providing the required basic life support (BLS) the basic EMT or advanced life support (ALS) Paramedic EMT-P. High Angle Rescue may be performed by internal means or contracted personnel as well.

It has been determined the nearest certified "High Angle Rescue" availability would be dispatched from the Portland Oregon City Fire Department. The Portland City Fire Department timeframes would be determined by method of transport. The rotary wing aircraft has been determined to being the most viable means of expediting the transportation of qualified response personnel. Additionally, "SCHUMANN WIND, LLC". reserves the right to contract said services.

Upon arrival of the first Emergency Medical Services (EMS) units which include local fire service personnel the on-scene fire service commander in conjunction with the facility operator shall make the determination for requesting these specialized services. Means of rescue will be determined at the time and based upon severity as assessed by rescuers. (A stokes rescue basket will be in storage in one of every five tower bases), possibly utilized by means of the on-board tool hoist mechanism installed in the tower nacelle.

Basic training will be provided to local responders on the climbing and hoist mechanisms as they apply to the facility. No facility operations will occur in the nacelle without two (2) persons in attendance in the nacelle and one (1) person on the ground for communications and monitoring of the personnel in the nacelle for safe work practices and the communication of an emergency should one occur.

Emergency Utilization of Rotary Wing Aircraft

Emergency air resources may be requested for facility use based upon the determination by local responding fire or EMS services determining the severity of an injury and level of care facility required should an injury of significance occur at the facility. Landing and departure locations will be determined based upon safe inbound and outbound flight paths as determined at the time of rescue need.

Ground support services may be required to move an injured patient to the nearest and safest location for rotary wing aircraft should an incident call for such actions. Pre-planning of these locations should be undertaken to insure the safest means for patient transport by aircraft is insured and adapted to expediting patient care.

Roadway Maintenance-Annual Fire Prevention

The facility service roads will be maintained and kept in serviceable condition throughout the facility on an annual basis to insure safe access and egress during maintenance of equipment as needed. The roadways shall be maintained in such a manner as to negate pollution from loose soils, and may be treated for reduction of air born particulate as prescribed by Umatilla County Air Board restrictions should they be applicable. A minimal environmental foot-print will be maintained during all phases of the "project".

The private access roads established and controlled by the Wind Power Facility "SCHUMANN WIND LLC." will be gated to protect the facility and the landowners from illegal trespass, illegal dumping and illegal hunting. A Knox Box system shall be in place for emergency responders as well as operators for the facility as well as appropriate landowners being provided secure access as well.

All resources will be protected to the highest practicable standard, not to exclude vegetation, water resources, air resources, wildlife habitat, and other elements deemed significant natural resources as applicable to the roadways. The roadways shall also be deemed as significant fuel or fire breaks to the project location. To be inspected and reported upon semi-annually by operator personnel. Not to exceed 15 months for both. (See attachment A).

Facility Safety Zones

At the request of local fire agencies a minimum of two (2) crane pads (approximately 300' feet by 300' feet) centrally located to the turbine rows will be retained after initial construction has occurred as facility fire safety zones or high ground assembly points for firefighting crews insuring a fire safe zone in the event of dangerous or unusual fire behavior. An on-site water retention tank not to exceed 4,000 gallons shall be maintained upon one if not both of the safety zones for firefighter safety. The East Umatilla Rural Fire Protection District has agreed in principle to the filling the tanks prior to fire season and draining in the off fire season of the water retention tanks.

During facility maintenance all on-site maintenance vehicles shall have a fire extinguisher and shovel(s) for firefighting in operable condition. No cutting of metals or welding shall occur unless

a fire safe location is determined by the lead facility operator at the time of the maintenance procedure requiring such action. During periods of peak fire season all local and regional fire prevention laws will be obeyed. It will be the responsibility of the facility operator or lead maintenance personnel to insure of those determinations. No exceptions.

POST EMERGENCY ACTIVITIES

Once the emergency has been stabilized and the hazards have been eliminated or controlled, the post emergency response phase begins. Below is a summary list of these activities followed by a detailed description of how to perform these items.

Summary of Potential Post Emergency Activities

- Reporting safety related condition
- Emergency response critique and report
- Updating and revising emergency procedures
- Training & verification of appropriate personnel
- Drug testing
- Facility Haz-Mat equipment
- Contractor Cleanup, disposal, and restoration

Reporting Safety Related Conditions

It is the obligation of all Company personnel or contracted personnel who are aware of an unsafe or potentially unsafe condition to immediately report the matter to the attention of the employee's supervisor. Please note that an emergency may or may not result in a safety related condition report. (See attachment B)

POST EMERGENCY ACTIVITIES (cont.)

Emergency Response Critique and Report

All major emergencies are to be critiqued by the key supervisors involved as soon as possible after the emergency is concluded. All aspects of the emergency shall be reviewed to determine if changes shall be made. A report shall be prepared which outlines the procedure followed in solving the emergency and forwarded to the general Manager for distribution to the appropriate employees should the Incident require this action.

Measures shall be employed to analyze the accident or failure and to determine the cause. In some instances, especially in the case of material failure, laboratory analysis may be required. Review "Failure Investigation" procedures as a guideline for reviewing the incident. Refer to the Company Operations and Maintenance Manuals for details on a failure investigation.

In addition, after each emergency, the Company will conduct a post accident review of employee activities to determine whether the emergency response procedures were effective. If deficiencies are found in the emergency response plan or in the actions taken by employees, the Company will take appropriate action.

This review should be undertaken within the first twenty four (24) hours Post-Incident to insure accurate, timely information is obtained concerning the Incident and those actions undertaken to mitigate or manage the Incident.

Actions taken by other response groups shall be included in the post accident critique. Critique results should be discussed with these groups so they will be aware of any possible deficiencies or actions taken in their response affecting the outcome of the event.

The review shall be approved by the General Manager as soon as possible after the end of the emergency, the follow-up Investigation or applicable local state or federal requirements or laws should they apply.

Updating and Revising Emergency Procedures

After completion of the emergency response critique, emergency procedures shall be updated and revised as appropriate. Emergency response agencies and contractors shall be informed of any procedural changes that affect how they would respond to a facility event.

Training & Verification on Emergency Plan

After completion of the emergency response critique, the appropriate Company personnel will be trained to assure they are knowledgeable of the possible changed emergency procedures. Facility Managers or any applicable local, state or federal agency requirements may require verification that the employee training is effective by requesting the administration of a written exam and/or oral review.

POST EMERGENCY ACTIVITIES (cont.)

Drug and Alcohol Testing

In the event of an accident the facility operators may request the testing of employees for the presence of prohibited drugs after an accident. (Post-accident testing.) An operator shall make the determination to drug test each employee whose performance either contributed to the accident or cannot be completely discounted as a factor to the accident.

These drug tests shall be administered as soon as possible, but no later than 32 hours after an accident. An operator may decide not to test, but such a decision must be based on the best information available after the accident. This information must indicate that the employee's performance could not have contributed to the accident or, because of the time between that performance and the accident, a drug test would not be effective in determining whether that performance was affected by drug use.

Cleanup, Disposal, and Restoration

Following any emergency involving a release of hazardous fluid (facility stored materials) from a turbine or transformer, the Company will clean up any damaged or polluted areas, dispose of any residual hazardous liquid, and restore the affected area to its pre-emergency condition. The amount of cleanup involved will depend largely on the properties of the released fluid, the quantity of fluid released, and the characteristics of the area in which the release occurred.

In general, low volatility liquids will cause the most soil and water pollution since they will not evaporate rapidly. Limited to no water impact is anticipated in the event of a release at the facility.

Much of the released liquid may be recovered directly by use of sorbent materials, boom materials or engineered retention facilities. However, these techniques are seldom 100% effective. Sorbent materials will be used on small releases and as a secondary liquid recovery technique. Any recovered liquid and materials contaminated with the liquid will be disposed of properly. It may be necessary to take contaminated soil, water, or absorbent materials to a licensed hazardous materials recovery or disposal facility.

Activities associated with emergency response, cleanup, and facility repair may alter the local soil contours, waterways, and vegetation. Following all cleanup and repair activities and effort shall be made to restore as much as practicable the affected area and its pre-emergency condition.

Facility Hazmat Equipment

Absorbent boom materials
Absorbent pads for oil based products
Diatomaceous Earth-absorbing materials (4) 25 lb bags
(2) 55-gallon over-pack haz-mat barrels
(2) Flat scoop shovels
(2) Oil resistant push brooms
PPE appropriate for level (D) clean up
Half Face or Full Face Respirator if required

Hazardous Materials Response & Clean up

County Haz-Mat Response
Umatilla County Fire Department-911

Safety Kleen Corp
814 East Ainsworth ST.
Pasco, Washington 99301-5826
1-509-544-6111

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Record Keeping

General

The purpose of this procedure is to provide guidance when meeting the requirements of record keeping for Schumann Wind Turbine Facility. Maps, drawings, procedures and records shall be readily available to any person requiring these documents to perform the facilities duties. Additionally these records validate an on-going means of confirmation for regulatory review should the facility need to call up these items.

Process:

The appropriate person, as defined in the maintenance call up system, will generate the record for work performed. All records for reports, operations, maintenance, construction, repairs, and operator needs will be routed through the General Manager facilities Supervisor or Facility Advisor for review and signature. These records will then be placed into the Schumann Wind filing system as directed by the Facility Supervisor or General Manager or Facility Advisor. Only files directed by the General Manager "Schumann Wind will be allowed to be shipped to long term storage or destroyed.

Record Retention:

Each record will be retained for the time noted on the file index. Generally, routine operations, maintenance, and operator records will be kept for a minimum of five years. Construction, repair, and corrosion records will be kept for the life of the wind turbine facility

Records Location:

Generally, routine operations and maintenance records for project "SCHUMANN WIND LLC." will be kept in a wind turbine facility system binder by calendar year.

Records that require retention for life of the facility will be kept in the appropriate file location as noted in the Facility File Index. New construction, repairs, and other large projects should be combined into a project binder or file for placement into the project "SCHUMANN WIND LLC." filing system.

Misc. Reports & Documents: Project "SCHUMANN WIND"

Description	Freq.	Record Retention	Record Location
1. Safety Related Condition	NA	Life of FACILITY	
2. Incident Report (telephone)	NA	Life of FACILITY	
3. Incident Report (written)	NA	Life of FACILITY	
4. Annual Report	*Annual	5 years	
5. Emergency Response Critique	*After incident	5 years	
6. Updates and Revisions to the Emergency Plan	*Annual Review, updates as needed	5 years	
7. Emergency Response Training	*Annual	5 years	
8. Operator Records	*Before and after task is preformed	5 years	
9. Drug Testing-if required post accident	Random	30 years	

* Recommended frequency

SCHUMANN WIND, LLC
Emergency Response Procedures
First on Scene Response Activities

Date: May 2017

Overview:	Regardless of the nature and /or severity of an incident, there are general tasks to be performed by the first company employee on the scene. These tasks are listed below and included in the "First On Scene Checklist", Form #EM-2. No two accidents or emergencies are identical. Therefore, it is not possible to write a checklist or procedure of responses for all emergency incidents, or even to a particular event. Appropriate action to be taken when an emergency situation occurs will be dictated by the conditions existing at the place and time of the incident. However, certain responses will be common to all emergencies. This section discusses only those responses that should be considered by the First Responder.
First Responder Responsibilities:	**Scope and Assessment**: ❑ Identify the type, form, nature, quantity and hazards involved in the incident. ❑ Protection of the public, responders, and company personnel are **1st Priority** **Notifications:** ❑ Call 911 for any emergency, if not done already ❑ Call supervisor and appropriate company personnel **Mitigation** ❑ Develop a proper course of action (evacuating, prevention of accidental ignition, etc.) ❑ Determine action needed to stop the incident (an emergency shutdown of all or part of the turbine, transformer, or on-site equipment, etc.)
First Responder Checklist:	"First On Scene Checklist", Form #EM-2, is located at the end of this section or in the FORMS section of this Emergency Response manual.

SCHUMANN WIND, LLC
Emergency Response Procedures
First on Scene Response Activities

Date: May 2017

Scope and Assessment

Scope and Assessment Overview:	Upon arriving at the emergency scene, the First Responder should quickly assess the situation. This assessment would include the status of the emergency, an estimation of how the incident might progress, and an evaluation of the manpower, equipment, and materials needed to adequately cope with the situation. The assessment must be based on the physical evidence, the behavior of the possible released fluid, and the results of the hazards analysis. The following questions illustrate the types of information you should be able to determine on-site.
Information Gathering:	❑ Is the fluid being released as a liquid, an aerosol, or a gas? ❑ Is there a visible release, fire, smoke, odor? ❑ Has a liquid pool started to form? ❑ How large is the visible liquid pool? ❑ Is the liquid pool likely to spread and enter a body of water? ❑ Is the power shut down? ❑ If already ignited, how large is the fire? ❑ Is the situation immediately dangerous to persons or property? ❑ Is the situation likely to get worse? ❑ What can be done to reduce the risk to persons and property? ❑ Are there ignition sources that need to be removed?

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Mitigation

Mitigation Overview:

Mitigation can be loosely defined as any procedure, practice, or act that decreases the likelihood of an accident causing injuries to persons or damage to property. There are several mitigation methods that may be of use during a release emergency, injury accident or fire. Training on possible mitigation methods will be conducted with all personnel who may be called upon to respond. This should be done before, not during, the emergency.

Evacuate or Shelter-in-Place

It is also possible to reduce risk to persons by removing them from a potentially hazardous area, or by shielding them from the effects of a particular hazard. When considering how best to protect people from a hazardous material release, a possible wild land fire at the facility, or a transformer or turbine based fire/emergency. One of the methods commonly suggested is evacuation. However, there are some disadvantages to evacuation.

Evacuation may take time and personnel. In some cases, such as release of flammable, non-toxic or toxic gas from a transformer, or within the Turbine Nacelle the time period of greatest danger is the first few minutes of the fire or release. After emergency shutdown and isolation, the vapor cloud, or smoke hazard zone should begin to decrease in volume. It is doubtful if evacuation can be accomplished quickly and safely enough to be of much help in this type of situation however. The number of persons needed to carry out the evacuation will rarely be available quickly enough.

Evacuation can expose people to the very hazard you are trying to protect them from. Due to the time required to begin an evacuation, the hazardous condition (fire, flammable vapor cloud, or toxic vapor cloud, energized equipment) may already pose a danger to persons who are either within the Nacelle or outdoors and have not sought shelter. In some cases, it is better to recommend shelter-in-place. With the shelter-in-place method, people are requested to remain indoors, and should not go outside unless absolutely necessary. A facility building fire safeguarded should one be available at the facility can provide a significant degree of protection from the heat effects of fires and even from the effects of toxic vapor clouds. The choice between

evacuation and sheltering-in-place should be based on the results of a hazards analysis and the specific situation.

Mitigation (cont.)

Ignition Source Control:

A flammable, non-toxic vapor cloud may pose a danger to a large area. If ignited, the cloud might explode, or may simply burn back to the source of the flammable vapor. The explosion or burning cloud can injure exposed persons and cause a degree of property damage. If un-ignited, the vapor cloud will eventually be diluted below the lower flammable limit and dissipate harmlessly. The potential danger of a flammable, non-toxic vapor cloud is realized only if it is ignited.

Similarly, a release of flammable liquid that results in a liquid pool may cause some localized environmental damage, but will cause fire-related damage only if ignited. In many situations, it will be beneficial to prevent ignition of the released fluid.

To prevent ignition, it will be necessary to remove all potential ignition sources in or near the flammable vapor cloud or liquid pool, and prevent other potential ignition sources from entering the hazardous area. Potential ignition sources include automobiles, matches, cigarette lighters, internal combustion engines, electric motors, electric switches, static electricity, etc. Under some circumstances, it will be difficult to exclude all ignition sources from the hazardous area. Actually, it may be impossible under any set of circumstances since you cannot control all sources of static electricity. However, you should attempt to reduce the number of potential ignition sources to a minimum.

Be particularly careful when first responding to the scene so your vehicles or equipment do not ignite the release. The same precaution holds true for response personnel involved in hazard mitigation activities. Some of these activities, such as using vacuum trucks to collect spilled liquid, will introduce potential ignition sources to the area. Whenever possible, use intrinsically safe equipment or explosion-proof equipment during mitigation and cleanup activities. Intrinsically safe walkie-talkies and air powered tools are recommended.

If an emergency occurs near a road or highway, control of traffic may be desirable to prevent ignition.

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Mitigation (cont.)

Emergency Shutdown And Isolation:	One method for reducing the area threatened by the release of a hazardous fluid is the prompt shutdown of pumps or compressors maintaining pressure in the turbine or transformer systems, and closing selected valves to isolate the release point. An emergency shutdown of pumps will cause the pressure at the release point to decrease, decreasing the release rate. Closing of valves will reduce the total quantity of fluid released. In some cases, it may not be possible to initiate emergency shutdown from the emergency scene. However, you should be able to contact the operations personnel and initiate the shutdown.

SCHUMANN WIND, LLC

Emergency Response Procedures

Agency Notifications and Reporting

Form # EM-3

Date: May 2017

Name of company person making calls: _____

Title of company person making calls: _____

Agency Notifications:

Local Emergency Service: Fire or Medical Emergency	911, 24 hours/day EURFPD 1-(541)-566-2311 Milton-Freewater-1-(541)-938-7146
Persons Contacted:	
Person Title:	
Date and Time:	
Report #:	
Reporting Criteria: • Any facility emergency	Comments:
Oregon State Police:	(541)-278-4090 24 hours/day - 911
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
NRC report #:	
Reporting Criteria: State related Incident-Aircraft down-Act of terrorism- Theft	Comments:
East Umatilla County Health District	911-Emergency 1-(541)-566-3813
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
Reporting Criteria: • Medical Emergency	Comments:

Name of company person making calls: _____

Title of company person making calls: _____

SCHUMANN WIND, LLC
Emergency Response Procedures
Agency Notifications and Reporting
Form # EM-3

Date: May 2017

Agency Notifications:

Oregon Department of Environmental Quality:	1-(503)-229-5696, 24 hours/day 1-(800)-452-4011
Person Contacted:	
Person Title:	
Date and Time:	
Report #:	
Reporting Criteria: • Actual or threatened release of any hazardous material that poses threat to public or the environment. • Release of hazardous substance to state waters • Spills or leakage of oil or liquid pollutant on state lands or waters • Release of hazardous material or waste upon any highway. [Vehicle Code]	Comments:
OERS	1-(800) 452-0311 (oil spill hot line)
Person Contacted:	
Person Title:	
Date and Time:	
Report #:	
Reporting Criteria: Discharge or threatened discharge of oil/condensate greater than one barrel into marine waters.	Comments:

Name of company person making calls: _____

SCHUMANN WIND, LLC

Emergency Response Procedures

Agency Notifications and Reporting

Form # EM-3

Date: May 2017

Title of company person making calls: _____

Agency Notifications:

OSHA: (OREGON)	1-(503)-378-3573 or 1-(503)-378-3272 1-(800)-922-2689
Person Contacted:	
Person Title:	
Date and Time:	
Report #:	
Reporting Criteria: • Catastrophes, Fatality or over-night hospitalization accidents.	Comments:
Oregon Public Utilities Commission	1-(503)-378-6634
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
	Comments:
Agency Contacted:	
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
	Comments:
Agency Contacted:	
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
	Comments:

Name of company person making calls: _____

SCHUMANN WIND, LLC

Emergency Response Procedures

Agency Notifications and Reporting

Form # EM-3

Date: May 2017

Title of company person making calls: _____

Agency Notifications:

Agency Contacted:	
Person Contacted:	
Person Title:	
Date and Time:	
Report #:	
	Comments:
Agency Contacted:	
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
	Comments:
Agency Contacted:	
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
	Comments:
Agency Contacted:	
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
	Comments:

SCHUMANN WIND, LLC
Emergency Response Procedures
Agency Notifications and Reporting

Date: May 2017

Scope:

This procedure covers the release reporting requirements for a release of natural a reportable quantity of oil based liquids. Multiple federal, state, and local authorities may require notification depending on the location and severity of the event. Agencies that may require notification include:

Federal:

1. National Response Center 1-(800)-424-8802
2. OSHA [29 CFR 1904.39]
3. National Response Center per USCG [33 CFR 153.203 & 40 CFR 110.10]

State:

4. OERS (ORS) 401 [CALL WILL SATISFY NOTIFICATION REQUIREMENTS IN RELEASE EVENT-ADVISE OERS OF SERC/LEPC NOTIFICATION]1-800-452-0311 OR 1-503-378-6377
5. OSP [ORS 466.635](State Police)
6. Administering agency for hazardous material releases[SERC/ILEPC] advise duty officer of application
7. Mail Report within 30 days to:
   c/o CR2K
   4760 Portland RD NE,
   Salem Oregon 97305-1760

Local 911 for any emergency

Reporting Procedures:

After the necessary emergency steps are taken to stop, contain, and control the release to protect public safety, environmental resources, and minimize damage:

- Determine whether there is a reporting requirement. Review the reporting criteria listed on the "Agency Notification and Reporting" form. (Form #Em-3)
- Notify the appropriate agencies and document using the following "Agency Notification and Reporting" form. (Form #Em-3)
- Conduct repairs and clean up measures as appropriate and document.
- Submit follow up reports as appropriate.

Record Keeping:

All reportable releases shall be documented using the attached "Agency Notification and Reporting" form. Completed forms shall be forwarded to the Schumann Wind Compliance Supervisor for filing into the Schumann Wind record keeping system and appropriate Agency.

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General Emergency Response

General Information & Procedures

Purpose and Scope:

The purpose of this procedure is to provide guidance and information to company employees involved in emergency situations resulting from the wind turbine facility "SCHUMANN WIND LLC.".

Although the types of emergencies that might occur in a wind generating system are widely varied, there are certain common actions, which can be taken regardless of the type of emergency. This Plan of Action for Emergencies specifies those actions deemed essential on various emergencies. The company will make safe any actual or potential hazard to life or property.

This plan is not intended to be an all-encompassing plan of action for emergencies, because certain types of emergencies may occur which would make it impractical to follow the guidelines established in this Plan. The necessary preparatory planning, procurement of certain equipment and supplies and training shall be completed. Each supervisor who may have duties and responsibilities in emergency situations should be furnished a copy of this Plan. Employees shall be trained in their areas of responsibility, and familiar with the total Plan. Employees shall attend annual review sessions, emergency drills, table top drills, or classroom training as noted in the pre-emergency planning section.

Types of Emergencies:
Five types of natural emergencies are defined and a plan for each type of emergency is established. The responsibility for declaring an emergency is defined. The liaison between the Company and public officials is outlined and guidelines for educating public officials and the general public are provided.

The company will provide prompt response to each of the following types of emergencies:

- Fire or medical emergency at the facility
- abnormal operating conditions
- fire or explosion
- natural disaster (including earthquakes, etc.)
- civil disturbance.

The lead facility operator or facility contractor is responsible for the training and equipping of personnel in the general response to facility emergencies. The facility operator or on-site contractor has the primary responsibility for identifying each of the potential emergency situations, and when necessary, declaring an emergency. The facility operator or contractor also has the responsibility to ensure availability of personnel, equipment, instruments, tools, and material required at the scene of an emergency. When an emergency condition arises that could seriously affect the normal, safe operation of the facilities operating system, it is essential that a predetermined course of action be implemented to ensure protection to the public, Company employees, and protection of public and Company property. In an emergency, protection of people first and property second must receive paramount consideration.

The ability to adequately respond to potential emergency situations will be determined by the familiarity of the employees with emergency plans and the extent of preplanning. The facility operator or contractor is responsible to see that all employees in the Company are able to recognize what constitutes an on-site emergency, what information shall be obtained, and how, depending on the emergency conditions, the employee(s) shall report the situation.

The facility operator or management will ensure the failure/accident investigation is conducted as soon as is practicable. The company will follow general failure investigation procedures in the facilities general operating policies or direction given by local, state or federal regulatory over-site.

Facility Operator / Contractor Responsibilities:

The facility operator or contractor shall upon notification of a potential emergency, dispatch appropriate facility personnel to the scene to identify the extent of the emergency and to take those steps immediately necessary to protect people and property upon determination of an incident. The operator / contractor shall, when conditions warrant, notify the local police, fire, civil officials, and the company General Manager or his/her immediate supervisor.

Emergency Plan:

The Company will ensure it has sufficient copies of Emergency plan information and updated plans to use in solving the various types of emergencies outlined in this plan. Emergency information is contained in the specific sections at the end of this Plan and the appropriate employees shall have a thorough working knowledge of this information. For the purpose of emergencies, the system will include an Identification number of the affected turbine(s) or facility location.

Receiving Information General

Leaks, fires, explosions, or other emergencies may be reported by the public 24 hours per day, seven days per week, by calling ( ) which is listed on signs at the facility gate or fence, and facility equipment. A written record shall be maintained of all calls received and actions taken. The facility operating headquarters is responsible for maintaining the written log, reviewing all calls received and actions taken to ensure that no hazardous conditions exist at the close of each working day.

All personnel receiving complaints are trained in asking appropriate questions to determine the location and potential hazard of each event. Reports received might contain much of the information needed. However, in most instances, this information may not be volunteered; therefore, emergency calls shall be received by, or referred to, a person knowledgeable in reacting to such situations. This person shall attempt to obtain and record the following information:

Information to Obtain during Initial Notification (see Form #Em-1)

1. The address where the emergency has occurred. If the address is given as a rural route, box number of general area, obtain additional information to further identify the location.
2. The name of the caller.
3. The telephone number of the caller and location of the telephone
4. Personal estimate of the information from the caller as to the severity of the situation.
5. What is happening?
6. Types of structures or area are involved; i.e. wind turbine, facility building etc.
7. Action that has already been taken by persons at the emergency site.
8. An estimate of how long the problem has existed.
9. Any other information that might be helpful.
10. Time of the call and the date.

Determine the event:
Fire
Explosion
Natural Disaster
Civil Disorder

Sources of Emergency Calls:

After obtaining the above information, the appropriate personnel shall be notified so that emergency action will be taken immediately. Reports of emergencies or potential emergencies may be received from many sources. Some examples of these are as follows:

1. Public
2. Employees
3. Contractors

4.Police/ Sherriff
5. Other Utilities
6.Fire Department

Advice to Caller:

Emergency reports from company personnel originate primarily from the On-site operator. The person receiving the call shall advise the caller, if the situation warrants, to:

Insure Life Safety is the first priority.
Take measures to protect facility property if the situation allows.
Insure appropriate calls have been made to local response agencies.

Classification of Emergency:

The person/manager receiving the initial call shall identify and classify the potential emergency including events which require immediate response by the company. There is the possibility of a situation that could be classified under more than one type of emergency. Thus, personnel must be sufficiently familiar with the Emergency Plans to be able to combine the relevant requirements of the appropriate plans.

