



**SOLAR SITE DEVELOPMENT
ENVIRONMENTAL SERVICES DIVISION**

**ALPHA ENVIRONMENTAL
ALPHA ENGINEERING SERVICES, P.A.**

**FEDERALLY THREATENED AND ENDANGERED SPECIES
SURVEY**

**INNOVATIVE SOLAR 211
N. HILLS ROAD
ADAMS COUNTY
RITZVILLE, WASHINGTON 99032**

Prepared for:

**INNOVATIVE SOLAR , LLC
1095 HENDERSONVILLE ROAD
ASHEVILLE, NORTH CAROLINA 28803**

Prepared by:

**ALPHA ENVIRONMENTAL.
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June 14, 2017

AES Project Number 17103.03

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THREATENED & ENDANGERED SPECIES SURVEY – IS211
PROJECT# 17103.03

TABLE OF CONTENTS

INTRODUCTION	Page 3
EXECUTIVE SUMMARY	Page 3
FIELD SURVEY	Page 3
RESULTS	Page 4
REGULATIONS	Page 7
CONCLUSIONS	Page 9
ENVIRONMENTAL PROFESSIONAL STATEMENT	Page 9
REFERENCES	Page 9

FIGURE 1 T&E SPECIES SURVEY AREA

APPENDIX I USFW CONCURRENCE REQUEST/RESPONSE

ALPHA

THREATENED & ENDANGERED SPECIES SURVEY – IS211
PROJECT# 17103.03

INTRODUCTION

The purpose of this report is to provide information on the potential presence of federally protected plant and animal species on the IS 211. The site is located northeast of the intersection of N Hills Road and Griffith Rd and in Adams County, Washington. The subject site is under review for a proposed solar farm referred to as Innovative Solar 211.

The Federally Threatened and Endangered Species Survey was ordered by Mr. Lance Roddy, Land Development Manager, for Innovative Solar, LLC, 1095 Hendersonville Road, Asheville, North Carolina 28803, for and on behalf of the “Report User” INNOVATIVE SOLAR 211, LLC, and its’ Assignees. The assessed property, here within referred to as the “Site, Subject Site, Subject Site/Area, Subject Property, Property, or Target Property”, includes portions of the parcels identified in the Adams County Tax Record as parcel PIN 2036110200001.

ALPHA ENVIRONMENTAL has concluded that the construction of a solar farm on the IS 211 would have "no effect" on any federally threatened or endangered species. The Survey has been submitted for concurrence by the United States Fish and Wildlife Service.

EXECUTIVE SUMMARY

Six Federally listed Endangered or Threatened species are currently documented by the United States Fish and Wildlife Service as occurring in Adams County, WA. These are:

Six Federally listed Endangered or Threatened species are currently documented by the WA Natural Heritage Program (NHP) as occurring in Adams County, WA. These are: Yellow-billed Cuckoo (*Coccyzus americanus*), Bull Trout (*Salvelinus confluentus*), Spalding's Catchfly (*Silene spaldingii*), Water Howellia (*Howellia aquatilis*), Gray Wolf (*Canis lupus*), and Columbia Basin Pygmy Rabbit (*Brachylagus idahoensis*).

No potentially suitable habitat was found on the IS 211 Solar Site for the any of the above listed threatened or endangered species.

FIELD SURVEY

Natural communities are recurring assemblages of plants and animals found in particular physical environments. Natural communities are influenced by topography, parent material, and human activity. Each type of natural community has a unique set of environmental conditions supporting certain species that have adapted to those conditions. By examining natural community types and comparing them to the habitat preferences of specific taxa, a majority of species can be accurately located. In turn, by eliminating unsuitable habitat, many taxa can be ruled out as likely to occur.

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THREATENED & ENDANGERED SPECIES SURVEY – IS211
PROJECT# 17103.03

Before initiating field surveys, maps were prepared in QGIS of the natural heritage elements on and near the property. Topographical maps and aerial maps were then used to aid in locating habitat types. Optimal survey windows for rare species were determined using publications and websites.

