

Table B.13-3 Revised 8/12/10 Land Area (acres) Affected by the Kibby Expansion Project

Project Element		New Clearing		Total Area Affected by Construction ¹	New Permanently Developed/Maintained Area
		Total	Permanent		
Permanent Facilities	Turbine Pads	17.6 <u>12.6</u>	4.4 <u>3.2</u>	17.6 <u>12.6</u>	4.4 <u>3.2</u>
	Total Permanent Roads (7.1 <u>5.6</u> miles)	70.3 <u>48.7</u>	12.4 <u>8.1</u>	81.6 <u>60.0</u>	13.8 <u>9.5</u>
	Crane Roads ² (3.6 <u>2.1</u> miles)	56.4 <u>34.8</u>	9.4 <u>5.1</u>	56.4 <u>34.8</u>	9.4 <u>5.1</u>
	Subtotal Access Road to Ridge (3.3 miles) ³	13.9	3.0	23.7	4.3
	Mile 5 Road (2.2 miles)	0.7	0	10.5	1.3 ⁴
	New Road (1.1 miles)	13.2	3.0	13.2	3.0
	Wahl Road Improvements (0.2 miles)	0	0	1.5	0.1 ⁵
	34.5 Collector Corridor (8.9 <u>7.5</u> miles)	31.0 <u>28.3</u>	31.0 <u>28.3</u>	42.0 <u>39.3</u>	41.0 <u>39.3</u>
	On Ridge (3.1 <u>1.7</u> miles)	6.9 <u>4.2</u>	6.9 <u>4.2</u>	6.9 <u>4.2</u>	6.9 <u>4.2</u>
	Homerun to Substation ⁶ (5.8 miles)	24.1	24.1	35.1	34.1
	Substation ⁷	1.2	1.2	1.2	1.2
	O&M Building Expansion	0	0	0.6	0
	Met Towers (2)	8.0	6.0	8.0	6.0
Subtotal Permanent Facilities	128.1 <u>98.8</u>	151.0 <u>46.8</u>	151.0 <u>121.7</u>	66.4 <u>59.2</u>	
Temporary Facilities	Temporary Skid Trail Construction Access (0.6 <u>0</u> miles)	7.0 <u>0.0</u>	0	49.5 <u>0.0</u>	0
	Temporary Laydown Areas (2)	2.5	0	4.9	0
	Construction Control Center and Parking	1.0	0	2.5	0
	Rock Crusher/Temporary Material Storage	0	0	0	0
	Subtotal Temporary Facilities	10.5 <u>3.5</u>	0	26.9 <u>7.4</u>	0
PROJECT TOTALS		138.6 <u>102.3</u>	55.0 <u>46.8</u>	177.9 <u>129.1</u>	66.4 <u>59.2</u>

¹ Includes areas with existing disturbance within contractor work areas except Gold Brook Road, ~~Mile 2.5 Road~~ and Wahl Road up to the Kibby Project Substation.

² Includes crane assembly areas at WTGs 5 & 15.

³ Includes road pull-offs.

⁴ Does not include the existing area of the Mile 5 Road that will be improved.

⁵ Does not include the existing area of the Wahl Road that will be improved.

⁶ Includes temporary access spurs.

⁷ Includes 115 kV tap line.

Table B.13-3 Revised 8/12/10. Land Area (acres) Affected by the Kibby Expansion Project

Project Element		New Clearing		Total Area Affected by Construction ¹	New Permanently Developed/Maintained Area
		Total	Permanent		
Permanent Facilities	Turbine Pads	12.6	3.2	12.6	3.2
	Total Permanent Roads (5.6 miles)	48.7	8.1	60.0	9.5
	Crane Roads ² (2.1 miles)	34.8	5.1	34.8	5.1
	Subtotal Access Road to Ridge (3.3 miles) ³	13.9	3.0	23.7	4.3
	Mile 5 Road (2.2 miles)	0.7	0	10.5	1.3 ⁴
	New Road (1.1 miles)	13.2	3.0	13.2	3.0
	Wahl Road Improvements (0.2 miles)	0	0	1.5	0.1 ⁵
	34.5 Collector Corridor (7.5 miles)	28.3	28.3	39.3	39.3
	On Ridge (1.7 miles)	4.2	4.2	4.2	4.2
	Homerun to Substation ⁶ (5.8 miles)	24.1	24.1	35.1	34.1
	Substation ⁷	1.2	1.2	1.2	1.2
	O&M Building Expansion	0	0	0.6	0
	Met Towers (2)	8.0	6.0	8.0	6.0
	Subtotal Permanent Facilities	98.8	46.8	121.7	59.2
Temporary Facilities	Temporary Skid Trail Construction Access (0. 0 miles)	0.0	0	0.0	0
	Temporary Laydown Areas (2)	2.5	0	4.9	0
	Construction Control Center and Parking	1.0	0	2.5	0
	Rock Crusher/Temporary Material Storage	0	0	0	0
	Subtotal Temporary Facilities	3.5	0	7.4	0
PROJECT TOTALS		102.3	46.8	129.1	59.2