1. *Minor Emergency*: If the call appears to be "minor" (one that is not reportable), the facility operator should dispatch personnel to investigate the emergency call and report the findings. If the facility operator determines that the condition found could be remedied without assistance from other personnel, the facility operator or contractor will handle and document as required.

   If additional personnel or assistance is required, the facility operator will notify the General Manager. The facility operator or contractor shall give all pertinent information so the General Manager may notify other personnel if applicable.

2. *Major Emergency*: A major emergency would be a reportable incident or any other incident in the judgment of the facility operator or contractor that required immediate response by the company and additional notification. If the facility operator or contractor has been notified of a call that appears to be "major" in nature, the information will be immediately relayed to Corporate management and the General Manager or designated employees will be dispatched to the scene. A supervisor will also be dispatched to take charge and evaluate the situation.

Notification of Local Emergency Units

Depending on the nature of the emergency, assistance may be requested of the Fire Department and/or Emergency Rescue, the Police/Sheriff Department, State Police, an Ambulance Unit, or Civil Defense; all of these can be reached by dialing 911. The type of emergency involved will dictate the type of assistance to be requested. We have informed these organizations of our abilities in responding to emergencies, identified the type of

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emergencies of which we will notify these organizations, and discussed how these organizations can assist us in minimizing hazards to life or property. These organizations have been informed of our planned responses and actual responses during an emergency.

Notification of Other Company Personnel and Contracted Personnel

In the event that additional information is needed on company facilities, the facility operator will furnish system information if requested. The use of contracted personnel in responding to or assisting in a facility event may be required. Refer to the telephone numbers listed in this Plan.

Emergency Communications

The facility operator shall designate one person at the emergency scene as an "Incident Commander" (IC). The IC will coordinate all of the field activities. The IC shall communicate with the Fire Department and other public officials to keep them informed about all work or specific actions to be taken or planned for. Refer to the Incident Command section of this Plan for more details.

When possible, a supervisor shall be designated, as Public Information Officer (PIO) to receive and transmit needed information to the corporate office and key personnel not on the scene. All contacts with persons on the scene shall be made through the PIO. In the absence of a person designated PIO, the IC will act as the public relations representative. The PIO shall make reports of activities at the emergency.

The IC shall ensure that communications are maintained until the emergency is past. All company personnel will avoid unnecessary radio traffic during an emergency condition. In the event radio communications are not available cellular telephones shall be used.

Log of Events

Depending on the scope of the emergency, a log of events shall be maintained as designated by the IC. Use Form #EM-5, Emergency Log of Miscellaneous Activities.

The IC shall be responsible for making certain that the all appropriate agencies are properly notified of reportable accidents, leaks or incidents. See the facility O&M Manual for specific procedures. The IC shall be responsible for reporting in writing, a summary of each accident or incident to the General Manager. The report shall be submitted as soon as practicable, but not more than 30 days after the incident. Facility personnel involved in an Incident and other employees as directed will complete a report. The immediate supervisor of each employee involved will assure that this report is submitted.

Description of Assignments during an Emergency

1. Telephone Contact Person: All emergency complaints called in by the public on the listed telephone number during normal hours originate with this section. The contact center is

responsible for receiving and recording correct and adequate information from the caller. These personnel are trained to recognize an emergency and to relay the information as quickly as possible to the facility manager / operator.

2. Facility Operator or Contractor: When the facility operator or contractor receives or views an emergency condition while at the facility an immediate report to appropriate personnel should be undertaken. All emergency complaints received will be investigated. If an emergency exists, the facility operator or contractor will proceed to the area immediately or director another operator to proceed to the area. After determining the type and scope of the emergency, the facility operator or contractor will notify supervisory and back-up personnel according to established or prescribed direction or practice.

   The facility operator or contractor shall dispatch Fire, Police, and EMS to the scene if they are required. They may call for additional equipment, if the situation warrants. The facility operator or contractor monitors the emergency constantly. They work closely with the General Manager for any major event. The On-site operator or contractor monitors the emergency until order is restored.

   The facility operator or contractor will do everything possible to ***protect life and property*** while help is arriving. He or she will advise the responders on-scene as to the appropriate safety measures to take, depending upon the nature of the emergency. The facility operator or contractor will work with agency emergency personnel until order is restored. On-site personnel will advise the General Manager of conditions as they progress.

3. Approved Contractors (Construction Persons): Contracted Construction Persons are equipped and staffed to provide support as needed. These persons along with supervisory personnel are available and will be used in an emergency and coordinated into the operation as needed.

4. Safety and Environmental Compliance Coordinator: Assist the On-Duty Person and/or IC and must understand the requirements of the regulations and procedures in this Plan.

Receiving Information and Notification. While these employees are in route to the emergency, they shall be given all available information about the emergency by cellular phone or radio so they can begin assessment of the danger involved as soon as they arrive at the job site. The Job-site Supervisor shall, when arriving at the job site, report to the Fire Department officials or other civil authorities that might be on the scene and become appraised of the situation. After this is accomplished, determination shall be made of the area affected by the uncontrolled conditions should they exist. The evaluation of the situation shall include the following:

a. The first employees on the site shall determine the extent of the emergency and those actions most likely required to mitigate the emergency.

b. To the extent that on-site personnel can determine a call for specific contracted personnel, and equipment most likely to assist in managing the conditions at the time of the Incident should be undertaken.
c. Unification of Command should be sought with the responding agencies to facilitate command and control of an Incident should one require multiple agencies and responders for emergency mitigation measures at the facility.
d. Communication with the General Manager shall be utilized within the scope of events and timely updates or direction shall be sought to insure all necessary steps are undertaken to insure safe and effective operations for personnel the facility and local response agencies.

2. During an investigation, reports of conditions found and precautions taken will be communicated to the General Manager. Company personnel at the facility will describe the, probable hazards involved, determine the backup needed, such as welders, equipment operators and fire or police. The facility operator or contractor by contacting the General Manager will likely notify additional supervisory, Claims, and Public Relations personnel if the seriousness of the Incident warrants or when injury or personal property damage results.

If the Incident occurs after regular working hours, Schumann Wind, LLC's designated on-call manager will notify the on call site supervisor who shall contact the on-call overtime personnel in accordance with standard practice. Upon arrival, all personnel will be briefed by the supervisor on the situation and proceed with mitigative measures as applied to the specific emergency.

a. The On-scene operator or responder shall determine the expected consequences of actions required to the Incident occurring. Before a decision is made to isolate a section of the system, an analysis will be made of the system maps or schematics to determine which turbine or transformer switching must be closed if that is a required action of the response. The facility operator or contracted operator will normally plan this.
b. Should a determination be made to take specifics action the General Manager shall be notified as soon as it is practical to do so.
c. After the decision is made as to how the Incident will be controlled, the "Supervisor in Charge" will request any additional personnel, equipment, and materials needed for the mitigative steps undertaken.
d. Upon the shut down or other mitigative measures are undertaken all safety measures shall be utilized. No exceptions.
e. Upon completion of repairs, notification will be made to the "General Manager" the system may be restored to the affected area. In addition all previously notified public agencies, company personnel, and insurance representatives will be informed that emergency conditions have been corrected.

Emergency Response for Major Fires and Explosions [192.615(a)(3)]

Emergency precautions must be taken after explosions and during major fires to protect system facilities and to ensure that the presence of energized systems should they be affected, will not create additional problems for fire-fighting and damage control personnel.

a. When responding to a report of a major fire or explosion, the primary consideration shall be the safety of the public and employees. A fire or explosion resulting from equipment malfunctioning requires immediate and urgent attention by all the company personnel involved. A supervisor will be dispatched to the area immediately. The following actions and procedures shall be considered:

a. Immediately upon arrival, establish contact with any fire and police personnel on the scene. If company personnel precede fire and police arrival, verify with the supervisor or contractor on scene that proper notice has been given these agencies. The supervisor will describe the nature and scope of the emergency to the General Manager by cellular phone or radio and request emergency back-up crews and equipment to handle the emergency. The General Manager or designated manager will dispatch the requested personnel and equipment to the area and notify other supervisory, emergency, and interested personnel in accordance with standard practice.
b. It must be determined immediately as to the general nature of the fire or explosion. It is required to ensure the protection of the public and the affected facilities as well as protecting the responders from energized equipment..
c. If a determination cannot be made, request the Fire/Police Department's assistance in the evaluation efforts if needed. The general Manager, or his supervisor at the scene, will do what is necessary to eliminate any remaining hazard to persons or other exposures in the vicinity. Take every reasonable measure for safety if there is danger of additional fire or explosion or until the danger has cleared. Coordination and cooperation with the Fire and Police Departments by company personnel is imperative.
d. The supervisor at the scene of the emergency shall immediately attempt to locate the source of the fire or explosion if it is safe to do so. This should be done with the consent and co-operation of the local responders or agencies.

2. After initial action has been completed to assure the safety of the public, and to prevent damage to property, there are certain investigative actions that shall be considered by the supervisor in charge of the investigation.

a. Record all information concerning actions taken, so that necessary reports might be prepared. Refer to Checklist for Supervisors -- (Form EM-5).
b. Ensure that all persons necessary to conduct a completed investigation have been notified.
c. See that no action is taken that might disturb evidence necessary to conduct a completed investigation. Evidence shall be recorded with notes, photographs, and videotape, if possible. At times certain components may be taken under custodial order by local, state or federal Investigators
d. Review maintenance work and all relevant records as they apply to a specific piece of equipment. Determine if there has been recent construction work or activity in the area by the company or others, which may have contributed to the emergency.

Emergency Response for Abnormal Conditions

Any condition that is found to be outside of normal operating conditions should be acted upon as soon as possible to insure the safety of operating personnel as well as preventing damage that may be preventable. The site supervisor should be notified upon discovery and actions undertaken to mitigate the condition(s) if safe to do so.
An emergency response should be considered upon discovery to insure employee safety if equipment is found to be malfunctioning and outside of normal operating parameters.
Notification to management should occur as an immediate follow-up to these conditions.

Emergency Response for Natural Disasters

Disasters such as floods, tornadoes, **earthquake**, and extreme high winds might cause various operating problems within the system. Emergency procedures must be employed to survey the system and eliminate conditions that might endanger life or property.

1. Immediately upon learning of such an occurrence, the appropriate Supervisor shall assess the severity of the situation and decide whether it is necessary to initiate action. When a disaster does occur, civil authorities may declare a state of emergency. Under a state of emergency the civil authorities have control over the actions of all persons and equipment in the area. After the immediate hazardous conditions have been corrected, essential services shall be restored on the priorities established by the public officials.

   Notification shall be given to the appropriate personnel to report for work and equip their vehicles with emergency tools and stand by for further instructions. It is most important to utilize radio-equipped vehicles and make maximum usage of portable radios or telephones.

2. Action shall be taken upon arrival at the scene of the emergency.
   a. Communications shall be established with all rescue squads, police and fire departments, and the National Guard. Full advantage shall be taken of the services that these organizations can render.
   b. One radio-equipped vehicle <u>if available</u> shall be staffed and located in a conspicuous and convenient location in the emergency area. The Supervisor will appoint an employee at the scene to locate the person or persons in charge of each emergency agency that is present, and establish communications with them. The Supervisor will inform them of the location of the radio-equipped vehicle and will request each agency to notify its members to report any facility problems to the employee at that location. The employee at this vehicle then will relay all information to the Supervisor and/or General Manager.

3. A survey shall be conducted as soon as possible to assess damage to our facilities.
   a During this survey, inspect wind turbines for damages, paying particular attention to the base bolting for deformities, buckled materials, tower alignment or any cracking to tower or turbine blades
   b In certain instances, it will be advisable to station someone at a primary location to insure facility continuity or operations.

c Survey crews shall be utilized to check the areas involved. After an estimate of the severity of the situation is ascertained, a decision must be made as to facility operability shutting them off completely, or leaving on the system. Refer to Procedures for Emergency Shutdown, if necessary.

c Consideration shall be given as to whether additional personnel and/or equipment will be needed. If in doubt, it is preferable to have extra crews standing by on the scene even though they may not be needed. This will allow more flexibility for unexpected requirements and also will be an aid in putting the system back on line if needed.

Emergency Response for Civil Disturbance

Civil Disturbance is an unlawful act of a group of people whereby life and property are endangered or may be endangered and company facilities may be sabotaged.

1. The company facilities and work crews will require physical protection in areas of civil disorder. Persons may attempt to disrupt company operations and sabotage company equipment. The facility Operations Person shall:
   a. Establish communications with appropriate civil authorities.
   b. Determine the extent of the area affected and prepare to isolate the section.
   c. Monitor the operation of the system at a safe location. Watch for signs of major changes that would indicate problems with system operations
   d. Report all incidents of sabotage to civil authorities.

2. The facility Operations Person shall request police protection for any personnel dispatched into the affected area. Company personnel shall not physically resist potential saboteurs or unruly persons. Company personnel threatened by such persons shall secure if possible the facilities and withdraw from the area. Under no circumstances shall company personnel carry firearms. The facility Operations Person shall make all arrangements for security guards. The facility Operations Person shall consider the following actions to prevent disruption of service:

   a Install locking devices on all fenced enclosures and buildings.
   b. Provide 24 hour guard service if available for facility security.
   c. Provide local law enforcement assistance by access to video feed if available to assist in apprehension or Identification of persons involved in civil disturbance.

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Public Communications

One person shall be designated as the company spokesperson. The following are dos and don'ts for the designated spokesperson when talking with reporters.

Dos	Don'ts
Be Calm	Don't speculate on cause of crisis or accident
Be Truthful	Don't estimate damages
Identify yourself as the designated company spokesperson	Don't discuss identities or medical conditions of injured or missing
Speak only for the company, not contractors or clients	Don't guess about number of victims
Give a brief list of facts	Don't allow reporters or "sightseers" to wander around the scene
End interviews promptly after giving brief facts	Don't say anything you don't consider media material
Advise other employees to refer all inquiries to you	Remember that nothing is off the record
Set up a safe secure area where reporters can be briefed	

Incident Command Description

The Incident Command System (ICS) is an organization system widely used for emergency management by federal, state, and local emergency response organizations. The Company Schumann Wind, LLC has adopted ICS as the base organizational system for responding to facility emergencies.

ICS Flexibility

ICS allows the base organization structure to be adapted for different situations depending on the type and complexity of the incident. Two situations may occur that rely upon this flexibility when determining needed ICS positions.

The first situation involves "first responders." A fundamental premise of ICS is that positions are initially filled based upon available personnel. Position replacements occur as more experienced, trained, and qualified personnel become available. The replacement transition requires briefings and exchange of incident status information.

The second situation that relies upon the flexibility of ICS occurs when more than one legal entity has responsibility for managing the incident. This often occurs in most situations but can occur in other emergency situations such as a fire that impacts public areas. ICS accommodates these situations through implementation of a Unified Command. The Unified Command can include various agency and regulatory groups in addition to Schumann Wind, LLC personnel.

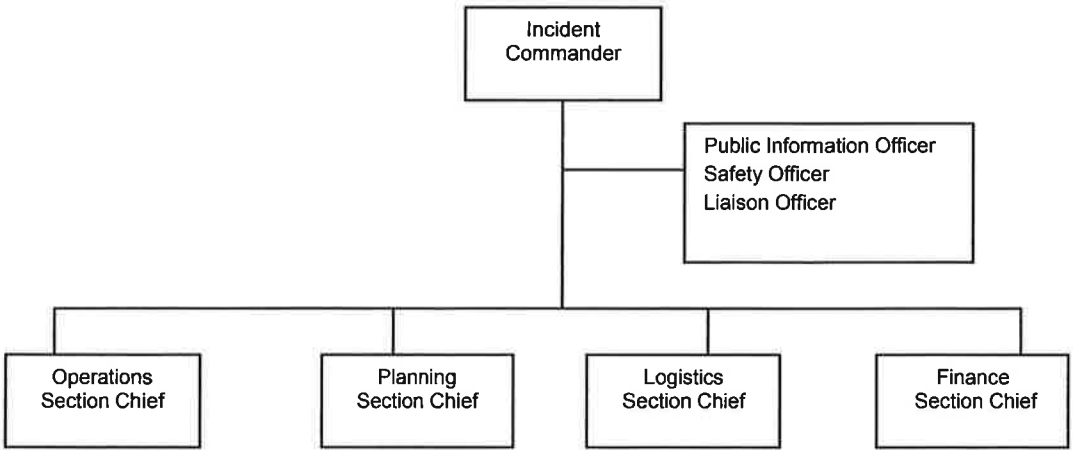
ICS Responsibilities

At each emergency, a company staff employee will be responsible for directing and coordinating the overall emergency response, referred to as Incident Commander. For emergencies that do not involve a fire or explosion, the ranking employee at the scene will be designated the Incident Commander. If a fire, explosion, or major event is involved, this position is usually assigned to the local fire department.

Incident Command Authority

During a declared emergency, the company staff employee acting as the Incident Commander or contracted responder with I/C authorities will have the authority to take required immediate actions to protect the public and the environment. As soon as more personnel arrive at the scene, Incident Commanders duties can be shifted to more qualified personnel.

INCIDENT COMMAND SYSTEM (ICS)



The following Position Descriptions and Task Checklists for the ICS provide general guidance to fulfill organizational roles:

Included are:

1. **General Role Definitions**
2. **Listing of Suggested Candidates**
3. **Critical Task Checklist**

Position Descriptions for:

- **Incident Commander (IC)**
- **Public Information Officer (PIO)**
- **Safety Officer**
- **Liaison Officer**
- **Operations Section Chief**
- **Planning Section Chief**
- **Logistics Section Chief**
- **Finance Section Chief**

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Date: May 2017

Incident Commander

IC Role:

The Incident Commander is responsible for overall incident response and control of all activities. The IC establishes the "Command Post" at the incident location or other appropriate location. Authorization of action plans and resources are key activities of the IC.

IC Position Candidate Examples:

- Initial Responder
- Facility Manager
- Facility Operator
- Maintenance persons
- OPUC Compliance Supervisor
- EHS Specialist

IC Checklist:

- ❑ Identify and isolate incident area; establish perimeters and control points.
- ❑ Establish a command post and staging areas.
- ❑ Notify and request assistance from corporate management, immediate facility supervisor, or appropriate higher ranking company officials.
- ❑ Initiate incident command system and coordinate scene activities.
- ❑ Appoint command staff – safety liaison and information officers- and begin operations.
- ❑ Implement standard operating procedures or emergency response plan; develop and release incident action plan; revise and disseminate operational plans.
- ❑ Provide policy, direction, and control for emergency operations; set priorities and establish response strategies.
- ❑ Implement site safety plan; revise and disseminate plan.
- ❑ Establish site perimeter and control points.
- ❑ Reroute traffic and control access to site
- ❑ Establish work zones
  - Exclusion zone (hot zone)
  - Contamination reduction zone (decontamination- zone)
  - Support zone
- ❑ Conduct operations; eliminate potential for airborne dispersion, terminate release of hazardous materials, reduce exposure of personnel and equipment.
- ❑ Monitor and sample site
- ❑ Determine type of evacuation if required: immediate, precautionary, and scheduled.

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Public Information Officer

Information Officer Role:	The Public Information Officer is responsible for providing on-site contact with news media and furnishing the media with Schumann Wind, LLC approved news release information.
Information Officer Position Candidate Examples:	• Company Public Affairs Manager • Public Affairs Consultant • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist
Information Officer Checklist:	❑ Obtain briefing from incident commander. ❑ Contact the jurisdictional agency to coordinate public information activities. ❑ Establish single-incident information center whenever possible. ❑ Arrange for necessary work space, material, telephones, and staffing. ❑ Prepare initial information summary as soon as possible after arrival. ❑ Obtain approval for release from incident commander. ❑ Release information to news media. ❑ Post information in command post and other appropriate locations. ❑ Attend meetings to update information releases. ❑ Arrange for meetings between media and incident personnel. ❑ Provide escort service to the media and VIP's ❑ Respond to special request for information. ❑ Maintain log.

Information Officer Hints:

Specifically, the Information Officer should address the following:

- ❑ Name, title, and what the Info Officer function is.
- ❑ What has happened in simple terms.
- ❑ Injuries (no names unless family has been notified).
- ❑ Major concerns (Safety of people and protection of environment)

Watch for Red Flag questions:

- ❑ What is the cause? Who is at fault?
- ❑ How much will it cost?
- ❑ How much was released?

Do not speculate. Stick to the known facts.

Safety Officer

Safety Officer Role:

The Safety Officer is responsible for providing a "Site Safety Plan" and assessing activities for hazardous and/or unsafe situations and developing means for assuring the safety of response personnel.

Safety Officer Position Candidate Examples:

- Initial Responder
- Facility Operations Manager
- General Manager
- Maintenance Foreman
- OPUC Compliance Supervisor
- EHS Specialist
- EHS Consultant

Safety Officer Checklist:

- ❑ Obtain briefing from incident commander.
- ❑ Identify hazardous situations associated with the incident
- ❑ Identify control measures(engineering/Administrative/PPE).
- ❑ Initiate evacuation procedures.
- ❑ Develop decontamination procedures.
- ❑ Conduct safety meetings.
- ❑ Participate in planning meetings.
- ❑ Review incident action plan.
- ❑ Review and approve medical plan
- ❑ Investigate accidents that have occurred within incident areas.
- ❑ Maintain a log.

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Note: Exercise emergency authority to stop and prevent unsafe acts.

Liaison Officer

Liaison Officer Role:	The Liaison Officer is responsible for conducting initial regulatory contacts and coordinating required government reports and inquires. Ensure that The Company is tracking regulatory agency response and potential for incidents of non-compliance.
Liaison Officer Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant
Liaison Officer Checklist:	❑ Obtain briefing from incident commander. ❑ Provide a point of contact for agency representatives. ❑ Identify agency representative from each agency. ❑ Establish communications link and location. ❑ Provide inter-organizational contacts for incident personnel. ❑ Monitor incident operations for inter-organizational problems. ❑ Maintain log.

Date: May 2017

Operations Section Chief

Operations Section Chief Role:	The Operations Section Chief is responsible for directing tactical emergency response, incident control actions, and recovery/clean-up operations. Also, request needed resources and prepares operational plans if needed.
Operations Section Chief Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant
Operations Section Chief Checklist:	❑ Obtain briefing from incident commander. ❑ Develop operations portion of Incident Action Plan. ❑ Brief and assign operations personnel in accordance with Incident Action Plan. ❑ Supervise Operations. ❑ Determine need and request additional resources. ❑ Review suggested list of resources to be released and initiate recommendation for release of resources. ❑ Assemble and disassemble strike teams assigned to operations section. ❑ Report information about special activities, events, and occurrences to incident commander.

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Planning Section Chief

Planning Section Chief Role:	The Planning Section Chief is responsible for development of "Incident Action Plans" and management of incident status reports. Role includes assessing the situation, predicting outcomes and resource status, and initiating planning meetings.

Planning Section Chief Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant

Planning Section Chief Checklist:

- ❑ Obtain briefing from incident commander.
- ❑ Activate planning section units.
- ❑ Reassign initial attack personnel to incident positions as appropriate.
- ❑ Establish information requirements and reporting schedules for all ICS organizational elements for use in preparing the incident action plan.
- ❑ Establish a weather data collection system when necessary.
- ❑ Supervise preparation of incident action plan.
- ❑ Assemble information on alternative strategies.
- ❑ Assemble and disassemble strike teams not assigned to operations.
- ❑ Identify need for use of specialized resources.
- ❑ Provide periodic predictions on incident potential.
- ❑ Compile and display incident status summary information.
- ❑ Advise general staff of any significant changes in incident status.
- ❑ Provide incident traffic plan.
- ❑ Supervise planning section units.
- ❑ Prepare and distribute incident commander's orders.
- ❑ Insure that normal agency information collection and reporting requirements are being met.
- ❑ Prepare recommendations for release of resources for submission to the incident commander.

Logistics Section Chief

Logistics Section Chief Role:	The Logistics Section Chief is responsible for identifying needed resources and supplies and on-scene delivery and management of supply facilities, services, and materials.

Logistics Section Chief Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant

Logistics Section Chief Checklist:

- ❑ Obtain briefing from incident commander.
- ❑ Plan organization of logistics section.
- ❑ Assign work locations and preliminary work tasks to section personnel.
- ❑ Participate in preparation of Incident Action Plan.
- ❑ Identify service and support requirements for planned and expected operations.
- ❑ Provide input to and review communications plan, medical plan, and traffic plan.
- ❑ Coordinate and process request for additional resources.
- ❑ Review incident action plan and estimate section needs for next operational period.
- ❑ Insure incident communications plan is prepared.
- ❑ Advise on current service and support capabilities.
- ❑ Prepare service and support elements of the incident action plan.
- ❑ Estimate future service and support requirements.
- ❑ Receive demobilization plan from planning section.
- ❑ Recommend release of unit resources in conformity with demobilization plan.

Insure general welfare and safety of logistics section personnel.

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Date: May 2017

Finance Section Chief

Finance Section Chief Role:	The Finance Section Chief is responsible for management of cost control and critical manpower planning.
Finance Section Chief Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant

Finance Section Chief Checklist:

- ❑ Obtain briefing from incident commander.
- ❑ Attend briefing with responsible agency to gather information.
- ❑ Attend planning meeting to gather information.
- ❑ Identify needs, order supplies, and support needs for finance section.
- ❑ Develop an operating plan for finance function on incident.
- ❑ Prepare work objectives for staff.
- ❑ Determine need for commissary operation.
- ❑ Inform command staff and general staff when section is fully operational.
- ❑ Meet with agency representatives as required.
- ❑ Provide input in all planning sessions on financial and cost analysis matters.
- ❑ Maintain daily contact with agency(s) administrative headquarters on finance matters.
- ❑ Insure that all personnel time records are transmitted to appropriate locations.
- ❑ Participate in all demobilization planning.
- ❑ Insure that all obligation documents initiated at the incident are properly prepared and completed.
- ❑ Brief agencies on all incident related business management issues needing attention and follow-up prior to leaving incident.

SCHUMANN WIND
Emergency Response Procedures
ICS Checklists

Form #EM-6

Date: May 2017

Incident Commander

IC Role:

The Incident Commander is responsible for overall incident response and control of all activities. The IC establishes the "Command Post" at the incident location or other appropriate location. Authorization of action plans and resources are key activities of the IC.

IC Position Candidate Examples:

- Initial Responder
- Facility Operations Manager
- General Manager
- Maintenance Foreman
- OPUC Compliance Supervisor
- EHS Specialist

IC Checklist:

- ❑ Identify and isolate incident area; establish perimeters and control points.
- ❑ Establish a command post and staging areas.
- ❑ Notify and request assistance from dispatch, immediate supervisor, or appropriate higher ranking officials.
- ❑ Initiate incident command system and coordinate scene activities.
- ❑ Appoint command staff – safety liaison and information officers- and begin operations.
- ❑ Implement standard operating procedures or emergency response plan; develop and release incident action plan; revise and disseminate operational plans.
- ❑ Provide policy, direction, and control for emergency operations; set priorities and establish response strategies.
- ❑ Implement site safety plan; revise and disseminate plan.
- ❑ Establish site perimeter and control points.
- ❑ Reroute traffic and control access to site
- ❑ Establish work zones
  - Exclusion zone (hot zone)
  - Contamination reduction zone (decontamination zone)
  - Support zone
- ❑ Conduct operations; eliminate potential for airborne dispersion, terminate release of hazardous materials, reduce exposure of personnel and equipment.
- ❑ Monitor and sample site
- ❑ Determine type of evacuation: immediate, precautionary, and scheduled.