The field survey to collect data for this report was collected on June 5, 2017. Transects were traversed on foot throughout the property. Ground truthing of specific habitat types and ecotones was done in the field. A GPS unit was used for navigation and further documentation of potential habitats. 2015 aerial images, and USGS topographic quadrangle maps were all used during preliminary site assessment and ground truthing.

RESULTS

Federally Listed Endangered and Threatened Species

Washington Natural Heritage Program has documented occurrences of state or federally listed assemblages, communities, and species in Washington. As noted above, there are six federally listed Endangered or Threatened species documented to occur within Adams County. These species are discussed below.

Yellow-Billed Cuckoo

DESCRIPTION: Yellow-billed Cuckoos are fairly large, long, and slim birds. The mostly yellow bill is almost as long as the head, thick and slightly downcurved. They have a flat head, thin body, and very long tail. Wings appear pointed and swept back in flight. Yellow-billed Cuckoos are warm brown above and clean whitish below. Their blackish face mask is accompanied by a yellow eye ring. In flight, the outer part of the wings flash rufous. From below, the tail has wide white bands and narrower black ones

RANGE AND POPULATION LEVEL: Yellow-billed Cuckoos breed throughout much of the eastern and central U.S., winter almost entirely in South America east of the Andes, and migrate through Central America. The western subspecies (*C.a. occidentalis*) has disappeared over much of the western U.S. and now occurs as a rare breeder in California, Arizona, New Mexico, and west Texas.

HABITAT: Yellow-billed Cuckoos use wooded habitat with dense cover and water nearby, including woodlands with low, scrubby, vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes. In the Midwest, look for cuckoos in shrublands of mixed willow and dogwood, and in dense stands of small trees such as American elm. In the central and eastern U.S., Yellow-billed Cuckoo's nest in oaks, beech, hawthorn, and ash. In the West, nests are often placed in willows along streams and rivers, with nearby cottonwoods serving as foraging sites.

It is the opinion of Alpha Environmental that suitable habitat for the Yellow-Billed Cuckoo does not exist within the IS 211 Site. No further surveys are recommended for Yellow-Billed Cuckoo on the IS 211 Site.

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THREATENED & ENDANGERED SPECIES SURVEY – IS211
PROJECT# 17103.03

Bull Trout

DESCRIPTION: Bull trout may be distinguished from brook trout (*Salvelinus fontinalis*) by several characteristics: spots never appear on the dorsal (back) fin, and the spots that rest on the fish's olive green to bronze back are pale yellow, orange or salmon-colored. The bull trout's tail is not deeply forked as is the case with lake trout (*Salvelinus namaycush*). Bull trout exhibit two forms: resident and migratory. Resident bull trout spend their entire lives in the same stream/creek. Migratory bull trout move to larger bodies of water to overwinter and then migrate back to smaller waters to reproduce. An anadromous form of bull trout also exists in the Coastal-Puget Sound population, which spawns in rivers and streams but rears young in the ocean. Resident and juvenile bull trout prey on invertebrates and small fish. Adult migratory bull trout primarily eat fish. Resident bull trout range up to 10 inches long and migratory forms may range up to 35 inches and up to 32 pounds. Bull trout are currently listed conterminously as a threatened species.

HABITAT: Bull trout (*Salvelinus confluentus*) are members of the family Salmonidae and are native to Washington, Oregon, Idaho, Nevada, Montana and western Canada. Compared to other salmonids, bull trout have more specific habitat requirements that appear to influence their distribution and abundance. They need cold water to survive, so they are seldom found in waters where temperatures exceed 59 to 64 degrees (F). They also require stable stream channels, clean spawning and rearing gravel, complex and diverse cover, and unblocked migratory corridors.

It is the opinion of Alpha Environmental that suitable habitat for the Bull Trout does not exist within the IS 211 Site. No further surveys are recommended for Bull Trout on the IS 211 Site.

