

# Appendix C-5

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## Gap Area Survey Results

## MEMORANDUM

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**To:** Kathy McNeal Pfeifer, Planner  
Energy, Minerals and Compliance Division  
**From:** Heather Moine, Dudek  
**Subject:** Strauss Wind Energy Project – Gap Area Survey Results  
**Date:** January 8, 2019  
**cc:** David Hochart, Dudek  
John H. Davis IV, Dudek  
Megan Enright, Dudek  
**Attachment(s):** A - Figures

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## 1 Background

Dudek is currently providing environmental consulting services for the Strauss Wind Energy Project (Project), located in Santa Barbara County. At the request of Strauss Wind, LLC, Dudek conducted the following surveys and prepared this memo in response to optimizations of the grading plan and revisions to the potential project work areas which lie outside of the previously surveyed areas. The majority of these revisions were made in coordination with County planning staff to reduce impacts to sensitive resources such as oak trees to the maximum extent feasible. The resulting addition of these previously un-surveyed areas necessitated updating the project vegetation communities and habitat mapping, mapping locations of El Segundo blue butterfly (*Euphilotes battoides allyni*) host plant – seacliff buckwheat (*Eriogonum parvifolium*), and completion of a desktop analysis of the presence of any additional jurisdictional water resources. The survey methods and results sections discuss the biological surveys performed during December 2018. The impacts section includes impacts of the whole project to vegetation communities, El Segundo blue butterfly host plant – seacliff buckwheat, and jurisdictional water resources. Additionally, figures are included showing the biological resources and impacts to these biological resources.

## 2 Survey Methods

### 2.1 Survey Areas

The Gap Areas are described as areas that have been added to the project as of November 30, 2018, that extend beyond the project boundary as delineated in spring 2018, as shown in Figure 1. A 100-foot buffer was added to the Gap Areas to support permitting and agency reporting requirements.

## 2.2 Vegetation Communities and Habitat Mapping

In 2003, the Vegetation Classification and Mapping Program of the California Department of Fish and Game (CDFG; now known as the CDFW), Wildlife and Habitat Data Analysis Branch, published the *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (CNDDDB) (CDFG 2003 [updated 2011]). In September 2010, the CDFG published the *Natural Communities List* (NCL; CDFG 2010). In January 2018, the CDFW published the *California Natural Communities List* (CNCL; CDFW 2018). The CNCL provides the current list of vegetation Alliances, Associations, and Special Stands. State and Global rarity ranks are indicated for Alliances and some Associations; those with ranks 1-3 are considered Sensitive. CDFW has not provided the global and state rank for all associations in the October 2018 version of the CNCL. However, associations currently designated as being of S3 or rarer are indicated with a Y (Yes) in the Sensitive column (CDFW 2018).

The CNCL uses the scientific name of the dominant species in that alliance as the alliance name, which is based on *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009) and the National Vegetation Classification System. This classification system focuses on a quantified, hierarchical approach that considers two primary criteria: (1) floristic (i.e., what is the dominant plant species?) and (2) physiognomic (i.e., what is the dominant type of habitat: grass/forb, shrub, or tree?) as currently observed (as opposed to predicting climax or successional stages). The floristic approach quantifies the distribution of plant species and their similarities of distribution and abundance (i.e., how many and how often are they found). The physiognomic or community structure and form is based on the actual vegetation community structure; woodland, shrubland, or herbaceous (i.e., height and form). For more information, please refer to MCV2 online at <http://vegetation.cnps.org/> and the U.S. National Vegetation Classification System found at <http://usnvc.org/>.

The following minimum vegetation mapping units applied during vegetation mapping:

- 0.5–1.0 acre for inaccessible areas of the site due to steep terrain and poison oak (*Toxicodendron diversilobum*).
- 0.1 acre for wetland (i.e., hydrophytic) vegetation in traditional wetland environments (i.e., not all FAC (facultative – plant species equally likely to occur in wetlands and non-wetlands) species comprising a vegetation alliance will be mapped unless associated with a hydrologic unit – stream, depression, swale, etc.).
- 0.1 acre sensitive vegetation communities

Nomenclature for on-site vegetation communities reflects the most current system, MCV2 and CNCL. Vegetation communities were mapped based on these sources, and the rarity rankings of the vegetation communities were referenced from *A Manual of California Vegetation, Online Edition* (CNPS 2018). If vegetation observed did not meet the membership rules of the vegetation communities in these sources, a new name was recorded based on the dominant species observed, consistent with the MCV2.

General and sensitive vegetation communities and habitat mapping was performed within the Gap Areas using the criteria detailed above. In total, the Gap Areas, including a 100-foot buffer, resulted in 214.7 acres of new general and sensitive vegetation community and habitat mapping survey area.

## 2.3 El Segundo Blue Butterfly Host Plant – Seacliff Buckwheat Mapping

Dudek biologists surveyed for and tightly mapped El Segundo blue butterfly host plant – seacliff buckwheat within the Gap Areas as defined above utilizing a Trimble Geo-XT GPS unit with sub-meter accuracy. A plant count was recorded for each population and recorded in the Trimble file.

## 2.4 Wetland Delineation

Following the completion of the wetland delineation field assessment, the results were detailed in the Wetland Delineation and Jurisdictional Determination for the Strauss Wind Energy Project (Dudek 2018b). The wetland delineation survey area, as defined in the Wetland Delineation and Jurisdictional Determination for the Strauss Wind Energy Project (Dudek 2018b), generally included a 100-foot buffer of the project components (i.e. the grading plan), with the exception of the vehicle access corridor, which received a buffer of approximately 60 feet, and the revised grading plan area, which did not receive a buffer. For the purposes of this memo, the revised grading plan area included the Gap Areas described herein. Gap Areas for the jurisdictional delineation differed from the vegetation communities and habitat mapping (Section 2.2) and El Segundo blue butterfly host plant mapping (Section 2.3) as field surveys for the wetland delineation continued into October 2018 while the grading plan continued to be refined. Gap Area assessment included areas provided in the revised grading plan were evaluated on the ground via a formal wetland delineation. Limited Gap Areas received a desktop delineation, which relied upon the previously mapped wetlands and waters within the overall survey area and topographic mapping completed in conjunction with the Project in 2018. All jurisdictional features identified in the Gap Areas were determined to be extensions of currently mapped features where jurisdictional limits had previously been established. Therefore, it was determined that existing data was sufficient to delineate the jurisdictional limits of the Gap Areas and that field surveys were not necessary.

## 2.5 Survey Limitations

Due to restricted access to some private properties and steep terrain, Dudek biologists were not able to visually survey all areas. For these areas, Dudek biologists used binoculars and aerial imagery to perform vegetation communities and habitat mapping. Additionally, due to the timing of the Gap Area surveys, floristic special-status plant species surveys were not performed.

# 3 Results

On December 12 and 13, 2018, Dudek biologists Andrea Dransfield and Melissa Blundell performed field surveys for vegetation communities and El Segundo blue butterfly host plant – seacliff buckwheat mapping, as described in Table 1. Dudek conducted wetland delineation field surveys from April 2018 through October 2018 throughout the Project site, including within the Gap Areas as described in Section 2.4. The desktop delineation of the remaining Gap Areas was completed by Dudek biologist Randall McInvale in December 2018. The following sections describe the results of the vegetation communities and habitat mapping, El Segundo blue butterfly host plant mapping, and the wetland delineation within the Gap Areas.



**Table 1. Dates and Conditions for Field Surveys**

Survey Date	Time	Personnel	Survey Conditions
12/12/2018	0730-1730	Andrea Dransfield	50-63°F; 0-25% cloud cover; 1-15 mph winds
12/12/2018	0815-1615	Melissa Blundell	60-65°F; 0-10% cloud cover; 1-7 mph winds
12/13/2018	0930-1330	Andrea Dransfield	56-77°F; 0% cloud cover; 1-10 mph winds

### 3.1 Vegetation Communities and Habitat Mapping

This section describes the vegetation communities and wildlife habitats observed in the Gap Areas, as shown in Figures 2A through 2P. Four physiognomic categories were identified: herbaceous (grassland and forb dominated), shrubland (coastal scrub, riparian scrub), woodland (tree clusters), and partially vegetated and non-vegetated habitats. Within these categories, Dudek further identified general habitat types and mapped specific vegetation communities, which are summarized in Table 2 and described below. For organizational purposes, shrubland alliances and stands were broken into upland and riparian, and the group partially vegetated and non-vegetated habitats is equivalent to a general physiognomic category and is described at the end of the following section.

**Table 2. Summary of Existing Vegetation Communities and Habitats within the Gap Areas**

Physiognomic Category	General Habitat	Vegetation Communities/Alliance	Global/ State Rarity/ Sensitive Association	Gap Areas
Herbaceous Alliances and Stands	Grassland	Annual Brome Grassland Herbaceous Semi-Natural Alliance	NA/NA/NA	1.1
		Foothill Needle Grass Association (Needle Grass Grassland Herbaceous Alliance)	G4/S4/Yes - Provisional	0.9
		Meadow Barley Patches Herbaceous Alliance	G2/S2/Yes	0.0 <sup>2</sup>
		Non-Native Grassland	NA/NA/NA	68.6
		Purple Needle Grass Grassland Association (Needle Grass Grassland Herbaceous Alliance)	G4/S4/Yes	0.6
		Valley Needlegrass Grassland (defined by previous consultant as Purple Needle Grass Grassland Herbaceous Alliance [Sapphos 2017 revised 2018] and further defined by Dudek as Purple Needle Grass Grassland Association [Needle Grass Grassland Herbaceous Alliance])	G4/S4/Yes	0.1
		Wild Oats Grasslands Herbaceous Semi-Natural Alliance	NA/NA/No	6.8
	Forb Dominated	Upland Mustards Herbaceous Semi-Natural Alliance	GNR/SNR/No	5.8
<i>Herbaceous Alliance and Stands Total</i>				83.9

**Table 2. Summary of Existing Vegetation Communities and Habitats within the Gap Areas**

Physiognomic Category	General Habitat	Vegetation Communities/Alliance	Global/ State Rarity/ Sensitive Association	Gap Areas
Shrubland Alliances and Stands (Upland)	Coastal Scrub	California Coffee Berry Scrub Shrubland Alliance	G4/S4/NA	0.2
		California Sagebrush Scrub Shrubland Alliance	G5/S5/No	17.5
		Central Coastal Scrub (defined by previous consultant as California Sage Brush Scrub Shrubland Alliance [Sapphos 2017 revised 2018])	G5/S5/No	28.0
		Central Coastal Scrub Mosaic/Non-Native Grassland (defined by previous consultant as California Sage Brush Scrub Shrubland Alliance with Non-Native Grassland [Sapphos 2017 revised 2018])	G5/S5/No <sup>1</sup>	9.7
		Coyote Brush Scrub Shrubland Alliance	G5/S5/NA	17.3
		Deer Weed Scrub Shrubland Alliance	G5/S5/No	1.0
		Sawtooth Golden Bush Scrub Shrubland Alliance	G3/S3/No	8.0
		Sawtooth Golden Bush Scrub/Foothill Needle Grass Grassland	G3/S3/No <sup>1</sup>	0.1
		Toyon Chaparral Shrubland Alliance	G5/S4/Yes - Provisional	0.2
		Shrubland Alliances and Stands (Upland) Total		
Shrubland Alliances and Stands (Riparian)	Riparian Scrub	Arroyo Willow Thickets Shrubland Alliance	G4/S4/Yes	3.3
		Blue Elderberry Stands Shrubland Alliance	G3/S3/Yes	0.8
		Central Coastal Arroyo Willow Riparian Forest (defined by previous consultant as Arroyo Willow Thickets Shrubland Alliance [Sapphos 2017 revised 2018])	G4/S4/Yes	2.3
Shrubland Alliances and Stands (Riparian) Total			6.4	
Woodlands and Tree Clusters	Woodlands and Tree Clusters (Planted or Naturally Occurring)	Coast Live Oak Woodland Alliance	G5/S4/No	31.8
		Eucalyptus Grove Woodland Semi-Natural Alliance	GNR/SNR/No	2.0
		Tanoak Forest Forest Alliance	G4/S3/Yes	1.7
Woodlands and Tree Clusters Total			35.5	
Partially Vegetated and Non-Vegetated Habitats		Agricultural Field	NA/NA/NA	0.1
		Disturbed Habitat	NA/NA/NA	2.5
		Parks and Ornamental Plantings	NA/NA/NA	0.2
		Urban/Developed	NA/NA/NA	4.0
Partially Vegetated and Non-Vegetated Habitats Total			6.8	
Grand Total			214.7	

**Notes:**

<sup>1</sup> – Vegetation Community is a hybrid of two vegetation communities and is not identified in MCV2 as an alliance. The global/state rarity/sensitive association from the shrubland vegetation community maintained for the hybrid vegetation community

GNR – globally not rare

NA – not applicable. Semi-natural alliances are not ranked, as these are defined and strongly dominated by non-native species.

SNR – state not rare

Sensitive Association – California Department of Fish and Wildlife has not provided the global and state rank for all associations in the October 2018 version of this classification. However, associations currently designated as being of S3 or rarer are indicated with a Y (Yes) in the Sensitive column (CDFW 2018)

Provisional – fewer than 10 stands sampled, but which California Department of Fish and Wildlife expect will prove to be more widespread (CDFW 2018)

### 3.2 El Segundo Blue Butterfly Host Plant – Seacliff Buckwheat Mapping

A total of 60 populations of El Segundo blue butterfly host plant – seacliff buckwheat were documented within the Gap Areas totaling 3,655 individual plants covering 62,071 square feet (1.42 acres). The locations of seacliff buckwheat are displayed in Figure 3A through 4P.

**Table 3. Summary of El Segundo Blue Butterfly Host Plant – Seacliff Buckwheat within the Gap Areas**

Scientific Name	Common Name	Area (square feet)	Number of Individuals
<i>Eriogonum parvifolium</i>	seacliff buckwheat	62,071	3,655

### 3.3 Wetland Delineation

The wetland delineation mapping completed from the desktop resulted in the identification of several extensions of previously mapped features, the majority of which were located along San Miguelito Road within the boundaries of San Miguelito Creek. Gap Areas along San Miguelito Road are characterized as road improvements and will take place within the existing road right-of-way; however, these activities were found to extend into riparian habitat associated with San Miguelito Creek. Other Gap Areas were identified in isolated areas in association with tributary features, which required minor extensions due to the adjusted grading plan. Affected tributaries primarily included tributary to Canada Honda Creek (TCH) #5, TCH #6, TCH #15, and TCH #16, though minor adjustments to the jurisdictional extents of other tributaries to Canada Honda Creek and tributaries to San Miguelito Creek were completed from the desktop to account for grading plan adjustments that extended beyond the original survey area. All of these Gap Areas were quantified in the Wetland Delineation and Jurisdictional Determination for the Strauss Wind Energy Project (Dudek 2018b) and the total jurisdictional resources identified within the wetland delineation survey area is provided in Table 4 below and is separated by major hydrologic units. The two major hydrologic units include the South Coast Hydrologic Unit (315.00) in the western and far southeastern portions of the project area and Santa Ynez Hydrologic Unit (314.00) in the eastern and far north-central portions of the project area, as well as along the entirety of the transmission line corridor. Figure 4A through 4P display the wetland delineation survey results within the survey area.

**Table 4. Summary of Jurisdictional Waters within the Survey Area by Hydrologic Unit**

Feature Type	Santa Ynez (Acreage)	South Coast (Acreage)	Total Acreage
<b>CDFW</b>			
Ephemeral Channel (Top of Eroded Bank)	0.043	0.635	<b>0.678</b>
<b>County</b>			
Wetland (Two-parameter)	NA	0.189	<b>0.189</b>
<b>County/CDFW</b>			
Riparian Habitat	9.472	8.410	<b>17.882</b>
<b>RWQCB/County</b>			
Wetland (Three-parameter - isolated)	0.006	0.004	<b>0.010</b>
<b>ACOE/RWQCB/CDFW/County</b>			
Ephemeral Channel (other waters of the United States and state)	0.198	0.248	<b>0.446</b>
Intermittent Stream (other waters of the United States and state)	NA	0.091	<b>0.091</b>
Perennial Stream (other waters of the United States and state)	0.540	0.098	<b>0.638</b>
Wetland (Three-parameter)	0.094	0.845	<b>0.940</b>
<b>ACOE/RWQCB/CDFW/County/CCC</b>			
Ephemeral Channel (other waters of the United States and state)	NA	0.030	<b>0.030</b>
<b>Grand Total</b>	<b>10.354</b>	<b>10.550</b>	<b>20.905</b>

## 4 Impacts

This section provides impacts resulting from the November 2018 Project Area to vegetation communities and habitats, El Segundo blue butterfly host plant – seacliff buckwheat, and jurisdictional resources. These impacts are intended to include the Gap Areas and update totals previously included in the Biological Resources Technical Report Addendum No. 2 (Dudek 2018a).

### 4.1 Vegetation Communities and Habitat Mapping

A summary of the impacts to vegetation communities and habitats is provided in Table 5. Impacts to the vegetation communities and habitats are based on the most recent grading plan, November 2018. The impacts to vegetation communities and habitats are anticipated to occur due to project grading for access roads, turbine pads, transmission pole pads, the laydown yard, and O&M building. Figure 5A through 5P display the impacts to vegetation communities and habitats associated with the Project.