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SCHUMANN WIND
Emergency Response Procedures
ICS Checklists

Form #EM-6

Date: May 2017

Public Information Officer

Information Officer Role:	The Public Information Officer is responsible for providing on-site contact with news media and furnishing the media with Company approved news release information.
Information Officer Position Candidate Examples:	• Public Affairs Manager • Public Affairs Consultant • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist
Information Officer Checklist:	❑ Obtain briefing from Incident Commander. ❑ Contact the jurisdictional agency to coordinate public information activities. ❑ Establish single-incident information center whenever possible. ❑ Arrange for necessary work space, material, telephones, and staffing. ❑ Prepare initial information summary as soon as possible after arrival. ❑ Obtain approval for release from incident commander. ❑ Release information to news media. ❑ Post information in command post and other appropriate locations. ❑ Attend meetings to update information releases. ❑ Arrange for meetings between media and incident personnel. ❑ Provide escort service to the media and VIP's ❑ Respond to special request for information. ❑ Maintain log.
Information Officer Hints:	**Specifically, the Information Officer should address the following:** ❑ Name, title, and what the Info Officer function is. ❑ What has happened in simple terms. ❑ Injuries (no names unless family has been notified). ❑ Major concerns (Safety of people and protection of environment) **Watch for Red Flag questions:** ❑ What is the cause? Who is at fault? ❑ How much will it cost? ❑ How much was released? **Do not speculate. Stick to the known facts**

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SCHUMANN WIND
Emergency Response Procedures
ICS Checklists

Form #EM-6

Date: May 2017

Safety Officer

Safety Officer Role:	The Safety Officer is responsible for providing a "Site Safety Plan" and assessing activities for hazardous and/or unsafe situations and developing means for assuring the safety of response personnel.
Safety Officer Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant
Safety Officer Checklist:	❑ Obtain briefing from incident commander. ❑ Identify hazardous situations associated with the incident ❑ Identify control measures: (engineering administrative/PPE). ❑ Initiate evacuation procedures. ❑ Develop decontamination procedures. ❑ Conduct safety meetings. ❑ Participate in planning meetings. ❑ Review incident action plan. ❑ Review and approve medical plan ❑ Investigate accidents that have occurred within incident areas. ❑ Maintain a log. **Note:** Exercise emergency authority to stop and prevent unsafe acts.

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Date: May 2017

Liaison Officer

Liaison Officer Role:	The Liaison Officer is responsible for conducting initial regulatory contacts and coordinating required government reports and inquires. Ensure that the Company is tracking regulatory agency response and potential for incidents of non-compliance.
Liaison Officer Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant
Liaison Officer Checklist:	❑ Obtain briefing from incident commander. ❑ Provide a point of contact for agency representatives. ❑ Identify agency representative from each agency. ❑ Establish communications link and location. ❑ Provide inter-organizational contacts for incident personnel. ❑ Monitor incident operations for inter-organizational problems. ❑ Maintain log.

Operations Section Chief

Operations Section Chief Role:	The Operations Section Chief is responsible for directing tactical emergency response, incident control actions, and recovery/clean-up operations. Also, request needed resources and prepares operational plans if needed.
Operations Section Chief Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant
Operations Section Chief Checklist:	❑ Obtain briefing from incident commander. ❑ Develop operations portion of Incident Action Plan. ❑ Brief and assign operations personnel in accordance with Incident Action Plan. ❑ Supervise Operations. ❑ Determine need and request additional resources. ❑ Review suggested list of resources to be released and initiate recommendation for release of resources. ❑ Assemble and disassemble strike teams assigned to operations section. ❑ Report information about special activities, events, and occurrences to incident commander.

SCHUMANN WIND
Emergency Response Procedures
ICS Checklists

Form #EM-6

Date: May 2017

Planning Section Chief

Planning Section Chief Role:	The Planning Section Chief is responsible for development of "Incident Action Plans" and management of incident status reports. Role includes assessing the situation, predicting outcomes and resource status, and initiating planning meetings.
Planning Section Chief Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant
Planning Section Chief Checklist:	❑ Obtain briefing from incident commander. ❑ Activate planning section units. ❑ Reassign initial attack personnel to incident positions as appropriate. ❑ Establish information requirements and reporting schedules for all ICS organizational elements for use in preparing the incident action plan. ❑ Establish a weather data collection system when necessary. ❑ Supervise preparation of incident action plan. ❑ Assemble information on alternative strategies. ❑ Assemble and disassemble strike teams not assigned to operations. ❑ Identify need for use of specialized resources. ❑ Provide periodic predictions on incident potential. ❑ Compile and display incident status summary information. ❑ Advise general staff of any significant changes in incident status. ❑ Provide incident traffic plan. ❑ Supervise planning section units. ❑ Prepare and distribute incident commander's orders. ❑ Insure that normal agency information collection and reporting requirements are being met. ❑ Prepare recommendations for release of resources for submission to the incident commander.

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Logistics Section Chief

Logistics Section Chief Role:	The Logistics Section Chief is responsible for identifying needed resources and supplies and on-scene delivery and management of supply facilities, services, and materials.
Logistics Section Chief Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant
Logistics Section Chief Checklist:	❑ Obtain briefing from incident commander. ❑ Plan organization of logistics section. ❑ Assign work locations and preliminary work tasks to section personnel. ❑ Participate in preparation of Incident Action Plan. ❑ Identify service and support requirements for planned and expected operations. ❑ Provide input to and review communications plan, medical plan, and traffic plan. ❑ Coordinate and process request for additional resources. ❑ Review incident action plan and estimate section needs for next operational period. ❑ Insure incident communications plan is prepared. ❑ Advise on current service and support capabilities. ❑ Prepare service and support elements of the incident action plan. ❑ Estimate future service and support requirements. ❑ Receive demobilization plan from planning section. ❑ Recommend release of unit resources in conformity with demobilization plan. **Insure general welfare and safety of logistics section personnel.**

Finance Section Chief

Finance Section Chief Role:	The Finance Section Chief is responsible for management of cost control and critical manpower planning.
Finance Section Chief Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant
Finance Section Chief Checklist:	❑ Obtain briefing from incident commander. ❑ Attend briefing with responsible agency to gather information. ❑ Attend planning meeting to gather information. ❑ Identify needs, order supplies, and support needs for finance section. ❑ Develop an operating plan for finance function on incident. ❑ Prepare work objectives for staff. ❑ Determine need for commissary operation. ❑ Inform command staff and general staff when section is fully operational. ❑ Meet with agency representatives as required. ❑ Provide input in all planning sessions on financial and cost analysis matters. ❑ Maintain daily contact with agency(s) administrative headquarters on finance matters. ❑ Insure that all personnel time records are transmitted to appropriate locations. ❑ Participate in all demobilization planning. ❑ Insure that all obligation documents initiated at the incident are properly prepared and completed. ❑ Brief agencies on all incident related business management issues needing attention and follow-up prior to leaving incident.

SCHUMANN WIND
Emergency Response Procedures
Wind Turbine Facility Emergency Equipment List

Date: May 2017

Item:	Location:
Cell phones, pagers, radios	Each Company or em. Contractor vehicle
Fire extinguishing equipment	Each Company or em. Contractor vehicle
Em. Breathing units and/or respirator	Each Company or em. Contractor vehicle
Safety harness and lines	Each Company or em Contractor vehicle
Emergency Communications Equipment	Emergency Contractor
Barricades, rope, signs, for mark Hot Zone	Emergency Contractor
Rescue rope	Emergency Contractor
Potable water	Emergency Contractor
Shovels and rakes	Emergency Contractor
Hand tools	Emergency Contractor
Portable welding equipment	Emergency Contractor
Portable pumps	Emergency Contractor
Sorbent materials	Emergency Contractor
Earth moving equipment	Emergency Contractor
Vacuum truck	Emergency Contractor
Lighting	Emergency Contractor
Back-hoe	Emergency Contractor
Shoring	Emergency Contractor
Compressor	Emergency Contractor
Generator	Emergency Contractor
Blowers	Emergency Contractor
Portable Generator	Emergency Contractor
Emergency Lighting	Emergency Contractor

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Recording and Reporting Occupational Injuries and Illnesses - 29 CFR Part 1904
REVIEWED SEPTEMBER 2010

The Occupational Safety and Health Act of 1970 requires most private sector employers to prepare and maintain records of work related injuries and illnesses. These records include the OSHA Form No. 200, Log and Summary of Occupational Injuries and Illnesses, and the OSHA Form No. 101, Supplementary Record of Occupational Injuries and Illnesses.

Employers Required to Keep Records

All employers with 11 or more employees in the following industries, as determined by their Standard Industrial Classification (SIC), must keep injury and illness records:

- ❑ Agriculture, Forestry and Fishing (SIC's 01-02 and 07-09)
- ❑ Oil and Gas Extraction (SIC 13)
- ❑ Construction (SIC's 15-17)
- ❑ Manufacturing (SIC's 20-39)
- ❑ Transportation, Communications, and Public Utilities (SIC's 41-42 and 44-49)
- ❑ Wholesale Trade (SIC's 50-51)
- ❑ Building Materials, Hardware, Garden Supply and Mobile Home Dealers (SIC 52)
- ❑ General Merchandise Stores (SIC 53)
- ❑ Food Stores (SIC 54)
- ❑ Hotels, Rooming Houses, Camps, and Other Lodging Places (SIC 70)
- ❑ Repair Services (SIC's 75 and 76)
- ❑ Amusement and Recreation Services (SIC 79)
- ❑ Health Services (SIC 80)

Employers Normally Exempt, but Periodically Required to Keep Records

The following employers are normally exempt from these recordkeeping requirements unless notified in advance by the Bureau of Labor Statistics (BLS) that they have been selected to participate in the mandatory Annual Survey of Occupational Injuries and Illnesses:

- Employers who had no more than ten employees (full- and part-time) at any time during the previous calendar year; or
- Employers who conduct business primarily in one of the following SIC's, regardless of the number of employees:

Retail Trade

55 Automotive Dealers and Gasoline Service Stations

56 Apparel and Accessory Stores

57 Furniture, Home Furnishings and Equipment Stores

58 Eating and Drinking Places

59 Miscellaneous Retail

Finance, Insurance and Real Estate

60 Banking

61 Credit Agencies other than Banks

62 Security and Commodity Brokers, and Services

63 Insurance

64 Insurance Agents, Brokers and Services

65 Real Estate

67 Holding and other Investment Offices

Services

72 Personal Services

73 Business Services

78 Motion Pictures

81 Legal Services

82 Educational Services

83 Social Services

84 Museums, Botanical and Zoological Gardens

86 Membership Organizations

87 Engineering, Accounting, Research, Management, and Related Services

88 Private Households

89 Miscellaneous Services

These exemptions do *not* excuse any employer from coverage by OSHA or from compliance with all applicable safety and health standards (which may include other types of recordkeeping requirements).

The recordkeeping exemptions apply to all eligible workplaces under the jurisdiction of Federal OSHA. However, 25 states and territories operate their own OSHAs. Employers in the following areas should contact the state agency to determine if it has or intends to adopt the exemptions: Alaska, Arizona, California, Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virginia, Virgin Islands, Washington, and Wyoming. Connecticut and New York cover state and local government employees only.

Records That Must Be Kept

OSHA requires the use of OSHA Form No. 200, the Log and Summary of Occupational Injuries, or an equivalent form. On the OSHA Log, employers provide some brief descriptive information and then use a simple check-off procedure to maintain a running total of occupational injuries and illnesses for the year. Authorized Federal and State government officials, employees, and their representatives are guaranteed access, upon request, to the injury and illness log for the establishment.

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Recording and Reporting Occupational Injuries and Illnesses - 29 CFR Part 1904
REVIEWED SEPTEMBER 2010

Employers are required to post an annual summary of occupational injuries and illnesses for the previous calendar year. The summary must be posted no later than February 1 and must remain in place until March 1.

OSHA Form No. 101 is used to supply supplementary information regarding each injury and illness entered on the log. This form names the person and describes the circumstances on his or her injury or illness. Substitute forms (such as workers' compensation reports) may be used if they contain all the specified information. Authorized government officials shall be provided access to these records also.

Injury and illness records shall be maintained at each workplace. In the absence of a regular workplace, records shall be maintained at some central location. The records shall be retained and updated for five years following the calendar year they cover.

Each workplace, regardless of the number of employees or type of business, must:

1. Display either an OSHA or State poster containing information for employees, and
2. Report to the nearest OSHA office within 8 hours all accidents which result in a work-related fatality or the hospitalization of three or more employees.

The BLS Survey

Each year BLS selects about 280,000 firms to take part in a survey used to calculate the job injury and illness rates for various industries nationwide. All employers selected for the survey are required by law to participate. As noted previously, employers that are normally exempt from OSHA recordkeeping are notified of their selection for the survey prior to the calendar year to which the survey relates.

The survey is used to monitor OSHA's progress and to assist the agency in setting standards, evaluating existing standards, scheduling inspections, and evaluating the performance of states and territories which operate their own OSHA-approved safety and health programs.

For More Information

For official instructions on recording occupational injuries and illnesses please refer to the *Recordkeeping Guidelines for Occupational Injuries and Illnesses, 1986*. You may obtain copies of the Guidelines and OSHA forms by calling the OSHA Area Office or the State OSHA Office in your jurisdiction.

Recording and Reporting Occupational Injuries and Illnesses - 29 CFR Part 1904
REVIEWED SEPTEMBER 2010

Intro to 29 CFR Part 1904, Reporting of Fatality or Multiple Hospitalization Incidents

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Part 1904

[Docket No. R-01]

Reporting of Fatality or Multiple Hospitalization Incidents

AGENCY: Occupational Safety and Health Administration (OSHA), Department of Labor.

ACTION: Final rule.

SUMMARY: This final rule revises regulation on Reporting of Fatality or Multiple Hospitalization Accidents. Along with numerous clarifications and several minor modifications, this revision makes three major changes to the former reporting requirements: First, whereas the former regulation applied to employment accidents which resulted in one or more fatalities or hospitalizations of five or more employees, the regulation is expanded to require the reporting of work related incidents resulting in the death of an employee or the hospitalization of three or more employees. Second, the regulation requires the employer to verbally report such incidents within 8 hours after the employer learns of it, instead of 48 hours by either written or verbal communication. Third, whether or not an incident is immediately reportable, if it results in the death of an employee or the in-patient hospitalization of 3 or more employees within 30 days of the incident, OSHA requires that the employer report the fatality/multiple hospitalization within 8 hours after learning of it.

The materials upon which OSHA has relied in drafting this final rule are available for review and copying in the OSHA Docket Office.

DATES: The new regulation will become effective on May 2, 1994.

ADDRESSES: In compliance with 28 U.S.C. 2112(a), the Agency designates for receipt of petitions for review of the regulation, the Associate Solicitor for Occupational Safety and Health, Office of the Solicitor, room S4004, U.S. Department of Labor, 200 Constitution Avenue NW., Washington, DC 20210.

FOR FURTHER INFORMATION, CONTACT: Mr. James F. Foster, U.S. Department of Labor, Occupational Safety and Health Administration, Office of Information and Consumer Affairs, room N-3647, 200 Constitution Avenue NW., Washington, DC 20210, phone (202) 219-8148.

SUPPLEMENTARY INFORMATION: In this preamble, OSHA identifies sources of information submitted to the record by an exhibit number (Ex. 2). When applicable, comment numbers follow the exhibit in which they are contained (Ex. 2: 1). If more than one comment within an exhibit is cited, the comment numbers are separated by commas (Ex. 2: 1, 2, 3). For quoted material, page numbers are cited if other than page one (p. 2).

[59 FR 15594, April 1, 1994; 59 FR 16895, April 8, 1994]

Incident Commander

IC Role: The Incident Commander is responsible for overall incident response and control of all activities. The IC establishes the "Command Post" at the incident location or other appropriate location. Authorization of action plans and resources are key activities of the IC.

IC Position Candidate Examples:

- Initial Responder
- Facility Operations Manager
- General Manager
- Maintenance Foreman
- OPUC Compliance Supervisor
- EHS Specialist

IC Checklist:

- ❑ Identify and isolate incident area; establish perimeters and control points.
- ❑ Establish a command post and staging areas.
- ❑ Notify and request assistance from dispatch, immediate supervisor, or appropriate higher ranking officials.
- ❑ Initiate incident command system and coordinate scene activities.
- ❑ Appoint command staff – safety liaison and information officers- and begin operations.
- ❑ Implement standard operating procedures or emergency response plan; develop and release incident action plan; revise and disseminate operational plans.
- ❑ Provide policy, direction, and control for emergency operations; set priorities and establish response strategies.
- ❑ Implement site safety plan; revise and disseminate plan.
- ❑ Establish site perimeter and control points.
- ❑ Reroute traffic and control access to site
- ❑ Establish work zones
    - Exclusion zone (hot zone)
    - Contamination reduction zone (decontamination zone)
    - Support zone
        - ❑ Conduct operations; eliminate potential for airborne dispersion, terminate release of hazardous materials, reduce exposure of personnel and equipment.
        - ❑ Monitor and sample site
        - ❑ Determine type of evacuation: immediate, precautionary, and scheduled.

Public Information Officer

SCHUMANN WIND, LLC
Emergency Response Procedures
ICS Checklists

Form #EM-6

Date: May 2017

Information Officer Role:	The Public Information Officer is responsible for providing on-site contact with news media and furnishing the media with Company approved news release information.
Information Officer Position Candidate Examples:	• Public Affairs Manager • Public Affairs Consultant • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist
Information Officer Checklist:	❑ Obtain briefing from Incident Commander. ❑ Contact the jurisdictional agency to coordinate public information activities. ❑ Establish single-incident information center whenever possible. ❑ Arrange for necessary work space, material, telephones, and staffing. ❑ Prepare initial information summary as soon as possible after arrival. ❑ Obtain approval for release from incident commander. ❑ Release information to news media. ❑ Post information in command post and other appropriate locations. ❑ Attend meetings to update information releases. ❑ Arrange for meetings between media and incident personnel. ❑ Provide escort service to the media and VIP's ❑ Respond to special request for information. ❑ Maintain log.
Information Officer Hints:	**Specifically, the Information Officer should address the following:** ❑ Name, title, and what the Info Officer function is. ❑ What has happened in simple terms. ❑ Injuries (no names unless family has been notified). ❑ Major concerns (Safety of people and protection of environment) **Watch for Red Flag questions:** ❑ What is the cause? Who is at fault? ❑ How much will it cost? ❑ How much was released? **Do not speculate. Stick to the known facts.**

Safety Officer

Safety Officer Role:	The Safety Officer is responsible for providing a "Site Safety Plan" and assessing activities for hazardous and/or unsafe situations and developing means for assuring the safety of response personnel.
Safety Officer Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant
Safety Officer Checklist:	❑ Obtain briefing from incident commander. ❑ Identify hazardous situations associated with the incident ❑ Identify control measures: (engineering administrative/PPE). ❑ Initiate evacuation procedures. ❑ Develop decontamination procedures. ❑ Conduct safety meetings. ❑ Participate in planning meetings. ❑ Review incident action plan. ❑ Review and approve medical plan ❑ Investigate accidents that have occurred within incident areas. ❑ Maintain a log. **Note:** Exercise emergency authority to stop and prevent unsafe acts.

Date: May 2017

Liaison Officer

Liaison Officer Role:	The Liaison Officer is responsible for conducting initial regulatory contacts and coordinating required government reports and inquires. Ensure that the Company is tracking regulatory agency response and potential for incidents of non-compliance.
Liaison Officer Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant
Liaison Officer Checklist:	❑ Obtain briefing from incident commander. ❑ Provide a point of contact for agency representatives. ❑ Identify agency representative from each agency. ❑ Establish communications link and location. ❑ Provide inter-organizational contacts for incident personnel. ❑ Monitor incident operations for inter-organizational problems. ❑ Maintain log.

Operations Section Chief

Operations Section Chief Role:	The Operations Section Chief is responsible for directing tactical emergency response, incident control actions, and recovery/clean-up operations. Also, request needed resources and prepares operational plans if needed.

Operations Section Chief Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant

Operations Section Chief Checklist:	❑ Obtain briefing from incident commander. ❑ Develop operations portion of Incident Action Plan. ❑ Brief and assign operations personnel in accordance with Incident Action Plan. ❑ Supervise Operations. ❑ Determine need and request additional resources. ❑ Review suggested list of resources to be released and initiate recommendation for release of resources. ❑ Assemble and disassemble strike teams assigned to operations section. ❑ Report information about special activities, events, and occurrences to incident commander.

Planning Section Chief

Planning Section Chief Role:	The Planning Section Chief is responsible for development of "Incident Action Plans" and management of incident status reports. Role includes assessing the situation, predicting outcomes and resource status, and initiating planning meetings.
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Planning Section Chief Checklist:	❑ Obtain briefing from incident commander. ❑ Activate planning section units. ❑ Reassign initial attack personnel to incident positions as appropriate. ❑ Establish information requirements and reporting schedules for all ICS organizational elements for use in preparing the incident action plan. ❑ Establish a weather data collection system when necessary. ❑ Supervise preparation of incident action plan. ❑ Assemble information on alternative strategies. ❑ Assemble and disassemble strike teams not assigned to operations. ❑ Identify need for use of specialized resources. ❑ Provide periodic predictions on incident potential. ❑ Compile and display incident status summary information. ❑ Advise general staff of any significant changes in incident status. ❑ Provide incident traffic plan. ❑ Supervise planning section units. ❑ Prepare and distribute incident commander's orders. ❑ Insure that normal agency information collection and reporting requirements are being met. ❑ Prepare recommendations for release of resources for submission to the incident commander.

Logistics Section Chief

Logistics Section Chief Role:	The Logistics Section Chief is responsible for identifying needed resources and supplies and on-scene delivery and management of supply facilities, services, and materials.
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Finance Section Chief

Finance Section Chief Role:	The Finance Section Chief is responsible for management of cost control and critical manpower planning.
Finance Section Chief Position Candidate Examples:	• Initial Responder • Facility Operations Manager • General Manager • Maintenance Foreman • OPUC Compliance Supervisor • EHS Specialist • EHS Consultant
Finance Section Chief Checklist:	❑ Obtain briefing from incident commander. ❑ Attend briefing with responsible agency to gather information. ❑ Attend planning meeting to gather information. ❑ Identify needs, order supplies, and support needs for finance section. ❑ Develop an operating plan for finance function on incident. ❑ Prepare work objectives for staff. ❑ Determine need for commissary operation. ❑ Inform command staff and general staff when section is fully operational. ❑ Meet with agency representatives as required. ❑ Provide input in all planning sessions on financial and cost analysis matters. ❑ Maintain daily contact with agency(s) administrative headquarters on finance matters. ❑ Insure that all personnel time records are transmitted to appropriate locations. ❑ Participate in all demobilization planning. ❑ Insure that all obligation documents initiated at the incident are properly prepared and completed. ❑ Brief agencies on all incident related business management issues needing attention and follow-up prior

to leaving incident.

SCHUMANN WIND, LLC
Emergency Response Procedures
Agency Notifications and Reporting
Form # EM-3

Date: May 2017

Name of company person making calls: _____
Title of company person making calls: _____

Agency Notifications:

Local Emergency Service: Fire or Medical Emergency	911, 24 hours/day EURFPD 1-(541)-566-2311 Milton-Freewater-1-(541)-938-7146
Persons Contacted:	
Person Title:	
Date and Time:	
Report #:	
Reporting Criteria: • Any facility emergency	Comments:
Oregon State Police:	(541)-278-4090 24 hours/day - 911
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
NRC report #:	
Reporting Criteria: State related Incident-Aircraft down-Act of terrorism- Theft	Comments:
East Umatilla County Health District	911-Emergency 1-(541)-566-3813
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
Reporting Criteria: • Medical Emergency	Comments:

Name of company person making calls: _____
Title of company person making calls: _____

SCHUMANN WIND, LLC

Emergency Response Procedures

Agency Notifications and Reporting

Form # EM-3

Date: May 2017

Agency Notifications:

Oregon Department of Environmental Quality:	1-(503)-229-5696, 24 hours/day 1-(800)-452-4011
Person Contacted:	
Person Title:	
Date and Time:	
Report #:	
Reporting Criteria: • Actual or threatened release of any hazardous material that poses threat to public or the environment. • Release of hazardous substance to state waters o Spills or leakage of oil or liquid pollutant on state lands or waters o Release of hazardous material or waste upon any highway. [Vehicle Code]	Comments:
OERS	1-(800) 452-0311 (oil spill hot line)
Person Contacted:	
Person Title:	
Date and Time:	
Report #:	
Reporting Criteria: Discharge or threatened discharge of oil/condensate greater than one barrel into marine waters.	Comments:

SCHUMANN WIND, LLC

Emergency Response Procedures

Agency Notifications and Reporting

Form # EM-3

Date: May 2017

Name of company person making calls: _____

Title of company person making calls: _____

Agency Notifications:

OSHA: (OREGON)	1-(503)-378-3573 or 1-(503)-378-3272 1-(800)-922-2689
Person Contacted:	
Person Title:	
Date and Time:	
Report #:	
Reporting Criteria: • Catastrophes, Fatality or over-night hospitalization accidents.	Comments:
Oregon Public Utilities Commission	1-(503)-378-6634
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
	Comments:
Agency Contacted:	
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
	Comments:
Agency Contacted:	
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
	Comments:

SCHUMANN WIND, LLC

Emergency Response Procedures

Agency Notifications and Reporting

Form # EM-3

Date: May 2017

Name of company person making calls: _____

Title of company person making calls: _____

Agency Notifications:

Agency Contacted:	
Person Contacted:	
Person Title:	
Date and Time:	
Report #:	
	Comments:

Agency Contacted:	
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
	Comments:

Agency Contacted:	
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
	Comments:

Agency Contacted:	
Agency Person Contacted:	
Agency Person Title:	
Date and Time:	
Report #:	
	Comments:

SCHUMANN WIND, LLC

Emergency Response Procedures

Agency Notifications and Reporting

Form # EM-3

	Date: May 2017

SCHUMANN WIND, LLC
Emergency Response Procedures
COMPANY NOTIFICATIONS
Form # EM-4

Date: May 2017

Company Person Contacted:	Company Person Who Placed Call:	Date:	Time:	Time Arrived at Scene or Command Post:

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SCHUMANN WIND, LLC
Emergency Response Procedures
Emergency Drill Documentation
Form # EM-8

Date: May 2017

Date: _____
Em. Drill Start Time: _____
Em. Drill Finish Time: _____
Location of Drill: _____

DESCRIPTION OF EMERGENCY DRILL:

Evaluator Checklist:

Immediate Actions: (Actions, Knowledge, Documentation, Available Tools/Info)

- Em call handling
- Agency Notification
- Company Notification
- Em. Contractor Notification
- Gas company notifications
- First on scene actions

Ongoing Actions: (Actions, Knowledge, Documentation, Available Tools/Info)

- ☐ On scene command or ICS
- ☐ On scene air monitoring
- ☐ On scene leak isolation
- ☐ Company staff mobilization
- ☐ Em. Contractor mobilization
- ☐ Containment & isolation of area
- ☐ Agency notifications and reports

Overall Evaluation of Emergency Systems and Knowledge:

- ☐ Efficient, accurate, and updated Info (phone list, checklist, forms, etc.)
- ☐ Accurate procedures
- ☐ Em Resources readily available (equipment, contractors, Co. employees, etc.)
- ☐ Communication Systems
- ☐ Public protection
- ☐ Employee protection and PPE
- ☐ Roles and Responsibilities understood
- ☐ Training (Hazwoper, Em. Manual, PPE, ICS, etc.)
- ☐ Knowledge of wind turbine facility & equipment
- ☐ Documentation
- ☐ ICS (Incident command, planning, operations, logistics, finance)

SCHUMANN WIND, LLC
Emergency Response Procedures
FORMS INDEX

Date: May 2017

Form Number	Form Title/Description:	Em. Plan Tab #:	Form To Be Used By:
EM-1	Initial Notification Document	6	First person to receive emergency notification.
EM-2	First Responder On Scene Checklist	6	First company pipeline person capable of performing First Responder function.
EM-3	Agency Notification Log	6-8	Company On-duty supervisor or designated company employee
EM-4	Company Notification Log	6	Company On-duty supervisor or designated company employee
EM-5	Emergency Log of Miscellaneous Activities	6	Any person performing emergency response activities
EM-6	Incident Command System Checklist by ICS Job Title	6-14	Any person performing Incident Command response activities
EM-7	Post Incident Response Critique Checklist	6	Company supervisor performing emergency response critique review
EM-8	Emergency Drill Documentation	6	Company supervisor performing emergency response drill review
	Emergency Plan Notification Record		
	Telephone Report of Incidents	8-EM # 3	Facility Supervisor or Facility Compliance Supervisor reporting incidents to the appropriate agency
	Safety Related Condition Report	(TBD)	Facility Supervisor or Facility Compliance Supervisor reporting safety related condition to the appropriate agency.
	Follow Up Written Incident Report	(TBD)	Facility Supervisor or Facility Compliance Supervisor reporting incidents to the appropriate agency.
	Annual Report	CES LLC.	Facility Supervisor with Condor Energy Services LLC. completing the annual report.
	Schumann Wind, LLC required documentation	(SW)	Facility Directives, Safety Management Directives
	Training Documentation	(SW)	Facility Supervisor or Facility Compliance Supervisor / Contractor performing emergency response training.

