

Cascade Creek Oil and Gas Development
Wildlife Protection Plan

**Laramie Energy 2021 Cascade Creek Oil and
Gas Development Plan
Rule 304.c.(17)**

**Protection of Wildlife Resources
Rule 1201. a. Wildlife Protection Plan**



**Laramie Energy, LLC
760 Horizon Drive, Suite 101
Grand Junction, CO 81506**

Laramie Energy, LLC
2021 Cascade Creek Oil and Gas Development Plan
Wildlife Protection Plan



Rule 1201.a. Wildlife Protection Plan

Introduction

The following plan addresses the applicable requirements for 1201.a. Wildlife Protection Plan under 1200 Series of the Colorado Oil and Gas Conservation Commission's (COGCC) rules as required per COGCC Rule 304.c.(17). The Cascade Creek Wildlife Protection Plan (CC WPP) covers locations included in the proposed Laramie Energy, LLC (Laramie) (Operator # 10433) Oil and Gas Development Plan (OGDP).

In addition to those requirements set forth in Rule 1201.a., in an effort to minimize the impacts to wildlife, the Best Management Practices (BMP's) included at the end of the Wildlife Protection Plan are part of Laramie Energy, LLC's (Laramie) standard operating procedures for drilling and operations within the Piceance Basin.

Overview of Oil and Gas Development Plan

Laramie is proposing an OGDP in Garfield County, Colorado. The proposed OGDP, titled *Laramie Energy 2021 Cascade Creek OGDP*, hereby referred to as the Cascade Creek OGDP, involves the construction and development of three well site locations and one cuttings management facility. The CC WPP was developed as part of Laramie's OGDP. The Cascade Creek OGDP includes 4 proposed locations:

- **CC 0697-15-08** - Well Site - (SENE, Section 15, Township 6 South, Range 97 West)
- **CC 0610-21-41** - Well Site - (NENW, Section 10, Township 6 South, Range 97 West)
- **CC 0603-23-32** - Well Site - (NESW, Section 3, Township 6 South, Range 97 West)
- **Annex Cuttings Facility (ACF)** – Centralized Exploration & Production (E&P) Waste Management Facility - (SESE, Section 15, Township 6 South, Range 97 West)

Locations – High Priority Habitat

None of the locations proposed in the OGDP would be located within any areas identified as High Priority Habitat (HPH) (COGCC 2021). Maps depicting the site locations and wildlife habitat areas are provided in the CC WPP.

Cascade Creek 0697-15-08 Well Site

The proposed site will be a new location developed on private property, owned by Laramie. The proposed well site will have 18 wells drilled, utilizing a closed-loop drilling system. Only water-based bentonite drilling fluids, not oil-based fluids, will be utilized for the 18 wells.

Legal Description: SENE of Section 15, Township 6 South, Range 97 West, 6th P.M.

Location Coordinates: Latitude: 39.526319°; Longitude: -108.198886°

Elevation: 8514 feet

The CC 0697-15-08 will initially generate 7.6 acres of new short-term disturbance;

Laramie Energy, LLC
2021 Cascade Creek Oil and Gas Development Plan
Wildlife Protection Plan



however, the site will be reduced by approximately 5.8 acres at the time of interim reclamation. The long-term disturbance associated with this pad will be 1.8 acres. Interim reclamation will begin after all wells are drilled and completed as planned with production facilities installed at the pad.

Disturbance Acreage for Well Site – CC 0697-15-08

Well Site	Disturbance in Acres
Proposed Area of Disturbance	7.6
Working Pad Surface	3.2
Area to be Interim Reclaimed	5.8
Production Pad Surface (Disturbance after Interim Reclamation)	1.8

Operations will be conducted in the following stages at the CC 0697-15-08: initial grading activities, drill rig mobilization, drilling, completions and flowback, production, interim reclamation, and final grading/reclamation of the site. Phases may occur simultaneously at the site. Inspection activities will occur during the lifespan of the site. Pre-production operations are estimated to last 230 days, depending on equipment availability, weather and various other conditions, this schedule may change.

Cascade Creek 0610-21-41 Well Site

Laramie is requesting an amendment to an existing COGCC location, the CC 0610-21-41 well site (Location #383264). Laramie is proposing to drill 23 wells utilizing a closed-loop drilling system at the existing location. Only water-based bentonite drilling fluids, not oil-based fluids, will be utilized for the 23 wells.