**Table 5. Impacts to Existing Vegetation Communities and Habitats within the November 2018 Project Area**

				Total Impact Acres	
Physiognomic Category	General Habitat	Vegetation Communities/Alliance	Global/ State Rarity/Association Sensitive	Permanent	Temporary
Herbaceous Alliances and Stands	Grassland	Annual Brome Grassland Herbaceous Semi-Natural Alliance	NA/NA/NA	1.0	-
		Creeping Rye Grass Turfs Herbaceous Alliance	G3/S3/Yes	0.3	-
		Foothill Needle Grass Association (Needle Grass Grassland Herbaceous Alliance)	G4/S4/Yes - Provisional	7.0	-
		Meadow Barley Patches Herbaceous Alliance	G2/S2/Yes	0.0 <sup>2</sup>	-
		Non-Native Grassland	NA/NA/NA	81.0	0.5
		Purple Needle Grass Grassland Association (Needle Grass Grassland Herbaceous Alliance)	G4/S4/Yes	7.7	-
		Valley Needlegrass Grassland (defined by previous consultant as Purple Needle Grass Grassland Herbaceous Alliance [Sapphos 2017 revised 2018] and further defined by Dudek as Purple Needle Grass Grassland Association [Needle Grass Grassland Herbaceous Alliance])	G4/S4/Yes	0.3	-
		Wild Oats Grasslands Herbaceous Semi-Natural Alliance	NA/NA/No	1.1	0.5
	Forb Dominated	Upland Mustards Herbaceous Semi-Natural Alliance	GNR/SNR/No	1.1	0.2
<i>Herbaceous Alliance and Stands Total</i>				99.5	1.2

**Table 5. Impacts to Existing Vegetation Communities and Habitats within the November 2018 Project Area**

				Total Impact Acres	
Physiognomic Category	General Habitat	Vegetation Communities/Alliance	Global/ State Rarity/Association Sensitive	Permanent	Temporary
Shrubland Alliances and Stands (Upland)	Coastal Scrub	California Brittle Bush Scrub Shrubland Alliance	G3/S3/Yes	0.0 <sup>2</sup>	-
		California Sagebrush Scrub Shrubland Alliance	G5/S5/No	2.1	0.3
		Central Coastal Scrub (defined by previous consultant as California Sage Brush Scrub Shrubland Alliance [Sapphos 2017 revised 2018])	G5/S5/No	15.0	0.6
		Central Coastal Scrub Mosaic/Non-Native Grassland (defined by previous consultant as California Sage Brush Scrub Shrubland Alliance with Non-Native Grassland [Sapphos 2017 revised 2018])	G5/S5/No <sup>1</sup>	7.0	0.2
		Coyote Brush Scrub Shrubland Alliance	G5/S5/NA	3.1	1.0
		Deer Weed Scrub Shrubland Alliance	G5/S5/No	0.2	-
		Menzies's Golden Bush Scrub Shrubland Alliance	G3/S3/Yes	0.1	-
		Menzies's Golden Bush Scrub/Purple Needle Grass Grassland	G3/S3/Yes <sup>1</sup>	0.4	-
		Sawtooth Golden Bush Scrub Shrubland Alliance	G3/S3/No	21.4	0.3
		Sawtooth Golden Bush Scrub/Foothill Needle Grass Grassland	G3/S3/No <sup>1</sup>	0.0 <sup>2</sup>	-
		Sawtooth Golden Bush Scrub/Purple Needle Grass Grassland	G3/S3/No <sup>1</sup>	0.8	-
		Silver Bush Lupine Scrub Shrubland Alliance	G4/S4/No	0.0 <sup>2</sup>	0.1
		Toyon Chaparral Shrubland Alliance	G5/S4/Yes - Provisional	0.1	-
		Shrubland Alliances and Stands (Upland) Total			50.2
Shrubland Alliances and Stands (Riparian)	Riparian Scrub	Arroyo Willow Thickets Shrubland Alliance	G4/S4/Yes	1.9	-
		Blue Elderberry Stands Shrubland Alliance	G3/S3/Yes	0.0 <sup>2</sup>	-
		Central Coastal Arroyo Willow Riparian Forest (defined by previous consultant as Arroyo Willow Thickets Shrubland Alliance [Sapphos 2017 revised 2018])	G4/S4/Yes	1.2	-
		Poison Hemlock Herbaceous Semi-Natural Alliance	NA/NA/No	-	0.1
Shrubland Alliances and Stands (Riparian) Total			3.1	0.1	
Woodlands and Tree Clusters	Woodlands and Tree Clusters (Planted or Naturally	Coast Live Oak Woodland Alliance	G5/S4/No	2.2	0.1
		Eucalyptus Grove Woodland Semi-Natural Alliance	GNR/SNR/No	0.6	0.0 <sup>2</sup>
		Tanoak Forest Forest Alliance	G4/S3/Yes	4.3	-

**Table 5. Impacts to Existing Vegetation Communities and Habitats within the November 2018 Project Area**

				Total Impact Acres	
Physiognomic Category	General Habitat	Vegetation Communities/Alliance	Global/ State Rarity/Association Sensitive	Permanent	Temporary
	Occurring)				
Woodlands and Tree Clusters Total				7.1	0.1
Partially Vegetated and Non-Vegetated Habitats		Agricultural Field	NA/NA/NA	5.0	-
		Disturbed Habitat	NA/NA/NA	0.7	0.1
		Urban/Developed	NA/NA/NA	0.4	-
Partially Vegetated and Non-Vegetated Habitats Total				6.1	0.1
Grand Total				166.2	4.1

**Notes:**

<sup>1</sup> – Vegetation Community is a hybrid of two vegetation communities and is not identified in MCV2 as an alliance. The global/state rarity/sensitive association from the shrubland vegetation community maintained for the hybrid vegetation community

<sup>2</sup> – There are impacts; however the amount is less than 0.0 acre.

GNR – globally not rare

NA – not applicable. Semi-natural alliances are not ranked, as these are defined and strongly dominated by non-native species.

SNR – state not rare

Sensitive Association – California Department of Fish and Wildlife has not provided the global and state rank for all associations in the October 2018 version of this classification. However, associations currently designated as being of S3 or rarer are indicated with a Y (Yes) in the Sensitive column (CDFW 2018)

Provisional – fewer than 10 stands sampled, but which California Department of Fish and Wildlife expect will prove to be more widespread (CDFW 2018)

## 4.2 El Segundo Blue Butterfly Host Plant – Seacliff buckwheat

A summary of the impacts to El Segundo blue butterfly host plants – seacliff buckwheat is provided in Table 6. Impacts to seacliff buckwheat is based on the current grading plan. The impacts to seacliff buckwheat occur anticipated to occur due to project grading for access roads, turbine pads, transmission pole pads, the laydown yard, and O&M building. Figure 6A through 6P display the impacts to seacliff buckwheat associated with the Project.

**Table 6. Impacts to El Segundo Blue Butterfly Host Plant – Seacliff Buckwheat within the November 2018 Project Area**

Scientific Name	Common Name	Permanent		Temporary	
		Area (square feet)	Number of Individuals	Area (square feet)	Number of Individuals
<i>Eriogonum parvifolium</i>	seacliff buckwheat	4.6	11,335	-	-

### 4.3 Wetland Delineation

The wetland delineation Gap Areas were assessed as part of the Clean Water Act (CWA) and Department of Fish and Game (DFG) Code Section 1600-1607 permitting process to confirm that all potential impacts to jurisdictional waters were quantified within the survey area, which includes the Project footprint. The results of the jurisdictional delineation within the Gap Areas, as defined in this memo specific to the jurisdictional delineation, did not add to the total jurisdictional waters within the overall survey area. Thus, the Wetland Delineation and Jurisdictional Determination for the Strauss Wind Energy Project (Dudek 2018b) accurately describes the jurisdictional wetlands and waters within the survey area and no additional jurisdictional resources are quantified herein. Table 7 below provides a summary of the impacts to jurisdictional wetlands and waters as a result of the Project, separated by hydrologic unit. Figure 7A through 7P display the impacts to jurisdictional waters associated with the Project.

**Table 7. Summary of Impact Acreage to Jurisdictional Waters Based on the November 2018 Project Area**

Agency Jurisdiction	Feature Type	Feature Class	South Coast Impacts (Acres)	Santa Ynez Impacts (Acres)
USACE/ RWQCB/ CDFW/ County	Ephemeral Channel	Non-Wetland Waters of the U.S./ State	--	0.086 (permanent)
USACE/ RWQCB/ CDFW/ County	Intermittent Stream	Non-Wetland Waters of the U.S./ State	--	0.026 (permanent)
USACE/ RWQCB/ CDFW/ County	Perennial Stream	Non-Wetland Waters of the U.S./ State	0.005 (permanent)	0.003 (permanent)
USACE/ RWQCB/ CDFW/ County	Wetland	Waters of the U.S./ State	--	0.401 (permanent)
RWQCB/ CDFW/ County	Isolated Wetland	Waters of the State	--	--
CDFW/ County	Top of Bank or Edge of Riparian Vegetation (furthest extent)	Riparian Habitat	0.358 (permanent) 0.008 (temporary)	1.426 (permanent)
County	Two Parameter Wetland	County Wetland	--	0.189 (permanent)
California Coastal Commission	Wetland and Riparian	Coastal Waters	--	0.000* (permanent)
<b>Total Impact Acreage</b>				
Impacts to USACE/ RWQCB/ CDFW/ County Non-Wetland Waters of the U.S.			0.120	
Impacts to USACE/ RWQCB/ CDFW/ County Wetland Waters of the U.S			0.401	
Impacts to RWQCB/ CDFW/ County Waters of the State			--	
Impacts to CDFW/ County Top of Bank or Edge of Riparian Vegetation			1.792	
Impacts to County Two-Parameter Wetlands			0.189	
Impacts to California Coastal Commission Wetland and Riparian			0.000*	

\* Impacts total 0.00006 acre



## 5 References

- CDFG (California Department of Fish and Game). 2003. California Natural Diversity Data Base (CNDDB). The Vegetation Classification and Mapping Program List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database. September.
- CDFG. 2010. List of Vegetation Alliances and Associations. Sacramento, California: CDFG. September 2010. Accessed June 2017. <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/List>.
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- Sawyer et al. (Sawyer, J., T. Keeler-Wolf, and J. Evens). 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, CA. 1300pp.
- Sapphos. 2017 revised 2018. Strauss Wind Energy Project Biological Resources Technical Report. Prepared for: Strauss Wind, LLC c/o BayWa R.E. Wind LLC. For Submittal to: County of Santa Barbara. October 17. Revised March 2, 2018.

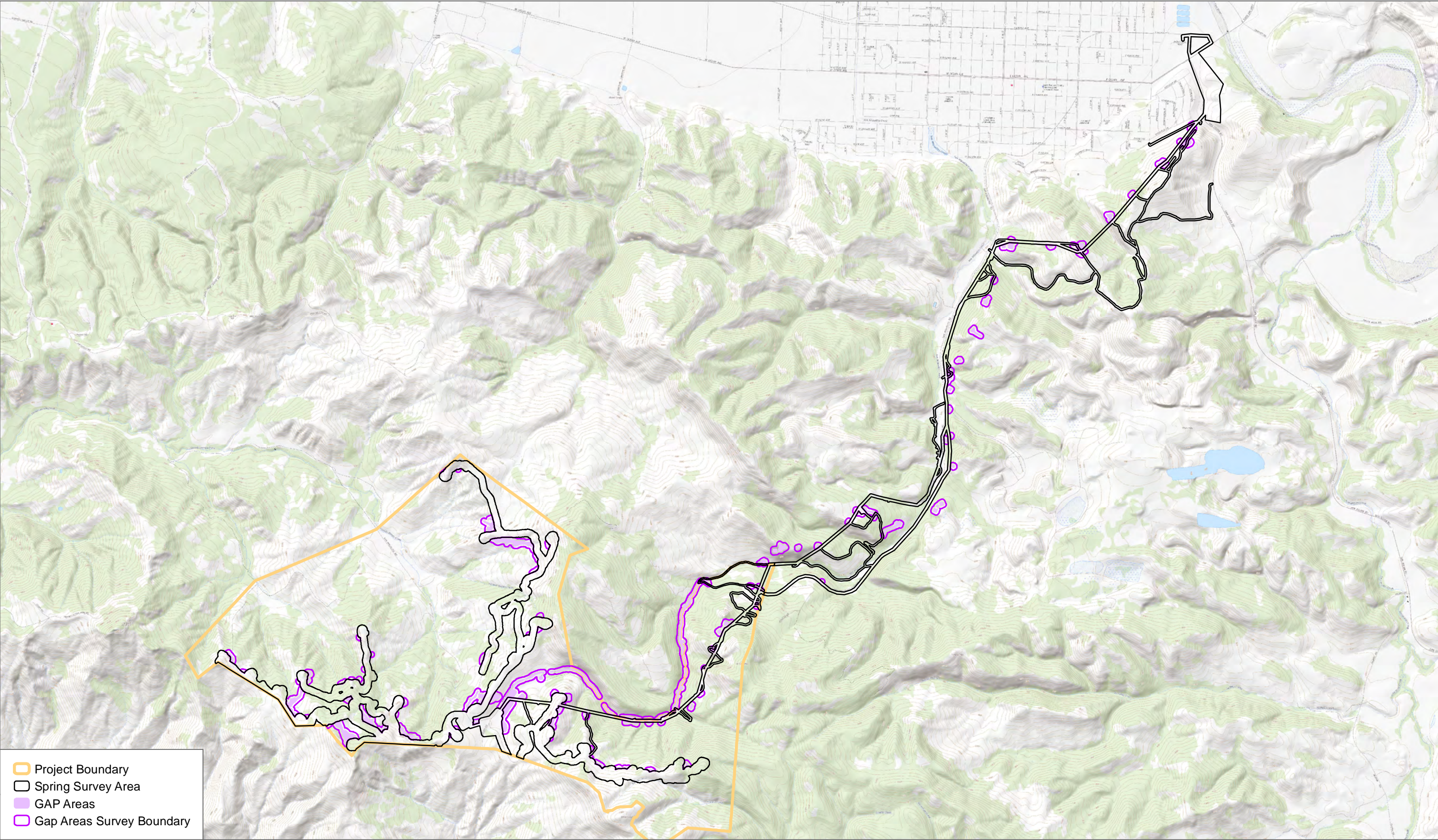


# Attachment A

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Figures

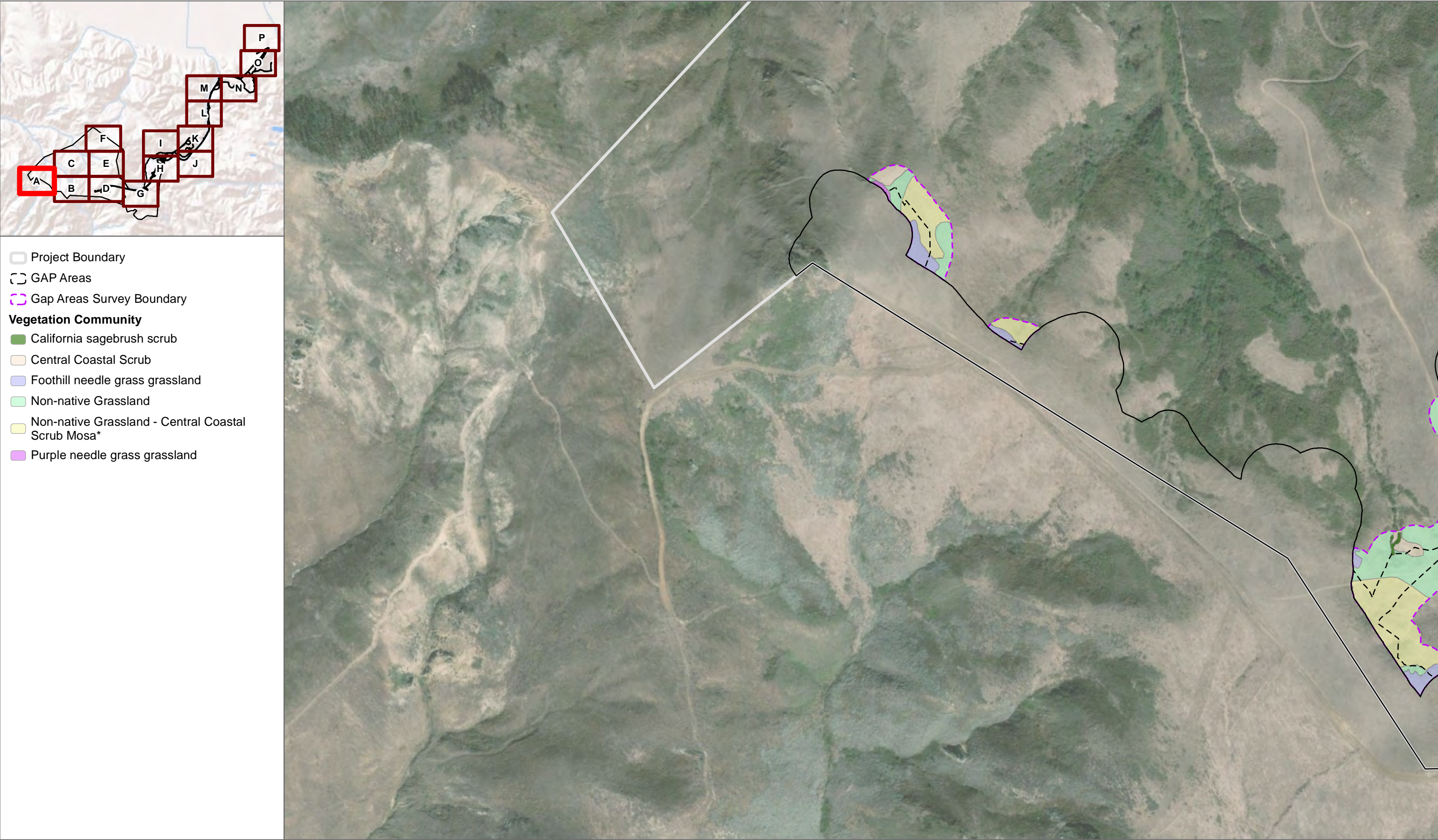




SOURCE: USGS National Map 2018

FIGURE 1  
Strauss Wind Energy Project Gap Survey Area  
Strauss Wind Energy Project

