DESERT CLAIM WIND POWER LLC.

DESERT CLAIM WIND POWER PROJECT

EFSEC SITE CERTIFICATION AGREEMENT AMENDMENT

WETLANDS REPORT

January 31, 2018

Grette Associates LLC
ENVIRONMENTAL CONSULTANTS

EDF RENEWABLE DEVELOPMENT, INC.

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1. INTRODUCTION

The Washington Energy Facility Site Evaluation Council (EFSEC) recommended approval of the Desert Claim Wind Power Project (the Project) in 2009; Governor Christine Gregoire executed a Site Certification Agreement (SCA) in early 2010. The SCA authorizes construction and operation of a 190 megawatt (MW) wind project in Kittitas County, Washington, consisting of 95 2-MW wind turbines, and associated facilities. Desert Claim Wind Power LLC (Desert Claim) plans to request an amendment to the SCA, which would allow it to construct and operate a smaller wind project with fewer turbines and less overall capacity. Desert Claim is considering two turbine configurations, an 80 MW configuration using Siemens wind turbines, and an 80-100 MW configuration using Vestas turbines.[1]

At the time of the 2009 EFSEC proceedings, Desert Claim hoped to be able to avoid any impact to streams and wetlands at the project site. However, during subsequent design work and site investigation it became clear that it would not be possible to avoid all impacts to streams and wetlands. During the process of designing a smaller wind project at the site, Desert Claim has made significant efforts to avoid and minimize impacts to streams and wetlands. The revised Project configuration (including both wind turbines and access roads) would result in approximately 0.393 acres of permanent wetland and stream impacts. The Project would also result in approximately 2 acres of temporary impacts to streams and wetlands associated with road construction and installation of an underground electrical power collector system.

Desert Claim will be submitting an application to the U.S. Army Corps of Engineers (USACE) to obtain coverage under one or more of the nationwide permits issued under Clean Water Act Section 404. The application will include a detailed discussion of the wetland delineation, anticipated impacts, efforts made to avoid and minimize impacts, including the implementation of best management practices, and the proposed mitigation of any impacts. We expect that EFSEC will be involved in the federal Corps permitting process and will ultimately be responsible for issuing any Clean Water Act Section 401 certification that may be required.

In support of Desert Claim's request to amend its SCA (Amendment Request), this report provides an overview of the wetland delineation activities that have occurred at the project site, a discussion of the temporary and permanent impacts anticipated, and a description of a conceptual mitigation plan Desert Claim proposes to implement.

2. PROJECT LOCATION

The Project Area to be owned or leased by Desert Claim or its affiliates totals approximately 5,300 acres and is located in Kittitas County approximately 8 miles northwest of Ellensburg, Washington (Figure 1). It encompasses portions of Sections 17, 18, 19, 20, 29, and 30, Township 19 North, Range 18 East, W.M., and portions of Sections 13 and 25, Township 19 North, Range 17 East, W.M.