Spalding's Catchfly

DESCRIPTION: Spalding's catchfly produces one to several vegetative or flowering stems that arise from a simple or branched persistent underground stem (caudex), which surmounts a long, narrow taproot. Plants range from 20 to 40 cm in height. Each stem typically bears 4 to 7 pairs of simple, opposite leaves that are 5 to 8 cm in length and 2 to 4 cm in width. Similar to the majority of plants in this family, Spalding's catchfly has distinctly swollen nodes located where the leaves are attached to the stem. Reproductive individuals produce 3 to 20 cream to pink or light green flowers that are borne in a branched, terminal inflorescence. All green portions of the plant (foliage, stem, and flower bracts) are covered in dense sticky hairs that frequently trap dust and insects, giving this species the common name 'catchfly'. Plants (both vegetative and reproductive) emerge in mid-to late May. Flowering typically occurs from mid-July through August, but may occasionally continue into October. Rosettes are formed the first and possibly the second year, followed by the formation of vegetative stems. Above-ground vegetation dies back at the end of the growing season and plants either emerge in the spring or remain dormant below ground for one to several consecutive years. Spalding's catchfly reproduces solely by seed. It lacks rhizomes or other means of reproducing vegetatively.

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THREATENED & ENDANGERED SPECIES SURVEY – IS211
PROJECT# 17103.03

HABITAT: Spalding's catchfly (*Silene spaldingii*) is an herbaceous perennial in the pink family (Caryophyllacea). The species is endemic to the Palouse region of south-east Washington and adjacent Oregon and Idaho, and is disjunct in northwestern Montana and British Columbia, Canada. This species is found predominantly in the Pacific Northwest bunchgrass grasslands and sagebrush-steppe, and occasionally in open-canopy pine stands. Occupied habitat includes five physiographic (physical geographic) regions: 1) the Palouse Grasslands in west-central Idaho and southeastern Washington; 2) the Channeled Scablands in east-central Washington; 3) the Blue Mountain Basins in northeastern Oregon; 4) the Canyon Grasslands along major river systems in Idaho, Oregon, and Washington; and 5) the Intermontane Valleys of northwestern Montana and British Columbia, Canada.

It is the opinion of Alpha Environmental that suitable habitat for Spalding's Catchfly does not exist within the IS 211 Site. No further surveys are recommended for Spalding's Catchfly on the IS 211 Site.

Water Howellia

DESCRIPTION: Water howellia (*Howellia aquatilis*) is a winter annual aquatic plant that grows 4-24 inches high. It has extensively branched, submerged or floating stems and narrow, linear, alternate (sometimes opposite) leaves up to 2 inches in length. Water howellia usually flowers in May and June, with small trumpet-shaped blooms ranging from white to light purple in color, at or above the water surface. There may also be small axillary flowers beneath the water surface. Water howellia reproduces only by seed which germinates when ponds dry during fall. This results in annual variability in population size depending on the extent of the previous seasons drying. Flowering occurs from June to August.

HABITAT: The plant grows in areas that were once associated with glacial potholes and former river oxbows that flood in the spring, but usually dry at least partially by late summer. It is often found in shallow water (1-2 meters) and on the edges of deep ponds that are partially surrounded by deciduous trees such as black cottonwood and aspen. States in which *Howellia aquatilis* is known to occur: Currently known from California, Idaho, Montana, and Washington. Historically found in Oregon. The plant has also been found on Turnbull National Wildlife Refuge in Washington

It is the opinion of Alpha Environmental that suitable habitat for Water Howellia does not exist within the IS 211 Site. No further surveys are recommended for Water Howellia on the IS 211 Site.

Gray Wolf

DESCRIPTION: Gray wolves are canines with long bushy tails that are often black-tipped. Coat color is typically a mix of gray and brown with buffy facial markings and undersides, but the color can vary from solid white to brown or black. Gray wolves look somewhat like a large German Shepherd. Wolves vary in size depending on where they live. Wolves in the north are usually larger than those in the south. The average size of a wolf's body is 3-5 feet long. Their tails are usually 1-2 feet long. Females typically weigh 60-100 pounds, and males weigh 70-145 pounds. Wolves are carnivores--they prefer to eat large hoofed mammals such as deer, elk, bison and moose.

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THREATENED & ENDANGERED SPECIES SURVEY – IS211
PROJECT# 17103.03

They also hunt smaller mammals such as beavers, rodents and hares. Adults can eat 20 pounds of meat in a single meal.