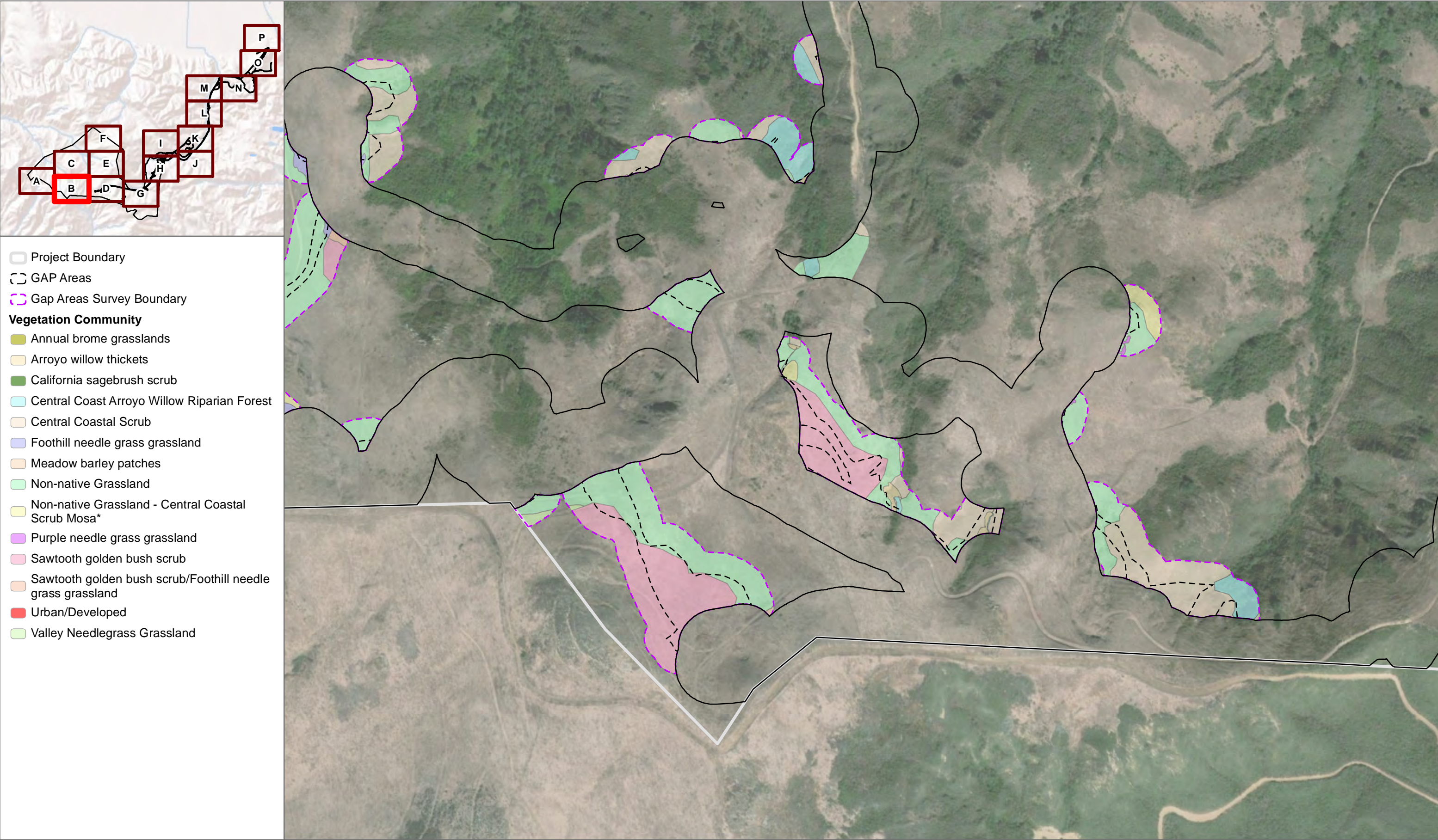




SOURCE: DigitalGlobe 2017

FIGURE 2A  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

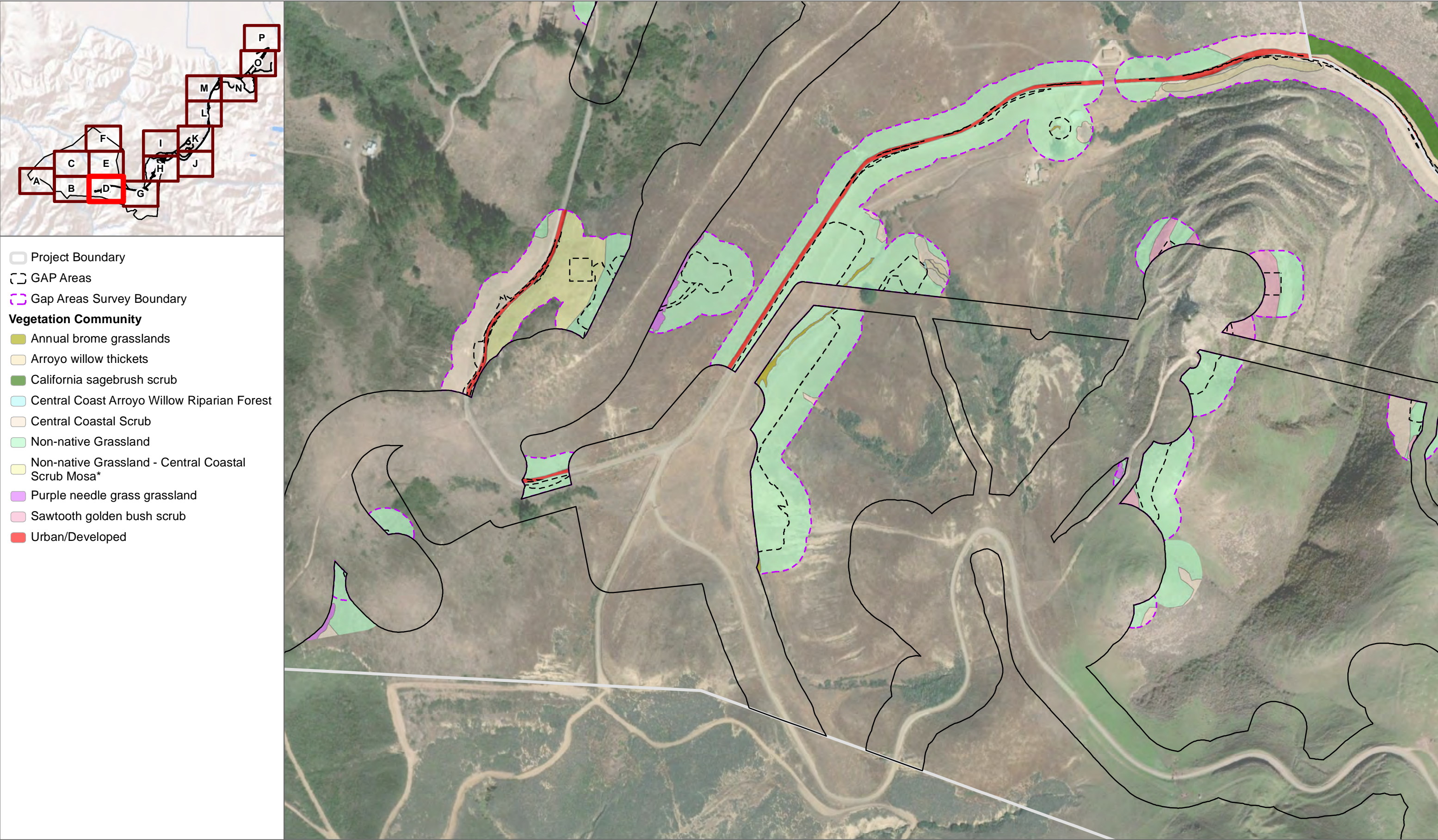
FIGURE 2B  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





FIGURE 2C  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project

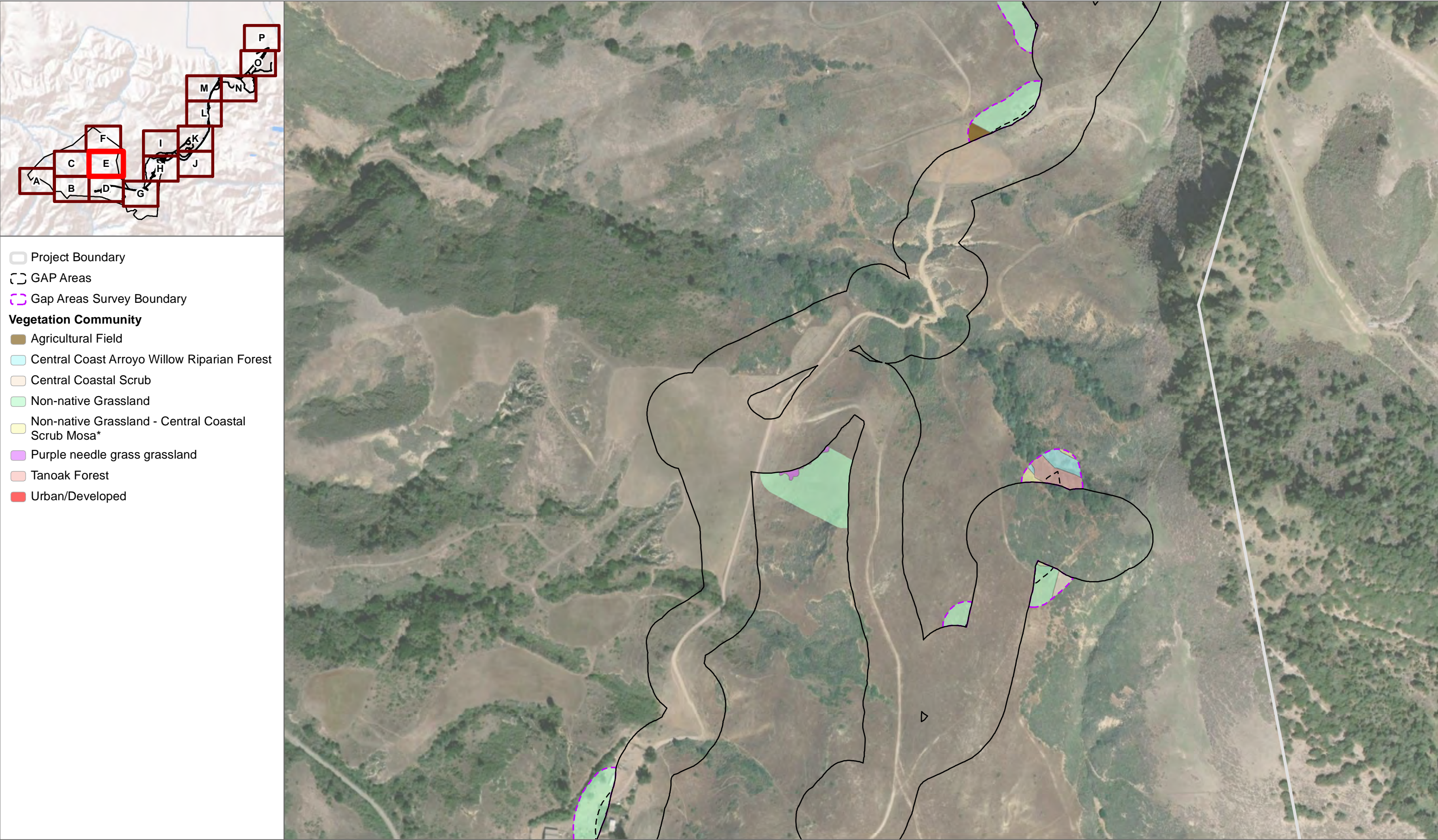




SOURCE: DigitalGlobe 2017

FIGURE 2D  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project

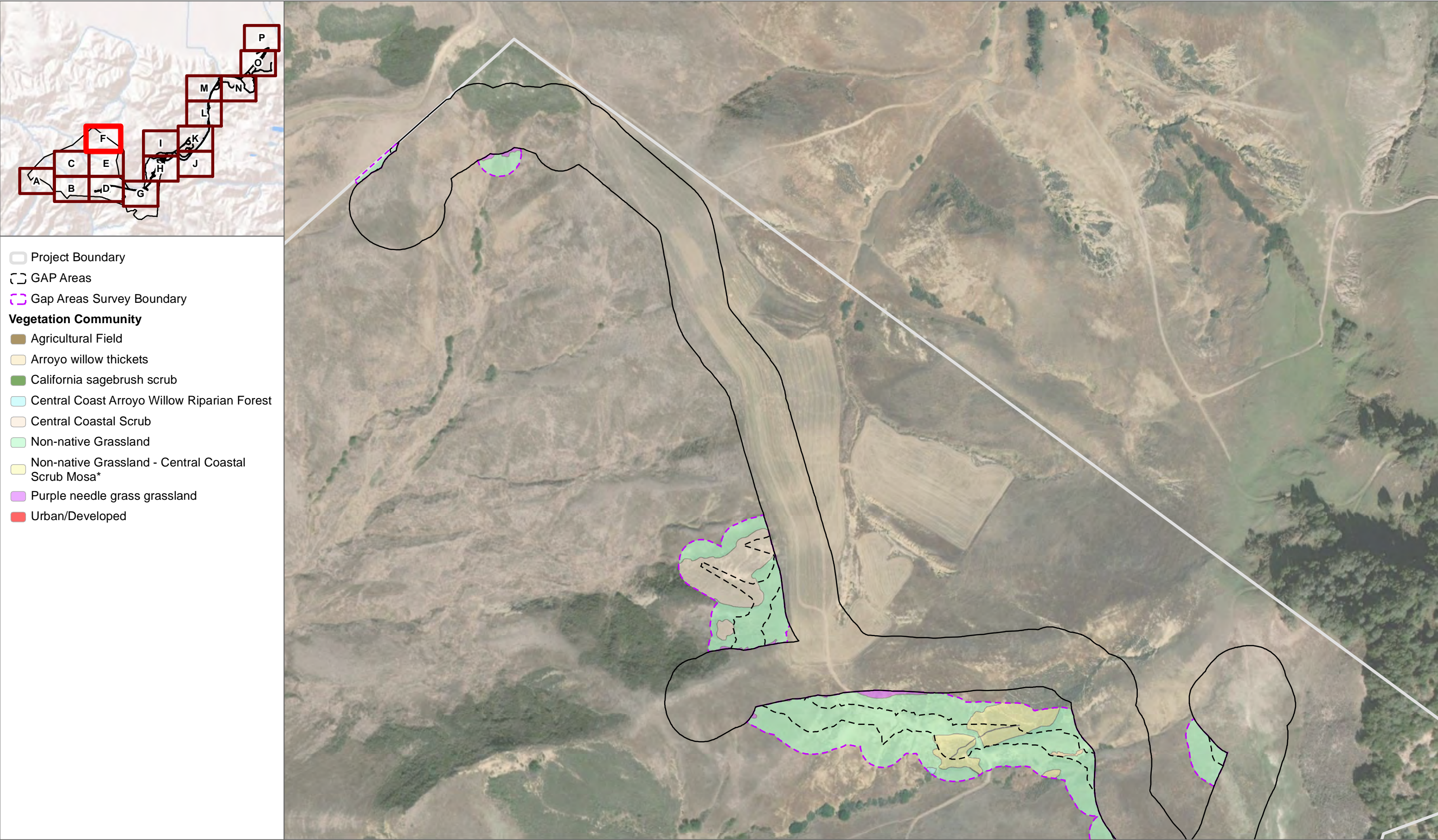




SOURCE: DigitalGlobe 2017

FIGURE 2E  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 2F  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

**FIGURE 2G**  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 2H  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 21  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 2J  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

**FIGURE 2K**  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 2L  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 2M  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 2N  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

**FIGURE 20**  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project



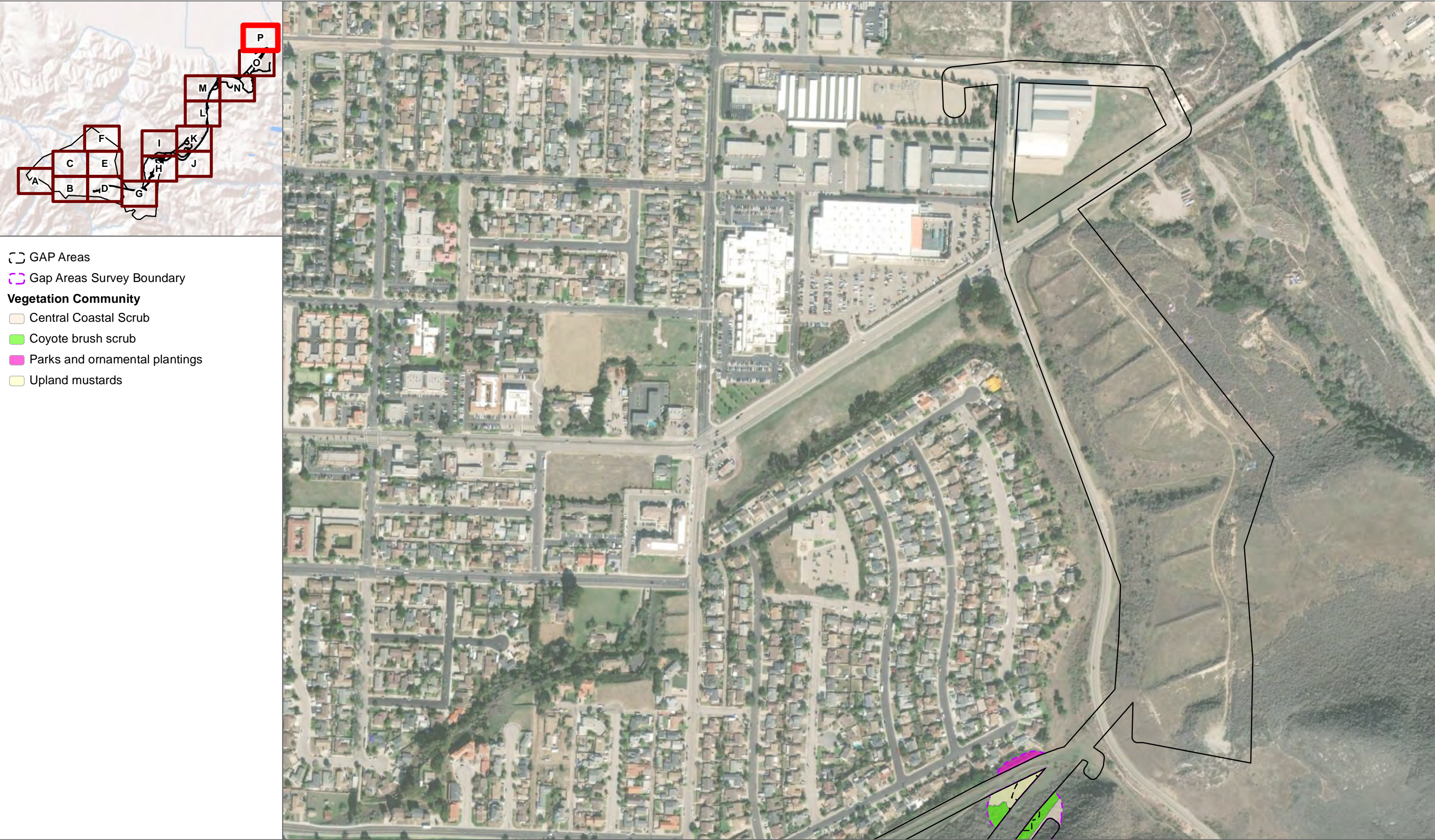


FIGURE 2P  
Vegetation Communities and Land Covers within the Gap Areas and Additional Areas  
Strauss Wind Energy Project