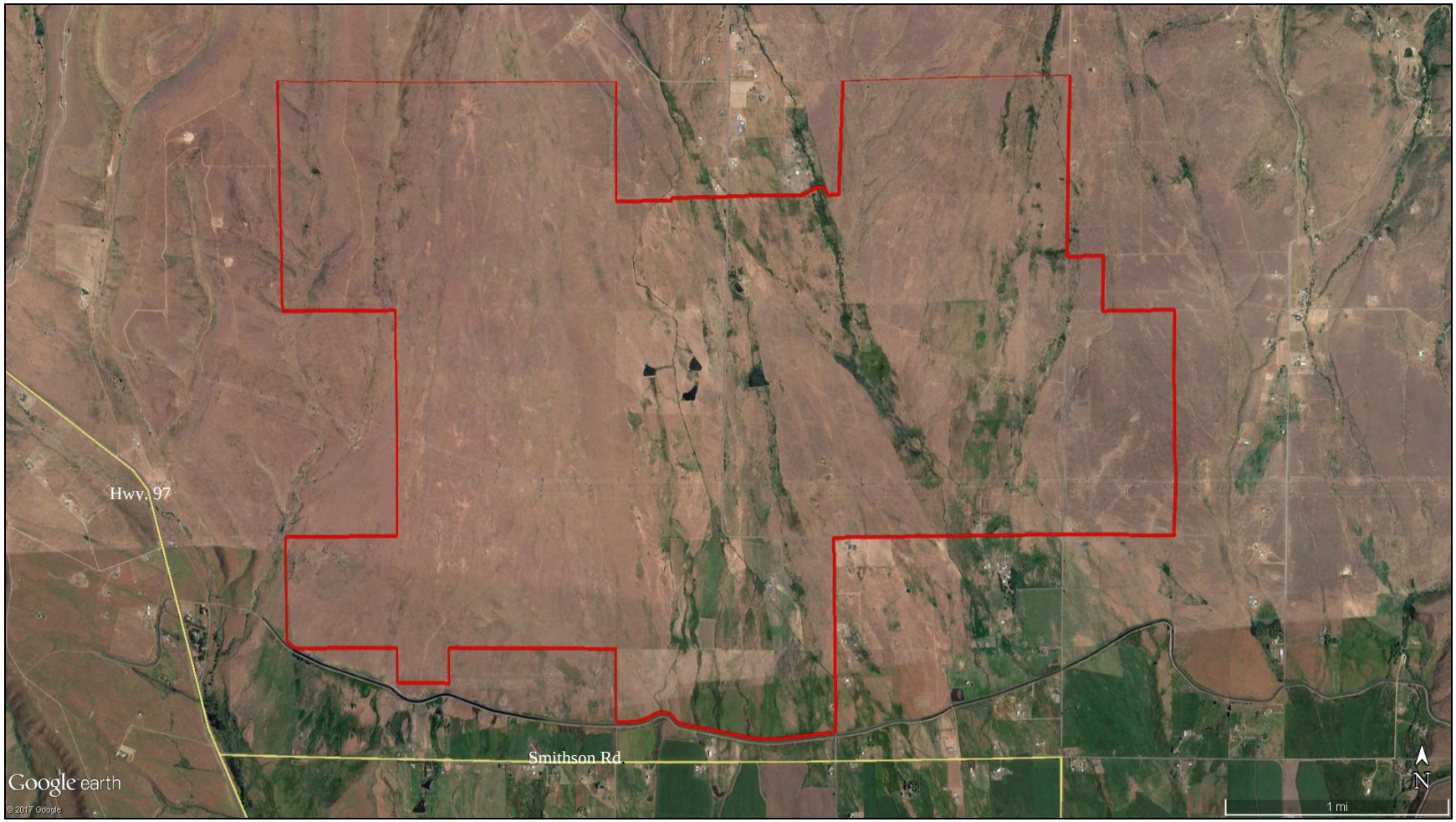
[1] The 80 MW Vestas configuration has five fewer turbines than the 100 MW Vestas configuration, but is otherwise identical. For purposes of this report, therefore, we analyzed the impacts associated with the 100 MW Vestas configuration.

The SCA currently authorizes a 190 MW wind project, consisting of 95 2-MW wind turbines and associated facilities. Desert Claim's Amendment Request proposes to construct a smaller project, with a total capacity of 80-100 MW and only 25-31 turbines.

The current Project Area is roughly the same size as the Project Area subject to the current SCA. Desert Claim proposes to add a portion of Township 19N, Range 18E Section 13 and to remove the portions of Sections 9 and 27 that were previously included in the Project Area. Significantly, however, Desert Claim no longer proposes to locate any turbines or associated facilities on the approximately 1,500-acre portion of the Project Area that is located east of Reecer Creek. This area has numerous wetlands, including high quality Category 1 wetlands, and developing in this area would require crossing and impacting Reecer Creek. Desert Claim has decided to avoid the impacts associated with developing this portion of the Project Area.

Although the Project Area encompasses approximately 5,300 acres, only a fraction of the area will be disturbed by the actual Project footprint, which includes access roads, turbine pads, collection lines, substation and operations building. For the purposes of this document, the term Project footprint is used when discussing the area directly impacted by these elements. Most of the broader Project Area will be undisturbed.

Figure 1. Vicinity map



Note: Figure 1 identifies the Project site (approximate Project boundary shown in red).

3. METHODS

Grette Associates wetland specialists visited the Project site on July 6, 7, 10, 11, and 13, September 20, 21, 27, and 28, and November 11 and 29, 2017 to verify the location of the previously identified wetlands and streams. All wetlands and streams within 200 feet of the Project footprint were assessed to inform the design engineers and facilitate impact avoidance wherever possible.

3.1 Queried Databases

Our evaluation included a review of published wetland, stream, critical habitat and soil information. The following databases were consulted:

- The U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) (USFWS 2017);
- The Kittitas County's Compass 3.0 online mapper (Kittitas County 2017);
- The Washington Department of Fish and Wildlife's (WDFW) Priority Habitats and Species (PHS) database on-line mapper (WDFW 2017a);
- WDFW's SalmonScape on-line mapper (WDFW 2017b);
- The Washington Department of Natural Resources' (WDNR) Natural Heritage Information System (List dated February 6, 2017);
- The Washington Department of Natural Resources' (WDNR) Forest Practice Application Mapping Tool on-line mapper (WDNR 2017);
- The Natural Resources Conservation Service's (NRCS) Web Soil Survey (NRCS 2017).

3.2 Field Investigations

During field investigations, Grette staff traversed the Project site and collected data to confirm wetland boundaries. All wetlands within approximately 80 feet of the Project footprint were formally verified according to the procedures described in the USACE *Federal Wetland Delineation Manual* (Environmental Laboratory 1987), and the USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (2008). Wetlands that are beyond 80 feet of the Project footprint but within 200 feet were visually assessed for rating purposes only.