(TBD) To be determined

SCHUMANN WIND, LLC
Emergency Response Procedures
LOG OF MISCELLANOUS ACTIVITIES
Form #EM-5

Date: May 2017

Date: _____
Title: _____
Signature: _____

Time:	Action:

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SCHUMANN WIND, LLC
Emergency Response Procedures
LOG OF MISCELLANOUS ACTIVITIES
Form #EM-5

Date: May 2017

Date: _____
Title: _____
Signature: _____

Time:	Action:

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SCHUMANN WIND, LLC
Emergency Response Procedures
First on Scene Checklist
Form # EM-2

Date: May 2017

1st Priority:
- ❑ Protect the public, responders, company personnel.

Responsibilities:

Scope, Assessment, and Mitigation:
- ❑ Identify the type, form, nature, quantity and hazards involved in the incident.
- ❑ Develop a proper course of action (prevention of accidental ignition, runaway turbine rpm's,etc.)

Checklist:

Assessment:
- ❑ Is a fluid being released?
- ❑ Is there a visible vapor cloud?
- ❑ Has a liquid pool started to form?
- ❑ How large is the visible cloud or pool?
- ❑ Is the liquid pool likely to spread and enter a body or water?
- ❑ Is a vapor condition likely to enter nearby buildings?
- ❑ If already ignited, how large is the fire?
- ❑ Is the situation immediately dangerous to persons or property?
- ❑ Is the situation likely to get worse?
- ❑ What can be done to reduce the risk to persons and property?
- ❑ Are there ignition sources that need to be removed?

Mitigation:
- ❑ Evacuate or shelter in place.
- ❑ Ignition source control.
- ❑ Emergency shutdown or isolation.

Other Activities To Consider:
- ❑ Interact with other response agencies.
  - ❑ Start documentation with emergency log of misc. activities (form #EM-5)
  - ❑ Notify local emergency response agencies (911).
  - ❑ Notify other agencies (federal, state, other local agencies)
  - ❑ Notify appropriate personnel within the pipeline Company:
    - Manager, and/or Duty supervisor
    - Facility operator
    - General Manager
    - SCHUMANN WIND, LLC Environmental and Safety Coordinator
    - Other personnel needed to respond to the scene (repair crew, operators, supervisors, etc.)

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SCHUMANN WIND, LLC
Emergency Response Procedures
Initial Notification Document
Form # EM-1

Date: May 2017

Caller Information:

1) Date:

2) Time:

3) Name of Caller:

4) Telephone # of Caller:

Emergency Information:

5) Emergency Location (include directions if needed)

6) Status of the Event: Check all that apply explain in comments section

- ❑ Fire?
- ❑ Explosion?
- ❑ Natural disaster?
- ❑ Civil disorder?
- ❑ Visible damage?
- ❑ Special considerations? (RR, sewer, waterway, electrical power lines, other)

7) Emergency action already taken by civilians or public officials (fire, police, Hwy patrol, etc.)?

Comments And Other Pertinent Information:

Call Receiver Information:

Print Name of Person Receiving Call:

Signature:

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SCHUMANN WIND, LLC
Emergency Response Procedures
Initial Notification Document
Form # EM-1

Date: May 2017

Caller Information:

1) Date:

2) Time:

3) Name of Caller:

4) Telephone # of Caller:

Emergency Information:

5) Emergency Location (include directions if needed)

6) Status of the Event: Check all that apply explain in comments section

- ❑ Fire?
- ❑ Explosion?
- ❑ Natural disaster?
- ❑ Civil disorder?
- ❑ Visible damage?
- ❑ Special considerations? (RR, sewer, waterway, electrical power lines, other)

7) Emergency action already taken by civilians or public officials (fire, police, Hwy patrol, etc.)?

Comments And Other Pertinent Information:

Call Receiver Information:

Print Name of Person Receiving Call:

Signature:

SCHUMANN WIND, LLC
Emergency Response Procedures
POST-INCIDENT RESPONSE CRITIQUE
Form #EM-7

Date: May 2017

Date of Critique: _____
Title: _____
Signature: _____

Issue:	Response Actions:	Recommendations For Improvement: (Consider procedures, forms, training)
Initial Action And Deployment:	❑ Was initial information handled accurately, quickly, and completely? ❑ Did the On-Duty Person receive notification in a timely manner? ❑ Did the first person on-scene arrive in a timely manner? ❑ Did the First Responder take the correct action? (scope, assessment, evacuation, etc.)	
Initial On-Scene Activities:	❑ Were isolation zones setup if appropriate? ❑ Was ICS setup properly and in a timely manner? ❑ Did ICS function properly? ❑ Was mitigation handled properly? ❑ Was containment handled properly? ❑ Were emergency events and actions documented? ❑	
Reporting And Notifications:	❑ Were all agency notifications made in a timely manner? ❑ Were Company personnel notified? ❑ Were emergency contractors notified? ❑ Were gas supply companies notified?	

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SCHUMANN WIND, LLC
Emergency Response Procedures
POST-INCIDENT RESPONSE CRITIQUE
Form #EM-7

Date: May 2017

Issue:	Response Actions:	Recommendations For Improvement: (Consider procedures, forms, training)
Communications:	❑ ICS roles clearly communicated? ❑ Proper communication between all appropriate response personnel (radios, cell phones, etc.) ❑ Messages clear and concise.	
Media And Public Affairs:	❑ Public information released? ❑ Did IC approve released info? ❑ Was interface with public satisfactory?	
Site Safety:	❑ Was a site safety plan developed? ❑ PPE used? ❑ Was hazard info available?	
Logistics And Planning:	❑ Was emergency equipment readily available? ❑ Was emergency equipment appropriate?	
Finance:	❑ Were monetary funds available when needed?	
Other:	❑ Were there any problem areas not previously discussed?	

Facility Mgr Signature: _____

Date: _____

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"SCHUMANN WIND, LLC."
ATTACHMENT B

SAFETY RELATED CONDITION REPORT

INCIDENT REPORT – WIND TURBINE / FACILTY INCIDENT DATA

Report Date _____

EMPLOYEE _____

INSTRUCTIONS

Important: *Please read the whole document prior to completing this form before you begin. Clarify the information requested and provide specific examples.*

PART A – GENERAL REPORT INFORMATION Check one: ☐ **Original Report** ☐ **Supplemental Report** ☐ **Final Report**

Operator Name and Address

a. Operator's Number (when known) /__/__/__/__/__/__/

b. If Operator does not own the FACILITY enter Owner's Identification /__/

c. Name of Operator _____

d. Operator street address _____

e. Operator address _____
City, County or Parrish, State and Zip Code

2. Time and date of the incident

/__/__/__/__/ hr. /__/__/ month /__/__/ day /__/__/ year

3. Location of incident

a. _____
Nearest street or road

b. _____
City and County or Parrish

c. _____
State and Zip Code

d. TOWER Station # _____

e. No. OF TOWERS _____

f. Latitude: _____ Longitude: _____
(if not available, see instructions for how to provide specific location)

g. location description

Area _____ TOWER # _____

State /__/__/ or OTHER ID# _____

h. Incident on Federal Land other than Outer Continental Shelf
O Yes O No

i. Is Turbine Facility Interstate O Yes O No

4. Type of INCIDENT

O Leak: OPinhole OConnection Failure

O Puncture, diameter *(inches)* _____

O Rupture: O Circumferential – Separation

O Longitudinal
– Tear/Crack, length *(inches)* _

- Propagation Length, total, both sides *(feet)* _____

O N/A

O Other: _____

5. Consequences *(check and complete all that apply)*

a. ☐ Fatality Total number of people: /__/__/__/

Employees: /__/__/__/ *General Public:* /__/__/__/

Non-employee Contractors: /__/__/__/

b. ☐ Injury requiring inpatient hospitalization Total number of people: /__/__/__/

Employees: /__/__/__/ *General Public:* /__/__/__/

Non-employee Contractors: /__/__/__/

c. ☐ Property damage/loss *(estimated)* Total $_____

FACILITY loss $_____ Operator damage $_____

Public/private property damage $_____

d. ☐ Release Occurred in a 'High Consequence Area'

e. ☐ LIQUID ignited – No explosion f. ☐ Explosion

g. ☐ Evacuation *(general public only)* /__/__/__/__/__/ people

Reason for Evacuation:
O Emergency worker or public official ordered, precautionary
O Threat to the public O Company policy

6. Elapsed time until area was made safe:

/__/__/ hr. /__/__/ min.

7. Telephone Report

/__/__/__/__/__/__/__/ NRC Report Number /__/__/ month /__/__/ day /__/__/ year

8. a. Estimated time of incident:

_____ *ESTIMATED*

B. _____ ACTUAL

PART B – PREPARER AND AUTHORIZED SIGNATURE

_____ (type or print) Preparer's Name and Title

_____ Area Code and Telephone Number

_____ Preparer's E-mail Address

_____ Area Code and Facsimile Number

_____ Authorized Signature (type or print) Name and Title

_____ Date

_____ Area Code and Telephone Number

PART C - ORIGIN OF THE INCIDENT

1. Incident occurred on
   - O Tower System
   - O Generation System
   - O Transmission Line of Distribution System
2. Failure occurred on
   - O Body of tower O Blades
   - O Nacelle
   - O Component
   - O Other:_____
3. Material involved
   - O Steel
   - O Plastic (If plastic, complete all items that apply in a-c)
     Plastic failure was: ☐ a.ductile ☐ b.brittle ☐ c.joint failure
   - O Material other than plastic or steel: _____
4. Part of system involved in incident
   - O Tower O Regulator/Metering System
   - O Generation Station O Other:_____
5. Year the Turbine or component which failed was installed: /__/__/__/__/

PART D – MATERIAL SPECIFICATION (if applicable)

1. Nominal damage size /__/__/__/__/ in.
2. Nominal damage size in feet /__/__/__/ ft.
3. Specification _____ /__/__/__/__/__/__/
4. Generator type _____
5. System type _____
6. SYSTEM manufactured by _____ in year /__/__/__/__/

PART E – ENVIRONMENT

1. Area of incident
   - O Under pavement O In open ditch
   - O Under ground O Above ground
   - O Inside/under tower
   - Other: _____
2. Depth of cover: _____ inches

PART F – APPARENT CAUSE

Important: *There are 25 numbered causes in this section. Check the box to the left of the **primary** cause of the incident. Check one circle in each of the supplemental items to the right of or below the cause you indicate.*

F1 – CORROSION

If either F1 (1) External Corrosion, or F1 (2) Internal Corrosion is checked, complete all subparts a – e.

1. ☐ External Corrosion

Component Coating
- O Bare
- O Coated

b. Visual Examination
- O Localized Pitting
- O General Corrosion
- O Other: _____

c. Cause of Corrosion
- O Galvanic O Stray Current
- O Improper Cathodic Protection
- O Microbiological
- O Stress Corrosion Cracking
- O Other: _____

d. Was corroded part of turbine system considered to be under cathodic protection prior to discovering incident?
- O No O Yes, Year Protection Started: /__/__/__/__/

2. ☐ Internal Corrosion

e. Was TURBINE previously damaged in the area of interest/corrosion?
- O No O Yes, How long prior to incident: /__/__/__/ *years* /__/__/ *months*

9. ☐ Third Party Excavation Damage *(complete a-d)*

a. Excavator group
- O General Public O Government O Excavator other than Operator/subcontractor

b. Type: O Road Work O Water O Electric O Phone/Cable O Landowner
- O Other: _____

c. Did operator get prior notification of excavation activity?
- O No O Yes: Date received: /__/__/ mo. /__/__/ day /__/__/ yr.
- Notification received from: O One Call System O Excavator O Contractor O Landowner

d. Was location marked?
- O No O Yes *(If Yes, check applicable items i – iv)*
  - i. Temporary markings: O Flags O Stakes O Paint
  - ii. Permanent markings: O Yes O No
  - iii. Marks were *(check one)* O Accurate O Not Accurate
  - iv. Were marks made within required time? O Yes O No

F4 – OTHER OUTSIDE FORCE DAMAGE

10. ☐ Fire/Explosion as primary cause of failure ⇒ Fire/Explosion cause: O Man made O Natural
11. ☐ Car, truck or other vehicle not relating to excavation activity damaging facility
12. ☐ Vandalism

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F5 – MATERIAL AND WELDS

Material

14. ☐ Body of Tower ⇒ O Dent O Gouge O Wrinkle Bend O Arc Burn O Other: _____
15. ☐ Component ⇒ O Valve O Fitting O Vessel O Extruded Outlet O Other: _____
16. ☐ Joint ⇒ O Gasket O O-Ring O Threads O Other: _____

Weld

17. ☐ Butt ⇒ O Pipe O Fabrication O Other: _____
18. ☐ Fillet ⇒ O Branch O Hot Tap O Fitting O Repair Sleeve O Other: _____

*Complete a-g if you indicate **any** cause in part F5.*

a. Type of failure:

☐ Construction Defect ⇒ O Poor Workmanship O Procedure not followed O Poor Construction Procedures

☐ Material Defect

b. Was failure due to damage sustained in transportation to the construction or fabrication site? O Yes O No

c. Was defective part tested before incident occurred? O Yes, *complete d* O No

d. Date of test: / / / mo. / / / day / / / yr.

e. Test medium: O NDT O X-RAY O Other: _____

F6 – EQUIPMENT AND OPERATIONS

20. ☐ Malfunction of Control/ Equipment ⇒ O SWITCHING O Instrumentation O Power Regulator O Other: _____
21. ☐ Threads Stripped, Prior to Coupling ⇒ O Nipples O Valve Threads O Mechanical Couplings O Other: _____
22. ☐ Ruptured or Leaking Seal/Pump Packing of Hydraulic system

F7 – OTHER

24. ☐ Miscellaneous, *describe:* _____
25. ☐ Unknown

O Investigation Complete O Still Under Investigation *(submit a supplemental report when investigation is complete)*

PART G – NARRATIVE DESCRIPTION OF FACTORS CONTRIBUTING TO THE EVENT *(Attach additional sheets as necessary)*

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ATTACHMENT (A) FIRE BREAK / ROAD MAINTENANCE

Inspectors comments;			
DATE-Initialed	WEED CLEARANCE & ABATEMENT DONE	DATE- Initialed	ROAD GRADE / PAD CLEARENCE DONE
NEW / REPORTABLE FACILITY CONDITIONS:			

Attachment (A) is to be utilized to report semi-annually on "SCHUMANN WIND, LLC." facility conditions, as relating to fire prevention through abatement of overgrowth and over-all facility fire prevention measures. A copy of this report taken on a semi- annual basis is to be retained as a facility document to be reviewed and signed off by the Facility Manager. Not to exceed (15) months on semi- annual Inspections.

The Management: "SCHUMANN WIND, LLC."

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SCHUMANN WIND, LLC

"SCHUMANN WIND, LLC."

Emergency Response – Record of Revisions

Date: May 2017

	DECEMBER 12 2010
1.	Initial plan developed for emergency operation of SCHUMANN WIND, LLC "SCHUMANN WIND, LLC PROJECT"

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NOXIOUS WEED MANAGEMENT GENERAL NOTES:

1. NOXIOUS WEED OCCURRENCES AND DENSITIES FOR THE PROJECT WILL NEED TO BE IDENTIFIED AND RECORDED BY QUALIFIED INVESTIGATORS.
2. PRIOR TO CONSTRUCTION COMMENCING, IT IS RECOMMENDED THAT THE CONTRACTOR AND ANY SUBCONTRACTORS ATTEND AND ACQUIRE INFORMATION AND TRAINING REGARDING NOXIOUS WEED MANAGEMENT, WEED IDENTIFICATION, AND THE IMPACTS OF THE NOXIOUS WEEDS ON AGRICULTURE, LIVESTOCK AND WILDLIFE.
3. ANY NOXIOUS WEED AREAS OF CONCERN SHOULD BE IDENTIFIED AND FLAGGED IN THE FIELD BY THE QUALIFIED INVESTIGATORS OR THEIR REPRESENTATIVES ON SITE.

PREVENTATIVE MEASURES:

1. TRAINING
   - 1.1. EMPLOYEE TRAINING AND AWARENESS PROGRAMS TO IDENTIFY AND PROTECT NOXIOUS WEED SPECIES.
2. CLEANING
   - 2.1. ALL CONSTRUCTION EQUIPMENT SHALL BE CLEANED PRIOR TO ENTERING THE PROJECT SITE AND PRIOR TO LEAVING THE PROJECT SITE.
   - 2.2. CLEANING SHALL BE COMPLETED BY THE USE OF MEANS TO REMOVE SEEDS, ROOTS AND ANY SOIL DEBRIS FROM THE ENTIRE VEHICLE, THIS SHALL INCLUDE BUT IS NOT LIMITED TO TIRES, UNDERCARRIAGE, BUMPERS, TRAILERS, VEHICLE CABS, ETC.
   - 2.3. ALL EQUIPMENT CLEANING STATIONS SHALL BE NOTED ON PLAN AND THE LOCAL JURISDICTIONAL CONTACT SHALL BE NOTIFIED OF SUCH LOCATIONS.
   - 2.4. CLEANING STATIONS SHALL BE KEPT WEED FREE BY THE USE OF ALLOWED HERBICIDES BY UMATILLA COUNTY, OR APPROVED EQUAL. HERBICIDES SHALL BE APPROVED WITH THE LOCAL JURISDICTION PRIOR TO BEING USED.
   - 2.5. THE CONTRACTOR, WITH OVERSIGHT FROM AN ENVIRONMENTAL INSPECTOR, SHALL ENSURE THAT VEHICLES AND EQUIPMENT ARE FREE OF SOIL AND DEBRIS CAPABLE OF TRANSPORTING NOXIOUS WEED SEEDS, ROOTS, AND SOIL DEBRIS BEFORE THE VEHICLES AND EQUIPMENT ARE ALLOWED USE OF PROJECT ACCESS ROADS.
3. SOIL MANAGEMENT
   - 3.1. AREAS WHERE NOXIOUS WEEDS HAVE BEEN IDENTIFIED AND FLAGGED THAT NEED TO BE STRIPPED FOR CONSTRUCTION ACTIVITIES, SHALL BE STOCKPILED IN LOCATIONS NEAR THEIR ORIGINATION. WEED INFESTED STOCKPILES SHALL BE PROPERLY MARKED AND PLANNED TO BE PLACED IN AREAS FROM WHICH THEY WERE STRIPPED TO REDUCE THE TRANSPORTATION OF SEEDS, ROOTS AND SOIL DEBRIS. STOCKPILES SHALL HAVE THE PROPER EROSION AND SEDIMENT CONTROL MEASURES INSTALLED TO REDUCE THE AMOUNT OF EXPOSED SOILS THAT MAY BE TRANSPORTED BY STORM WATER, WIND OR OTHER CONVEYANCE METHODS.
   - 3.2. DISTURBED PROJECT AREA THAT IS NO LONGER BEING ACTIVELY GRADED SHALL BE REVEGETATED TO PREVENT THE INVASION OF NOXIOUS WEEDS.

TREATMENT METHODS:

1. ALL TREATMENTS MUST BE APPROVED BY UMATILLA COUNTY OR ANY OTHER JURISDICTIONAL AUTHORITIES.
2. ANY HERBICIDAL CHEMICALS USED FOR TREATMENT OF NOXIOUS WEEDS MUST BE APPROVED BY UMATILLA COUNTY OR ANY OTHER JURISDICTIONAL AUTHORITIES. ANY SPILLS ASSOCIATED WITH HERBICIDAL APPLICATION SHALL BE CLEANED IMMEDIATELY.
3. PRE-CONSTRUCTION HERBICIDAL TREATMENTS OF WEED INFESTATIONS MAY BE CONDUCTED TO REDUCE INFESTATIONS PRIOR TO PROJECT DISTURBANCE. ONLY TARGETED NOXIOUS WEEDS SHALL BE TREATED, METHODS SHALL BE USED TO PRESERVE EXISTING VEGETATION THAT ARE NOT IDENTIFIED AS NOXIOUS WEEDS.
4. POST-CONSTRUCTION HERBICIDAL TREATMENTS MAY BE USED AFTER THE SEEDBED HAS BEEN ESTABLISHED AND NOXIOUS WEEDS CAN BE IDENTIFIED. HERBICIDAL APPLICATIONS SHALL BE CONTROLLED TO MINIMIZE IMPACTS TO SURROUNDING VEGETATION. SEEDING SHALL BE COMPLETED FOLLOWING TREATMENT TO RE-VEGETATE INFESTATION AREAS.
5. MOWING OR DISCING INFESTATION AREAS AND SEEDING AS SOON AS POSSIBLE TO REVEGETATE DISTURBED AREA TO SLOW THE RE-INVASION OF NOXIOUS WEEDS.
6. SEEDING AND RE-VEGETATION OF DISTURBED AREAS SHALL FOLLOW IMMEDIATELY AFTER CONSTRUCTION ACTIVITIES.

MONITORING:

1. MONITORING OF ALL RE-VEGETATED AREAS SHALL BE COMPLETED THROUGHOUT THE DURATION OF THE PROJECT RE-VEGETATION TIMELINE, AND SHALL BE COMPLETED DURING THE GROWING SEASONS.
2. IF MONITORING IDENTIFIES AREAS OF NOXIOUS WEED GROWTH, TREATMENT METHODS SHALL BE IMPLEMENTED TO REDUCE THE POPULATION OF THE NOXIOUS WEEDS.
3. ALL MONITORING REPORTS SHALL BE SUBMITTED TO UMATILLA COUNTY AND ANY OTHER JURISDICTIONAL AUTHORITIES.

Attachment G Socioeconomic Impact Assessment

This socioeconomic impact statement is provided in accordance with Umatilla County Development Code 152.616 (HHH) (5) (j). It is meant to address the potential social, economic, public service, cultural, visual, and recreational impacts on affected communities during the construction, operation, and decommissioning phases of the proposed Schumann Wind Energy Project (Schumann). For this statement, the affected communities referred to herein are considered to be the nearby incorporated communities of Athena, Helix, Milton-Freewater, Pendleton, Weston, and Umatilla County as a whole.

Social Impacts

This section examines social impacts for which a potential change in the local population could occur. Wind energy projects create new short and long term jobs.

During the construction phase, Schumann is expected to employ approximately 40 people. These positions will be temporary due to the short-term nature of the construction phase of the Project. As much as possible, development and construction phase positions will be filled from the local labor/trade and materials suppliers' pool. Due to the need for a specialized skill set, however, several positions will require hiring from outside the community. Once the construction phase is complete, most of the temporary work force from outside the community is expected to leave.

During the operations phase of the Project, Schumann is expected to employ two to three full or part time staff. These are permanent positions for which experienced and appropriately trained personnel are needed. Every effort will be made to fill these positions from the local community.

Fewer individuals are expected to be hired during the decommissioning of the Project compared to the construction phase. These positions will be temporary due to the short-term nature of the decommissioning phase of the Project. It is expected that only some of the workforce will be hired from the local community because the decommissioning of this Project requires specialized personnel and equipment that may not be available in the immediate area. The temporary work force is expected to leave upon completion of the decommissioning phase.

Economic Impacts

This section examines economic impacts for which a potential change in the local economy could occur. Wind energy projects create new short and long term jobs, all of which affect the local economy in positive ways.

During the construction phase, Schumann is expected to stimulate the local economy through its construction workforce. Any workforce personnel brought in from outside the immediate community will be purchasing local goods and services as well as paying for housing, food, meals, and other personal necessities. Local earth moving contractors and local building materials such as gravel and concrete may also be utilized in the construction of the facility. Secondary and tertiary economic benefits of wind projects are well documented and result from meals served in local establishments,

buying fuel and vehicle maintenance from local service stations, and supplies from local hardware and building supply stores.