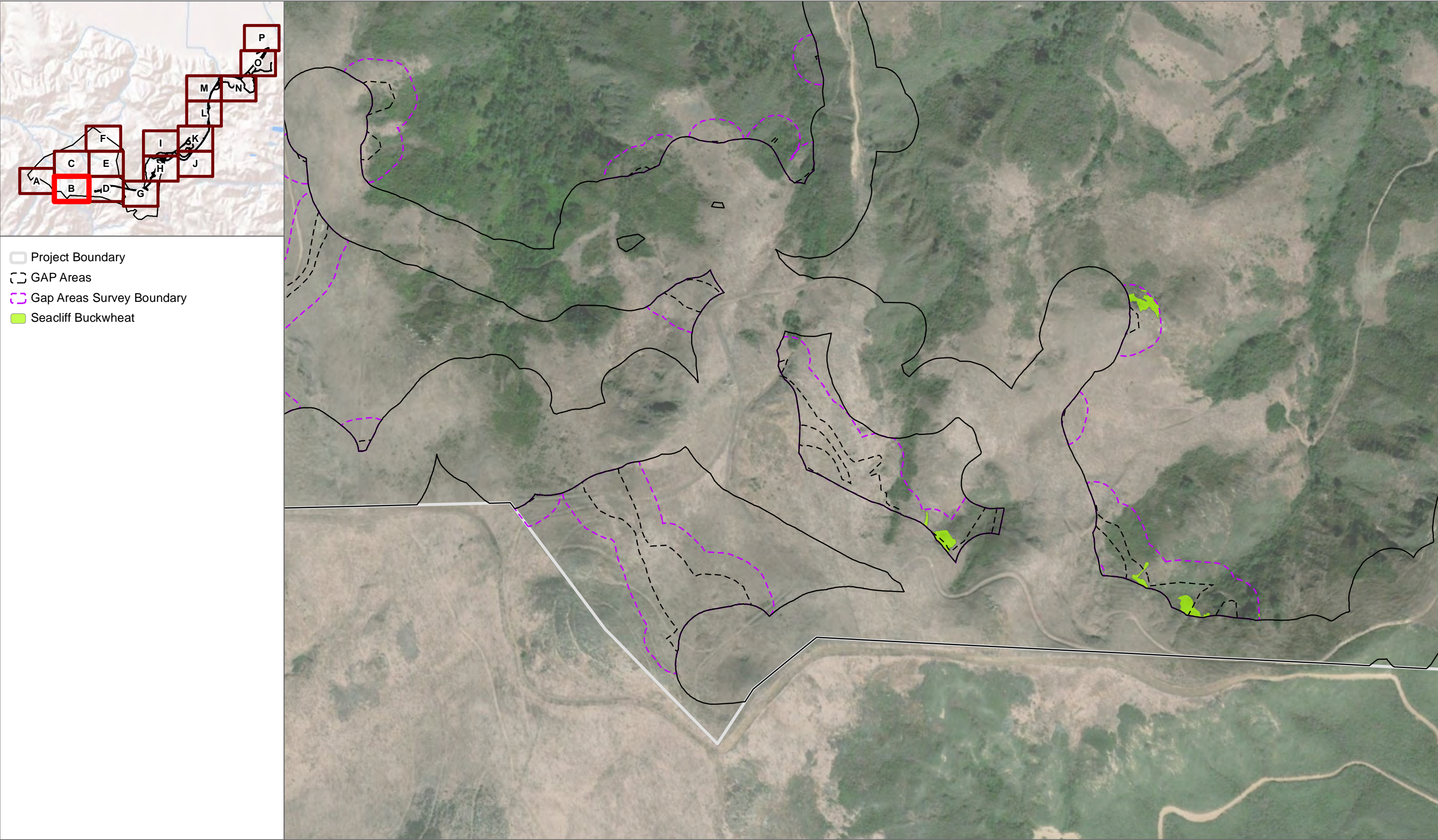




SOURCE: DigitalGlobe 2017

FIGURE 3A  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

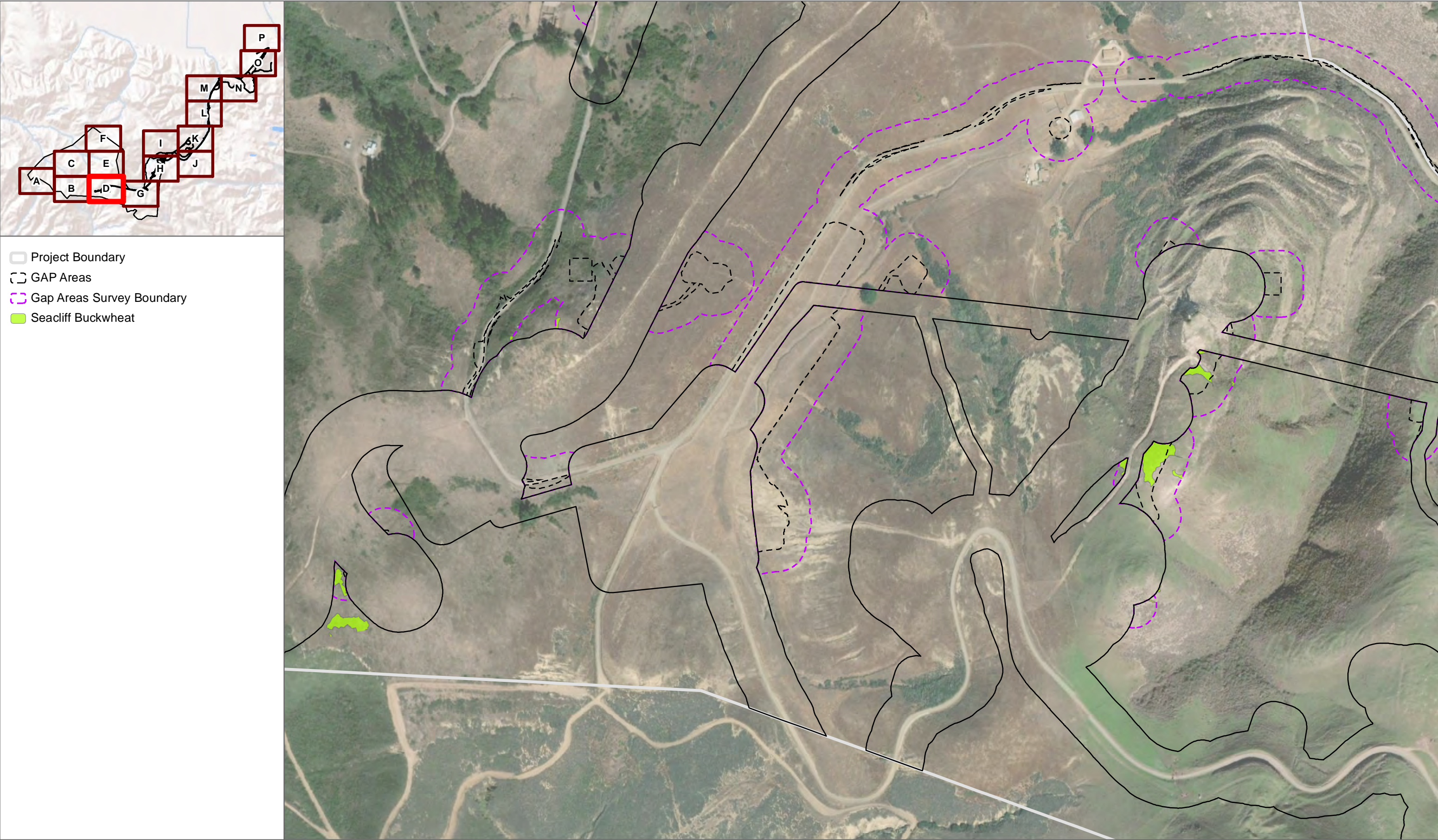
FIGURE 3B  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





FIGURE 3C  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 3D  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 3E  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 3F  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 3G  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 3H  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 3I  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project









SOURCE: DigitalGlobe 2017

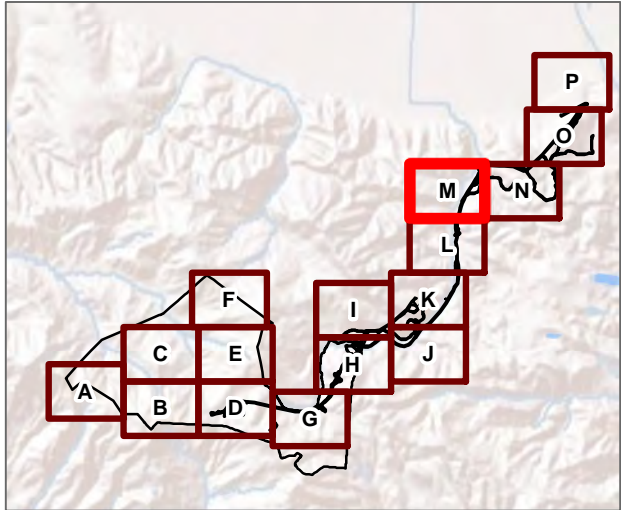




SOURCE: DigitalGlobe 2017

FIGURE 3L  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





GAP Areas  
 Gap Areas Survey Boundary



SOURCE: DigitalGlobe 2017

FIGURE 3M  
 Seacliff Buckwheat within the Gap Areas and Additional Areas  
 Strauss Wind Energy Project





FIGURE 3N  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project

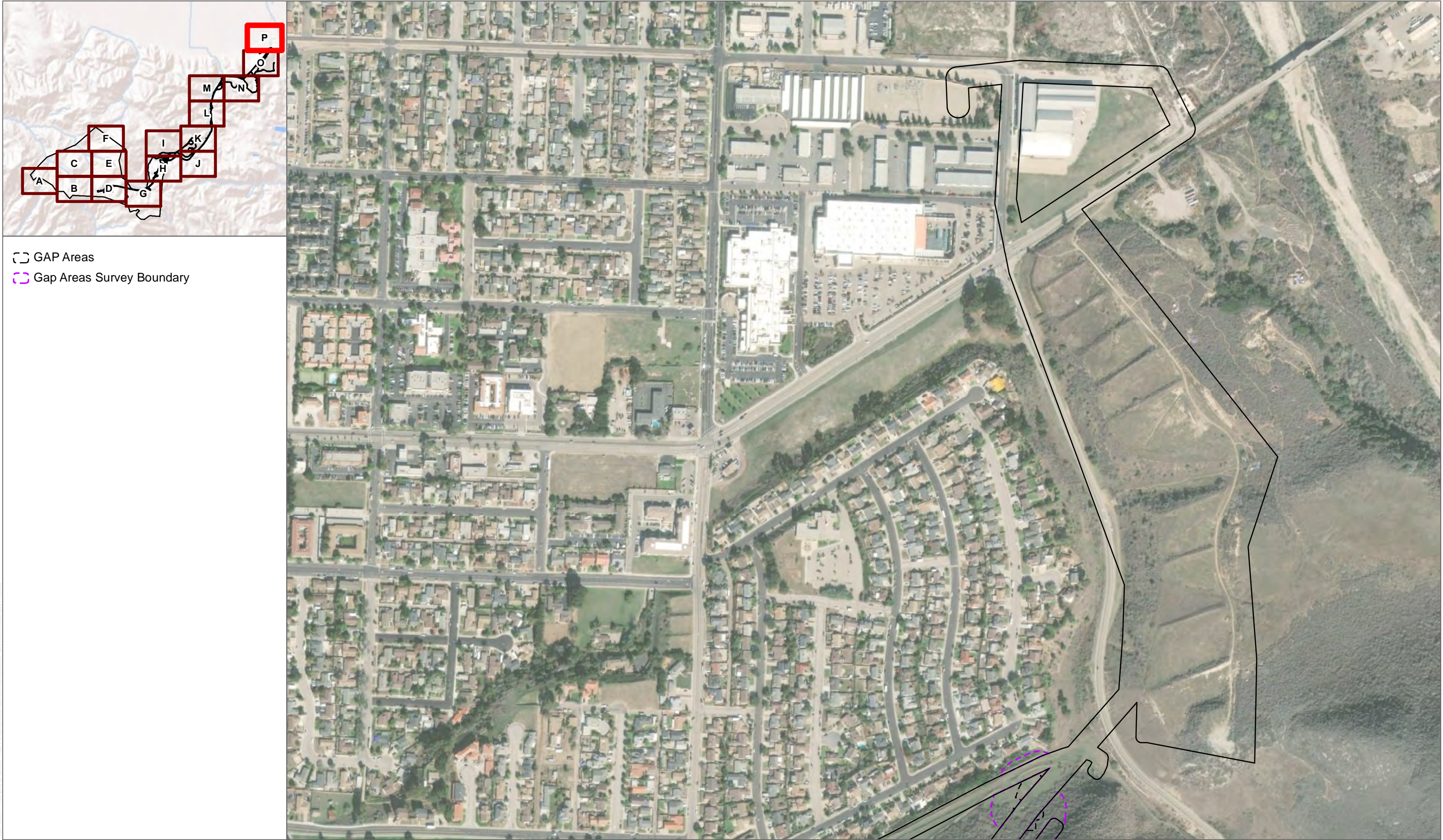




SOURCE: DigitalGlobe 2017

FIGURE 30  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 3P  
Seacliff Buckwheat within the Gap Areas and Additional Areas  
Strauss Wind Energy Project

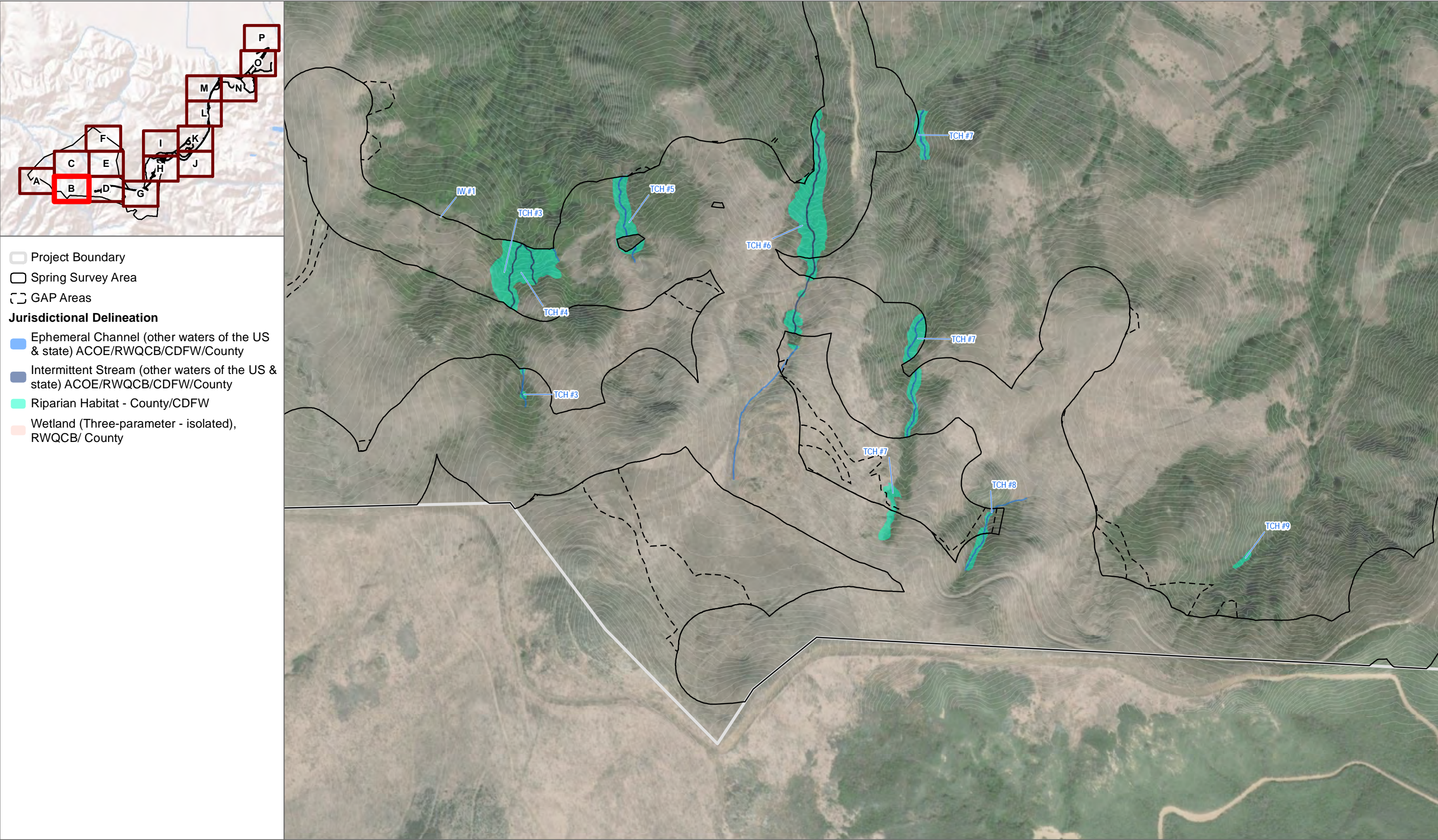




SOURCE: DigitalGlobe 2017

**FIGURE 4A**  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

**FIGURE 4B**  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 4C  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project