In addition to the identified wetlands, streams within 200 feet of the Project footprint were verified according to the guidance in the Washington State Department of Ecology's (Ecology) *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et al. 2016).

3.3 Wetland and Stream Classification

Wetlands were rated according to Section 17.32.035.01 of the Kittitas County Code (KCC) and Ecology's *Washington State Wetland Rating System for Eastern WA – 2014 Update* (Hruby 2014).

In addition to wetland analysis, streams were evaluated and classified according Washington Administrative Code (WAC) 222-16030 and the KCC.

4. RESULTS

Field work resulted in the verification and/or identification of 73 wetlands within 200 feet of the Project footprint (Figure 2, Table 1). Twenty-seven wetlands are within 80 feet of the footprint. Paired data plots were sampled according to the USACE's *Regional Supplement* (2008) at each wetland within 80 feet of the Project footprint. Wetlands identified between 80 and 200 feet of the Project footprint were assessed to verify conditions have not changed since 2015. Of the 73 wetlands identified, many will not be impacted, and the total permanent impact to all wetlands will be less than one-half acre.

In addition to the wetlands, 22 streams were verified according to Ecology's *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et al. 2016). Only 14 of the streams have crossings proposed.

4.1 Wetlands Categorization

To determine the category of the wetlands identified within 200 feet of the Project footprint, the wetland classification guidelines in Ecology's wetland rating system (Hruby 2014) were used. Wetlands are assessed by scoring each of three functions: water quality, hydrology, and habitat. The scores are summarized and the wetland is categorized on a scale from Category I (being the highest quality) to Category IV (lowest quality). Each Category and class of wetlands identified is described as follows;

Category I Riverine Wetlands

The Reecer Creek wetland complex is a diverse Palustrine Emergent/Scrub-Shrub/Forested wetland that is approximately 238.12 acres in size and is located approximately 185 feet east of the nearest portion of the Project footprint (Figure 2). The revised Project configuration has been designed to avoid this wetland complex. No additional Category I wetlands are within 200 feet of the Project.

Category II Riverine Wetlands

There are eight Category II Riverine wetlands consisting of Palustrine Emergent wetlands and Palustrine Emergent/Scrub-Shrub wetlands (Figure 2). These wetlands range from approximately 11.62 acres to 138.67 acres in size.