During the operations phase, the Project is expected to add to the tax base of the county which in turn will stimulate the local economy. Permanent employees will have jobs that pay a living wage or greater. They will also be added to the local tax base which will increase county tax revenue. Because they will be living in the immediate community they will also be part of the local economy, purchasing local goods and services, as well as paying for housing. Secondary and tertiary economic benefits related to operations include meals served in local establishments, fuel and vehicle maintenance purchases from local service stations, and obtaining supplies from local hardware, building supply, and office supply stores.

During the decommissioning phase, Schumann is expected to stimulate the local economy through its decommissioning workforce. Any workforce brought in from outside the immediate community will be purchasing local goods and services as well as paying for temporary housing. Additionally, purchases from local vendors may be made for the decommissioning work, including meals, fuel, vehicle maintenance, and any necessary supplies. Local wrecking contractors may also be utilized in the decommissioning of the facility.

Public Services

This section considers potential impacts on community public services during the construction, operations, and decommissioning phases.

Construction related traffic is short-term in nature and not expected to have an impact on normal traffic patterns or an emergency response crew's ability to provide service.

Temporary workers hired from outside the community are not expected to have an impact on emergency response crews since housing for these workers consists of existing buildings or RV facilities already covered by fire and emergency response plans. See the Emergency Response Plan (Attachment 3) for details on how the Project construction will interface with local emergency response crews in the event of an emergency.

During the operations phase, Schumann is not expected to hinder day-to-day operations of local emergency response services. Safety measures observed during operations will minimize any need for an emergency response to the Project site.

The decommissioning phase will employ fewer people than the construction phase and will similarly have a minimal impact on emergency response.

The construction, operation, and decommissioning of a wind Project may create the potential for criminal activity (theft, vandalism, trespassing). The Project will provide appropriate security measures to dissuade and mitigate such potential. Therefore, little to no criminal activity is expected to occur during or after the Project's construction. Wind projects do not attract criminal activity from outside the area.

The nearby health facilities in the area include St. Anthony's Hospital in Pendleton, Oregon and Providence St. Mary Medical Center and Walla Walla General Hospital in Walla Walla, Washington. All three facilities provide 24-hour emergency care and are expected to adequately deliver services to construction, operations, and decommissioning personnel if it is necessary. The temporary workforce is not large enough to be expected to add any increased strain on these community health facilities.

No significant impacts on local school systems are expected. The temporary work force is not expected to move their families to the area due to the short-term nature of a construction phase. Any permanent personnel hired from outside the community are expected to bring their family with them. If the average number of children per household is two that would mean four to six children at most would be added to the affected communities for the additional families moving to the area. These children spread across the affected communities would not add any additional strain on the local school systems. As in the construction phase, the decommissioning phase will have no impact on the local school system.

The temporary work force that is expected to be hired from outside the immediate community will need adequate temporary housing during construction and decommissioning. The temporary work force will presumably find housing in rental houses, rental apartments, hotel rooms, and RV camp sites. A Google search reveals sufficient hotels and motels in the Walla Walla Valley area. There are numerous RV parks in the immediate region as well. This abundance of rental, hotel, and camping options provides for adequate temporary housing for the construction workforce. Additionally, the temporary housing obtained by the workforce will result in increased profits to local housing providers.

During the 20-plus year operation phase, the permanent workforce who may be hired from outside local communities, will need adequate permanent housing. The permanent work force will presumably find permanent housing through either rental properties or home ownership, although the latter is more likely because these permanent positions will provide a wage substantial enough to fund a mortgage. According to the 2010 US Census Bureau there is a home vacancy rate of 9.4% in Umatilla County. This rate is similar for the towns of Pendleton, Milton-Freewater, and Athena and even greater for the town of Helix. This abundance of vacant housing units will provide adequate housing for the permanent workforce. Additionally, the new permanent home owners will provide local economic stimulus as well as a slight increase in county revenues due to these new property tax payers.

There will be a minimal impact on local sewage and water services. All sewage generated on site during construction and decommissioning will be collected in portable toilets and disposed of on a regular basis by a local contractor. This is not expected to add any strain on local sewage systems. All drinking water is expected to be brought onto the site by a local bottled water provider. This will not affect local water treatment or delivery systems.

The operations and maintenance building will generate sewage waste at a rate expected for a work area of two to three people. Sewage will be disposed of through either a septic system or the local sewer system, depending on location in town, which will not cause any strain on the existing sewage systems. The building will be hooked up to the local water system and will have no impact on that system.

During the construction period, there is expected to be a short-term increase in local traffic due, primarily affecting the town of Athena, to the delivery of the Project components and the construction crew commuting to and from the Project site. During this period, the number of trucks per day is estimated to be from 20 to 30. Similarly, there will be a slight increase in traffic during the decommissioning phase due to the transportation of outgoing components. Day to day operations of

the Schumann Wind Project may involve multiple trips by the permanent workforce between the operations and maintenance building and the wind turbines. These trips utilize standard pickup truck vehicles (no heavy or large trucks) and are not expected to add a significant increase in or disrupt local traffic flows. See the Transportation Plan (Attachment 1) for a more detailed explanation on how local transportation systems will be utilized.

All solid waste generated on site during construction and decommissioning will be properly disposed of in trash receptacles to be routinely collected by a local solid waste management firm. The amount of solid waste is not expected to adversely impact solid waste disposal services and will provide additional revenue to the local disposal service. The operations and maintenance building will contract all solid waste removal with a local waste removal service.

Cultural Impacts

The history and culture of the area is strongly tied to agriculture including wheat farming, sheep and cattle ranching along with several other livestock products, timber harvesting and more recently a transition to wine making. Like power generation, most of these products are exported outside the community.

The Confederated Tribes of the Umatilla Indian Reservation have been contracted to perform archaeological and cultural surveys of the project area and transmission route. Once the results are in and consultation with the State Historic Preservation Office have occurred, the final project design will be microsited to ensure all recommended setbacks to any sensitive historic sites are observed.

Recently there has been a transformation in other sectors of the local economy such as traditional farm land turning into wine production and the growth of wind farming, as well as IT companies in the area due to technological advancements and changing demands in the economy. The Schumann Wind Project will allow local land owners to diversify and expand how they use their land to provide products the economy demands.

There has already been a precedent in the county that wind farms are compatible with farming practices and community values with the Eurus Combine Hills or NextEra's Stateline wind energy facilities. The Schumann Project will not be in any conflict with other wind Projects in Umatilla county or traditional energy producers such as the Boardman Coal Fire plant, which may be scheduled for closure or conversion.

Recreational Activities Impacts

Common recreational activities associated with Umatilla County include hunting, fishing, camping, hiking, off road vehicle riding, horseback riding, mountain biking, and bird watching. There is no history of these activities taking place within the Project area due to its agricultural usage. The Project property has not been licensed in the past for the ODFW hunting program. All of the Project's property is Existing Farm Use (EFU) land, making it off limits to camping, hiking, ORV riding, horseback riding, and mountain biking activities. Due to intensive agricultural usage, it is not particularly suitable location for bird watching. Due to the lack of recreational activities in the Project area the Schumann Wind Project is not expected to have any significant impacts on recreational activities.

Visual, Noise and Other Impacts

This section is intended to address the visual impacts of the Schumann Wind Project during the construction, operation, and decommissioning phases. As currently reconfigured and sited, the Project's overall impact is limited. Milton Freewater, the nearest town is over four miles away.

Unavoidable impacts during the short construction phase will consist primarily of truck noise, road dust (mitigated through dust control measures), and occasional traffic congestion. Once the Project is fully assembled, it will impart a visual impact in specific locations however this will be limited due to the location and only 4 to 5 turbines. FAA warning lights may be visible from certain locations at night. It should also be noted that the Schumann Wind Project sits outside the proposed "Goal 5 Amendment Area" east of State Highway 11.

Through careful siting and appropriate setbacks visual impacts during operations of the Project will be kept to a minimum.

During the decommissioning phase, there will be minimal additional visual impact while large equipment and decommissioning crews work to dismantle the facility. As a result of the decommissioning process, the visual impact of the Project will be eliminated. Project components, including turbines, transmission lines, and substation will be dismantled, salvaged locally, or removed from the area. The Project footprint will be reasonably restored to its original condition.

SCHUMANN WIND PROJECT DECOMMISSIONING PLAN

In accordance with Umatilla County Development Code, the following language describes a plan for decommissioning of the wind Project in the event construction is not completed or after the lifetime of the Project. For this plan, decommissioning pertains to the removal of all installed features related to the wind Project to a depth of at least 3 feet below the surface and the rehabilitation of the land to a condition consistent with its pre-construction state. Some roads, fences and other improvements will be left for landowner usage as requested by the landowner as allowed under applicable zoning. Existing farm roads that are improved for Project use will be kept for landowner use. If the Project is permitted for a re-power, features which are used in the next life of the Project will not be removed. All Project features which are not used in a re-powered Project or kept by the landowner will be removed according to this plan.

All permits necessary to decommission the Project will be obtained by the Project owner and/or contractors in a timely manner once decommissioning is deemed necessary. Oil and other lubricants/fluids will be removed before dismantling of wind turbine and substation components to avoid contamination of surrounding land. Best Management Practices will be utilized to control dust and debris from the dismantling and decommissioning of the Project features. Notice will be given to the appropriate Fire Department(s) prior to the commencement of operations and BMPs will ensure that wildfire danger as a result of operations will be minimized. All Project features will be removed from the site and sold on the secondary market or disposed of in an appropriate manner according to existing laws and regulations.

The site will be returned to as near pre-construction condition as practical by contouring the land to match the surroundings and spreading soils over areas previously farmed. Project features will be removed to at least 3 feet below surface in order to allow for farming practices where practices occurred at the time of the start of construction. Some Project roads, fences and/or other improvements may be left as requested by the landowner as allowed under applicable laws. Any improvements left for the landowners use will become owned and maintained by the landowner. Rehabilitation of the land will occur according to the standards of the Re-vegetation and Erosion Control Plan and the Weed Control Plan.

The Project will secure a bond for the estimated cost of decommissioning and rehabilitation. Below are cost estimates for decommissioning and rehabilitation. The cost of decommissioning for some components will be null or a net profit on the secondary market. These include the turbine towers and generators, transformers, and the transmission line.

ESTIMATED COSTS FOR SITE RESTORATION (Reclamation bond Requirements)

The following is an estimate of the cost to restore the property to a useful non-hazardous condition closely resembling or better than the condition at the start of the Schumann wind Project. During decommissioning all material removed from abandoned roads will hauled and disposed of in an appropriate offsite location in accordance with applicable laws. Bond values may update to reflect changes in quantities of removal features (roads) per landowner request.

Project Feature for Removal	Unit Cost	Units	Cost of Feature Removal
Turbine Foundation Removal	$6,000 per turbine	5	$30,000
Rehabilitation of Disturbed Area	$1,000 per acre	7	$7,000
Removal of All Weather Roads (not requested to be kept by landowner)	$25 per foot	8,604	$215,100
Removal of New Native Grade Roads (not requested to be kept by landowner)	$10 per foot	1,800	$180,000
Crane for Turbine Removal	$24,000 per turbine	5	$120,000
Overhead Powerline Removal	Cost of removal expected to be less than resell value	NA	$0
TOTAL			$552,100

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ACOUSTICAL MODELING ANALYSIS

FOR

SCHUMANN WIND DEVELOPMENT

UMATILLA COUNTY, OREGON

May 12, 2017

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OVERVIEW

Schumann Wind, LLC (Schumann Wind) proposes to install an array of up to five 1.7 – 2.3 MW wind turbines in Umatilla County, north of Athena, OR. The alternatives depicting both a four and five-turbine project design are described in greater detail in the Project Description below, and are shown in Figure 1 and Figure 2. The five-turbine array is similar to the four-turbine array, with the former having three turbines in the more-distant row. The predominant wind direction is from the southwest, so that the nearest residence is upwind of the turbine array approximately 72% of the time per wind direction data shown in Figure 7. Existing turbines are located on the property to the north of Res 1, with the nearest turbine 0.4 miles northwest from the residence.

Per County requirements, the minimum setback between turbines and residences (Res 1 to T-E1 and T-E2) is 2.0 miles. Complementary to the two-mile setback requirement, State and County noise regulations limit wind-turbine noise to L_{A50} and L_{A10} of 36 dB or 10 dB above ambient noise, whichever is greater. With six existing turbines within one mile of Res 1, background noise below the assumed ambient noise level of 26 dB is highly unlikely. However, Schumann Wind has requested that off-site sound levels be predicted relative to the 36 dB State and County limits.

As described in the analysis below, computations at all surrounding residences have demonstrated sound levels below 30 dB and therefore in compliance with the State and County regulations.

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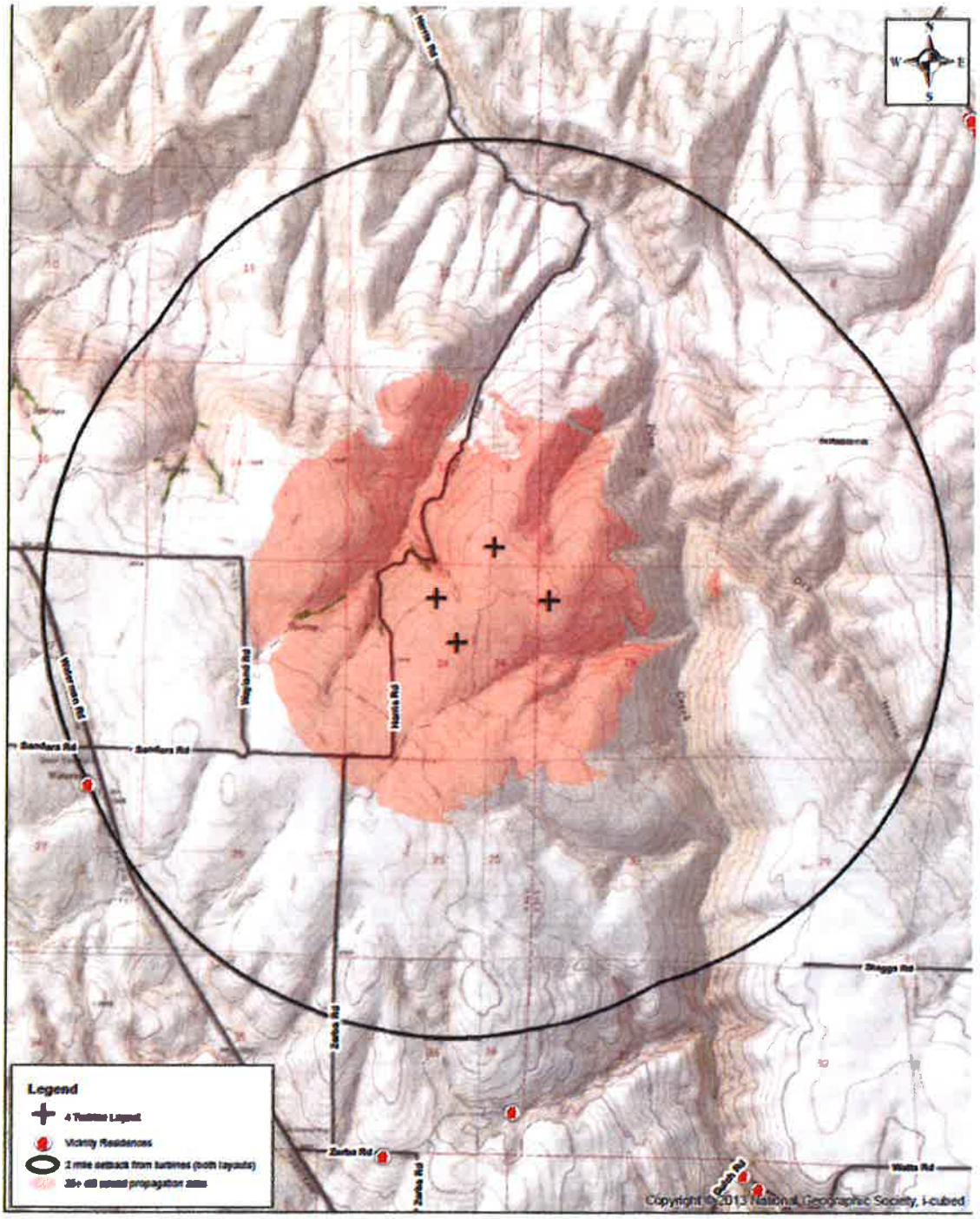

Figure 1. Four Turbine Array and Nearest Residences in Proposed Project Area Showing Two-Mile Setback Line and Area Exposed to 36 dB and Above Sound Levels

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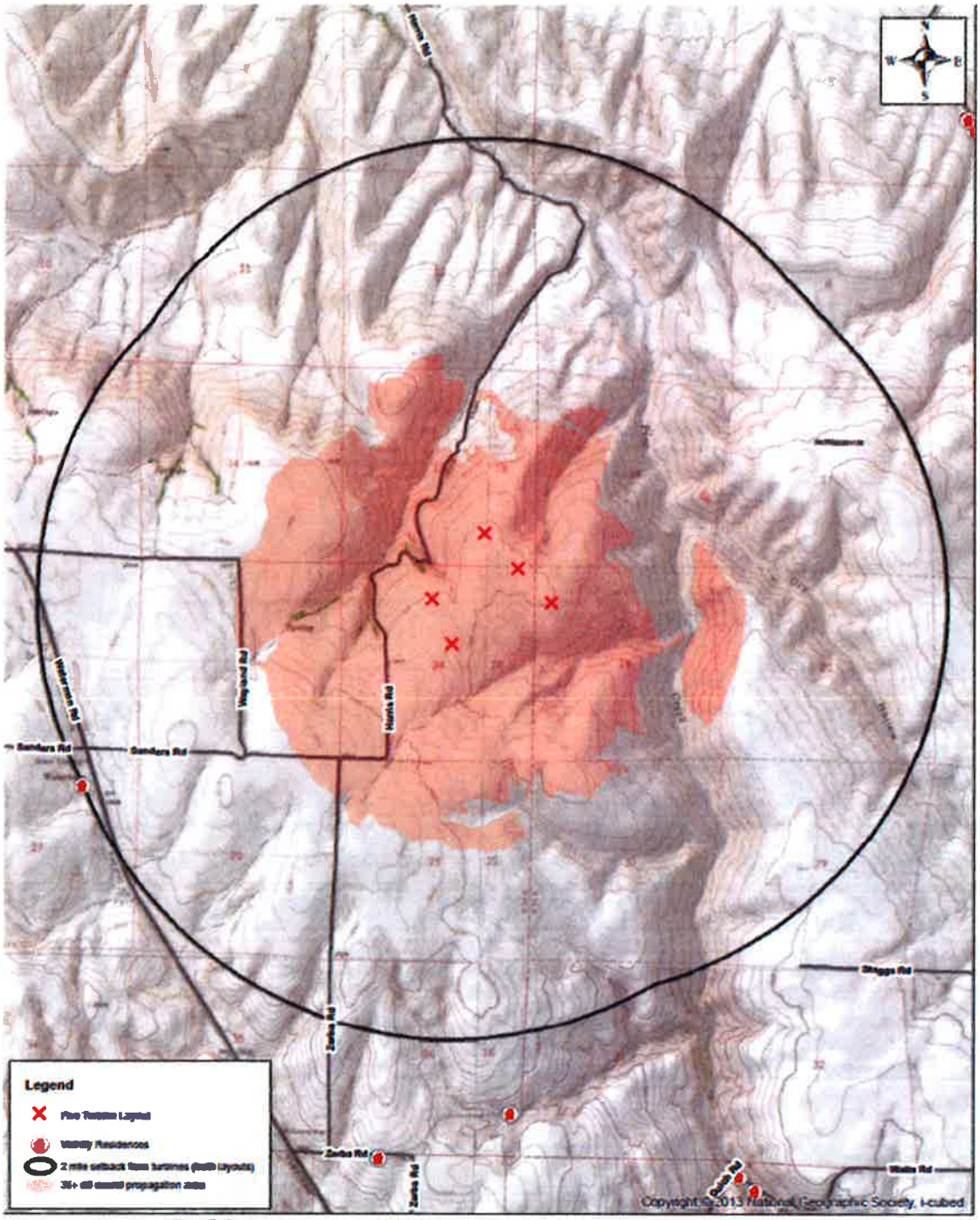

Figure 2. Five Turbine Array and Nearest Residences in Proposed Project Area Showing Two-Mile Setback Line and Area Exposed to 36 dB and Above Sound Levels

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NOISE CRITERIA

The State of Oregon and Umatilla County noise limits for wind turbine are based on the 50th and 10th percentiles, meaning sound levels that are exceeded 50% or 10% of the time during any measurement hour. The basic requirement is that neither of these may be increased more than 10 dB above ambient conditions. The ambient conditions can be determined by field measurements or assumed to be 26 dB. Therefore, the minimum value of a wind turbine noise criterion is 36 dB (10 dB above the ambient baseline). In other words, the sound emitted by wind turbines may not exceed 36 dB at any residence for more than 10% of the time in any hour. In practice, noise levels in windy environments are usually 40 dB or greater, but Schumann Wind has opted to accept the baseline in lieu of field demonstrations.

PROJECT DESCRIPTION

The project will utilize either four or five GE wind turbines, mounted on towers with 80-meter hub height. Figure 1 and Figure 2 display the proposed project configurations for each alternative.

- Five-Turbine Alternative: 1 ea. GE 1.79-100 and 4 ea. GE 1.7-103 (Turbine T-E1 is the 1.79-100)
- Four-Turbine Alternative: 1 ea. GE 1.79-100 and 3 ea. GE 2.3-116 (Turbine T-E1 is the 1.79-100)

NOISE MODELING

Manufacturer's noise emission levels are presented as tables of octave or 1/3-octave effective sound power levels as functions of wind speed. In general, the noise level rises monotonically with wind speed but the octave band levels are sometimes higher at intermediate speeds. For purposes of conservatism, the highest octave band levels were combined to obtain composite spectra and overall levels. In addition, the composite levels were raised by 4 dB to allow for variations in turbine emissions and propagation conditions. The composite manufacturer's spectral data are shown in Figure 8. Overall emission levels, corresponding to spectra applied in modeling, including the +4 dB adjustment are shown in Table 1.

Table 1. Proposed Turbine Properties[123]:

Turbine Type	Power	Rotor Diameter	Modeled L_{WA}
GE 1.79-100	1.79 MW	100 m	109.6 dB
GE 1.7-103	1.7 MW	103 m	111.8 dB
GE 2.3-116	2.3 MW	116 m	111.6 dB

Note that the emission levels are presented as A-weighted Sound Power Levels (L_{WA}) and that these are not Sound Pressure Levels L_A that are experienced or

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measured. At a distance of two miles, L_A would be nominally 88 dB below L_{WA} over flat, open ground.

Sound levels at off-site locations were computed using the ISO 9613-2 propagation model as implemented in SoundPlan 7.3. Ground absorption was entered as 0.5, which is typical for sandy soil and farmland. Terrain effects are fully modeled using SoundPlan's digital ground model, computed from area topographic maps. Atmospheric conditions were entered as 10°C, 70% Humidity, which sets a near-minimum atmospheric absorption rate at frequency ranges dominant in wind turbine noise. SoundPlan treats all computation directions as "downwind" of sources, adding to conservatism. Results of the average (L_{eq}) sound level computations are shown in Table 2. Typically, L_{50} is approximately 1 dB lower than L_{eq} and L_{10} is approximately 2 dB higher than L_{eq}. Sound levels at all residences are well below the 36 dB minimum criterion level for either the four or five turbine configuration.

In addition to the individual off-site location computations, average (L_{eq}) sound levels were computed on a 10 x 10 meter grid in the area (approximately 1.6 million points) and then converted to noise contour maps. Noise contours for the four-turbine array are shown in Figure 3 and contours for the five-turbine array are shown in Figure 4. AutoCAD files for these and also the 36 dB criterion contour lines have been provided for overlay on site graphics (as shown in Figures 1 and 2).