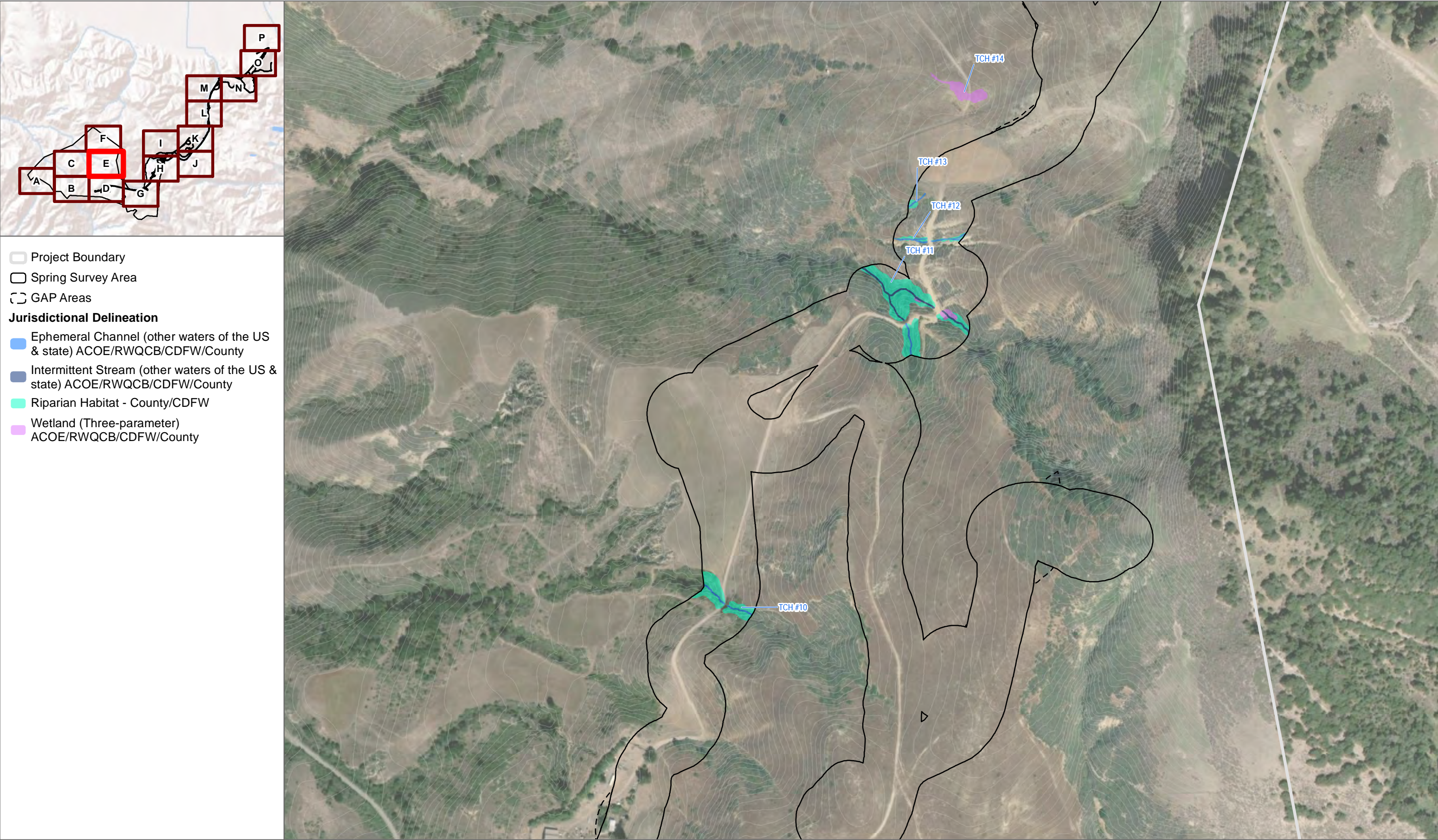




SOURCE: DigitalGlobe 2017

FIGURE 4D  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 4E  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 4F  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 4G  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 4H  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 4I  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 4J  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

**FIGURE 4K**  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project

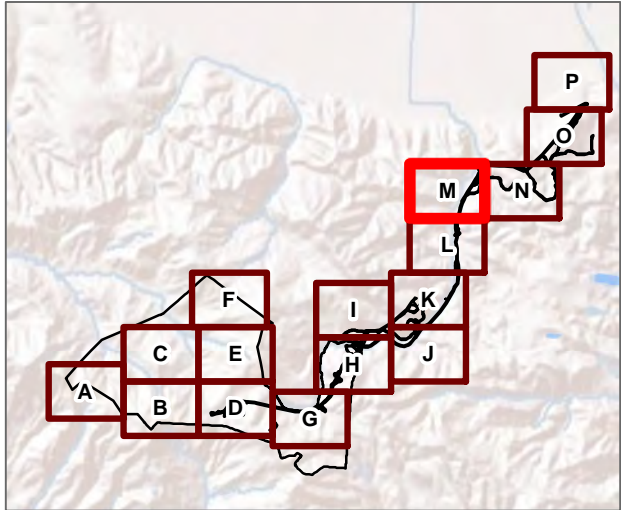




SOURCE: DigitalGlobe 2017

FIGURE 4L  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project





- Spring Survey Area
- GAP Areas
- Jurisdictional Delineation**
- Ephemeral Channel (other waters of the US & state) ACOE/RWQCB/CDFW/County
- Riparian Habitat - County/CDFW



SOURCE: DigitalGlobe 2017

FIGURE 4M  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 4N  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project

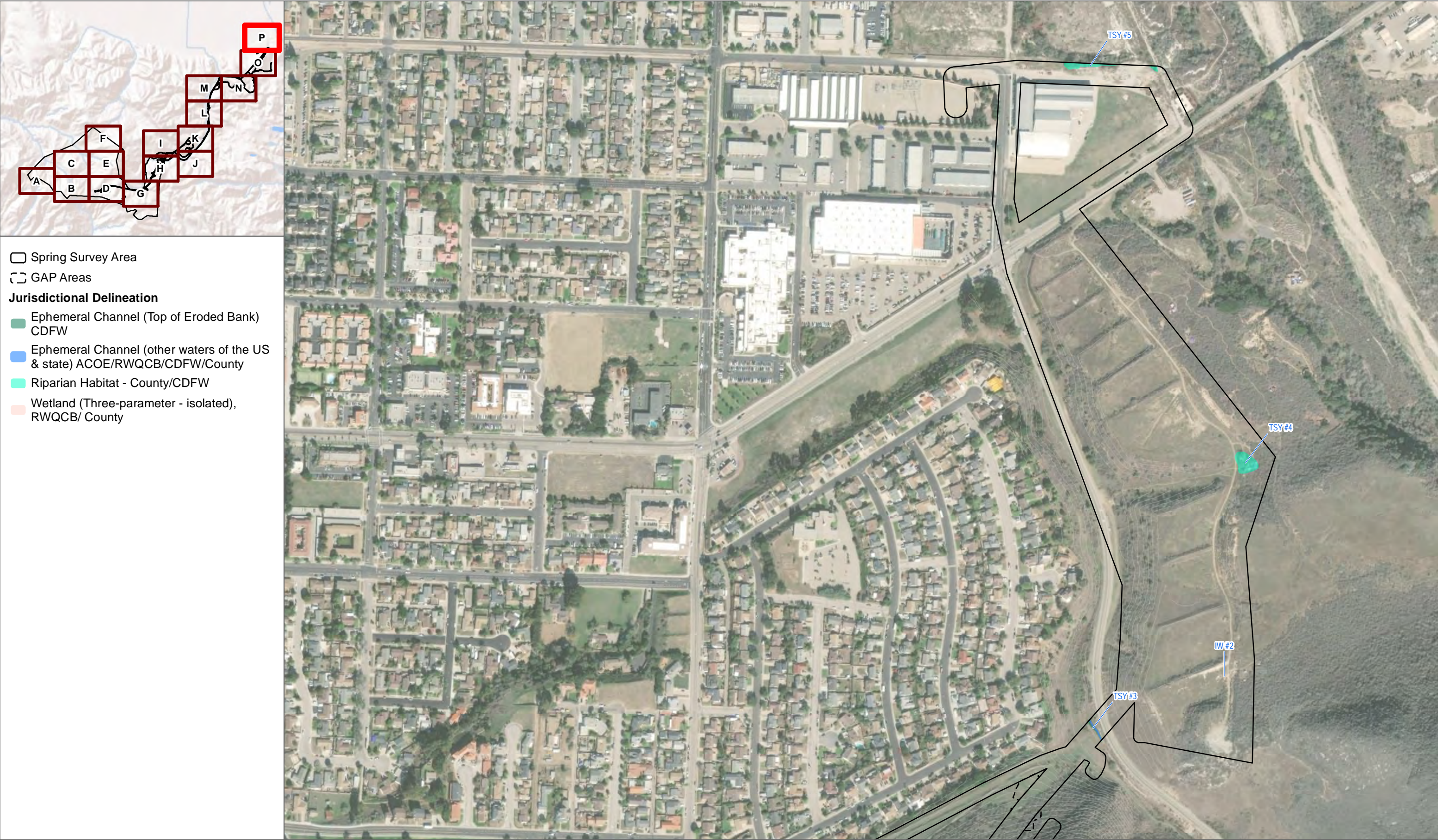




SOURCE: DigitalGlobe 2017

FIGURE 40  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project

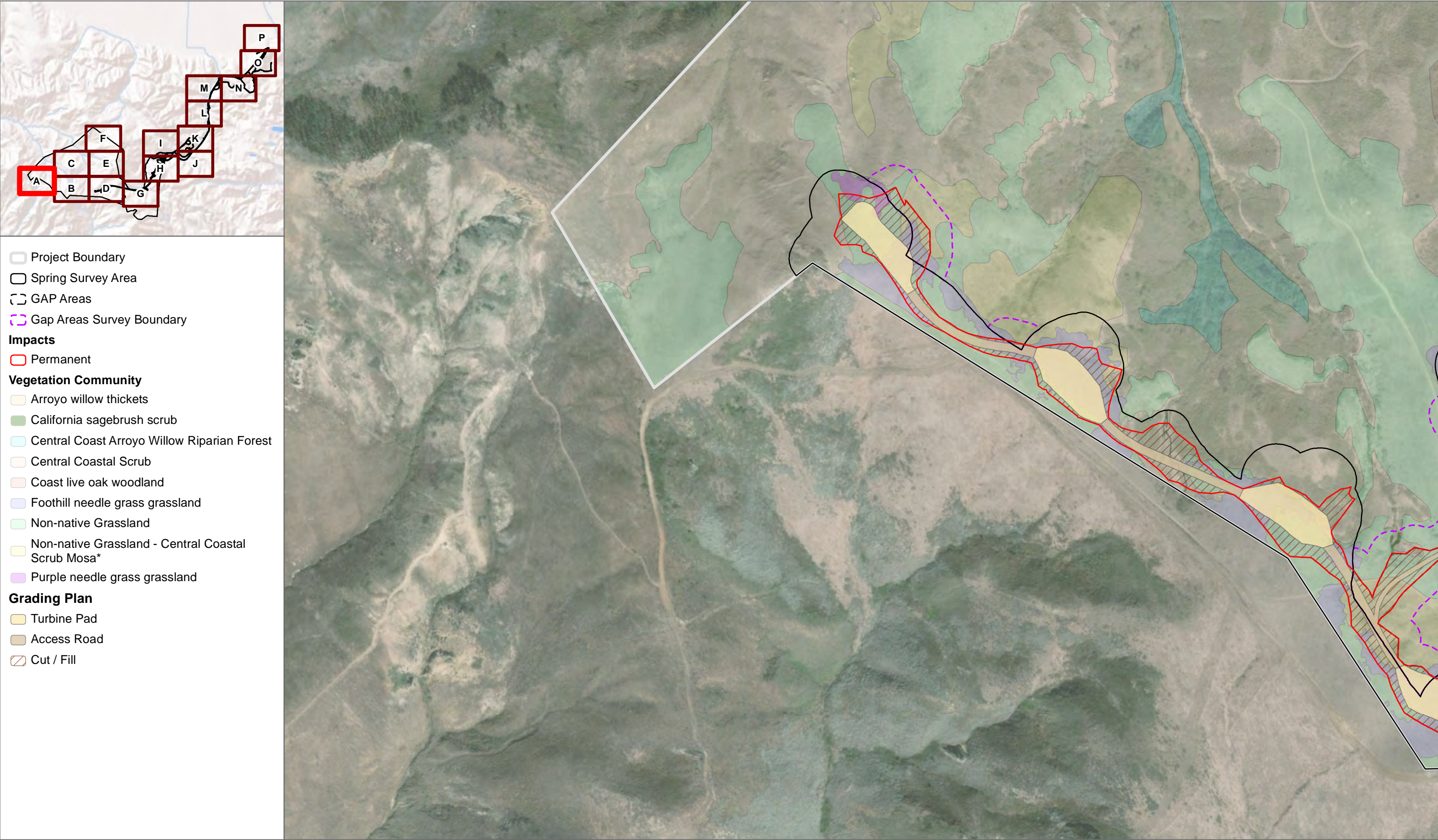




SOURCE: DigitalGlobe 2017

FIGURE 4P  
Wetland Delineation and Jurisdictional Determination within the Strauss Energy Project  
Strauss Wind Energy Project

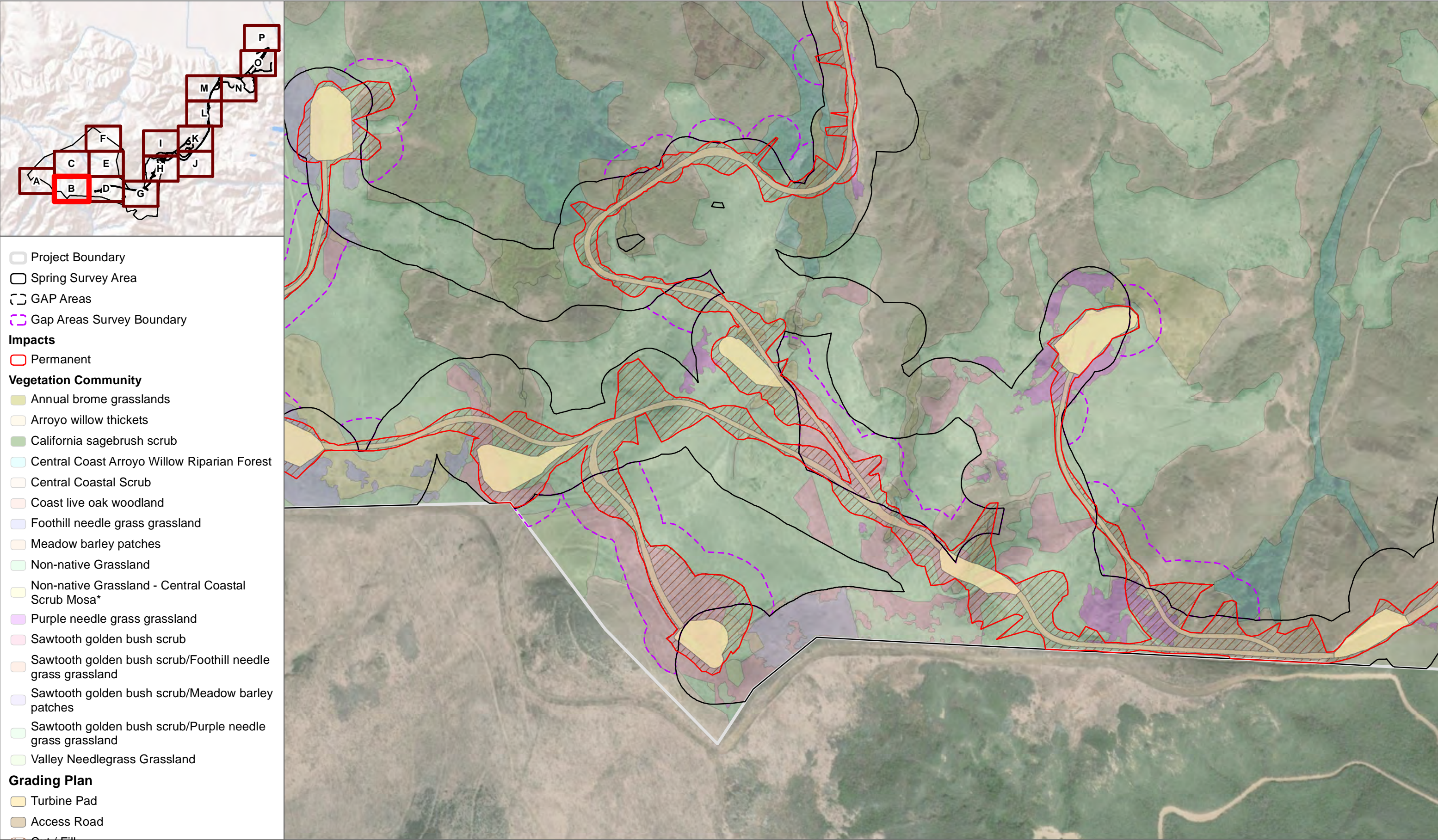




SOURCE: DigitalGlobe 2017

FIGURE 5A  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 5B  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 5C  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project