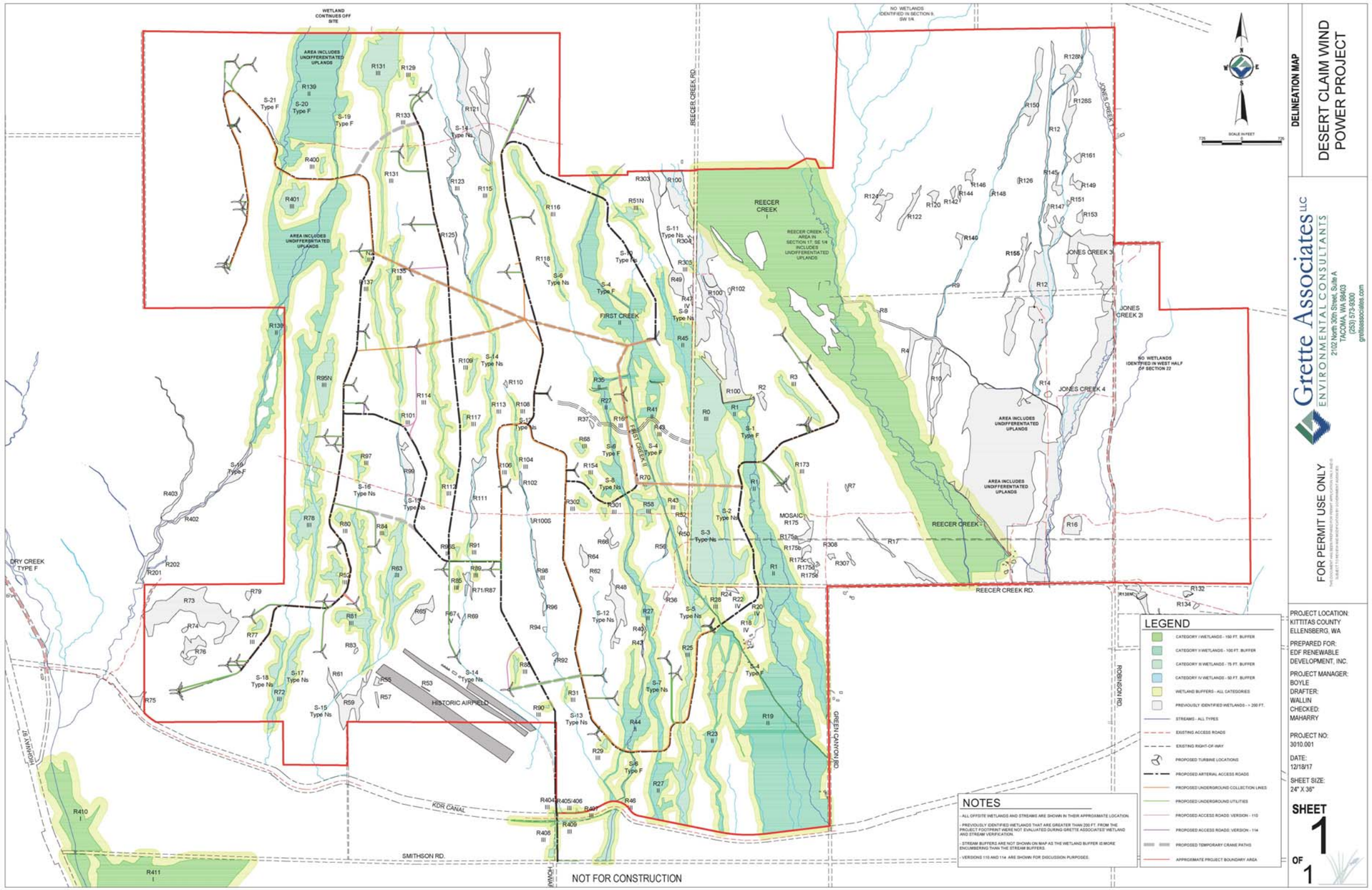
Category II Depressional Wetlands

There are two Category II Depressional wetlands (Wetlands R35 and R41) that are located within 80 feet of the Project footprint (Figure 2). No Category II Depressional wetlands beyond 80 feet from the Project footprint were identified. These features are Palustrine Emergent/Scrub-Shrub wetlands associated with agricultural ponds.

Category III Riverine Wetlands

There are 12 Category III Riverine wetlands located within 200 feet of the Project footprint (Figure 2). Unlike the Category II Riverine wetlands discussed above, the Category III Riverine wetlands are associated with seasonal non-fish bearing streams and are all classified as Palustrine Emergent wetlands ranging from approximately 0.15 acre to approximately 22.45 acres in size.

Figure 2. Delineation map



Category III Slope Wetlands

The 33 Category III Slope wetlands consist of Palustrine Emergent and Palustrine Emergent/Scrub-Shrub wetlands 0.02 acre to 16.78 acres in size. Category III Slope wetlands are the most prevalent wetlands within 200 feet of the Project footprint.

Category III Depressional Wetlands

Four Category III Depressional wetlands (R81, R82, R97, and R154) were identified within 200 feet of the Project footprint. These four wetlands are classified as Palustrine Emergent wetlands and range in size from 12,055 square feet to 386,085 square feet.