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Table 2. Computed Off-Site Sound Levels for Four Turbine Alternative

Name	X meters	Y meters	Z meters	Nearest Turbine meters	Schumann 4 Only L_{eq} - dB	Schumann 4 & Existing 6 L_{eq} - dB
Res 1A	377271	5082297	630	6145	15.2	17.2
Res 1B	377480	5083926	659	5628	16.2	17.9
Res 1C	377561	5081596	598	6139	15.1	17.2
Ferguson	387749	5082042	493	4332	22.2	36.2
Res 1	380287	5082680	605	3219	23.6	24.8
Res 2	382712	5079654	598	4258	19.9	23.7
Res 3	383774	5080008	560	3900	21.1	26.1
Res 4	385615	5077420	520	6867	13.9	20.1
Res 5	385781	5079376	450	5153	18	24.9
Res 5A	386199	5079070	452	5620	16.7	22.8
Res 5B	385668	5079475	441	5013	19.1	25.5
Res 7	389026	5085905	329	5278	17	23.5
Res 8	389319	5085587	337	5489	16.5	23.4
Res 9	390007	5084927	355	6028	15.2	22.4
Res 10	390602	5084276	366	6582	13.9	21.4
Res 11	390725	5083640	373	6733	13.6	21.4
Res 12	390988	5081089	418	7649	11.9	19.8
Res 13	391067	5082182	398	7344	12.5	20.4
Res 14	391024	5079899	439	8243	10.9	18.6
Res 15	391049	5081615	408	7505	12.2	20.1
Res 16	391008	5082108	399	7308	12.5	20.4

Table 3. Computed Off-Site Sound Levels for Five Turbine Alternative

Name	X meters	Y meters	Z meters	Nearest Turbine meters	Schumann 5 Only L_{eq} - dB	Schumann 5 & Existing 6 Leq - dB
Res 1A	377271	5082297	630	6145	16.2	17.8
Res 1B	377480	5083926	659	5628	17.1	18.5
Res 1C	377561	5081596	598	6139	16.1	17.8
Ferguson	387749	5082042	493	4206	23.1	36.3
Res 1	380287	5082680	605	3218	24.3	25.4
Res 2	382712	5079654	598	4105	21	24.2
Res 3	383774	5080008	560	3742	22.3	26.5
Res 4	385615	5077420	520	6715	15.3	20.5
Res 5	385781	5079376	450	5010	19.3	25.2
Res 5A	386199	5079070	452	5456	17.9	23.2
Res 5B	385668	5079475	441	4869	20.4	25.8
Res 7	389026	5085905	329	5279	18.1	23.8
Res 8	389319	5085587	337	5456	17.6	23.6
Res 9	390007	5084927	355	5992	16.4	22.7
Res 10	390602	5084276	366	6530	15.2	21.6
Res 11	390725	5083640	373	6665	14.9	21.6
Res 12	390988	5081089	418	7536	13.2	20.1
Res 13	391067	5082182	398	7248	13.8	20.6
Res 14	391024	5079899	439	8115	12.3	18.8
Res 15	391049	5081615	408	7400	13.5	20.3
Res 16	391008	5082108	399	7211	13.8	20.7

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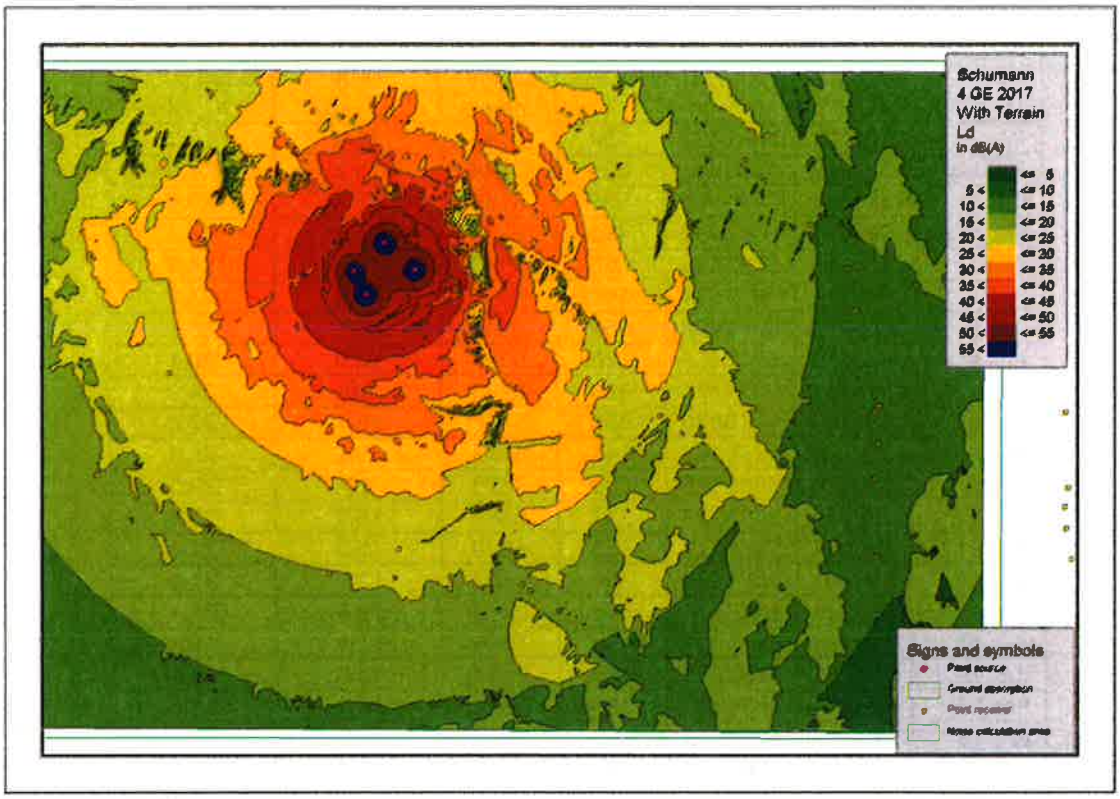

Figure 3. 5 dB Increment Noise Contours for Four-Turbine Schumann Array

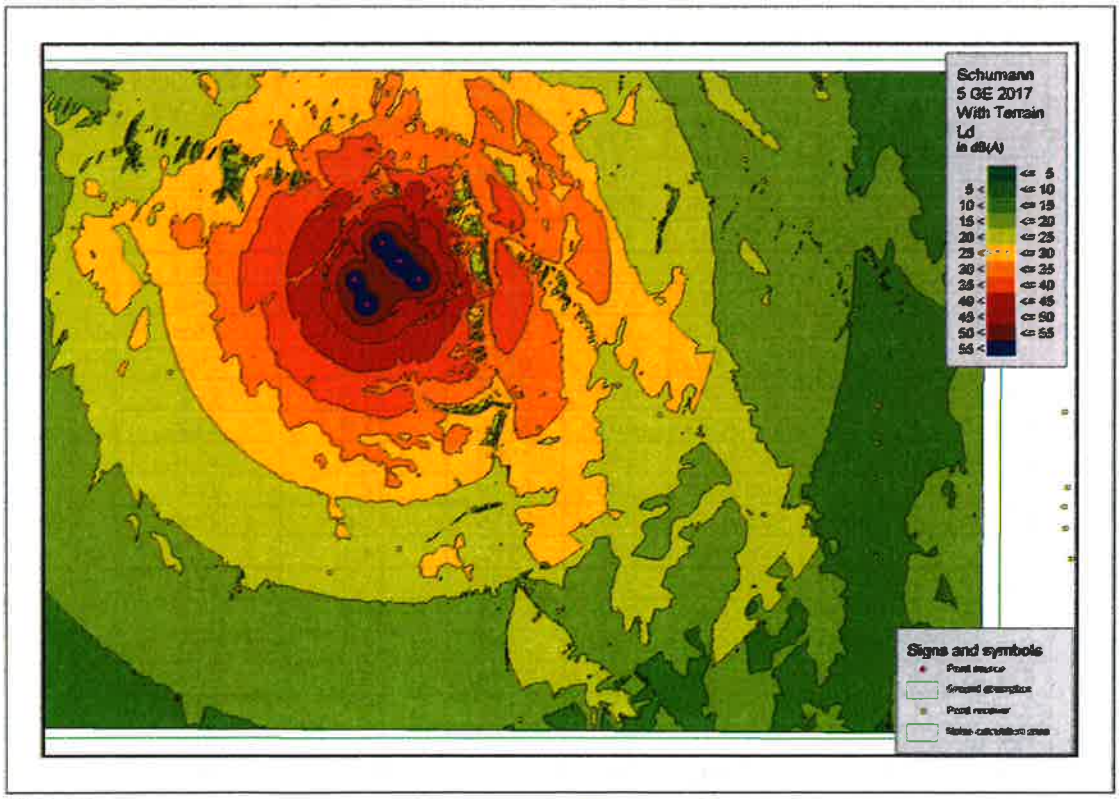

Figure 4. 5 dB Increment Noise Contours for Five-Turbine Schumann Array

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CONTINGENCY

It is clear from Table 2 and Table 3 and Figures 3 and 4 that under conditions modeled, off-site sound levels resulting from operation of the Schumann project will be in compliance with regulatory criteria by a significant margin. In the rare situations where atmospheric structure results in anomalous propagation, the computed margin plus the 4 dB emissions margin will insure against adverse impacts.

CUMULATIVE NOISE

Predicted turbine sound levels of 25 dB and below could raise the overall ambient noise level slightly. The degree of increase is dependent upon the actual ambient level. For example, a rough computation of the combined noise from the 9 nearest existing turbines to Res 1 is 43 dB. Adding 25 dB from Schumann would results i a total of 43.07 dB. Changes in sound level of less than 1 dB are nearly impossible to detect under field conditions. Changes of less than 0.1 dB are virtually unmeasurable.

At a location where the ambient noise level is 26 dB (the State ambient base level), adding 25 dB turbine noise would raise the overall level to 28.5 dB. Although this is not a negligible change, it is well below the 10 dB change allowed by the State of Oregon and County wind turbine noise regulations.

Extended measurements of background noise at Ferguson Ranch in 2011 indicated that the hourly ambient noise level in absence of wind turbines ranged from approximately 24 to 40 dB depending upon wind conditions, as shown in Figure 5 and Figure 6. At the low end of this range, which is likely applicable to other residences in the project area under locally calm conditions, turbine noise from the Schumann project would increase the ambient level between a fraction of a dB at the more remote locations and 2-3 dB at the nearest locations. At the upper end of the range, likely under windy conditions, the influence of Schumann project noise would be negligible.

A listing of computed ambient noise increases at each residence vs possible existing ambient noise from wind or other sources are shown in Table 4. Probable applicable conditions are shown in Bold.

Table 4. Increases in Ambient Noise Level from Turbines vs Existing Ambient Level

Name	Schumann 5 SPL	Ambient SPL						
		20	24	26	30	36	40	43
Res 1A	16.2	1.51	**0.67**	0.43	0.18	0.05	0.02	0.01
Res 1B	17.1	1.80	**0.81**	0.53	0.22	0.06	0.02	0.01
Res 1C	16.1	1.48	**0.65**	0.42	0.17	0.04	0.02	0.01
Ferguson	23.1	4.83	**2.58**	**1.80**	**0.81**	**0.22**	**0.09**	0.04
Res 1	24.3	5.67	3.16	2.24	1.04	0.28	0.12	**0.06**
Res 2	21	3.54	**1.76**	1.19	0.52	0.14	0.05	0.03
Res 3	22.3	4.31	**2.24**	1.54	0.68	0.18	0.07	0.04
Res 4	15.3	1.27	**0.55**	0.35	0.14	0.04	0.01	0.01
Res 5	19.3	2.67	**1.27**	0.84	0.35	0.09	0.04	0.02
Res 5A	17.9	2.09	**0.95**	0.63	0.26	0.07	0.03	0.01
Res 5B	20.4	3.21	**1.57**	1.06	0.45	0.12	0.05	0.02
Res 7	18.1	2.16	**0.99**	0.65	0.27	0.07	0.03	0.01
Res 8	17.6	1.97	**0.90**	0.59	0.24	0.06	0.02	0.01
Res 9	16.4	1.57	**0.70**	0.45	0.19	0.05	0.02	0.01
Res 10	15.2	1.24	**0.54**	0.35	0.14	0.04	0.01	0.01
Res 11	14.9	1.17	**0.50**	0.32	0.13	0.03	0.01	0.01
Res 12	13.2	0.82	**0.35**	0.22	0.09	0.02	0.01	0.00
Res 13	13.8	0.93	**0.40**	0.25	0.10	0.03	0.01	0.01
Res 14	12.3	0.68	**0.28**	0.18	0.07	0.02	0.01	0.00
Res 15	13.5	0.88	**0.37**	0.24	0.10	0.02	0.01	0.00
Res 16	13.8	0.93	**0.40**	0.25	0.10	0.03	0.01	0.01

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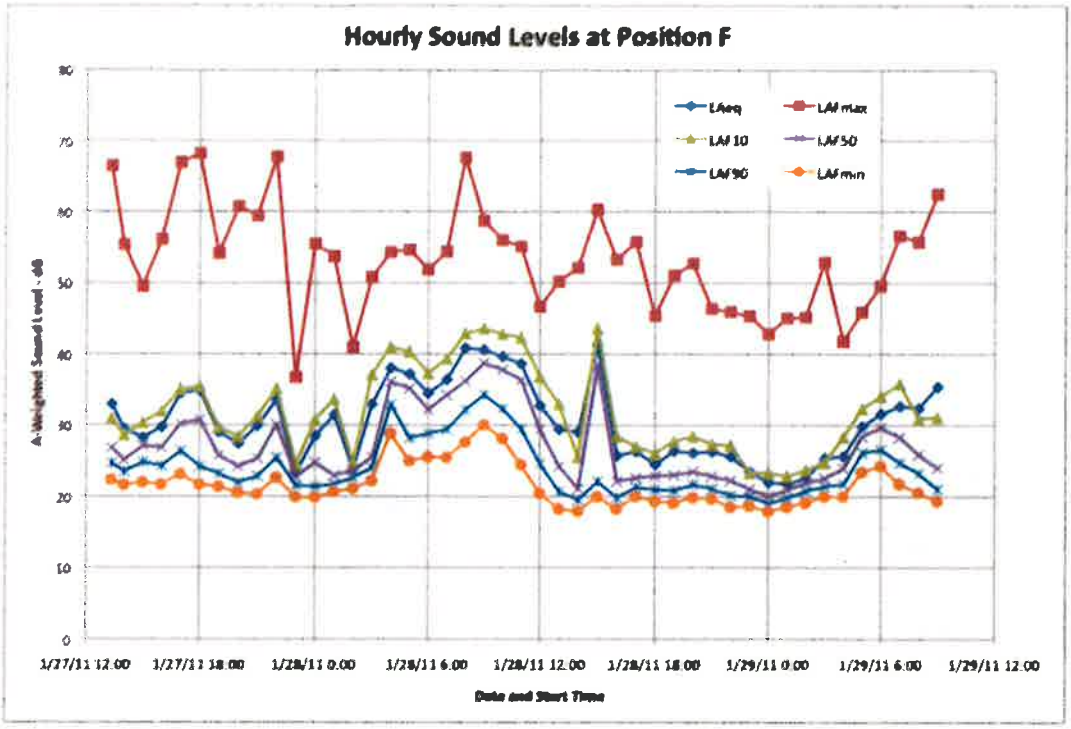

Figure 5. Ambient Noise Measured on Ferguson Ranch in January 2011

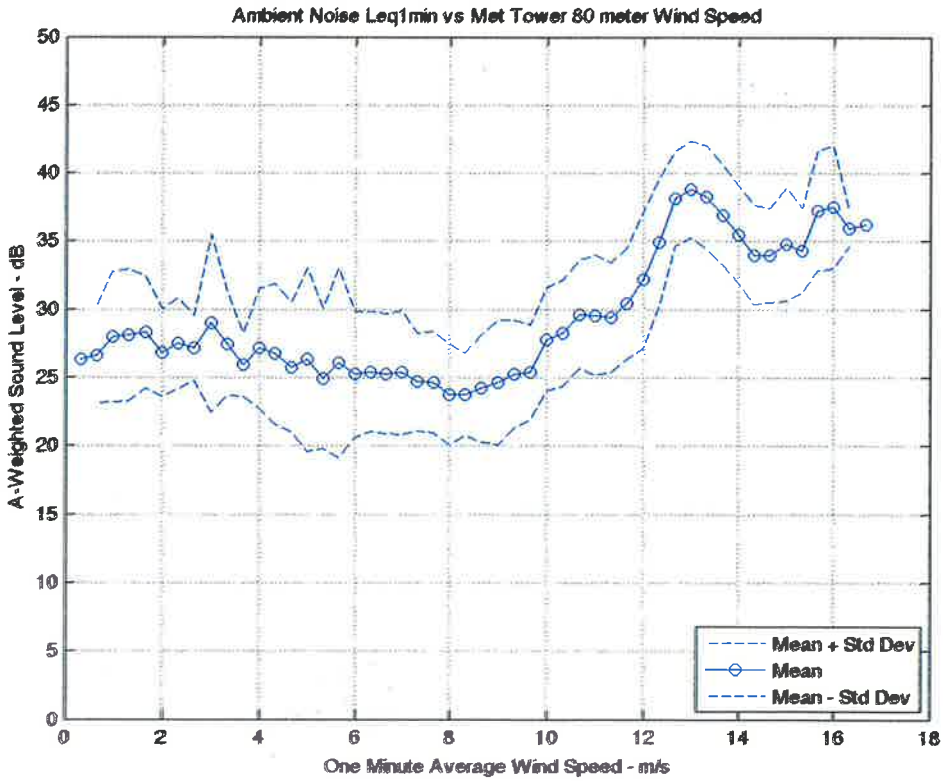

Figure 6. Regression Analysis of Short Term Noise vs Wind

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BACKUP INFORMATION

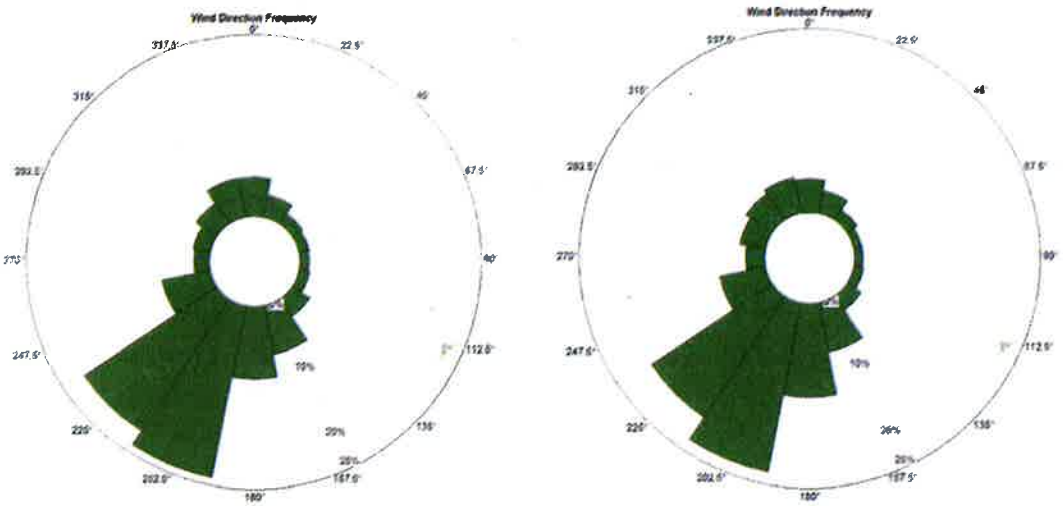

Figure 7. Two Wind Roses from Project Area

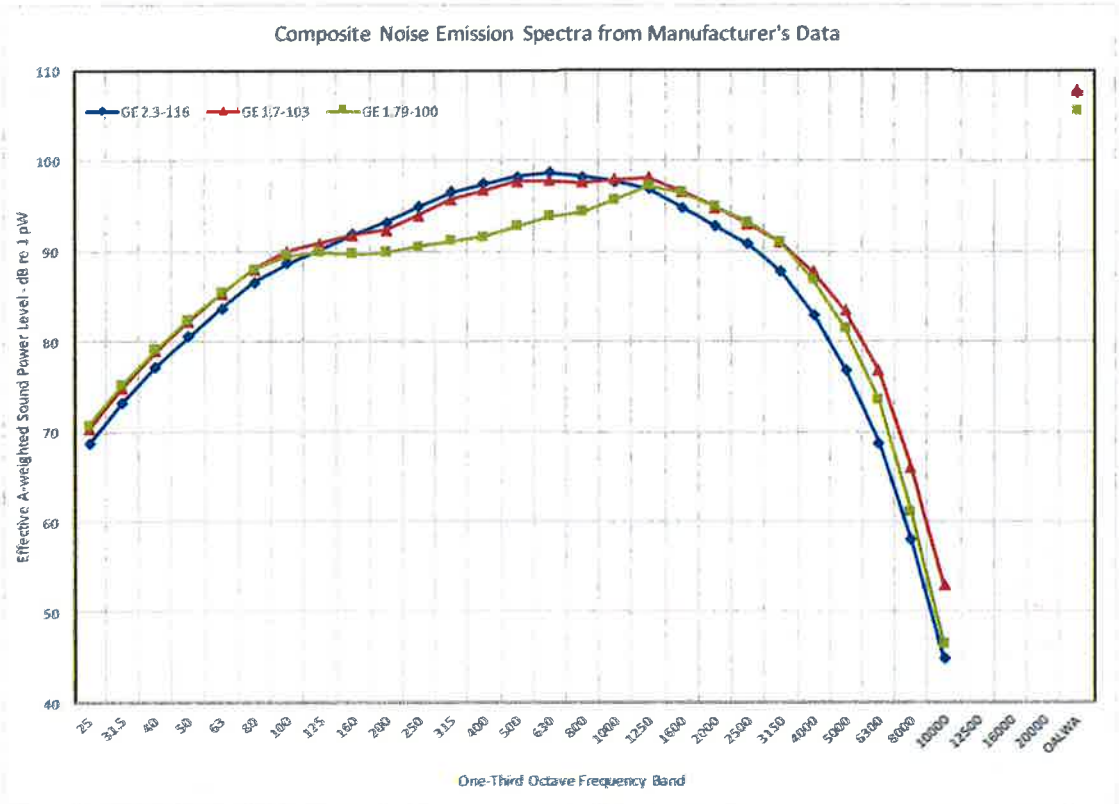

Figure 8. Composite Emission Spectra - 4 dB were added to these spectral levels for modeling purposes

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CONCLUSION

Computations of project noise at all surrounding residences have demonstrated sound levels below 30 dB and therefore in compliance with the State and County regulations.

REFERENCES

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[1] General Electric Technical Documentation. Wind Turbine Generator Systems, 1.7-100 with LNTE, 50 Hz and 60 Hz: Product Acoustic Specifications

[2] General Electric Technical Documentation. Wind Turbine Generator Systems, 1.7-103 - 50 Hz and 60 Hz: Product Acoustic Specifications

[3] General Electric Technical Documentation. Wind Turbine Generator Systems, 2.3-116 - 50 Hz and 60 Hz: Product Acoustic Specifications

Addendum to Schumann Wind Project Conditional Use Permit

Oct 9, 2017

Clarification to Attachment I Noise Report

With regard to the second paragraph of the Noise Report below:

Per County requirements, the minimum setback between turbines and residences (Res 1 to T-E1 and T-E2) is 2.0 miles. Complementary to the two-mile setback requirement, State and County noise regulations limit wind-turbine noise to LA50 and LA10 of 36 dB or 10 dB above ambient noise, whichever is greater. With six existing turbines within one mile of Res 1, background noise below the assumed ambient noise level of 26 dB is highly unlikely. However, Schumann Wind has requested that off-site sound levels be predicted relative to the 36 dB State and County limits.

Please reference the attached Noise Contour Map – Clarification. The nearby existing turbines within one mile of Res 1 are turbines that are not a part of the Schumann Wind Project and were constructed before the 2 mile setback rules were adopted by Umatilla County. Please note that the report and associated maps depict an expected noise output from the Schumann Wind Project that falls well within the noise limits which are regulated by the State of Oregon, as adopted by Umatilla County.

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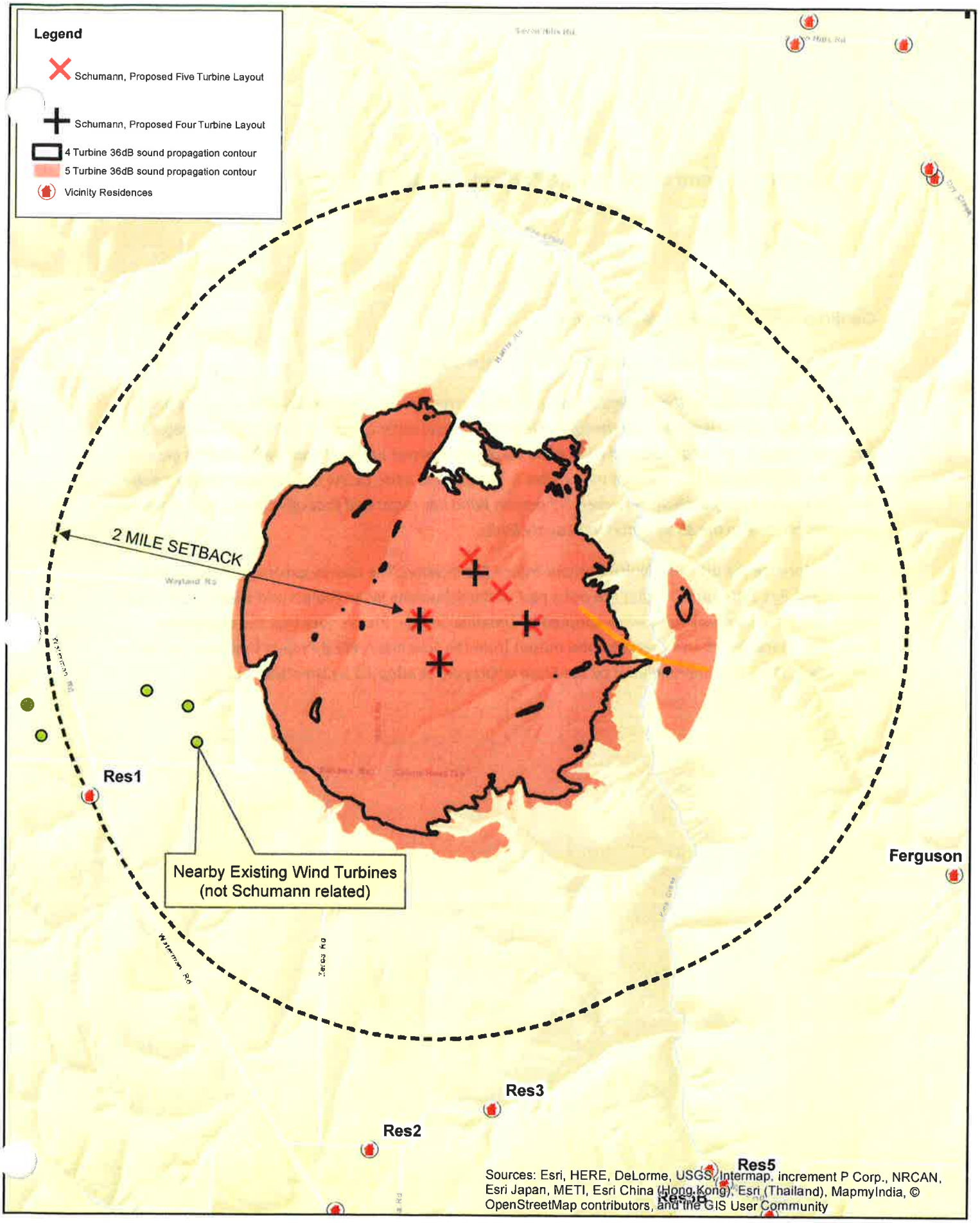

1:40,000 1 inch = 3,333 feet

0 0.25 0.5 1 Miles

Schumann Wind Project
Noise Contour Map - Clarification

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Summary and Recommendations

The CRPP surveyed approximately 553 acres for a proposed wind farm in Umatilla County, Oregon. No archaeological materials were observed. A traditional use study of the project area is currently being undertaken. The CRPP recommends cultural resource monitoring of ground disturbing activities, due to poor visibility, the presence of historic trails, and the presence of cultural resources in adjacent areas. Other types of historic properties, including those of religious and cultural significance to the CTUIR, have not been assessed as part of this report. If artifacts or features are observed during ground-disturbing events, work must cease in that area until qualified cultural resource personnel assess the find in consultation with the SHPO and the affected tribes. If ancestral remains are inadvertently discovered, work in the area must cease, the area must be secured, and the CRPP and law enforcement officials must be contacted immediately.

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Inadvertent Discovery Plan: Cultural Resources and Human Remains
Schumann Wind Project, Umatilla County, Oregon

INTRODUCTION

Schumann Wind, LLC, a Delaware Limited Liability Company by BayWa r.e. Wind, LLC, its sole member, proposes to construct a wind power generation project between the towns of Athena and Milton-Freewater, Oregon known as the Schumann Wind Project. Project activities will include the installation of new wind turbines and associated infrastructure within an area covering approximately 712 acres. The project areas is located in northeastern Oregon, near the community of Milton-Freewater and is in the area surrounding Pine Creek and adjacent to the Chopin Wind project. Specifically, the project area is situated within Sections 17, 18, 19, 20, 29, and 30, of Township 5 North, Range 35 East and Sections 13 and 24 of Township 5 North, Range 34 East, Willamette Meridian (WM). The elevation of the project area ranges between 1120 and 1960 feet (341 to 591 meters) above sea level. The entire project will be located in Umatilla County, Oregon.

The purpose of this Inadvertent Discovery Plan is to 1) ensure compliance with applicable federal and state laws and regulations regarding cultural resources and human remains, 2) develop work site protocols to be followed in the event of an inadvertent discovery; and 3) identify appropriate point of contacts associated with the protocol.