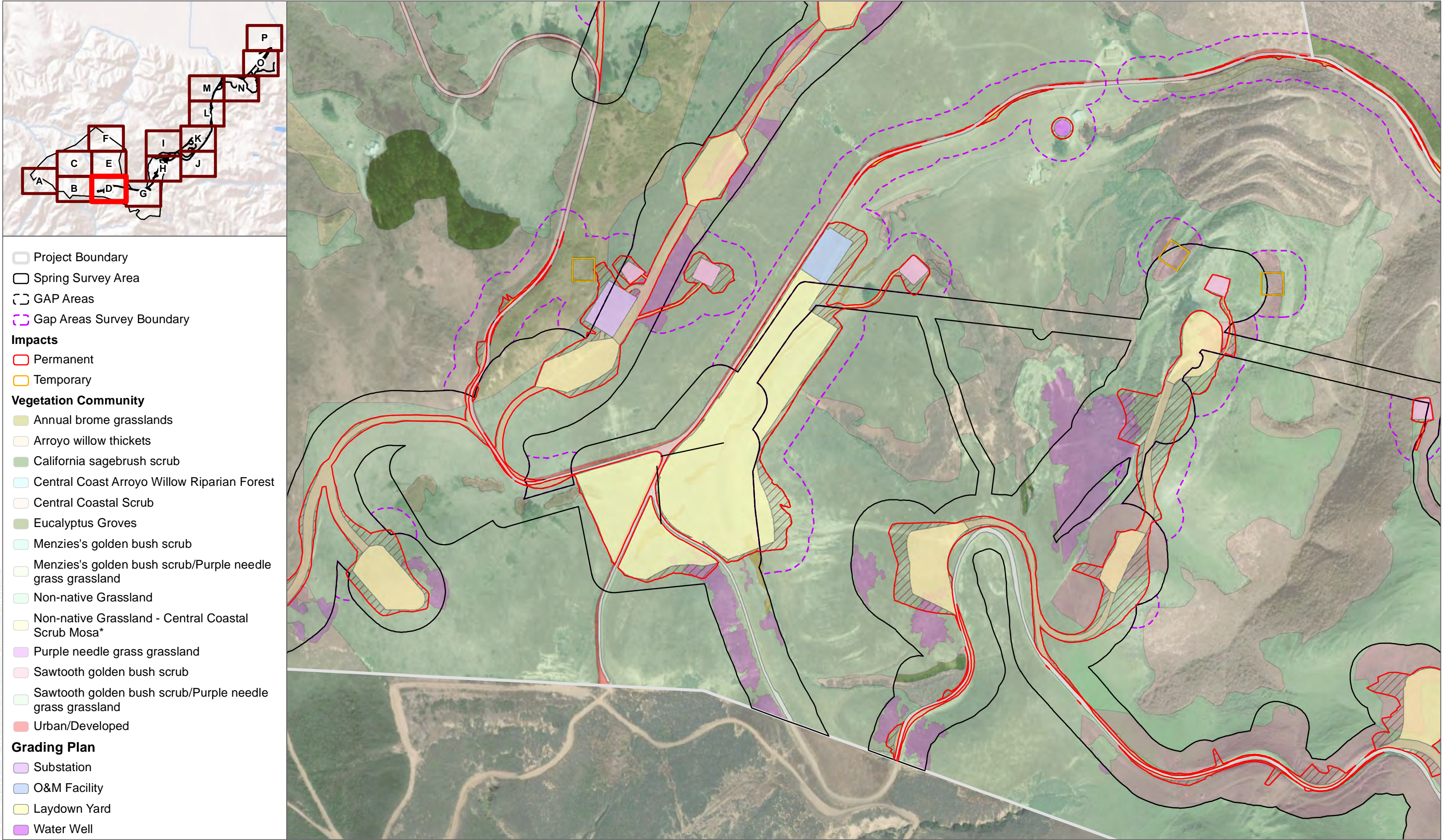
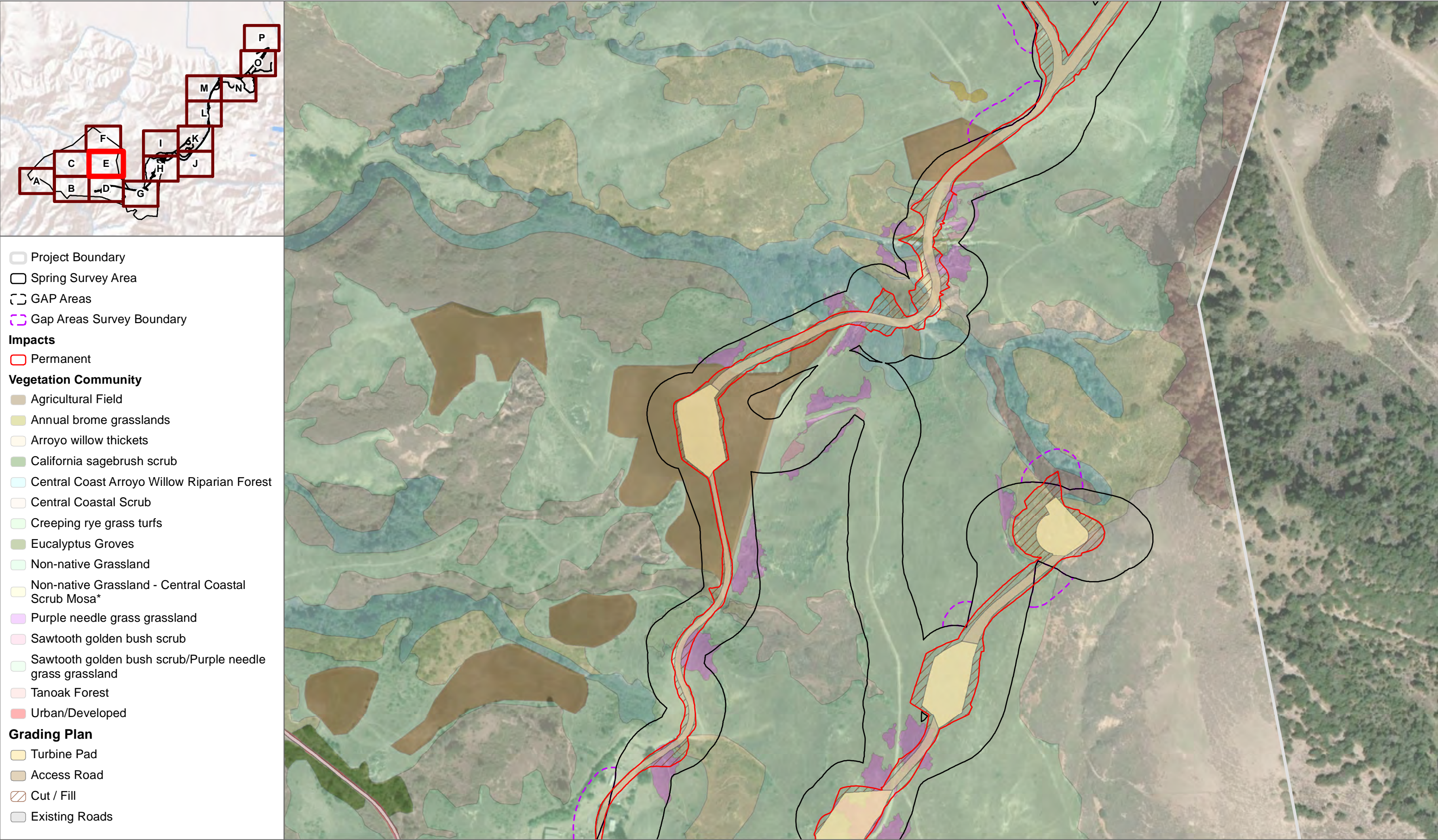


FIGURE 5D  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project

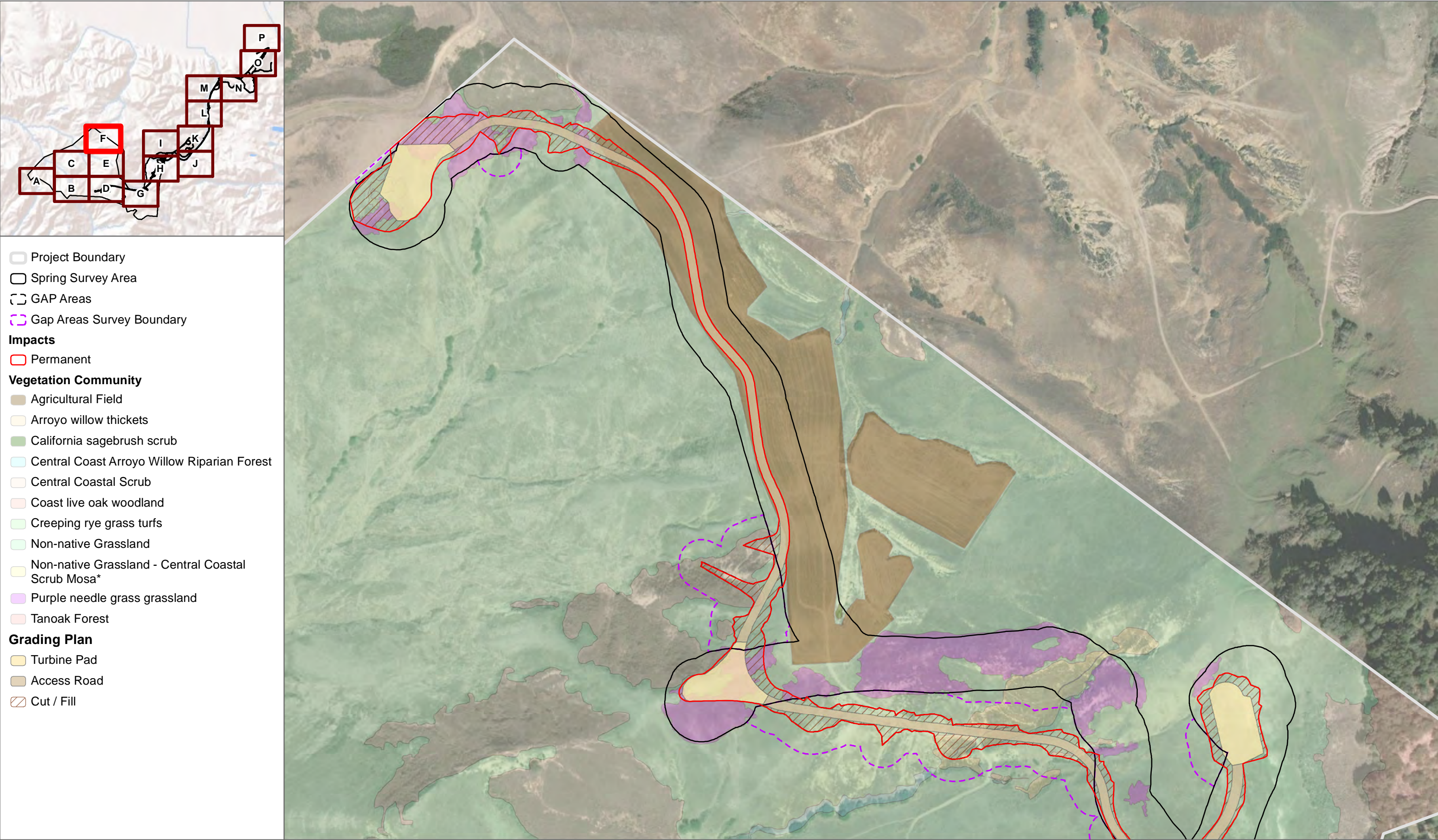




SOURCE: DigitalGlobe 2017

FIGURE 5E  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 5F  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project









SOURCE: DigitalGlobe 2017





SOURCE: DigitalGlobe 2017

FIGURE 5I  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project

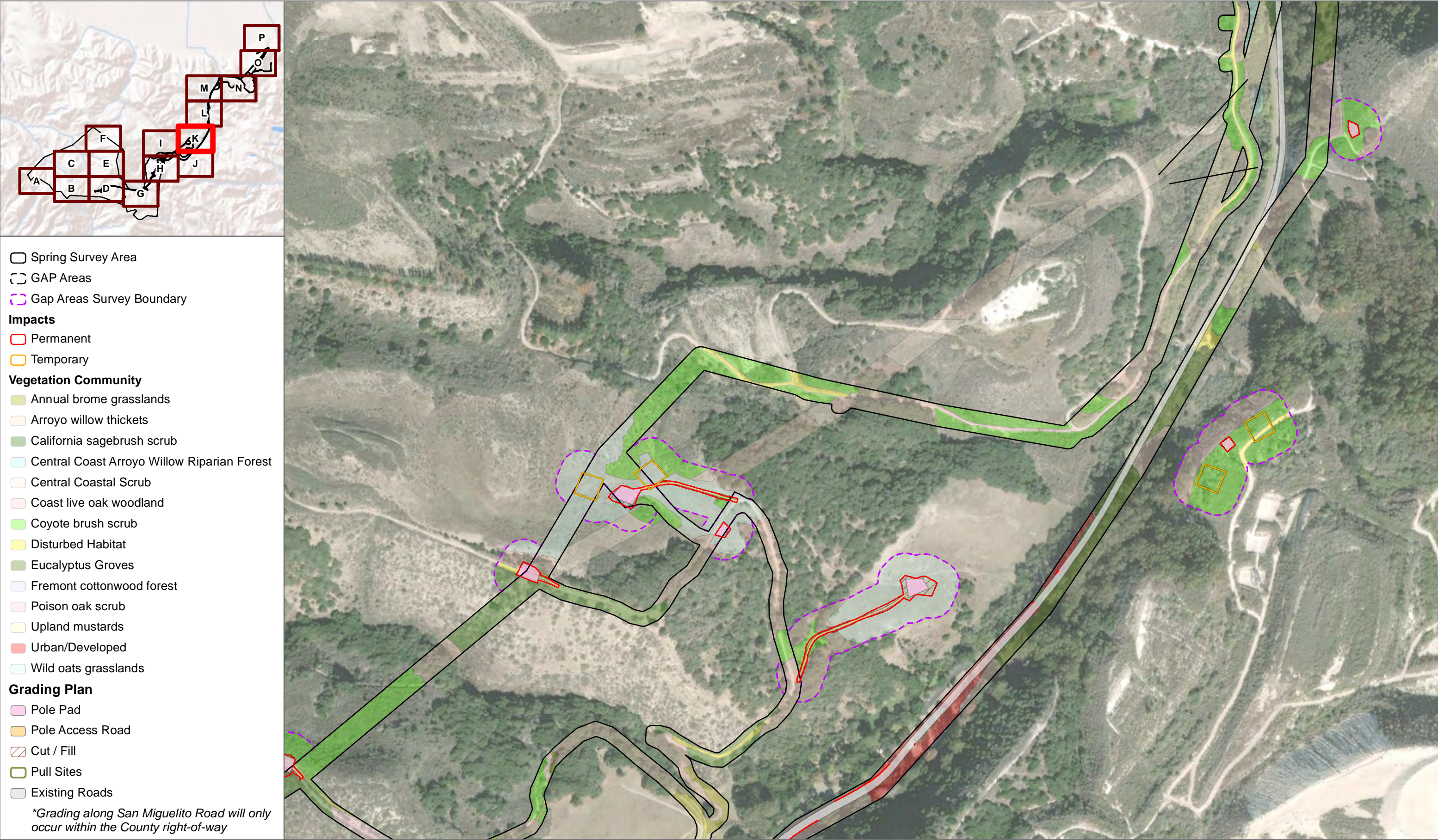




SOURCE: DigitalGlobe 2017

FIGURE 5J  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 5K  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 5L  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 5M  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 5N  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project