Table 1. Wetland rating and categorization summary

Feature	Cowardin Class[1]	HGM Class	Category	Buffer[2]	Feature	Cowardin Class[1]	HGM Class	Category	Buffer[2]
Reecer Cr.	PEM/SS/FO	Riverine	I	150 ft.	**R78**	PEM	Riverine	III	75 ft.
First Cr.	PEM/SS	Riverine	II	100 ft.	**R80**	PEM	Slope	III	50 ft.
N2	PME	Slope	III	75 ft.	**R81**	PEM	Depressional	III	75 ft.
R0	PEM/SS	Slope	III	75 ft.	**R82**	PEM	Depressional	III	75 ft.
R1	PEM/SS	Riverine	II	100 ft.	**R84**	PEM	Slope	III	75 ft.
R3	PEM	Slope	III	75 ft.	**R85**	PEM	Slope	III	75 ft.
R18	PEM	Slope	IV	75 ft.	**R88**	PEM	Slope	III	75 ft.
R19	PEM/SS	Riverine	II	100 ft.	**R89**	PEM	Slope	III	75 ft.
R20	PEM	Slope	IV	75 ft.	**R90**	PEM	Slope	III	75 ft.
R22	PEM	Slope	IV	75 ft.	**R91**	PEM	Riverine	III	75 ft.
R23	PEM	Riverine	II	100 ft.	**R95N**	PEM	Slope	III	75 ft.
R25	PEM/SS	Slope	III	75 ft.	**R95S**	PEM	Slope	III	75 ft.
R27	PEM/SS	Riverine	II	100 ft.	**R97**	PEM	Depressional	III	75 ft.
R28	PEM	Slope	III	75 ft.	**R101**	PEM/SS	Riverine	III	75 ft.
R29	PEM	Slope	III	75 ft.	**R104**	PEM	Riverine	III	75 ft.
R31	PEM	Riverine	III	75 ft.	**R106**	PEM	Slope	III	75 ft.
R35	PEM/SS	Depressional	II	100 ft.	**R108**	PEM	Riverine	III	75 ft.
R41	PEM/SS	Depressional	II	75 ft.	**R109**	PEM	Slope	III	75 ft.
R43	PEM	Slope	III	100 ft.	**R112**	PEM	Slope	III	75 ft.
R44	PEM	Riverine	II	100 ft.	**R113**	PEM	Riverine	III	75 ft.
R45	PEM	Riverine	II	75 ft.	**R115**	PEM	Riverine	III	75 ft.
R51	PEM	Riverine	III	75 ft.	**R116**	PEM	Slope	III	75 ft.
R58	PEM/SS	Slope	III	75 ft.	**R117**	PEM	Slope	III	75 ft.
R63	PEM	Riverine	III	75 ft.	**R129**	PEM	Slope	III	75 ft.
R67	PEM	Slope	III	75 ft.	**R131**	PEM	Slope	III	75 ft.
R68	PEM/SS	Slope	III	75 ft.	**R133**	PEM	Slope	III	75 ft.
R70	PEM/SS	Slope	III	75 ft.	**R135**	PEM	Riverine	III	75 ft.
R72	PEM	Riverine	III	75 ft.	**R137**	PEM	Riverine	III	100 ft.
R77	PEM	Slope	III	75 ft.	**R139**	PEM	Riverine	II	75 ft.
R154	PEM	Depressional	III	100 ft.	**R405**	PEM	Depressional	III	75 ft.
R169	PEM	Riverine	II	75 ft.	**R406**	PEM	Depressional	III	75 ft.
R173	PEM	Slope	III	75 ft.	**R407[3]**	PEM	Depressional	III	75 ft.
R301	PEM/SS	Slope	III	75 ft.	**R408[3]**	PEM/SS	Depressional	III	75 ft.
R302	PEM/SS	Slope	III	75 ft.	**R409[3]**	PEM/SS	Depressional	III	75 ft.
R400	PEM	Slope	III	75 ft.	**R410[3]**	PEM/SS/FO	Riverine	I	150 ft.
R401	PEM	Slope	III	75 ft.	**R411[3]**	PEM/SS/FO	Riverine	I	150 ft.
R404[3]	PEM	Depressional	III	75 ft.					

[1] Classification based on Cowardin et al. (1979).
[2] Based on KCC. Moderate land use intensity was used for determining the appropriate buffer width.
[3] Wetland located outside of the Project site but within 200 feet of road improvements.

4.2 Streams

A total of 22 perennial and seasonal streams were identified that are located within 200 feet of the Project footprint, and characterized according to the WAC. Several roadside ditches and agricultural water features were also identified.

Type F Streams

Type F streams are those streams which are within a defined channel that contain fish habitat (WAC 222-16-030), though the habitat isn't necessarily occupied. There are five streams (perennial and seasonal) that meet the definition of a Type F stream (Figure 2). These streams originate north of the Project site, in the foothills associated with Table Mountain.

In general, the perennial Type F streams (S-1, S-4 [First Creek], and S-6S) are situated within narrow (less than 5 ft. in width) channels that are dominated with fine stream bed sediments and small cobble. The seasonal Type F streams (Table 2) are tributaries to perennial Type F streams. The seasonal Type F streams are dominated by large cobble and small boulders due to the high velocities that occur during snowmelt. These streams are usually dry in the summer.

Type Ns Streams

Type Ns streams (WAC 222-16-030) are seasonal, non-fish habitat streams in which surface flow is not present for at least some portion of a year of normal rainfall and are not downstream of a Type Np stream (perennial non-fish habitat stream). There are 17 streams (including swales/channels) that are within 200 feet of the Project footprint (Figure 2 and Table 2).

In general, the seasonal Type Ns streams convey surface water associated with snowmelt to probable wetland areas and mapped non-fish habitat streams south of the Project. None of the impacts to streams will reduce this water conveyance function.

Table 2. Stream summary

Feature	Flow Regime	Stream Type[1]	Buffer Width[2]	Feature	Flow Regime	Stream Type[1]	Buffer Width[2]
S-1	Perennial	F	100 ft.	**S-11**	Seasonal	Ns	30 ft.
S-2	Seasonal	Ns	30 ft.	**S-12**	Seasonal	Ns	30 ft.
S-3	Seasonal	Ns	30 ft.	**S-13**	Seasonal	Ns	30 ft.
S-4 (First Creek)	Perennial	F	100 ft.	**S-14**	Seasonal	Ns	30 ft.
S-5	Seasonal	Ns	30 ft.	**S-15**	Seasonal	Ns	30 ft.
S-6N	Seasonal	Ns	30 ft.	**S-16**	Seasonal	Ns	30 ft.
S-6S	Perennial	F	100 ft.	**S-17**	Seasonal	Ns	30 ft.
S-7	Seasonal	Ns	30 ft.	**S-18**	Seasonal	Ns	30 ft.
S-8	Seasonal	Ns	30 ft.	**S-19**	Seasonal	F	100 ft.
S-9	Seasonal	Ns	30 ft.	**S-20**	Seasonal	F	100 ft.
S-10	Seasonal	Ns	30 ft.	**S-21**	Seasonal	Ns	30 ft.