CULTURL RESOURCES LAWS

The Schumann Wind project will follow state of Oregon cultural resource laws as there are no federal lands or nexus involved in the project. For informational purposes federal laws are listed below in case the project becomes federalized at any point. The state cultural resource laws that must be abided by include, but are not limited to, the following:

State of Oregon

- Oregon Administrative Rules 736-051-0080 through 0090, archaeological excavation permits
- Oregon Revised Statutes (ORS) 97.740-97.760, Indian graves and protected objects
- ORS 358.905-358.955, protection of archaeological objects and sites
- ORS 390.235, archaeological permit requirements

Federal

- National Historic Preservation Act of 1966, as amended, and its implementing regulations (36CFR800)
- Archaeological Resources Protection Act of 1979 (Public Law 96-95, 16 U.S.C. 470aa-470mm)
- Native American Graves Protection and Repatriation Act of 1990, and its implementing regulations (36CFR61)

MONITORING

Schumann Wind, LLC will retain a qualified archaeologist or a cultural resources monitor who will be supervised by an individual meeting the Secretary of Interior's Standards and Guidelines. The archaeological monitoring is necessary due to the poor visibility during the archaeological inventory survey, the presence of historic trails, and the presence of cultural resources in adjacent areas of the Schumann Wind project area. Additionally, there is one historic property of religious and cultural significance to the CTUIR. The monitor will compile daily monitoring forms indicating date, time, activities observed, and any findings. Monitoring work will be documented in a letter report which will be submitted to Schumann Wind, LLC and the Oregon State Historic Preservation Office.

PROTOCOL FOR THE INADVERTENT DISCOVERY OF HUMAN REMAINS AND ARCHAEOLOGICAL RESOURCES

In the event of the inadvertent discovery of human remains and/or archaeological resources, the archaeologist and all project construction staff will follow the following protocols:

1) All work within 100 feet of the discovery will be stopped; this will be known as the discovery area (discovery and buffer zone). The discovery will be left in place and not disturbed, and the Site Inspector will be notified.
2) The discovery area will be protected through security measures. The integrity of the discovery is of highest concern and appropriate steps will be taken to protect the discovery. A physical barrier such as hazard fencing will be placed around the discovery area to avoid unauthorized personnel and equipment from entering the discovery area.
3) A transportation corridor, outside of the discovery area boundary, can be created if necessary to allow for vehicles and personnel to move to and from project areas while the discovery is being handled.
4) At the discretion of the qualified archaeologist, an additional buffer (beyond the initial 100 feet buffer) may be added to the discovery area to ensure that no activities impact the discovery location including unauthorized personnel.
5) If the discovery includes human remains, the Site Inspector will notify the Oregon State Police, the Confederated Tribes of the Umatilla Indian Reservation, and the Oregon State Historic Preservation Office. The Oregon State Police will assist in determining whether it should be treated as a crime scene or as a human burial.
6) The Site Inspector will ensure that no construction work will be allowed to resume until after treatment of the discovery has been completed.

The discovery will be treated as described below depending on whether the discovery represents human remains or archaeological resources.

Human Remains

Any human remains, burial sites, or funerary objects that are discovered during construction will be treated with the utmost respect, dignity, and confidentiality. No photograph should be taken unless they are needed to help identify whether or not the items observed are human remains. The treatment of Native American human remains will follow the State of Oregon's

developed protocol, *Treatment of Native American Human Remains Discovered Inadvertently or Through Criminal Investigations on Private and Public, State-Owned Lands in Oregon* (https://www.oregonlegislature.gov/cis/Documents/treatment_remains111412.pdf). These protocols were created by the Government to Government Cultural Resource Cluster Group in September 2006 and updated October 2009, February 2011.

Contacts

Oregon State Police:

- Sgt. Chris Allori, Office (503) 731-4717, Cellular (503) 708-6461

State Historic Preservation Office (SHPO):

- Dennis Griffin, State Archaeologist, Office (503) 986-0674, Cellular (503) 881-5038

Legislative Commission on Indian Services (LCIS):

- Karen Quigley, Director, Office (503) 986-1067

Confederated Tribes of the Umatilla Indian Reservation:

- Primary: Teara Farrow Ferman, Program Manager, Office (541) 429-7230, Cellular (541) 377-2959
- Secondary: Bambi Rodriguez, Assistant Program Manager, Office (541) 429-7203, Cellular (541) 377-2939

If any inadvertent discovery of human remains is on federal or tribal lands, the inadvertent discoveries section of the Native American Graves Protection and Repatriation Act will be followed.

Archaeological Resources

It is illegal to disturb an archaeological site on private or public land without obtaining an archaeological excavation permit, ORS 358.920(1)(a). These laws apply when archaeological resources are inadvertently discovered and determined to be archaeological. The qualified archaeologist will follow the Treatment of Inadvertent Discoveries and Site Preservation protocols developed in the *Guidelines for Conducting Field Archaeology in Oregon*, developed by the Oregon State Historic Preservation Office (SHPO), April 2007 (http://www.oregon.gov/oprd/HCD/ARCH/docs/draft_field_guidelines.pdf).

The qualified archaeologist shall make a preliminary assessment of whether the cultural material or site is potentially significant and recommendations on additional steps to mitigate effects. The assessment must be reviewed by the Oregon SHPO for concurrence prior to beginning any ground disturbing activities. Depending on the project activities, nature of the discovery, and the statutory jurisdiction, the Oregon SHPO may require a treatment plan to be developed.

To make the preliminary assessment, the qualified archaeologist will need to conduct a field assessment of the site to determine its potential State Register eligibility and the project's potential effects to the discovery site. Additional information and archaeological work may be necessary to determine significance, site boundaries, and State Register eligibility. If the site meets State Register criteria, the discovery area will be avoided and protection in place. If site avoidance is not possible, archaeological data recovery of the site may need to be completed if other treatment options are not more appropriate. All treatment options should be discussed and documented with the appropriate interested parties. A data recovery plans will be developed in coordination with the Oregon SHPO and an archaeological permit applied for prior to any ground disturbing activities.

Contacts

State Historic Preservation Office (SHPO):

- Dennis Griffin, State Archaeologist, Office (503) 986-0674, Cellular (503) 881-5038, Dennis.Griffin@state.or.us

Confederated Tribes of the Umatilla Indian Reservation:

- Carey Miller, Senior Archaeologist, Office (541) 429-7234, CareyMiller@ctuir.org

If any inadvertent discovery of archaeological resources is on federal or tribal lands, the National Historic Preservation Act and Archaeological Resources Protection Act will be followed.

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Traditional Use Study for the Proposed Schumann Wind, LLC Wind Development, Umatilla County, Oregon

Executive Summary

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) Cultural Resources Protection Program (CRPP) was contacted by Schumann Wind, LLC regarding a proposed wind power generation project between the towns of Athena and Milton-Freewater, Oregon. Schumann Wind, LLC proposes to construct wind turbines and associated infrastructure within an area covering approximately 712 acres. Schumann Wind, LLC hired the CRPP to conduct a traditional use study of the proposed project. The project area lies within the lands ceded to the U. S. Government by the CTUIR as part of the Walla Walla Treaty of June 1855. Traditionally, this area was occupied by the *Weyíiletpu* (Cayuse), *Walúulapam* (Walla Walla), and *Imatalamłáma* (Umatilla) Tribes, who together comprise the CTUIR.

The CRPP identified one historic property of religious and cultural significance to the CTUIR as a result of this traditional use study. This historic property encompasses the entire Schumann Wind, LLC project area. The property includes the Pine Creek drainage, a traditional travel corridor and First Foods gathering area. It holds a traditional place name (*Laaqanťišpa* 'at the wind in pines'), which shares the name with a traditional village upriver from the project area. This historic property also includes a portion of the Oregon Trail known as 'the Whitman Cutoff,' which connects to Pine Creek and overlaps with the route that Indian horses were moved from the reservation to the project area for grazing and on to other areas for seasonal grazing and for trade.

This larger area, which includes the Schumann Wind, LLC project area, shares a larger relationship which centers around the CTUIR's traditional seasonal round as well as events that occurred in historic times. The travel routes link these resource gathering areas and grazing areas into a larger area of cultural significance to the tribes. Therefore, the historic property boundary cannot be drawn onto the project area map as it spans outside of the scope of that map.

CTUIR traditional hunting, fishing, and gathering areas as well as pre-contact and contact era travel corridors and horse grazing areas are known to exist in the vicinity of the project area. Additionally, this study revealed the presence of natural and cultural resources in the project area. While agriculture has altered much of the plant composition, steep hillsides in the Pine Creek drainage still afford abundant First Foods harvesting opportunities within this traditional hunting, fishing, and gathering area.

Tribal members migrated from traditional village sites throughout the various seasons of the year, beginning with fish and root gathering in the spring, berry gathering in the summer, and deer and elk hunts in the fall. These activities are all tied to the religious beliefs of the CTUIR that a reciprocal obligation exists between themselves and the resources on which they live. This obligation is a covenant that Indian people have with the Creator. Indian law decrees that the Tribes and traditional subsistence foods are integrally linked.

Lastly, unmarked burials could also be encountered in this area. Tribal elders stress that while traveling, if someone died, they would be buried right where they died, thus making it impossible to know where every burial site is and increasing chances that inadvertent discoveries could happen within the proposed project area. It is recommended that a cultural resource monitor be on site to monitor ground disturbing activities of this project and an inadvertent discovery plan be closely followed. Therefore, this historic property could be directly affected by the entirety of the proposed project. It is recommended that the CRPP and Schumann Wind, LLC work together to determine how the project will affect the property and how to avoid, minimize, or to mitigate for potential adverse effects to this historic property. One mitigation action could include tribal member access to First Foods resource gathering areas.

Oregon
Kate Brown, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St NE Ste C
Salem, OR 97301-1266
Phone (503) 986-0690
Fax (503) 986-0793
www.oregonheritage.org

July 5, 2017

Ms. Teara Farrow Ferman
Confederated Tribes of the Umatilla Indian Reservation
46411 Timine Wy
Pendleton, OR 97801

RE: SHPO Case No. 17-0930
CTUIR, Schumann Wind LLC Development
Wind power
(5N 35E 17-20, 29, 30) (5N 34E 34, 24), Umatilla County

Dear Ms. Farrow Ferman:

Our office recently received a report of archaeological investigations for the project referenced above. The report has been assigned SHPO Report# 29095 and added to the SHPO Library. We have reviewed the report and concur that a good faith effort has been implemented and the project will likely have no effect on any significant archaeological objects or sites. Based on the information provided, additional archaeological research is not anticipated for this project.

In the unlikely event an archaeological object or site (i.e., historic or prehistoric) is encountered during project implementation, all ground disturbance at the location should cease immediately until a professional archaeologist can be contacted to evaluate the discovery. Under state law (ORS 358.905-955 & ORS 97.740) archaeological sites, objects and human remains are protected on both public and private land in Oregon. If you have any questions regarding any future discovery or this letter, feel free to contact me at your convenience.

Sincerely,

Matt Diederich

Matt Diederich, MAIS
SHPO Archaeologist
(503) 986-0577
Matthew.Diederich@oregon.gov

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Baseline Raptor Nest and Sensitive Species Surveys

Schumann Wind Energy Facility
Umatilla County, Oregon

Final Report

Spring 2017

Prepared for:

Schumann Wind, LLC

4365 Executive Drive, Suite 1470
San Diego, California 92121

Prepared by:

Western EcoSystems Technology, Inc.

415 West 17th St, Suite 200
Cheyenne, Wyoming 82001

July 14, 2017

WEST Inc.

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INTRODUCTION

The purpose of this report is to describe the final results of the 2017 pre-construction raptor nest and sensitive species surveys for the Schumann Wind Energy Facility (Schumann or Project; Figure 1). Schumann is a proposed 8 megawatt wind energy conversion facility in Umatilla County, Oregon. The Project site is approximately 743 acres of privately owned land, primarily used for dryland agriculture.

METHODS

Raptor Nest Surveys

Raptor nest survey protocols followed those described in the Project's *Avian Impact Monitoring Plan*, including ground-based surveys of all suitable raptor nest substrates (e.g., trees, powerline structures) within two miles (mi; 3.2 kilometers [km]) of turbine locations (Figure 1). The primary objective of the survey was to gather information on nest locations and raptor breeding effort near the Project. Per the Schumann *Avian Impact Monitoring Plan*, 2017 survey results will be used for comparison with post-construction raptor nest activity and success (WEST 2017).

Surveys were conducted from the ground by hiking throughout the 2-mi buffer and scoping all suitable raptor nest substrate for nest structures. Nests documented during previous surveys (in 2010, 2011, and 2016) for the nearby Chopin Wind Energy Facility were checked (WEST 2016), and any recently constructed nests were also identified. Occupied[1] nests were monitored until nest fates were determined.

Sensitive Species Surveys

The primary objective of these surveys was to document the presence/absence and spatial occurrence of plant and animal species of concern within the survey area. Species of concern were defined to include federal threatened and endangered species, Oregon state-listed species (including state conservation strategy, critical, vulnerable, threatened, endangered, and rare species), or state or federal special-status species, such as bald and golden eagles protected under the Bald and Golden Eagle Protection Act (BGEPA 1940).

Sensitive species surveys were conducted in areas of suitable habitat (i.e., all non-agricultural lands) associated with proposed Project infrastructure and a 305-meter (m; 1,000-foot [ft]) buffer (Figure 2). A biologist familiar with detection of relevant sensitive species, including by sight, sound, and sign, searched for sensitive species by slowly walking pedestrians transects spaced approximately 50 m (164 ft) apart. Transect searches were conducted during daylight hours and as weather conditions permitted during two survey windows appropriate for the detection of

[1] Nests were classified as occupied if any of the following were observed at the nest structure: (1) an adult in an incubating/brooding position, (2) eggs, or (3) nestlings or fledglings.

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relevant sensitive species. All suitable habitats were surveyed during each of the two survey rounds. Date, time of observation, species, number of individuals, detection methods (auditory and/or visual), sex and age class, flight height (if applicable), activity, and habitat were recorded for all sensitive species observations. Locations were recorded using a hand-held global positioning system (GPS).

RESULTS

Raptor Nest Surveys

WEST biologist Jerry Baker conducted the initial raptor nest survey visits on April 14 and 17, with follow-up visits from late April through early June.

Six occupied red-tailed hawk (*Buteo jamaicensis*) nests were found within the 2-mi survey buffer, with the closest nests approximately 0.5 mi (0.8 km) from turbine locations (Figure 1). Red-tailed hawk nests were considered successful if nestlings survived to the 5-week mark (~80% of nestling stage). Five of the six red-tailed hawk nests were successful, resulting in eight fledglings (productivity: 1.3 young per occupied nest, or 1.6 young per successful nest; Table 1). Evidence of three occupied great-horned owl (*Bubo virginianus*) nests was also detected (Figure 1, Table 1). All three owl nests were successful[2], resulting in a minimum of five fledglings (productivity: 1.7 young per occupied/successful nest nest; Table 1). No Swainson's hawk (*Buteo swainsoni*) nests were observed. Four unoccupied nests were also documented within the 2-mi buffer (Figure 1). No other raptor species were observed during the surveys.

[2] In one instance (Nest #20), the nest was never found but a young fledgling was detected in the area. Condition of another nest (Nest #2) suggested that fledging occurred between visits.

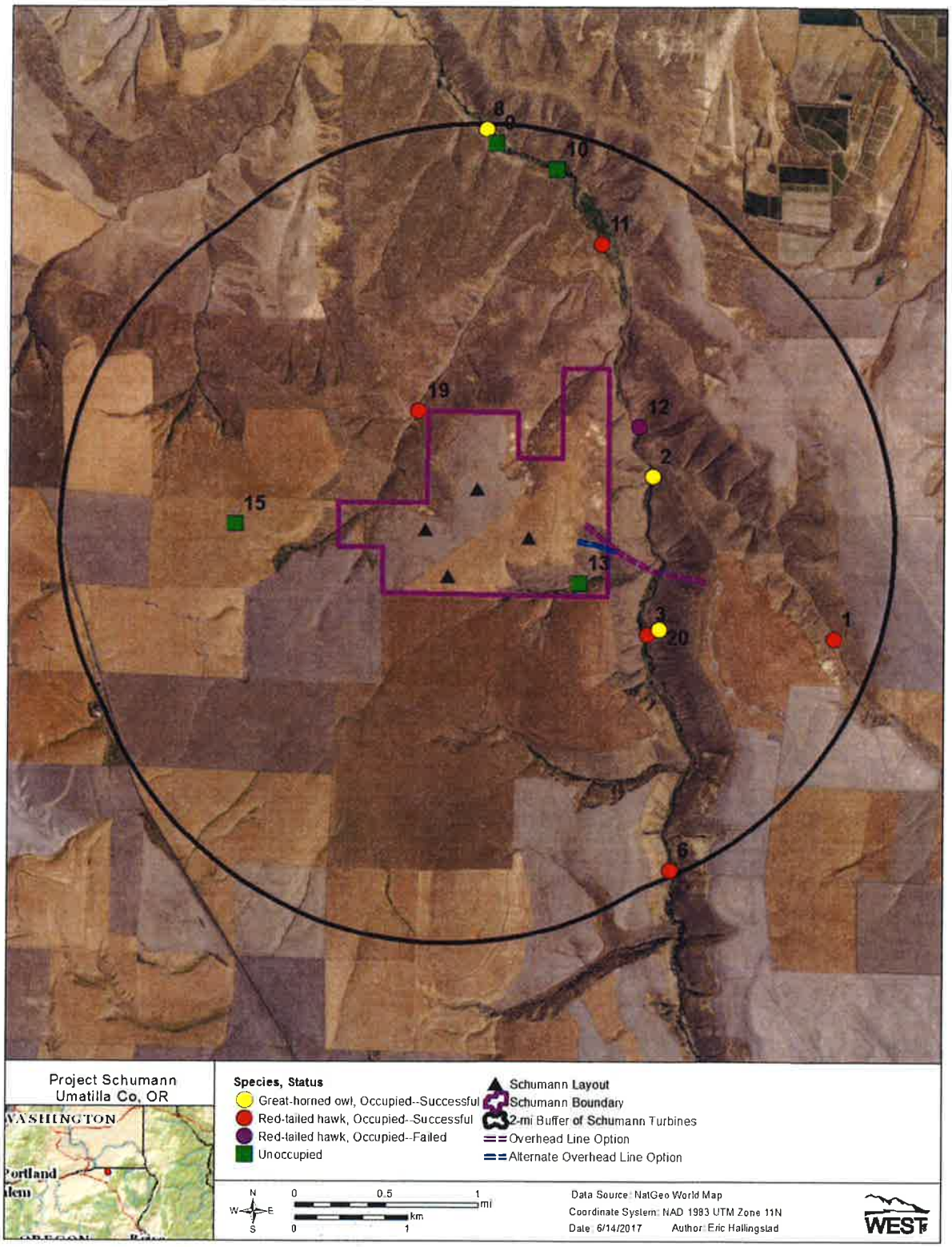

Figure 1. Final results of the 2017 raptor nest survey at the Schumann Wind Energy Facility.

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Table 1. Stick nests observed during the 2017 raptor nest survey within a 2-mile buffer of proposed Schumann Wind Energy Facility turbines.

Nest #	Species	Final Status	UTMs (Nad 83 Z11)		Substrate	Initial Observation Comments	Follow-up Visit Comments
1	red-tailed hawk	Occupied, Successful	386739	5083306	Black Locust	Incubating, adult flushed.	One fledgling branched out, ~8 weeks old.
2	great-horned owl	Occupied, Successful	385135	5084725	Black Locust	Both adults present, one chick visible.	Nest empty, condition suggests fledging occurred.
3	red-tailed hawk	Occupied, Successful	385095	5083337	Black Locust	Incubating, adult flushed.	One nestling, ~7 weeks old.
6	red-tailed hawk	Occupied, Successful	385303	5081273	Black Cottonwood	Incubating, both adults present.	Two nestlings ready to fledge.
8	great-horned owl	Occupied, Successful	383666	5087774	Black Locust	2+ nestlings visible.	Three nestlings ready to fledge.
9	stick nest	Unoccupied	383746	5087656	Black Locust	Nest empty.	Nest empty.
10	stick nest	Unoccupied[1]	384280	5087422	Box Elder	Nest empty.	Nest empty.
11	red-tailed hawk	Occupied, Successful	384675	5086772	Black Locust	Incubating, both adults present.	Two nestlings on nest edge, ready to fledge.
12	red-tailed hawk	Occupied, Failed	385013	5085159	Black Locust	One nestling visible.	Nest empty, nestling(s) would not have fledged yet.
13	stick nest	Unoccupied	384489	5083788	Black Cottonwood	Nest empty.	Nest empty.
15	stick nest	Unoccupied	381464	5084306	Black Locust	Old nest. Empty.	Nest empty.
19	red-tailed hawk	Occupied, Successful	383079	5085298	Willow spp.	One nestling visible. Both adults present.	Two nestlings, ~7 weeks old.
20	great-horned owl	Occupied, Successful	385194	5083382	Deciduous Tree	Approximate nest location. Adult flushed, one fledgling nearby.	Could not locate nest.

[1] A red-tailed hawk was briefly seen at this nest on May 10th, but no evidence of a breeding attempt was observed.

Sensitive Species Surveys

WEST biologist Jerry Baker conducted the first sensitive species survey visit on May 1 and May 8, with the second visit taking place on May 31 and June 5.

Twenty-five bird species, three mammal species, one reptile species, and one amphibian species were observed during the field surveys (Appendix A). None of the species recorded were sensitive; however, big game species are typically of interest to the Oregon Department of Fish and Wildlife and are therefore included in Table 2 with locations shown in Figure 2. Species totals may reflect repeated observations of the same individuals. On several occasions, fawns and calves were seen with their mothers in the Pine Creek drainage complex.

Table 2. Sensitive species observed at the Schumann Wind Energy Facility during 2017 sensitive species surveys.

Species	Scientific Name	Status	# of grps	# of obs
elk	*Cervus canadensis*	big game	1	1
mule deer	*Odocoileus hemionus*	big game	14	76
Total			**15**	**77**

grps = groups; obs = observations

DISCUSSION

No federally-listed threatened or endangered species, federal/state species of concern, or eagles were observed during 2017 surveys at the Project. In a report prepared for the adjacent Chopin Wind Energy Facility, we analyzed the robust pre-construction survey datasets and predicted that potential adverse effects of the Chopin Project on wildlife populations would be minimal (*Reinterpretation of Baseline Survey Results for the modified Chopin Wind Energy Facility*; WEST 2015). The Project is also within 2.0 mi (3.2 km) of two operating wind energy facilities: Combine Hills and Stateline. Pre- and post-construction surveys have been conducted for these two facilities, and results demonstrated that estimated fatality rates were consistent with the averages for other regional wind energy projects (Erickson et al. 2004, Young et al. 2006, Erickson et al. 2007, Enz. et al. 2012). Furthermore, no occupied raptor nests were observed within 0.5 mi of proposed Schumann turbine locations. For these reasons, we conclude that it is unlikely that sensitive species would be impacted by the development of Schumann.

Observations of one elk calf and several mule deer fawns within the Pine Creek drainage suggest that this area is used by big game during the calving season. WEST recommends that construction of the Project occurs outside of the spring season to minimize potential impacts on big game calving activity.

REFERENCES

Bald and Golden Eagle Protection Act (BGEPA). 1940. 16 United States Code (USC) § 668-668d. Bald Eagle Protection Act of 1940, June 8, 1940, Chapter 278, Section (§) 2, 54 Statute (Stat.) 251; Expanded to include the related species of the golden eagle October 24, 1962, Public Law (PL) 87-884, 76 Stat. 1246. As amended: October 23, 1972, PL 92-535, § 2, 86 Stat. 1065; November 8, 1978, PL 95-616, § 9, 92 Stat. 3114.

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Young, D.P., Jr., J. Jeffrey, W. P. Erickson, K. Bay, V. K. Poulton, K. Kronner, R. Gritski, and J. Baker. 2006. Eurus Combine Hills Turbine Ranch. Phase 1 Post Construction Wildlife Monitoring First Annual Report: February 2004 - February 2005. Technical report prepared for Eurus Energy America Corporation, San Diego, California, and the Combine Hills Technical Advisory Committee, Umatilla County, Oregon. Prepared by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming, and Walla Walla Washington, and Northwest Wildlife Consultants, Inc. (NWC), Pendleton, Oregon. February 21, 2006.

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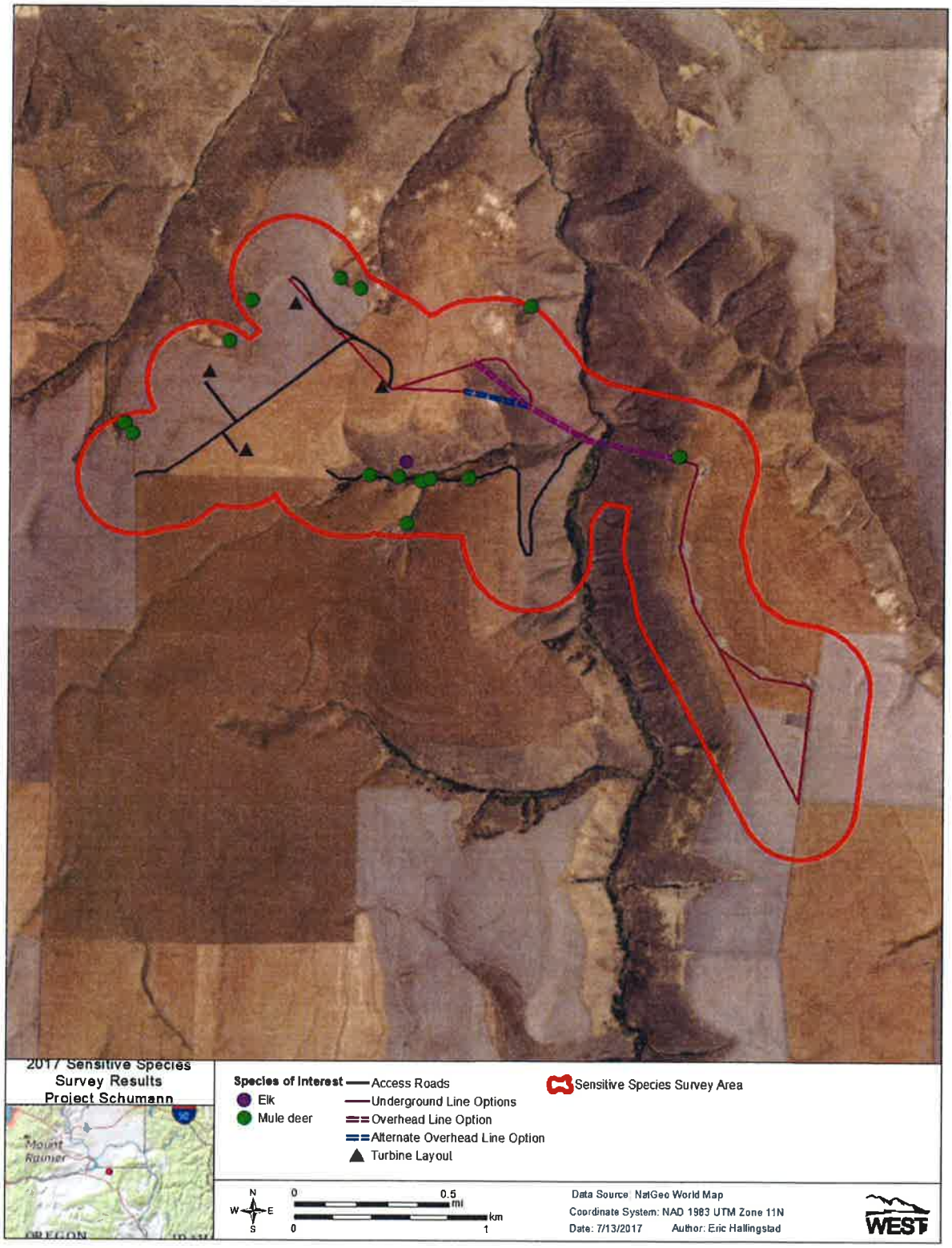

Figure 2. Locations of sensitive species documented during 2017 sensitive species surveys at the Schumann Wind Energy Facility.