¹ Includes areas with existing disturbance within contractor work areas except Gold Brook Road and Wahl Road up to the Kibby Project Substation.

² Includes crane assembly area at WTG 5.

³ Includes road pull-offs.

⁴ Does not include the existing area of the Mile 5 Road that will be improved.

⁵ Does not include the existing area of the Wahl Road that will be improved.

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⁷ Includes 115 kV tap line.

Table B.15-1 Revised ~~4-21-108-12-10~~

Summary of Wetland Impacts Associated with the Kibby Expansion Project

Crane Path and Turbine Development		
	Permanent Fill Impacts	Clearing Impacts (Temporary/Will be Allowed to Revegetate Fully)
P-WL1	--	--
P-WL2	0.03 acres (1,218 square ft)	0.01 acres (440 square ft)
P-WL3	0.05 acres (2,288,125 square ft)	0.034 acres (1,623,176 square ft)
Streams	--	--
Subtotal	0.08 acres (3,506,343 square ft)	0.05 acres (2,063,191 square ft)
Access Road		
	Permanent Fill Impacts	Clearing Impacts (Temporary/Will be Allowed to Revegetate Fully)
P-WL1	0.04 acres (1,753 square ft)	<0.01 acres (17 square ft)
P-WL2	0.51 acres (22,323 square ft)	0.01 acres (618 square ft)
P-WL3	0.13 acres (5,499 square ft)	0.03 acres (1,095 square ft)
Streams	0.02 acres (820 square ft)	--
Subtotal	0.70 acres (30,395 square ft)	0.04 acres (1,730 square ft)
Collector line		
	Permanent Fill Impacts	Clearing Impacts (Permanent/Will be Maintained in a Herbaceous or Scrub Shrub State)
P-WL1		0.94 acres (40,856 square ft)
P-WL2		2.22 acres (96,894 square ft)
P-WL3		0.33 acres (14,278 square ft)
Subtotal	0.0 acres (0 square ft)	3.49 acres (152,028 square ft)
Grand Total	0.778 acres (33,901,738 square ft)	0.089 acres (3,793,646 square ft) Temporary Clearing Impacts and 3.49 acres (152,028 square ft.) of Permanent Clearing Impacts

Table B.15-1 Revised 8-12-10

Summary of Wetland Impacts Associated with the Kibby Expansion Project

Crane Path and Turbine Development		
	Permanent Fill Impacts	Clearing Impacts (Temporary/Will be Allowed to Revegetate Fully)
P-WL1	--	--
P-WL2	0.03 acres (1,218 square ft)	0.01 acres (440 square ft)
P-WL3	0.05 acres (2,125 square ft)	0.03 acres (1,476 square ft)
Streams	--	--
Subtotal	0.08 acres (3,343 square ft)	0.05 acres (1,916 square ft)
Access Road		
	Permanent Fill Impacts	Clearing Impacts (Temporary/Will be Allowed to Revegetate Fully)
P-WL1	0.04 acres (1,753 square ft)	<0.01 acres (17 square ft)
P-WL2	0.51 acres (22,323 square ft)	0.01 acres (618 square ft)
P-WL3	0.13 acres (5,499 square ft)	0.03 acres (1,095 square ft)
Streams	0.02 acres (820 square ft)	--
Subtotal	0.70 acres (30,395 square ft)	0.04 acres (1,730 square ft)
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P-WL1		0.94 acres (40,856 square ft)
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P-WL3		0.33 acres (14,278 square ft)
Subtotal	0.0 acres (0 square ft)	3.49 acres (152,028 square ft)
Grand Total	0.77 acres (33,738 square ft)	0.08 acres (3,646 square ft) Temporary Clearing Impacts and 3.49 acres (152,028 square ft.) of Permanent Clearing Impacts