Agricultural Water Features

In addition to the Type F and Type Ns streams, there are several ditches and an irrigation canal (KRD Canal) within 200 feet of the Project footprint or within 200 feet of where the necessary offsite road improvements will be completed (Figure 2).

4.3 Impact Summary

As stated, avoiding all wetlands that are situated within the Project site is not feasible. All reasonable avoidance and minimization measures have been implemented during the design of the revised layout (Figure 2). In some instances, however, Project access roads must cross a stream or wetland. The impacts associated with these crossings are anticipated to be minor. In particular, stream crossings will be designed as fords, allowing unimpeded stream flows and with minimal habitat impact and crossings of seasonal streams may be accomplished at times when water is not flowing.

Table 3 summarizes the permanent and temporary impacts to streams and wetlands. As shown, the total permanent impact is 0.393 acres, which includes 0.045 acres of impact to streams and 0.348 acres of impact to wetlands. The total temporary impact is 1.981 acres, which includes 0.158 acres of temporary impact to streams and 1.823 acres of temporary impact to wetlands.

Table 3. Impact summary by feature

Crossing ID	Stream Name	Stream Type	Wetland Name	Category	Permanent Impact[1] (acres)	Temporary Impact[1] (acres)
1	S20	F	R139	II	0.004/0.023	0.008/0.051
2	S19	F	R139	II	0.001/0.009	0.003/0.019
3	S18	Ns	-	-	0.001	0.002
4	S17	Ns	-	-	0.001	0.003
5	S15	Ns	-	-	0.003	0.006
6	S14	Ns	-	-	0.003	0.006
7	S13	Ns	-	-	0.001	0.002
8	S4	F	First Creek	II	0.002/0.015	0.005/0.032
9	S10	Ns	-	-	0.002	0.003
10	Swale	Ns	-	-	0.001	0.003
11	S6	F	R27	II	0.001/0.023	0.003/0.048
12	S14	Ns	-	-	0.001	0.003
13	Ditch	-	-	-	-	0.019
14	S12	Ns	R44	II	0.001/0.020	0.002/0.040
15	S6	F	R44	II	0.001/0.021	0.002/0.043
16	S7	Ns	R27	II	0.001/0.029	0.002/0.059
17	-	-	R25	III	0.017	0.035
18	Ditch	-	-	-	0.006	0.013
19	S4	F	First Creek	II	0.001/0.008	0.003/0.017
20	Ditch	-	-	-	0.002	0.004
21	Ditch	-	-	-	0.001	0.002
22	Ditch	-	-	-	0.002	0.004
23	Ditch	-	-	-	0.002	0.004
24	S1	F	R1	II	0.005/0.102	0.007/0.212
25	Ditch	-	-	-	0.001	0.002
26	-	-	R408 and R409	III/III	0.080	-
A	S15	Ns	R135	III	-	0.002/0.078
B	-	-	R137	III	-	0.037
C	S15	Ns	-	-	-	0.003
D	-	-	R112	III	-	0.040
E	S14	Ns	R115	III	-	0.004/0.135
F	S14	Ns	-	-	-	0.007
G	S13	Ns	-	-	-	0.006
H	S6	F	-	-	-	0.006
I	S4	F	First Creek	II	-	0.005/0.323
J	S6	F	R35	II	-	0.003/0.059
K	-	-	R165	III	-	0.019

Crossing ID	Stream Name	Stream Type	Wetland Name	Category	Permanent Impact[1] (acres)	Temporary Impact[1] (acres)
L	S4	F	R70/First Creek	III/II	-	0.003/0.211
M	-	-	R43	II	-	0.059
N	-	-	R0	III	-	0.044
O	-	-	R0	III	-	0.145
P	-	-	R0	III	-	0.072
A	-	-	R131	III	-	0.045
B	S15	Ns	-	-	-	0.007
TOTAL IMPACT AREA (Streams/Wetlands)					**0.045/0.268**	**0.158/1.823**
TOTAL AREA					**0.393**	**1.981**

[1] In instances in which a crossing would impact both a stream and a wetland, this column indicates the acres of impact first to the identified stream and then to the identified wetland. Impacts to water features that do not meet the classifications defined in Chapter 17.A.04 of the KCC (swales and ditches) are nonetheless included in the stream calculation totals because these features are considered waters of the State (RCW 90.48.030).