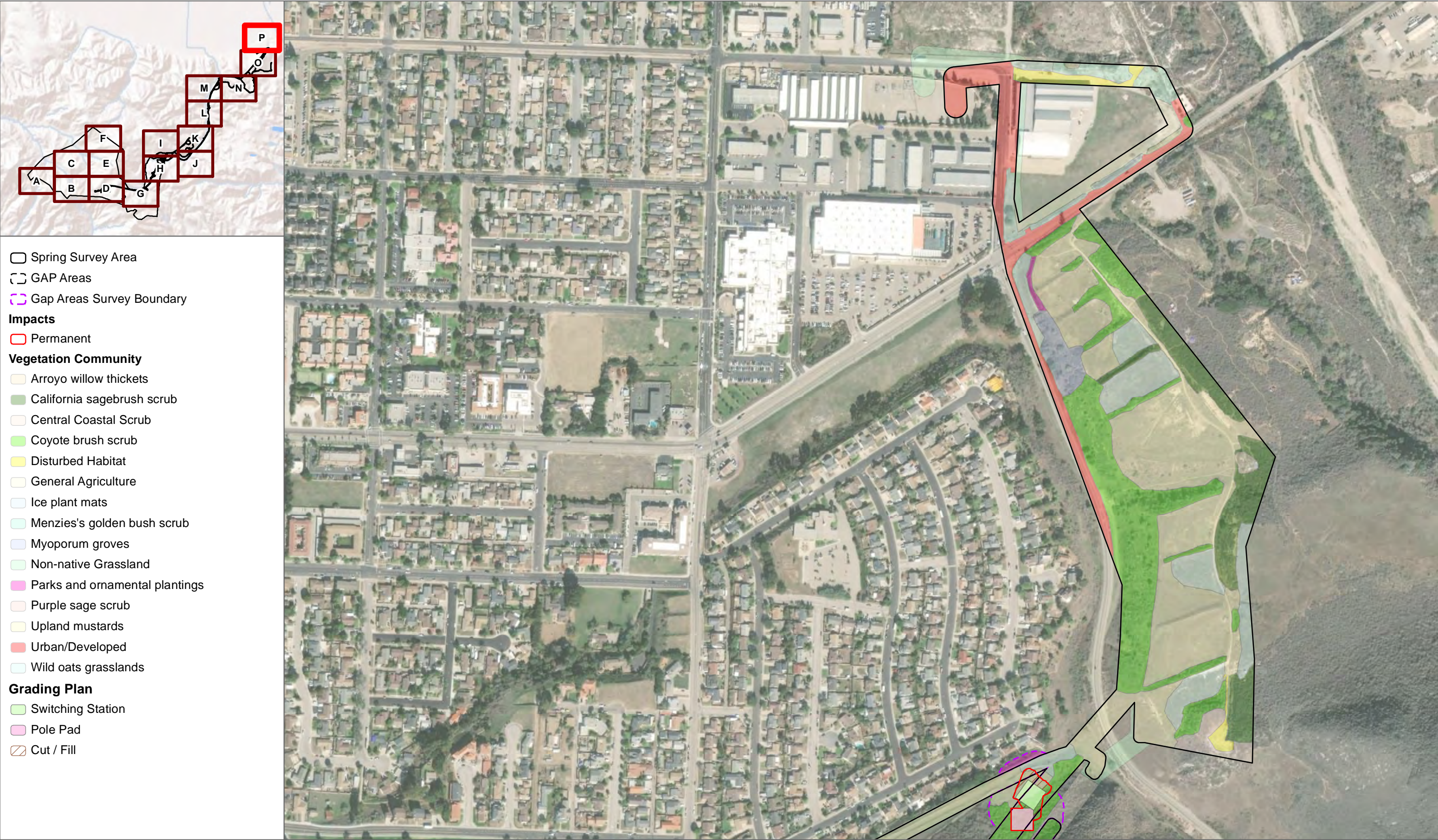




SOURCE: DigitalGlobe 2017

FIGURE 50  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project

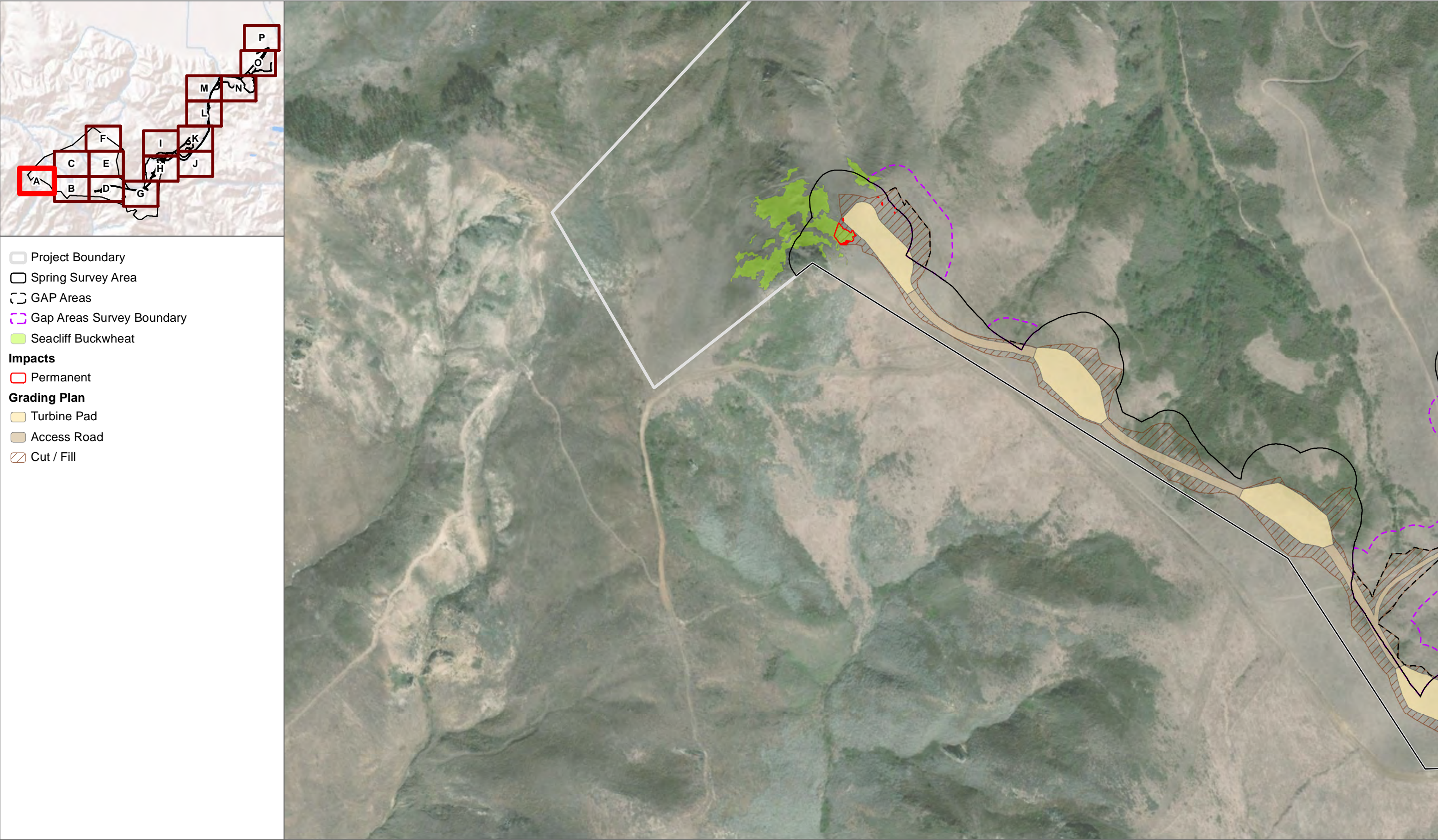




SOURCE: DigitalGlobe 2017

FIGURE 5P  
Impacts to Vegetation Communities and Land Covers within the Strauss Wind Energy Project  
Strauss Wind Energy Project

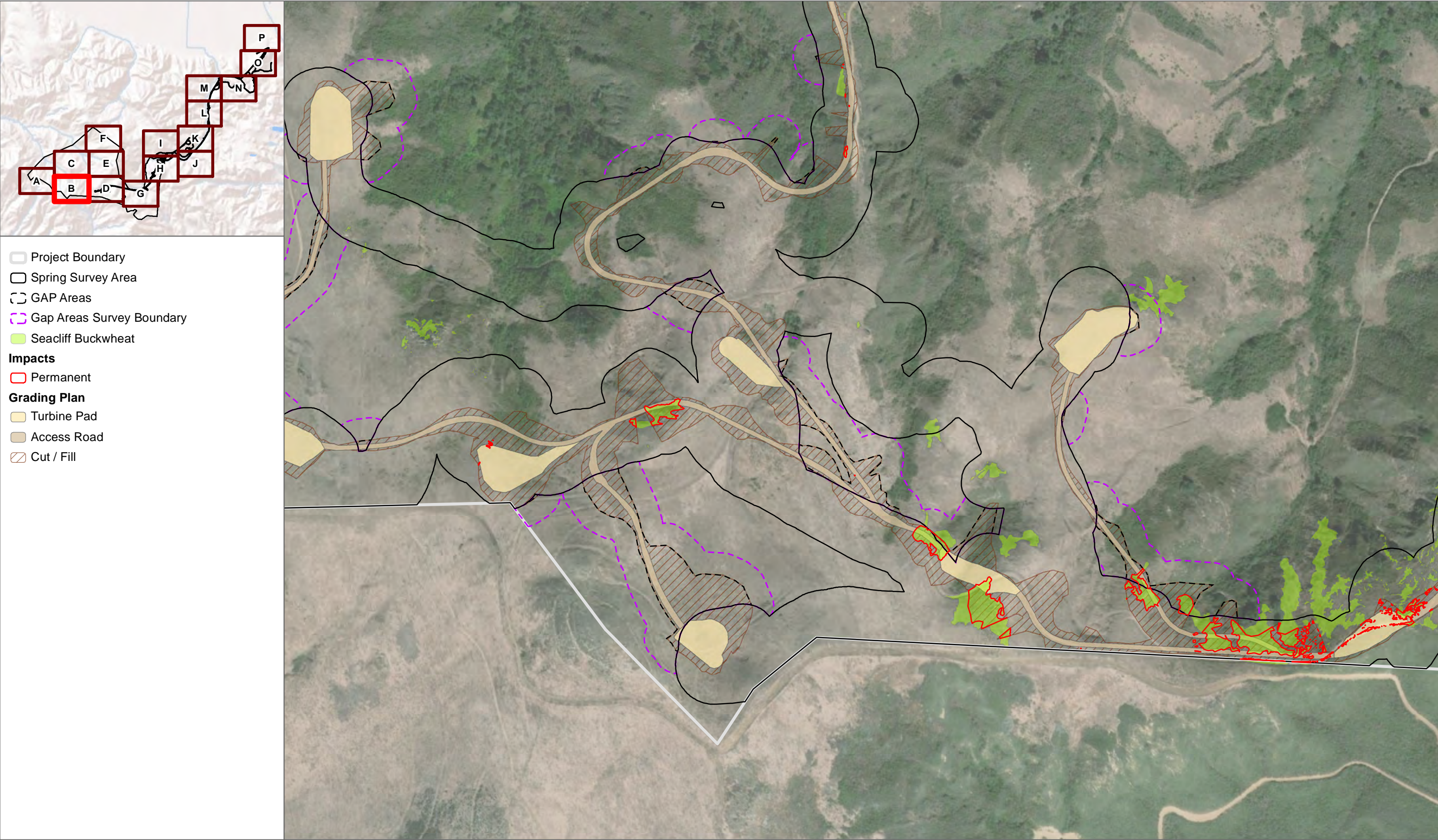




SOURCE: DigitalGlobe 2017

**FIGURE 6A**  
Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

**FIGURE 6B**  
 Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
 Strauss Wind Energy Project

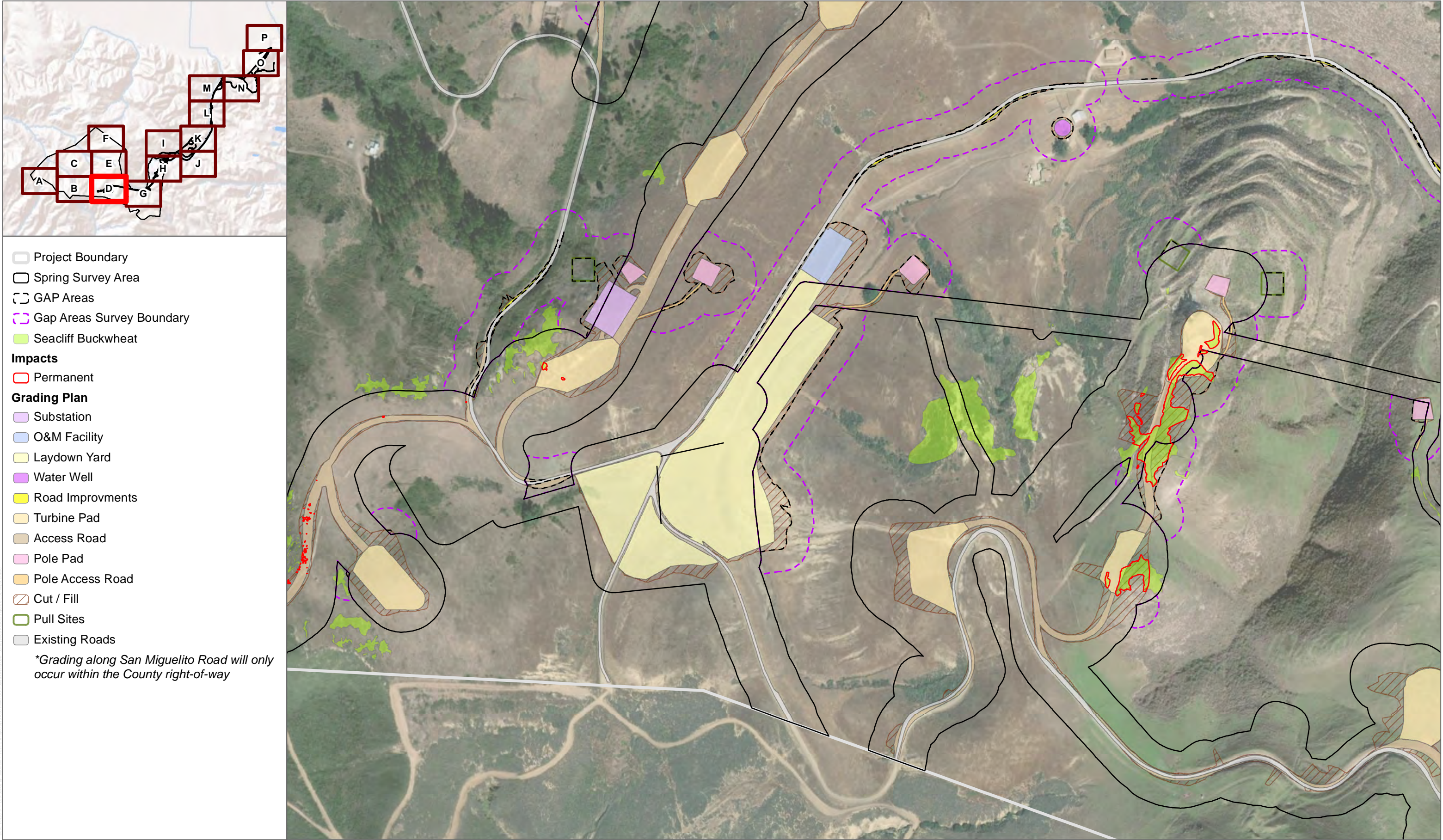




SOURCE: DigitalGlobe 2017

FIGURE 6C  
Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 6D  
Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
Strauss Wind Energy Project

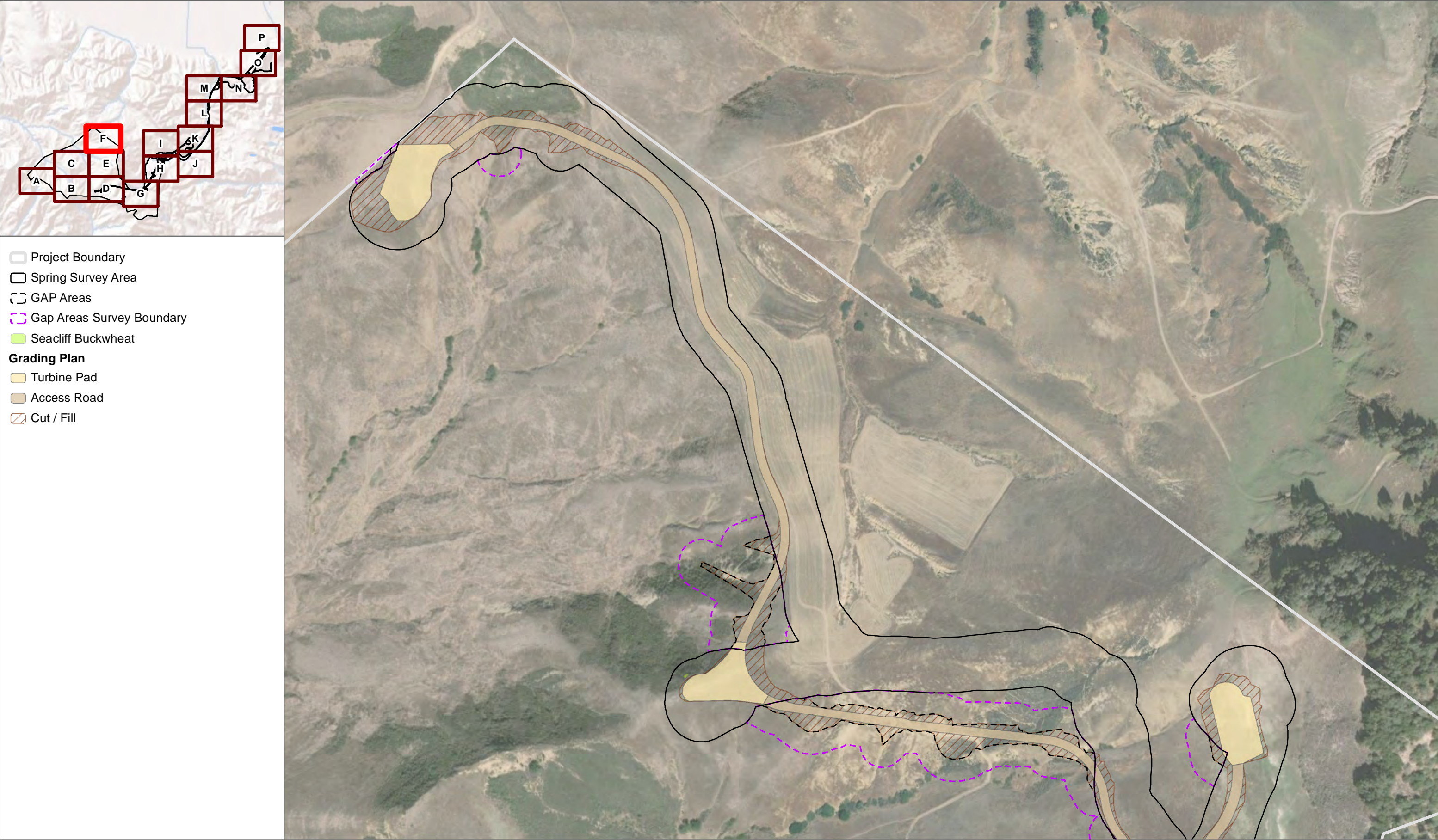




SOURCE: DigitalGlobe 2017

FIGURE 6E  
Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 6F  
Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 6G  
Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 6H  
Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017





SOURCE: DigitalGlobe 2017

FIGURE 6J  
Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 6K  
 Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
 Strauss Wind Energy Project

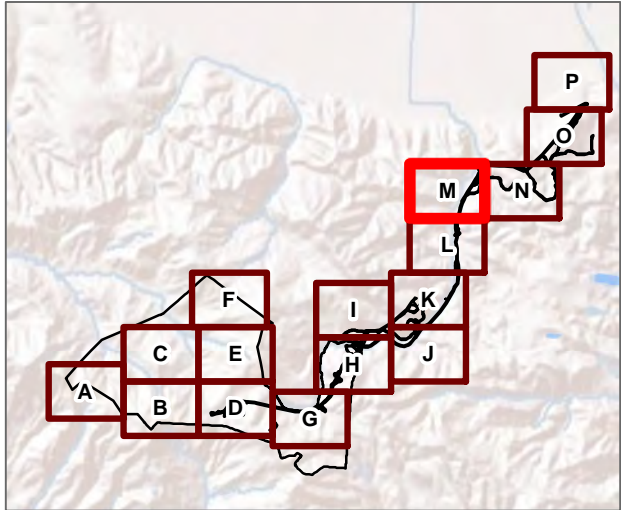




SOURCE: DigitalGlobe 2017

FIGURE 6L  
Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
Strauss Wind Energy Project





- Spring Survey Area
- GAP Areas
- Gap Areas Survey Boundary

- Grading Plan**
- Pole Pad
  - Pole Access Road
  - Cut / Fill
  - Existing Roads

*\*Grading along San Miguelito Road will only occur within the County right-of-way*