HABITAT: Gray Wolves can thrive in a diversity of habitats from the tundra to woodlands, forests, grasslands and deserts. Today, gray wolves have populations in Alaska, northern Michigan, northern Wisconsin, western Montana, northern Idaho, northeast Oregon and the Yellowstone area of Wyoming. Mexican wolves, a subspecies of the gray wolf, were reintroduced to protected parkland in eastern Arizona and southwest New Mexico. The historic range of the gray wolf covered over two-thirds of the United States.

It is the opinion of Alpha Environmental that suitable habitat for the Gray Wolf does not exist within the IS 211 Site. No further surveys are recommended for the Gray Wolf on the IS 211 Site.

Columbia Basin Pygmy Rabbit

DESCRIPTION: The Pygmy Rabbit is small and slate gray with a pinkish tinge in the winter but turns a brownish color in the summer. The tail is nearly hidden. Its ears are small for a rabbit. There are whitish spots on the sides of its nostrils. Females are slightly larger than males.

RANGE AND HABITAT:

The Columbia Basin Pygmy Rabbit historical range includes portions of the following states: California, Oregon, Nevada, Idaho, Montana, Wyoming, Utah and Washington. On March 5, 2003, the Columbia Basin Distinct Population Segment of the pygmy rabbit was listed as endangered in the state of Washington.

Pygmy rabbits are typically found in areas of tall, dense sagebrush (*Artemisia* spp.) cover, and are highly dependent on sagebrush to provide both food and shelter throughout the year. Their diet in the winter consists of up to 99 percent sagebrush. The pygmy rabbit is believed to be one of only two Leporids in Northern America that digs its own burrows. Pygmy rabbit burrows are typically found in relatively deep, loose soils of wind-borne or water-born origin. They occasionally make use of burrows abandoned by other species and as a result, may occur in areas of shallower or more compact soils that support sufficient shrub cover.

It is the opinion of Alpha Environmental that suitable habitat for the Columbia Basin Pygmy Rabbit does not exist within the IS 211 Site. No further surveys are recommended for the Columbia Basin Pygmy Rabbit on the IS 211 Site.

REGULATIONS

Federally Listed Species- Endangered and Threatened Under the Endangered Species Act (ESA) (1973), species may be listed as either "endangered" or "threatened." For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments. Section 4 of the ESA specifies that a species must be listed as endangered or threatened solely on the basis of its biological status and threats to its existence.

ALPHA

THREATENED & ENDANGERED SPECIES SURVEY – IS211
PROJECT# 17103.03

"Endangered Species" (E) means any native species documented by biological research and inventory to be in danger of extirpation throughout all or a significant portion of its range within the state and to have no more than five occurrences in the state, and any species determined to be an "endangered species" pursuant to the federal Endangered Species Act.

"Threatened Species" (T) means any native species documented by biological research and inventory to be likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range within the state and to have no more than nine occurrences in the state, and any species determined to be a "threatened species" pursuant to the Federal Endangered Species Act except for such species determined to be endangered by the Commissioner in accordance with section 4 of this act.

When evaluating a species for listing, five factors are considered: 1) damage to, or destruction of, a species' habitat; 2) overuse of the species for commercial, recreational, scientific or educational purposes; 3) disease or predation; 4) the inadequacy of existing protection; and 5) other natural or human related threats to the species' survival. When one or more of these factors imperils the survival of a species, the United States Fish and Wildlife Service (USFWS) takes action to protect it. To ensure the accuracy of the data, the USFWS decides all listings using sound science and peer review.

Section 7 of the ESA requires federal agencies to use their legal authorities to promote the conservation purposes of the law. This section also requires federal agencies to consult with the USFW to ensure that actions they authorize, fund or carry out will not jeopardize listed species. The consulting agency then receives a "biological opinion" on the proposed action. In the relatively few cases where the USFW or National Marine Fisheries Service (NMFS) determines that the proposed action will jeopardize the species, they must offer "reasonable and prudent alternatives" about how the proposed action could be modified to avoid potential impacts to the protected species. It is uncommon for the USACE to withdraw or terminate projects because of jeopardy to a listed species; however, it is common for there to be conditions applied to approvals, and/or modifications of projects.

