Courtenay Wind Farm Design Datasheet

Turbine Data														
Turbine Manufacturer	**Model Name**	**Generator Rated Voltage (MW)**	**Generator Type**	**Rotor Diameter**	**Rotor Swept Area**	**Cut-in Wind Speed**	**Cut-Out Wind Speed**	**Rotor Speed Range**	**Maximum wind gust**	**Hub Height**	**Blade Height (Highest, from ground)**	**Blade Height (Lowest, from ground)**	**Lighting**	**Foundation Type**
General Electric	1.6-100	1.6	Asynchronous Doubly fed induction	100 meters (328 feet)	7853 m2 (84,593 ft2)	3 m/sec (6.7 MPH)	25 m/s (55.9 mi/hr)	9.75 to 16.18 rpm	52.5 m/sec	80 meters (262.4 feet) or 100 meters (328) ft	130 meters (426.4 ft)	30 meters (98.4 feet)	Per FAA Requirements	Spread foot
Goldwind	GW-77	1.5	Mulitpole synchronous generator, permanent magnet excited	77 meters (252.6 feet)	4656 m2 (50,123 ft2)	3.5 m/sec (7.3 MPH)	22 m/s (49.2 mi/hr)	9-17.3 rpm	59.5 m/sec	85 meters (278.8 feet)	123.5 meters (405.1 feet)	46.5 meters (152.5 feet)	Per FAA Requirements	Spread foot
Siemens	SWT-3.0-113	3	Synchronous generator, permanent magnet direct drive	113 meters (370.6 feet)	10028 m2 (107,948 ft2)	3 m/sec (6.7 MPH)	25 m/s (55.9 mi/hr)	6 to 14 rpm	59.5 m/sec	79.5 meters (260.7 feet	136 meters (446.1 feet)	23.0 meters (75.4 feet)	Per FAA Requirements	Spread foot

Collection System Data				
System Voltage	**Approximate Buried Depth**	**Length of collection system**	**Trench Contents**	**Cable Sizes**
34.5kV	3'-4'	The project will have an estimated 189,750 linear feet of trenching.	Three electrical cables, one fiberoptic cable, and marker tape a foot above all other cables	1/0 AWG, 4/0 AWG, 350 MCM, 500 MCM, 1000 MCM, 1250 MCM

Project Summary	
Nameplate Capacity	200.5mw
Maximum number of turbines	133
Transformer Size	34.5kV/115kV
Interconnection Standards	FERC; NERC; MISO
Final Layout	To be completed after micrositing

Road Design		
Width	**Material**	**Elevation**
16' to 32'	Class 5 aggregate or similar material for surface. Geotextile fabric or concrete/soil mixes for subsurface.	At grade up to 5% slopes, in the event that a slope grade is greater than 5% some cut and fill will be required to allow equipment to access the turbine.