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Appendix A. Wildlife Observed during 2017 Sensitive Species Surveys at the Schumann Wind Energy Facility

Appendix A. Wildlife observed during 2017 sensitive species surveys at the Schumann Wind Energy Facility in Umatilla County, Oregon.

Common Name	Scientific Name
Birds	
American kestrel	*Falco sparverius*
American robin	*Turdus migratorius*
black-billed magpie	*Pica hudsonia*
brown-headed cowbird	*Molothrus ater*
Bullock's oriole	*Icterus bullockii*
cliff swallow	*Petrochelidon pyrrhonota*
eastern kingbird	*Tyrannus tyrannus*
European starling	*Sturnus vulgaris*
great blue heron	*Ardea herodias*
great horned owl	*Bubo virginianus*
horned lark	*Eremophila alpestris*
house wren	*Troglodytes aedon*
lazuli bunting	*Passerina amoena*
northern rough-winged swallow	*Stelgidopteryx serripennis*
red-tailed hawk	*Buteo jamaicensis*
red-winged blackbird	*Agelaius phoeniceus*
ring-necked pheasant	*Phasianus colchicus*
rock wren	*Salpinctes obsoletus*
savannah sparrow	*Passerculus sandwichensis*
song sparrow	*Melospiza melodia*
spotted towhee	*Pipilo maculatus*
western kingbird	*Tyrannus verticalis*
western meadowlark	*Sturnella neglecta*
western wood-pewee	*Contopus sordidulus*
white-crowned sparrow	*Zonotrichia leucophrys*
Mammals	
badger	*Taxidea taxus*
elk	*Cervus canadensis*
mule deer	*Odocoileus hemionus*
Amphibians	
Pacific tree frog	*Pseudacris regilla*
Reptiles	
garter snake	*Thamnophis ordinoides*

Welcome to Umatilla County

Carol Johnson <carol.johnson@umatillacounty.net>

Schumann Wind Project CUP / LUD

Sheldon Ferguson <sheldonferguson12@gmail.com> Tue, Oct 10, 2017 at 8:51 AM
To: carol.johnson@umatillacounty.net

Department of Land Use Planning
Attn: Carol Johnson

Carol,

As President of Ferguson Ranch Inc, I would like to voice support for the Schumann Wind Project Conditional Use Permit request #C-1289-17 and Schumann Wind Project Land Use Decision #LUD-219-17.

Last summer, beginning in mid-May, BayWa Renewable Energy began construction of the Chopin Wind project on our family owned farm. Four and a half months later, the construction of 6 turbines was complete and they were generating electricity. My testimony is based on our experiences of the construction phase and the past year when the turbines have been in commercial operation. This testimony is directly related to the Schumann Wind Project because the same parent company is planning to construct the Schumann project.

Following are several notable points regarding BayWa Renewable Energy, their employees, and the subcontractors they chose to develop the Chopin Wind Farm:

- Prior to starting construction, a schedule of the project was shared with us. Most importantly, the schedule was adhered to. This helped a lot for our farming operation – we could plan and coordinate accordingly because the schedule was accurate.
- The project site was kept clean of trash. I had a visitor comment on this – as they compared this construction site to others they had witnessed.
- BayWa employees were always open to questions and concerns. I found that any hour was open for a conversation regarding an issue and working toward a solution. There were several situations where the site manager made an after-hours visit because there was something to check on - that we called about.
- The subcontractors exhibited the same courteous manner as the BayWa employees. Somehow, the same respectful attitude was shared across a number of companies and their employees. Not to be negative, but that's not very common in today's world (in my experience).
- Safety of the work site was a top priority. We never witnessed anything that would concern us regarding the safety of a worker.

The Chopin Wind Farm has just completed its first year of operation. When the turbines went into operation, our family was anxiously awaiting to see how the turbine noise would affect us. I'm pleased to say, with the closest turbine just under a mile away, we seldom

even notice that they are there. You can hear a slight noise when the wind speed and direction are just right – but they have never been to the point of being annoying.

Based on our experience with BayWa Renewable Energy, I expect no issues with the construction of the Schumann Project. The company is very professional, conscientious, and respectful. On behalf of Ferguson Ranch Inc., we ask that you approve the CUP and LUD requests for the Shumann Wind Project.

Thank you,

Sheldon Ferguson
President, Ferguson Ranch Inc.

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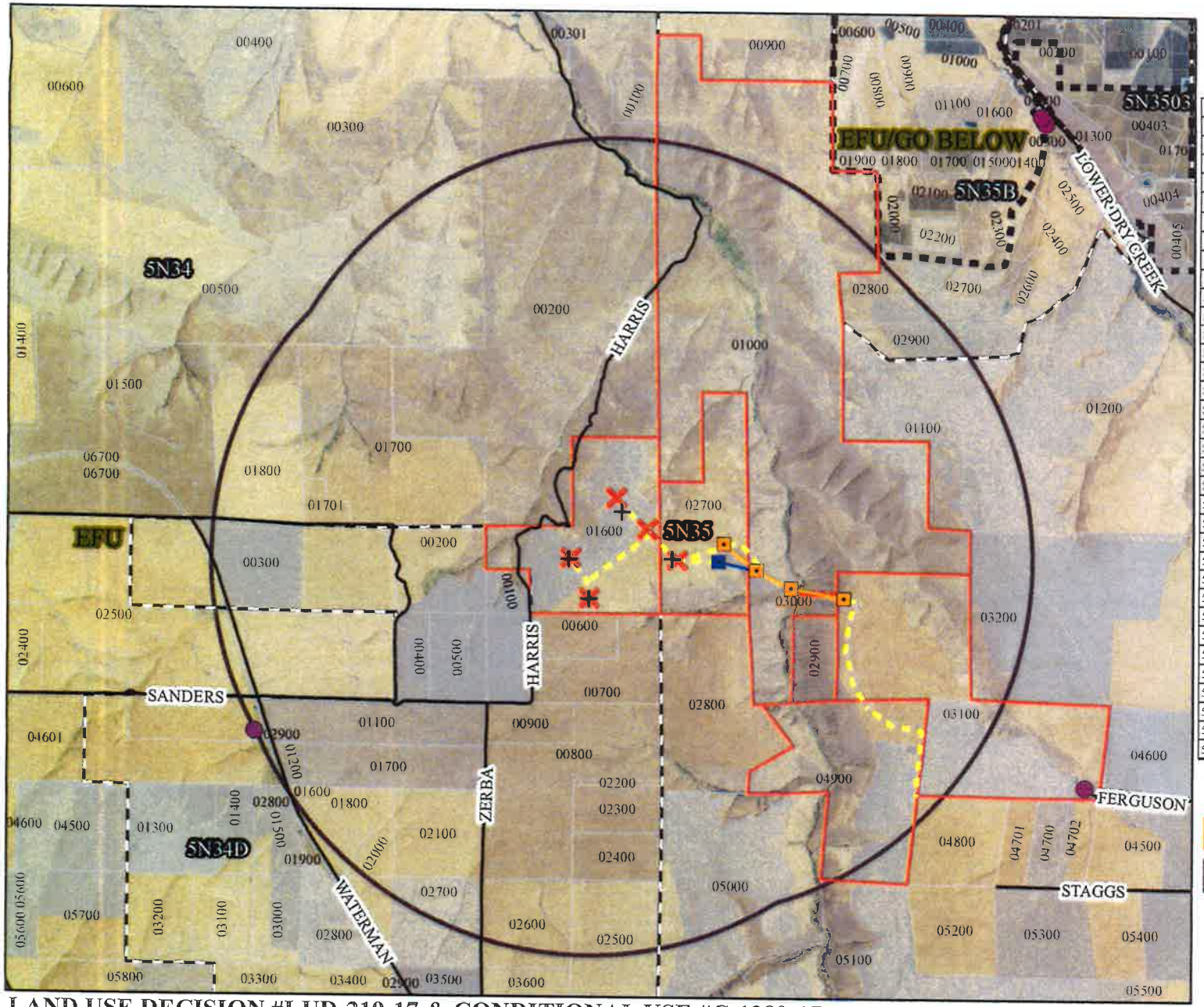

LAND USE DECISION #LUD-219-17 & CONDITIONAL USE #C-1289-17
SCHUMANN WIND LLC, APPLICANT
A. BROOKS LIEUALLEN & PATRICK KELLY & FERUSON RANCH INC., OWNERS
MAP #5N35, TAX LOTS 1000, 2700, 3000, 3100 & 4900
MAP #5N34, TAX LOT 1600

Miles
0 0.5 1 1.5 2

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MAP DISCLAIMER: No warranty is made by Umatilla County as to the accuracy, reliability or completeness of this data. Map data should be used for reference purposes only. Not survey grade or for legal use. Created by Brandon Seitz, on 8/31/2017.

PROPERTY OWNERS WITHIN 750' NOTICE AREA FROM SUBJECT PARCELS

MAP	TAXLOT	OWNER
5N340000	100	STATE OF OREGON DEPT OF STATE LANDS
5N340000	200	KELLY PATRICK
5N340000	1600	LIEUALLEN A BROOKS
5N340000	1700	STRAUGHAN PATRICK C ETAL
5N34D000	100	GERALD LEE WEIDERT FAMILY TRUST ET AL
5N34D000	200	GERALD LEE WEIDERT FAMILY TRUST ET AL
5N34D000	600	GERALD LEE WEIDERT FAMILY TRUST ET AL
5N34D000	700	GERALD LEE WEIDERT FAMILY TRUST ET AL
5N350000	900	MILTON-FREEWATER CITY OF
5N350000	1000	KELLY PATRICK
5N350000	1100	PERKINS RANDY & DANA
5N350000	2700	LIEUALLEN A BROOKS
5N350000	2800	GERALD LEE WEIDERT FAMILY TRUST ET AL
5N350000	2900	WOODROOFE MICHAEL (TRS) 1/3 ETAL 2/3
5N350000	3000	FERGUSON RANCH INC
5N350000	3100	FERGUSON RANCH INC
5N350000	3200	VOLLMER CARL G & NANCY M
5N350000	4500	STAGGS FARM LLC
5N350000	4600	TOWER RANCHES INC
5N350000	4700	JOHNSON MARK D ET AL
5N350000	4701	JOHNSON JON & SIGLER KARINA JO
5N350000	4702	THOMPSON JESSE JAY & GRANELLA RUTH
5N350000	4800	SCHROEDER JERRY & DOROTHY
5N350000	4900	FERGUSON RANCH INC
5N350000	5000	WHITNEY DAVID ET AL
5N350000	5100	WHITMAN COLLEGE BRD OF TRUSTEE
5N350000	5200	SCHROEDER DOROTHY L
5N35B000	700	HIGH RIDGE PROPERTY, L.L.C.
5N35B000	800	SEVEN HILLS PROPERTIES LLC
5N35B000	1800	MURPHY DENNIS P
5N35B000	1900	WILLAMETTE VALLEY VINEYARDS INC
5N35B000	2000	FLYING B SEVEN HILLS LLC
5N35B000	2800	HIGH RIDGE PROPERTY LLC
5N35B000	2900	HIGH RIDGE PROPERTY LLC

Legend

- Subject Parcels
- 2 Mile Buffer from Turbines
- Rural Residences
- Five Turbin Layout
- Four Turbin Layout
- Overhead Transmission Option
- Overhead Trasmission Option
- Underground Transmission
- Zoning Boundary
- Assessors Maps

DRAFT MINUTES

Plan Map Amendment #P-120-17

Co-adopt City of Hermiston's Ordinance 2246

PLANNING COMMISSION HEARING

September 28, 2017

DRAFT MINUTES
UMATILLA COUNTY PLANNING COMMISSION
Meeting of Thursday, September 28, 2017
6:30 p.m., Umatilla County Justice Center, Media Room
Pendleton, Oregon

** **

COMMISSIONERS PRESENT:	Randy Randall, Chair, Gary Rhinhart, Vice Chair, Tammie Williams, Clive Kaiser, Don Wysocki, Cecil Thorne, Suni Danforth
ABSENT:	Don Marlatt, Tami Green
STAFF:	Bob Waldher, Planning Director, Brandon Seitz, Planner, Melinda Slatt, Board of County Commissioners, Administrative Assistant

** **

NOTE: THE FOLLOWING IS A SUMMARY OF THE MEETING. A RECORDING IS AVAILABLE AT THE PLANNING DEPT. OFFICE

CALL TO ORDER

Chair Randall called the meeting to order at 6:30 p.m. and read the opening statement.

MINUTES

Chair Randall asked the Planning Commission to review the minutes from the August 24, 2017 meeting. Commissioner Kaiser moved to adopt the minutes as written. The motion was seconded by Commissioner Danforth. Motion carried by consensus.

NEW HEARING

Plan Map Amendment #P-120-17; Co-adopt City of Hermiston's Ordinance #2246. The City of Hermiston requests the County co-adopt City Ordinance 2246 amending the comprehensive plan map from urbanizable to urban status for 13.10 acres on the south side of W Gettman Road. The City Council also adopted Ordinance 2247 annexing said property effective upon co-adoption of Ordinance 2246.

The criteria of approval are found in Umatilla County Development Code 152.750 - 152.754 and the Joint Management Agreement (JMA) between the City and County.

STAFF REPORT

Brandon Seitz, Planner, stated that the City of Hermiston is requesting to adopt Ordinance 2246 amending the Comprehensive Plan Map from urbanizable to urban status. If approved, the designation of the property will change from urbanizable (Future Residential) to an urban (Low Density Residential) designation. This is necessary for co-adoption by the county because the City of Hermiston's Comprehensive Plan has two overarching designations within the Urban Growth Boundary (UGB). Properties designated as urbanizable are managed by the County. The property in question is currently zoned F-1 (Future Residential) which is considered urbanizable. If the property is switched over to an urban type designation, in this case Low Density Residential, it becomes part of the City's jurisdiction. There is a mutual interest in the property, as it is located in the UGB. The City assumes control and the

County is required to co-adopt the ordinance. The applicant, City of Hermiston, took the application in front of the City Planning Commission and City Counsel where they ultimately adopted Ordinance 2246, approving the application. Subsequently, they also adopted Ordinance 2247, which will annex the property inside City Limits and rezone the property to Duplex Residential which is their R-2 Zoning. Additionally, there is a pending Subdivision application to create new lots on the parcel. The Annexation, Re-Zoning and Subdivision are City applications and not for consideration by the Umatilla County Planning Commission. The only action item is to make a recommendation to the Board of County Commissioners (BCC) on the co-adoption of the Plan Map Amendment, changing the Comprehensive Plan Designation from Future Residential to Low Density Residential.

Commissioner Rhinhart asked what the property is being used for at this time. He stated that he believes it is irrigated, high-value farm ground. Mr. Seitz stated that he is not sure if it is irrigated. The map in the packet shows that only the portion north of the canal will be affected. Once the property is inside the City's UGB it is no longer considered agriculture land under the Oregon Statewide Planning Goals. Therefore, Goal 3 does not apply. When making this Comprehensive Plan Map change, it is not necessary to change it from agriculture designation as we would typically see in an application for the County. The property is designated by the Comprehensive Plan as Future Residential and this approval will change it to Low Density Residential.

Commissioner Kaiser asked if the property currently has water rights. Mr. Seitz did not have water right information and referred to the applicant representative for more information. Bob Waldher, Planning Director, advised the water right issue would be handled in the future and reiterated that the Planning Commission's role is to make a recommendation to the BCC for their decision.

TESTIMONY

Applicant Testimony: Frank Gehring, Frank W. Gehring Construction, Inc., 79344 Prindle Loop Road, Hermiston, Oregon. Mr. Gehring stated that he intends to close on the property in the next couple of weeks. He has submitted a subdivision plat map to the City and the preliminary plat has already been approved. The property has been divided into 46 lots. The irrigation water rights will have to be removed from the property as the Hermiston Irrigation District will not allow the water rights to go into the City.

Mr. Gehring stated that he would like to see this application approved because he is trying to help with the housing needs in the City of Hermiston. He recognizes there are a lot of housing needs in Eastern Oregon and there are many benefits to developing this property. There is a new school in close proximity to the project. He acknowledged that, when the City approved annexation there were people living down Gettman Road who came forward with concerns. There was a long discussion and he did not disagree with points made by some of the people.

Commissioner Rhinhart asked if the property would be supplied by City water and sewer, no wells. Mr. Gehring stated that is true. Commissioner Rhinhart asked about the Low Density Residential designation. The tax lot is just over 13 acres and will be subdivided in to 46 lots for residential housing. He commented that that sounds like a lot of houses. Chair Randall asked what the square footage of the newly formed lots will be. Mr. Gehring stated that the smallest lot will be 8,000 square (sq.) feet (ft.)

and the largest lots will be over 14,000 sq. ft. The houses being built on the new lots will sell for $275,000 to $325,000. Commissioner Rhinhart asked if he looked at other properties that were not irrigated, high value farm ground. Mr. Gehring said he did but had a hard time finding something in his price range. He believes this location is perfect because of the new school being built nearby to accommodate families. Commissioner Rhinhart stated that he has a hard time supporting projects that result in the loss of farm ground. He believes that Pendleton is very careful with farm ground, while Hermiston tends to use more farm ground, and he has a problem with that.

Commissioner Kaiser stated that he is concerned about losing the water right because there is a lot of arable land in the Hermiston region but water is the limiting factor. This project is 13 acres of land that he does not want to see lost to the basin. Commissioner Rhinhart stated that positioning housing developments directly next to Exclusive Farm Use (EFU) property tends to create conflicts. He is concerned that we are not making any more farm ground, but continue to lose it. Chair Randall stated that the larger map shows that this project makes sense, even though it is on farm ground. Mr. Waldher referenced the zoning map in the packet to show the surrounding zoning designations. The property directly south of tax lot 701 is zoned Rural Residential (RR). This EFU property an island in the UGB, surrounded by residential zoning.

Commissioner Williams stated that she is not concerned about the water right because it can be sold to the highest bidder. The people of Hermiston want water rights and they are hard to come by. Commissioner Kaiser stated that his only request is that the water rights move forward and are used by others. Commissioner Williams stated that the project is in a reasonable location near schools and Hermiston is hurting for housing. She appreciates that it is located on a smaller plot and in the middle of a hub.

Opponent Testimony: Gary Stolz, 150 W Gettman Road, Hermiston, Oregon. Mr. Stolz stated that he has lived on Gettman Road for 38 years and provided a letter signed by several other residents to be submitted into the record. He stated that he has heard many positive things about the developer. Mr. Stolz proceeded to read the letter addressed to the Umatilla County Department of Land Use Planning. He stated that 5 years ago, when the Hermiston School District built the new school on Gettman and Nye Street they were required to pave only 2 blocks of Gettman Road. At that time the City Council placed a Conditional Use Permit (CUP) on the School District's use of the gravel portion of Gettman Road. No school busses would use the road unless picking up or dropping off students on Gettman. At the August 14, 2017 City Council meeting someone on the City Council joked on how to enforce this permit. Since the opening of the new school, traffic on Gettman Road has increased significantly. School busses come and go at will, even though there is only one student living on Gettman Road. Mr. Stolz has tried to get the School District to do something about this, to no avail, and now feels that the City is making jokes about it.

Mr. Stolz stated that the City has annexed 13.1 acres into the City Limits to develop 46 lots for new housing. As part of the approval process, the City requires the developer to pave 500 more feet of Gettman Road. For the past several years Gettman Road residents have noticed traffic increases due to progress. He asked, at what point you acknowledge that a county road is no longer just that, and needs to be considered an important thoroughfare. Dust abatement applications are expensive and useless when school is in session, as it gets beaten off very quickly. Mr. Stolz believes that, allowing this development

to proceed without addressing Gettman Road's conditions is a gross neglect of duty for the City of Hermiston, the School District and Umatilla County. He believes the County has the opportunity to rectify this problem. He asked if they will they take responsibility for this road and properly improve it.

Commissioner Wysocki asked staff if the Planning Commission holds the authority to make a requirement that the road be improved. Commissioner Rhinhart advised, no, it is the Planning Commission's recommendation to the BCC for a decision. Mr. Seitz stated that a portion of road, after the gravel piece, is maintained by the County. The County hopes to transfer the road to the City eventually. More discussion continued about frontage of the subdivision, road paving and curbing, etc. Mr. Seitz advised that the County lacks the ability to make road improvements up to City standards and the County does not have the proper equipment to maintain it. The intent is that Gettman Road will be transferred to the City at some point.

Mr. Seitz reiterated the Planning Commission's action is to make a recommendation to the BCC regarding the co-adoption of the City Ordinance amending the Comprehensive Plan Map. The County has no say in the annexation, as it has already taken place. He added that a suggestion has been made to clarify the Joint Management Agreement (JMA) to help determine jurisdiction.

Commissioner Wysocki asked Mr. Stolz if he had presented his concerns to the City of Hermiston. Mr. Stolz stated that he had. He added that Hermiston City Council voted unanimously to make those 46 lots available with no consideration of road improvements. Commissioner Williams felt there will be a larger voice to advocate for road improvements when there are 42 additional residences involved. Mr. Stolz agreed with Commissioner Williams but suggested that if the development occurs they should remove the bridge over Maxwell Canal. He feels that the bridge is unsafe with increased traffic and will need to be replaced. Commissioner Williams advised that if he is concerned about the safety of the bridge he should file complaints and encourage others to do the same because action is complaint driven. Commissioner Danforth stated that the City should be responsible for the road. Chair Randall agreed and stated that it is not financially feasible for the County to pay to pave another mile of road.

Agency Testimony: Mr. Seitz stated that there is an email included in the Planning Commission packets from Tamra Mabbott, written when she was still the Umatilla County Planning Director. She advised that the County had no additional road concerns, as long as the developer is required to obtain Road Access Permits on the County road for the portion where the new driveway will be built. Additionally, she stated that the developer shall obtain an Irrevocable Consent Agreement for that portion of the property. This means they would be responsible for improvements, even if this planned development was never completed.

Applicant Rebuttal: Frank Gehring, Frank W. Gehring Construction, Inc., 79344 Prindle Loop Road, Hermiston, Oregon. Mr. Gehring stated that there was a discussion at the City Council meeting about the cost of paving the road. It was thought to be $2 million for just part of the road and the Union Pacific Railroad wanted $1 million. The City Engineer said he believed Gettman road would be paved all the way through in the next 5 years. They seem to understand it is a priority.

Commissioner Wysocki asked if there is a plan for common use areas. Gehring advised that, in talking to a Hermiston Parks & Recreation representative, they didn't feel it should be pursued since school grounds are in such close proximity.

Chair Randall closed the hearing for deliberation.

DELIBERATION

Chair Randall stated that this is a tough issue. Being in the real estate industry, he knows how desperately Hermiston needs more houses. On the other hand, he lives in the county and understands that those who live outside the city do not welcome the extra traffic that comes with new development. Chair Randall added that the Board of County Commissioners carefully reviews minutes and recommendations and has the ultimate authority in final decision making.

Commissioner Danforth stated that she sympathizes with Mr. Stolz and the neighbors who have to deal with the additional traffic on the dirt road. Unfortunately, the Planning Commission's task is to make a recommendation on co-adoption and they do not have an additional jurisdiction.

Commissioner Wysocki stated that he would like to send a strong message to the City of Hermiston that they are irresponsible for not doing more with this road. He is willing to vote to recommend approval of co-adopting the ordinance, but believes the City needs to understand that the Umatilla County Planning Commission feels the road issue needs to be addressed. Commissioner Danforth and Commissioner Kaiser agreed. Mr. Waldher stated that we can certainly relay to them the Planning Commission's thoughts on the issue. Another suggestion was to provide this input when we review the JMA because it must be co-adopted by the County and the City. Commissioner Rhinhart stated that another way to show how strongly one feels is to vote no on the recommendation tonight.

Commissioner Danforth made a motion to approve Plan Amendment #P-120-17 to Co-Adoption the City of Hermiston's Ordinance 2246. The motion was seconded by Commissioner Williams. Motion passed with a vote of 6:1.

Chair Randall, Commissioner Danforth, Mr. Seitz and Mr. Waldher urged Mr. Stolz and others with concerns to attend the BCC Meeting on this matter scheduled for Wednesday, October 18, 2017, at 9:00 AM in Room 114 of the Umatilla County Courthouse 216 SE Fourth Street, Pendleton.

OTHER BUSINESS

Mr. Seitz announced that he has accepted the Planner position with the City of Umatilla. His first day will be October 2, 2017. The Planning Commissioners congratulated him and wished him the best of luck, but also agreed that he will be missed.

Mr. Waldher stated that Planning Commission position terms need to be addressed. Commissioner Marlatt does not wish to renew his appointment, but will stay until a replacement is found. Staff is currently recruiting for a position to fill from the east part of the county. Chair Randall is also looking to be replaced. A new Chair will likely be elected at the October hearing. Mr. Waldher is asking for

recommendations. Regarding Commissioner appointments, he advised the County Commissioners have revisited policies and are stressing that volunteers should stick to their four-year terms.

Next meeting of the Commission is moved up one week to Thursday, October 19th, 2017 to be held at the Justice Center, 4700 NW Pioneer Place, Pendleton. All Planning Commission meetings for the rest of the year (November & December) are moved up one week to the third Thursday due to holidays.

Upcoming Meetings: Thursday, October 19, 2017, 6:30 PM
Thursday, November 16, 2017, 6:30 PM
Thursday, December 14, 2017, 6:30 PM

ADJOURNMENT

Chair Randall adjourned the meeting at 7:30 p.m.

Respectfully submitted,

Tierney Dutcher
Administrative Assistant

(Minutes adopted by the Planning Commission on _____)