Section 10 of the ESA provides relief to private landowners who want to develop land inhabited by listed species. Landowners can receive a permit for the taking of a listed species that may occur incidental to otherwise legal activities, provided they have developed an approved Habitat Conservation Plan (HCP). HCPs include an assessment of the likely impacts on the species from the proposed action, the steps that will be taken to minimize and mitigate those impacts, and the funding available to carry out those steps. When the USFW approves the HCP the landowner can apply for an "incidental take" permit, which allows them to proceed with the proposed action.

CONCLUSION

Species-specific surveys for Yellow-Billed Cuckoo, Spalding's Catchfly and Water Howellia were conducted on the IS 211 Site as designated by migration and flowering dates. Species-specific surveys for Gray wolf, Pygmy Rabbit and Bull Trout were also conducted on the IS211 Site. No specimens of any of these species were observed

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THREATENED & ENDANGERED SPECIES SURVEY – IS211
PROJECT# 17103.03

on-site. ALPHA ENVIRONMENTAL has concluded that the construction of a solar farm on the IS 211 would have "no effect" on any federally threatened or endangered species.

This report was submitted to Eastern Washington Field Office, 11103 E. Montgomery Drive, Spokane, WA 99206 for concurrence by the assigned USFW representative. Copy of the concurrence letter will be added to this report when received.

ENVIRONMENTAL PROFESSIONAL STATEMENT

We declare that, to the best of our professional knowledge and belief, we possess the qualifications, education, training, and experience to assess a property of the nature, history and setting of the Subject Property.

Report Research by:


Environmental Scientist
Printed Name: Timothy M. Watkins

Report Prepared and Approved by:


Environmental Professional
Printed Name: Edward P. Dzierzynski



Alpha Environmental, PO Box 2155, Asheville, NC 28802
Phone: 828-398-2040 Email: info@alphaenviron.com

REFERENCES

- Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. 2008. Official Soil Series Descriptions Available URL: "<http://soils.usda.gov/technical/classification/osd/index.html>" Accessed June 2017.
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- U.S.Fish and Wildlife Service. Gray wolf (*Canis lupus*). "<https://ecos.fws.gov/ecp0/profile/speciesProfile/spcode=A00D>." Accessed June 2017