**Table B.15-2 Revised 4-19-108-12-10
Kibby Expansion Project Unavoidable Wetland Impacts Associated with
Crane Path and Turbine Construction**

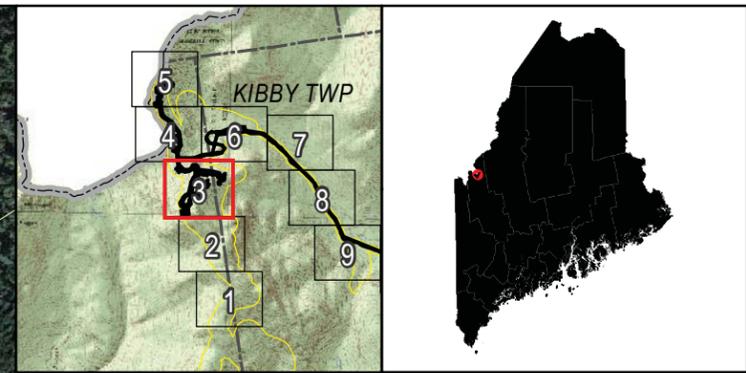
Wetland ID	Wetland Type	LURC Subdistrict	Total Permanent Impact		Total Temporary Impact		Explanation
			ft ²	acres	ft ²	acres	
C-09-S-16	PFO 4	P-WL3	+	0	25	<0.001	The T-12/13 spur road passes by wetland C-16 upslope to the east. Wetland boundaries will be flagged and fill will likely be avoided for this very small impact.
C-09-S-21	PFO 4	P-WL3	162	.004	121	0.003	A cliff to the east limits the alignment of the T-12/13 spur to impact wetland C-21. A rock sandwich will be installed to maintain hydrology.
A-09-S-305	PFO 4	P-WL3	292	0.007	0	0	The T-9/10 spur road is ideally located on a gentle slope, reducing cuts and fills. The spur travels northeasterly avoiding mapped Bicknell's Thrush habitat to the extent possible. As a result, Wetland A-305 is impacted with road fill. The wetland is small with no significant functions or values.
B-09-S-65	PSS 4	P-WL2 (a)	162	0.004	93	0.002	Same as A-305
F-09-S-6	PEM 1	P-WL2 (a)	881	0.02	347	0.008	Several factors create unavoidable impact to Wetland F-6: steepness to the north and sub-alpine fir habitat to the west. The crane path will fill a majority of this resource.
F-09-S-5	PFO 4	P-WL3	607	0.014	213	0.005	T-8 will require fill down slope to support the turbine location. Natural drainage shall remain intact.
A-09-S-214	PFO 4	P-WL3	0	0	46	0.001	T-6 clearing will impact the northern edge of Wetland A-214. Pre-construction flagging of the wetland boundary may enable avoiding this very small wetland impact.
A-09-S-217	PSS 1/4	P-WL2 (a)	175	0.004	0	0	The T-6 pad layout is located over the small isolated wetland A-217. The topography is ideal for a turbine site, and ideal sites are limited.

Wetland ID	Wetland Type	LURC Subdistrict	Total Permanent Impact		Total Temporary Impact		Explanation
			ft ²	acres	ft ²	acres	
A-09-S-215	PFO 4	P-WL3	0	0	21	<0.001	A steep slope to the downhill side of the crane path requires clearing to Wetland A-215. No grubbing will be required. The wetland will retain natural hydrology and functions. The cleared area will be allowed to regenerate to the original cover type.
A-09-S-219	PFO 4	P-WL3	104	0.002	256	0.006	Construction over Wetland A-219 allows the T-5 layout to avoid impacts to Wetlands A-215 and B-49. Use of rock fill will minimize the wetland impact.
A-09-S-220	PFO 4	P-WL3	105	0.002	109	0.003	The crane path is constrained by a steep slope to the east and a larger wetland (B-49) to the west. Hydrology will be maintained through the use of a rock sandwich. Maintaining hydrology along this drain is important because <i>Gal. kamschaticum</i> populations exist along the drain below the road.
B-09-S-51	PFO 4	P-WL3	1017	0.023	831	0.019	This impact is to the edge of the wetland. The crane path alignment is constrained by steep slopes the east, and wetland impact has been minimized to the extent possible. A rock sandwich will be installed to maintain hydrology flowing out of the wetland to the east
TOTAL			<u>3507</u> <u>3,343</u> ft²	<u>0.0805</u> <u>0.077</u> acres	<u>2063</u> <u>1,916</u> ft ²	<u>0.047</u> <u>0.044</u> acres	