5. MITIGATION APPROACH

Per state regulations (WAC 463-62-050), EFSEC's impact and mitigation standards for wetlands require the following:

> (1) The council's intent is to achieve no net loss of wetland areas. Wetland impacts shall be avoided wherever possible. Where impacts cannot be avoided, the applicant shall be required to take one or more of the following actions (in the following order of preference): Restore wetlands on upland sites that were formerly wetlands; create wetlands on disturbed upland sites; enhance significantly degraded wetlands; and preserve high-quality wetlands that are under imminent threat.
>
> (2) Wetland mitigation actions proposed to compensate for project impacts shall not result in a net loss of wetland area except when the lost wetland area provides minimal functions and the mitigation action(s) will clearly result in a significant net gain in wetland functions as determined by a site-specific function assessment.

The Project was designed and configured in order to avoid wetland impacts where possible, and to minimize impacts where complete avoidance was not possible. Unavoidable permanent impacts to wetlands and streams will be a total less than one-half of an acre and temporary impacts are expected to total less than two acres.

Desert Claim proposes to fully mitigate these unavoidable impacts consistent with EFSEC's goal of "no net loss."

Although Desert Claim has not yet selected a specific mitigation project, the sections that follow describe the avoidance, minimization, and mitigation sequence that Desert Claim is following.

5.1 Mitigation Sequencing

Avoidance

Desert Claim considered several design configurations to achieve the Project's goals by designing a suitable layout while avoiding streams and wetlands as much as possible. However, given the number of streams and wetlands on the site and their positions, it is not practical to construct access roads to each of the turbines without crossing or impacting streams and wetlands.

The original Project Area consisted of a layout of 95 wind turbines and associated infrastructure that would be positioned across an approximately 5,250 acre site. This layout included crossings across Reecer Creek and its associated Category I wetlands as well as several other streams and wetlands. The revised layout configuration avoids development of the approximately 1,500 acres of the Project Area located east of Reecer Creek, avoiding both the high quality wetlands in that area and the need to cross Reecer Creek. Moreover, the revised project has only one-third as many turbines, which means less turbine and road footprint (Figure 2).

Minimization

The revised layout has been designed to avoid impacts to the extent possible. All turbine locations are situated outside of any stream, or wetland. In addition, all roads and utilities have been aligned outside any stream, wetland, or their associated buffers to the extent possible. In general, roads and utilities have been designed to be positioned parallel and outside of any critical area or buffer except where a crossing is proposed. All of the necessary crossings have been designed to be perpendicular across and in the narrowest portion of a stream or wetland to minimize impacts. Additionally, all crossings have been designed in a manner to not obstruct the movement of surface flows, wood debris, or fish and wildlife.

The Project will also install underground utilities and place temporary crane crossings across several streams and wetlands. Utility and construction crane crossings have been designed to utilize the access road alignment to prevent additional temporary impacts wherever practical. Where feasible, utilities will be installed underground beneath the access roads while the crane will utilize the access roads to maneuver across the Project site to raise the turbines.

Figure 2 shows the proposed layout and illustrates how the Project has been designed to minimize impacts to the extent possible.

Restoration

The majority of the Project footprint consists of the access roads that will be used for construction, maintenance and operation of the Project. Careful consideration of road alignments that avoid wetlands has reduced the permanent Project impacts to approximately 0.045 acres of stream channel and approximately 0.35 acres of wetland.

However, there are several areas where it is not feasible for the crane to utilize the access road alignment and building a permanent access road would cause unnecessary permanent impacts. Approximately 0.16 acres of temporary stream impacts and approximately 1.82 acres of temporary wetland impacts will occur during the construction of the Project where crane and collection line crossings are located.

Temporary impacts will be limited to minor vegetation and soil disturbance to facilitate construction. These areas will be restored by replanting them with like species and soils will be restored to pre-disturbance conditions. Detailed restoration plans will be provided in the mitigation plan submitted to EFSEC for review and approval prior to project construction.

Compensation

Desert Claim will fully mitigate for all impacts resulting from construction and operations of the Project. Mitigation planning is on-going and Desert Claim intends to submit a detailed mitigation plan to EFSEC for review and approval prior to commencing Project construction. In general, Desert Claim proposes to replace the functions of the permanently affected wetlands though wetland enhancement.

Desert Claim will develop a mitigation plan to compensate for all unavoidable impacts associated with the Desert Claim project (Table 4). The plan will be designed to meet EFSEC's goal of "no net loss" and to compensate for the unavoidable impacts to wetland functions.

Table 4. Global impact summary

Feature	Permanent Impact	Temporary Impact
Category II Wetlands	0.251 acres	1.170 acres
Category III Wetlands	0.097 acres	0.653 acres
Streams	0.030 acres	0.107 acres
Swales and Ditches	0.015 acres	0.051 acres
Total	**0.393 acres**	**1.981 acres**

EFSEC has not developed its own mitigation ratios. Therefore, Ecology (Ecology, USACE, EPA 2006) and Kittitas County (Chapter 17A.07 of the KCC) ratios were consulted for guidance (Table 5).