SOURCE: DigitalGlobe 2017

FIGURE 6M  
Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

**FIGURE 6N**  
**Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project**  
 Strauss Wind Energy Project

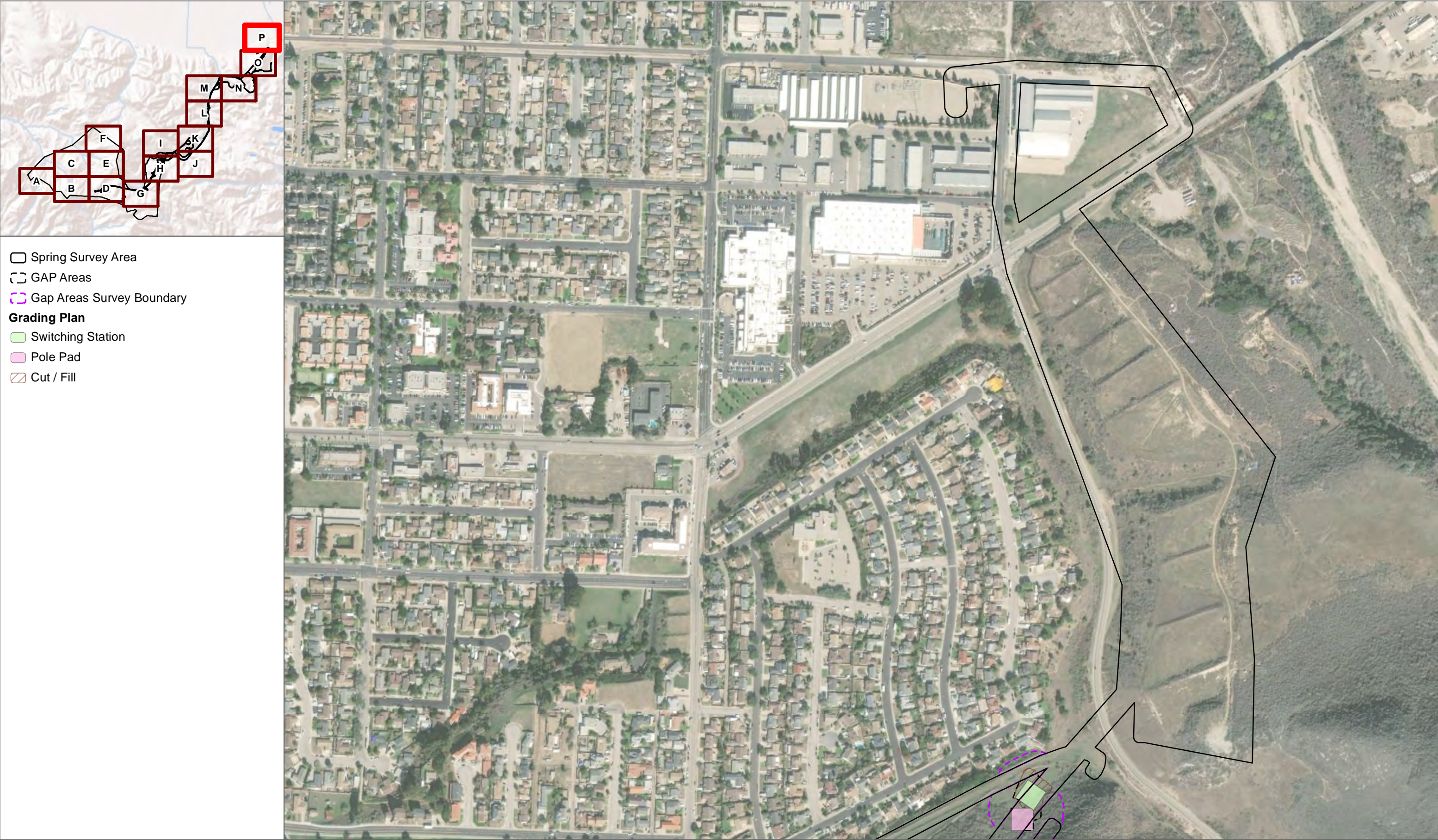




SOURCE: DigitalGlobe 2017

FIGURE 60  
 Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
 Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 6P  
Impacts to Seacliff Buckwheat within the Strauss Wind Energy Project  
Strauss Wind Energy Project

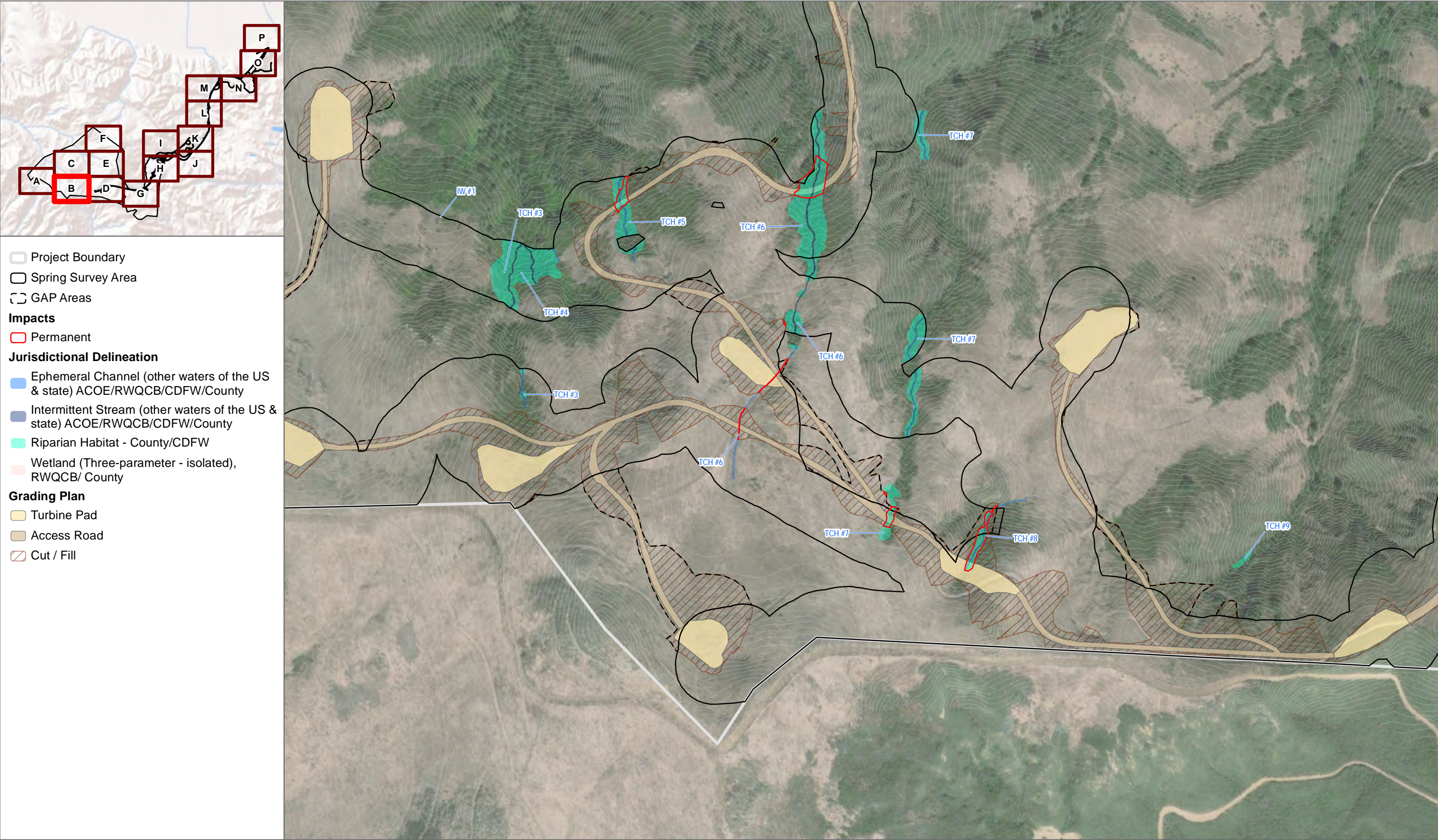




SOURCE: DigitalGlobe 2017

**FIGURE 7A**  
 Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
 Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

**FIGURE 7B**  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project

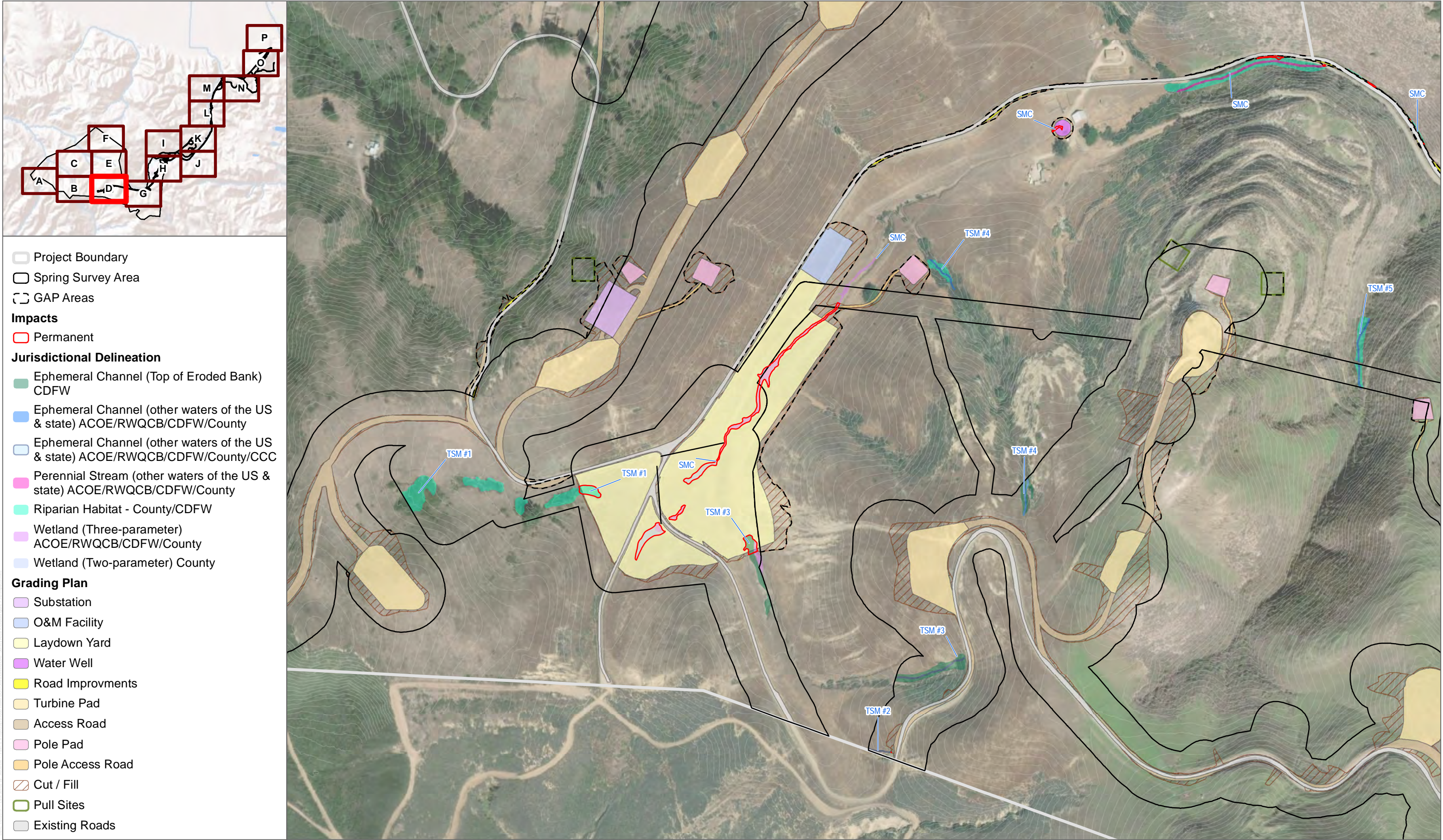




SOURCE: DigitalGlobe 2017

FIGURE 7C  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project





\*Grading along San Miguelito Road will only occur within the County right-of-way

FIGURE 7D  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

**FIGURE 7E**  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 7F  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 7G  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 7H  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017





SOURCE: DigitalGlobe 2017

FIGURE 7J  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 7K  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 7L  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

**FIGURE 7M**  
 Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
 Strauss Wind Energy Project

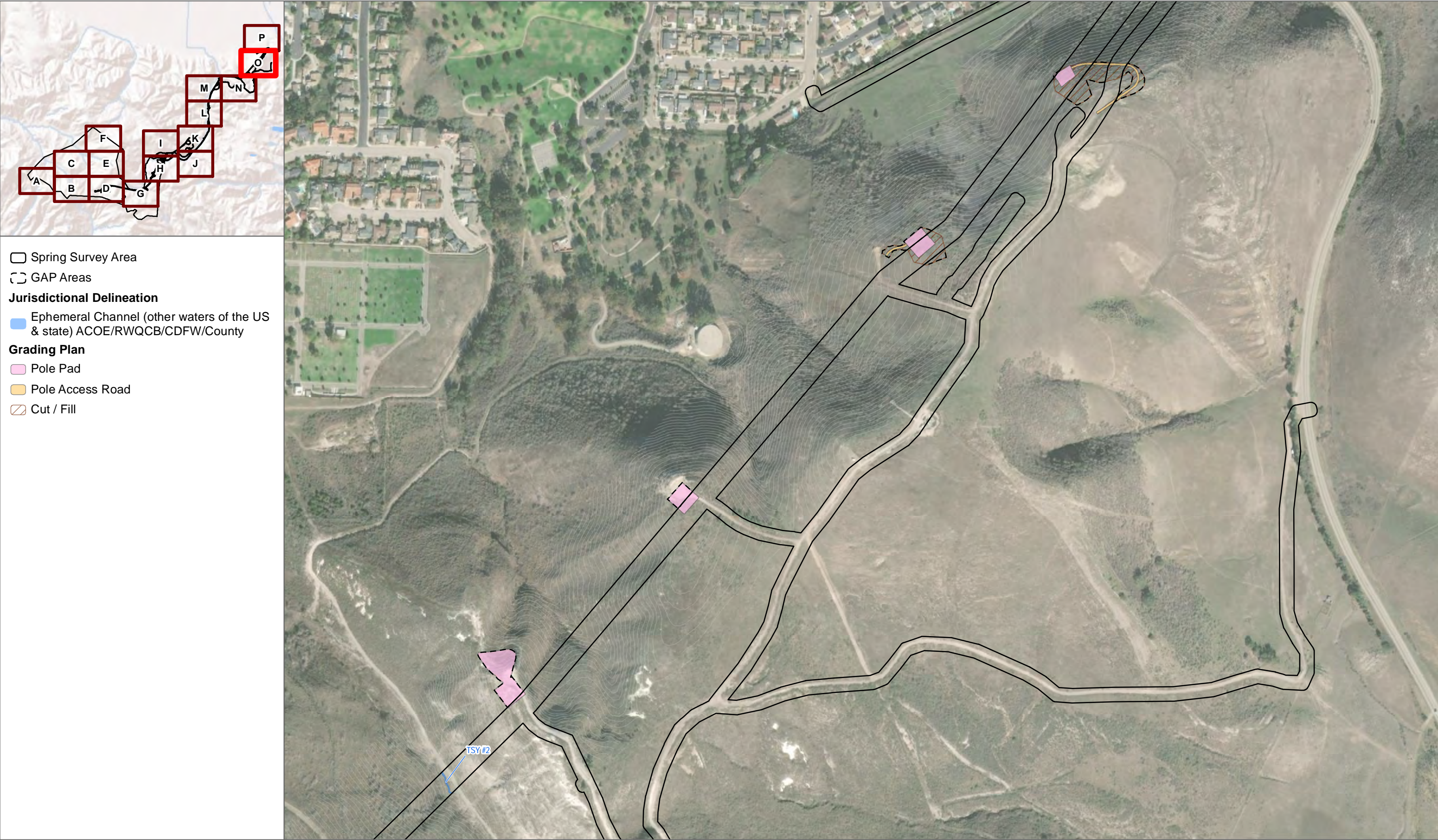




SOURCE: DigitalGlobe 2017

FIGURE 7N  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project

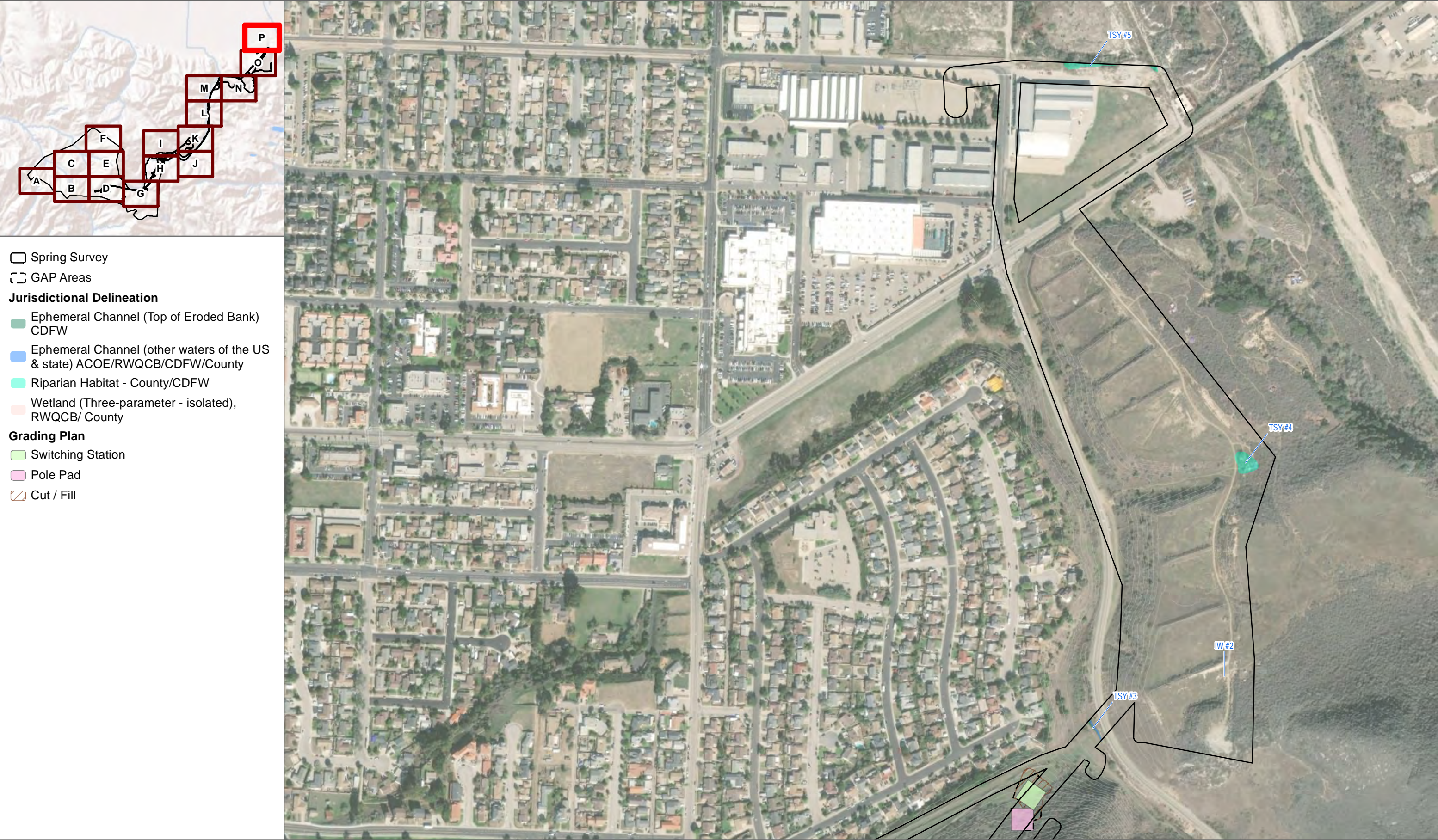




SOURCE: DigitalGlobe 2017

FIGURE 70  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project





SOURCE: DigitalGlobe 2017

FIGURE 7P  
Impacts to Jurisdictional Waters within the Strauss Wind Energy Project  
Strauss Wind Energy Project