**Table B.15-2 Revised 8-12-10
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Crane Path and Turbine Construction**

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B-09-S-65	PSS 4	P-WL2 (a)	162	0.004	93	0.002	Same as A-305
F-09-S-6	PEM 1	P-WL2 (a)	881	0.02	347	0.008	Several factors create unavoidable impact to Wetland F-6: steepness to the north and sub-alpine fir habitat to the west. The crane path will fill a majority of this resource.
F-09-S-5	PFO 4	P-WL3	607	0.014	213	0.005	T-8 will require fill down slope to support the turbine location. Natural drainage shall remain intact.
A-09-S-214	PFO 4	P-WL3	0	0	46	0.001	T-6 clearing will impact the northern edge of Wetland A-214. Pre-construction flagging of the wetland boundary may enable avoiding this very small wetland impact.
A-09-S-217	PSS 1/4	P-WL2 (a)	175	0.004	0	0	The T-6 pad layout is located over the small isolated wetland A-217. The topography is ideal for a turbine site, and ideal sites are limited.
A-09-S-215	PFO 4	P-WL3	0	0	21	<0.001	A steep slope to the downhill side of the crane path requires clearing to Wetland A-215. No grubbing will be required. The wetland will retain natural hydrology and functions. The cleared area will be allowed to regenerate to the original cover type.

Wetland ID	Wetland Type	LURC Subdistrict	Total Permanent Impact		Total Temporary Impact		Explanation
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B-09-S-51	PFO 4	P-WL3	1017	0.023	831	0.019	This impact is to the edge of the wetland. The crane path alignment is constrained by steep slopes the east, and wetland impact has been minimized to the extent possible. A rock sandwich will be installed to maintain hydrology flowing out of the wetland to the east
TOTAL			3,343 ft²	0.077 acres	1,916 ft²	0.044 acres	



- Proposed Turbine Locations
 - Streams
 - Non-Jurisdictional Drainages
 - Wetlands
 - Wetland Survey Limits
 - Turbine Pad
 - Substation Area
 - Project Access
 - Collector Corridor
 - Proposed 34.5kV Collector Transmission Line
 - Proposed Collector Structure Locations
 - Existing Transmission Line
- Project Footprint by Impact Type**
- Collector
 - Grading
 - Temp

Sources: Maine OGIS, TRC, Color Orthophotography: Aerial Survey 2009



250 Feet

**Kibby Expansion
Wind Power Project**

Figure B.15-5
Wetland and Stream Maps

Revised 8-11-10

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Table B.13-5 Revised 8/12/10

Cut and Fill Estimates

PROJECT AREA	CUT	FILL	NET
RIDGE TOP	616,300 <u>467,650</u> CY (523,850 <u>397,500</u> CY @ 85% total, 15% material losses)	543,800 <u>342,300</u> CY	19,950 <u>55,200</u> CY FILL <u>CUT</u>
ACCESS ROAD TO RIDGE	105,850 CY (89,975 CY @ 85% total, 15% material losses)	95, 225 CY	5,250 CY FILL
PROJECT TOTALS	722,150 <u>573,500</u> CY (613,825 <u>487,475</u> CY @ 85% total, 15% material losses)	639,025 <u>437,525</u> CY	25,200 <u>49,950</u> CY FILL <u>CUT</u>

Table B.13-5 Revised 8/12/10

Cut and Fill Estimates

PROJECT AREA	CUT	FILL	NET
RIDGE TOP	467,650 CY (397,500 CY @ 85% total, 15% material losses)	342,300 CY	55,200 CY CUT
ACCESS ROAD TO RIDGE	105,850 CY (89,975 CY @ 85% total, 15% material losses)	95, 225 CY	5,250 CY FILL
PROJECT TOTALS	573,500 CY (487,475 CY @ 85% total, 15% material losses)	437,525 CY	49,950 CY CUT