Table 5. Ecology and Kittitas County mitigation ratio for eastern Washington

Agency	Category	Re-establishment or Creation (R/C)	Rehabilitation Only (RH)	R/C and RH[2]	R/C and Enhancement[2]	Enhancement Only
Ecology	II[1]	3:1	6:1	1:1 and 4:1	1:1 and 8:1	12:1
	III	2:1	4:1	1:1 and 2:1	1:1 and 4:1	8:1
Kittitas Co.	II	3:1	6:1	-	-	12:1
	III	2:1	4:1	-	-	8:1

[1] Category II ratios are based on function.
[2] Ratios for R/C are provided followed by RH or enhancement, respectively.

Neither Ecology nor Kittitas County have established ratios for compensatory mitigation for the impacts to the areas associated with streams, stream buffers, stormwater (ditches and swales), and wetland buffers, so a 1:1 ratio is proposed for these impacts.

As stated above, Desert Claim will develop a mitigation plan to compensate for all unavoidable impacts associated with the proposed Project. This mitigation plan will comply with Federal, State and Local regulations and will be submitted in support of an application to obtain permits under Sections 401 and 404 of the Clean Water Act.

For example, an approved mitigation plan that was designed to compensate for the unavoidable wetland impacts through enhancement would, at a minimum, enhance 3.148 acres of degraded wetland to compensate for the 0.268 acres of impact (Table 6). Wetland enhancement includes the manipulation of the physical, chemical, or biological

characteristics of a wetland to heighten, intensify or improve specific function(s) which could include, but not be limited to, planting vegetation, controlling non-native invasive species, and/or modifying topography to alter hydroperiods.

Table 6. Required mitigation per Ecology and Kittitas County

Category and Classification	Total Impact Area	Enhancement Only Ratio[1]	Mitigation Required
Category II Riverine Wetlands	0.251 acres	12:1	3.012 acres
Category III Slope Wetlands	0.017 acres	8:1	0.136 acres
Category III Depressional Wetlands	0.080 acres	8:1	0.640 acres
Total	**0.348 acres**	**-**	**3.788 acres**

[1] Refer to Table 5 for Ecology's and Kittitas County's ratios.

For permanent impacts to streams on the Project site, the mitigation plan would also include actions to offset the loss of stream habitat and conveyance functions. For example, mitigation could entail the planting of riparian vegetation along stream channels near the impact locations. Enhancement of riparian functions such as lowering water temperatures, filtering sediment from runoff, and providing cover and refuge for aquatic organisms and wildlife would increase stream habitat function quality on the site compared to the existing pre-project conditions.

5.2 Target Functions

Historically, the area where the Project is situated was largely dominated by grassland and shrub-steppe habitats. However, while these communities are present within the broader landscape with the current land use, the wetland areas within these habitats are degraded due to the introduction of cattle grazing.

Using the example of compensatory mitigation through enhancement, the overall goal of a conceptual compensatory mitigation plan would be to provide opportunity for degraded wetland(s) and stream channels to resemble historical conditions and improve water quality and habitat. The Project site is currently utilized for cattle grazing which has altered native vegetation growth and recruitment as well as introduced the opportunity for the current land use to reduce water quality and habitat conditions.

In general, cattle are more attracted to the wetlands given they provide moist vegetation and the consequent quality grazing opportunities. As a result, the wetlands are more susceptible to disturbance and long term affects.

Proposed enhancement actions would, at a minimum, remove cattle from the selected wetland(s) and the surrounding area to eliminate grazing, soil disturbance, and contamination and allow vegetation succession within the wetland(s) and its associated buffer. In addition to removing cattle from the area, a series of micro-depressions could be graded within the wetland(s) to provide enhanced hydrological wetland functions during high flow events. These micro-depressions would be planted with an assortment of native vegetation that is suitable for the growing conditions found in the region to increase plant diversity. Furthermore, the removal of cattle would allow the establishment and spread of planted riparian vegetation along stream channels, further increasing water quality and habitat conditions on the site.

5.3 Monitoring and Maintenance and Contingency Plan

Upon completion of the mitigation, actions a monitoring program will be implemented to ensure the goals and objectives are being met. The mitigation program will include a set of performance standards to provide a clear means of evaluating the success of the mitigation actions.

Maintenance of the mitigation areas will be the responsibility of Desert Claim for the duration of the monitoring period. The intent of a maintenance plan is to ensure that mitigation areas do not become degraded during the monitoring period and to ensure that the sites meet the goals and objectives defined in an approved plan.

A contingency plan identifies a planning process for selecting appropriate actions to address failure of specific performance standards. In order to maintain the flexibility needed to respond effectively and appropriately to biological and/or physical conditions, contingency plans do not typically present actions that will remedy all types of failures at the restoration areas.

It is expected that any shortfall in mitigation performance can be remedied within the confines of the enhancement areas through adaptive management techniques such as replanting vegetation that fails to meet performance standards or substituting a plant species that continues to have a high mortality rate.

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