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Figures

Figure 1 T&E Survey Area

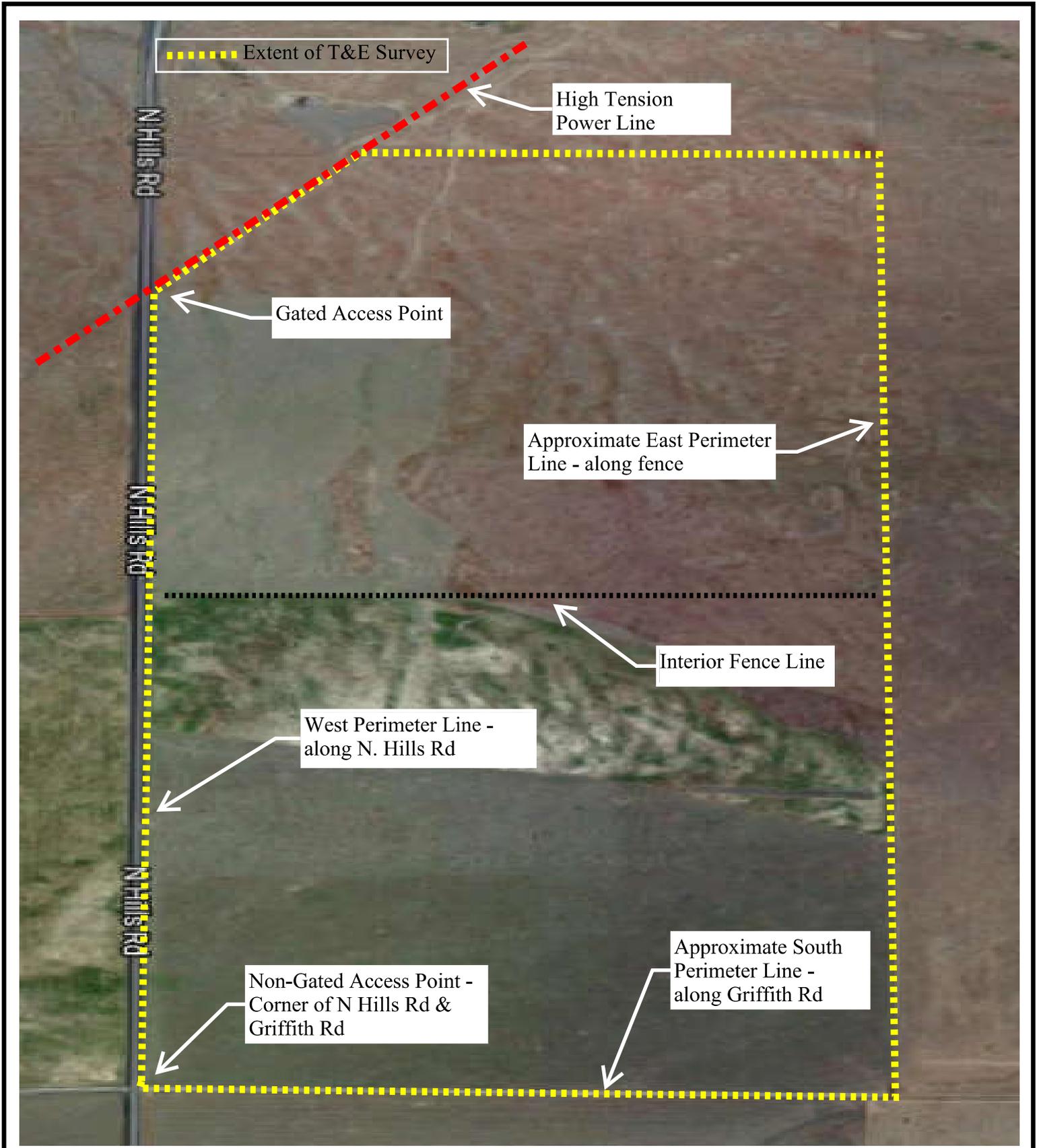


Figure 1
T & E Survey Area



IS211 Solar Site
Ritzville, Adams Co, WA
Project No. 17103.01

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APPENDIX I

Concurrence Request Letter

USFW Concurrence Email



ALPHA ENVIRONMENTAL
ALPHA ENGINEERING SERVICES, P.A.

June 14, 2017

Fish & Wildlife Service, Eastern Washington Field Office
11103 E. Montgomery Drive
Spokane, WA 99206
Attn: Russ Macrae, Field Supervisor

Dear Mr. MacRae,

The included report is a threatened and endangered species survey for the Innovative Solar Site 211 slated for development in Adams County, Washington. Alpha Environmental did not identify any evidence of current or potential habitat for any listed threatened or endangered species in Adams County, Washington. The report concludes that the development of a solar project within the boundaries for IS 211 is unlikely to impact any threatened or endangered species. Alpha Environmental requests a letter of concurrence with this conclusion from the U.S. Fish & Wildlife Service.

Please do not hesitate to email or call Alpha Environmental if any additional information or discussion is needed.

Sincerely,


Environmental Professional
Printed Name: Edward P. Dzierzynski



Enclosure: IS211 T&E Survey, Adams County, WA

PO BOX 2155 ASHEVILLE, NORTH CAROLINA 28802
Phone: 828-398-2040 Fax: 828-398-2041 Email: info@alphaenviron.com

Tim Watkins

From: Russ MacRae <russ_macrae@fws.gov>
Sent: Tuesday, July 18, 2017 4:04 PM
To: Tim Watkins
Subject: RE: Request for Concurrence on Threatened and Endangered Species Study

Hi Tim-

I don't see any connection to a federal agency or money, and if that is true there is no need to consult with us.

Nonetheless, after reviewing the attached report, I suspect the more appropriate terminology is "no effect" rather than "not likely to adversely affect." If that is the case, then this email should suffice for your records. The implementing regulations of the Endangered Species Act do not provide a formal mechanism for the Service to concur with a "no effect" determination.

Please let me know if you have any questions.

Russ MacRae

Russell MacRae, Field Supervisor
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