Legal Description: NENW of Section 10, Township 6 South, Range 97 West, 6th P.M.
Location Coordinates: Latitude: 39.544325°; Longitude: -108.207010°
Elevation 8600 feet.

Laramie does not anticipate that additional grading will be required prior to drilling. After pre-production activities, approximately 5.3 acres will be reclaimed, reducing long-term disturbance associated with this pad to 1.7 acres. Interim reclamation will begin after all wells are drilled and completed as planned with production facilities installed at the pad.

Disturbance Acreage for Well Site – CC 0610-21-41

Well Site	Disturbance in Acres
Working Pad Surface	3.3
Total Area of Disturbance (Existing)	7.0
Area to be Interim Reclaimed	5.3
Production Pad Surface (Disturbance after Interim Reclamation)	1.7

Operations will be conducted in the following stages: drill rig mobilization, drilling, completions and flowback, production, interim reclamation, and final grading/reclamation of the site. Phases may occur simultaneously at the site. Inspection activities will occur

Laramie Energy, LLC
2021 Cascade Creek Oil and Gas Development Plan
Wildlife Protection Plan



during the lifespan of the site. Pre-production operations are estimated to last 249 days, depending on equipment availability, weather and various other conditions, this schedule may change.

Cascade Creek 0603-23-32 Well Site

The CC 0603-23-32 is a previously constructed well pad (Location # 335647). Currently, two producing wells and associated production equipment are installed within the existing well pad. Laramie is proposed to expand the Oil and Gas Location and site-specific access road to accommodate drilling and completions activities. Laramie is proposing 24 wells to be drilled at the location. The CC 0603-23-32 will utilize a closed-loop drilling system. Only water-based bentonite drilling fluids, not oil-based fluids, will be utilized for the 24 wells.

Legal Description: NESW of Section 3, Township 6 South, Range 97 West, 6th P.M.
Location Coordinates: Latitude: 39.548853°; Longitude: -108.209991°
Elevation: 8610 feet

Total surface area of previous disturbance at the subject location is estimated at 2.8 acres. The existing location will be expanded and graded to 6.7 acres. Interim reclamation will begin after all wells are drilled and completed as planned with production facilities installed at the pad. After interim reclamation, the production pad surface will be 3.2 acres.

Existing and Proposed Acreage Disturbance – CC 0603-23-32

Location	Acres of Existing Disturbance	Acres of New Disturbance	Acres of Working Surface after Interim Reclamation
CC 0603-23-32	2.8	3.9	3.2
CC 0603-23-32 Adjoining Pipeline	0.74 (within the above stated 2.8 acres)	0.82	0

Disturbance Acreage for Well Site (not including proposed pipeline)- CC 0603-23-32

Well Site	Disturbance in Acres
Existing Disturbance	2.8
Proposed Disturbance to be Constructed	3.9
Working Pad Surface	4.2
Total Area of Disturbance	6.7
Area to be Interim Reclaimed	3.5
Production Pad Surface (Disturbance after Interim Reclamation)	3.2

Operations will be conducted in the following phases at the CC 0603-23-32: initial grading activities to expand existing pad and access road, drill rig mobilization, drilling, completions and flowback, production, interim reclamation, inspections, and final grading/reclamation of the site. Phases may occur simultaneously at the site. Inspection

Laramie Energy, LLC
2021 Cascade Creek Oil and Gas Development Plan
Wildlife Protection Plan



activities will occur during the lifespan of the site. Pre-production operations are estimated to last 277 days, depending on equipment availability, weather and various other conditions, this schedule may change.

Annex Cuttings Facility

The Annex Cuttings Facility will be a non-commercialized E&P Waste Management Facility for the treatment and disposal of drill cuttings from the three proposed well sites: CC 0610-21-41, CC 0697-15-08, and CC 0603-23-32. The facility will only manage the treatment of cuttings generated by Laramie’s drilling activities and will not provide services to third parties. The site will treat dried drill cuttings. Once drill cuttings meet COGCC current requirements, the cuttings will be applied for grading and contouring activities. The site will allow up to 22,000 cubic yards of material to be managed and stored.

Legal Description: SESE of Section 15, Township 6 South, Range 97 West, 6th P.M.

Location Coordinates: Latitude: 39.519233°; Longitude: -108.200979°.

Elevation: 8625 feet mean above sea level.

The new location will be constructed on previously disturb land. The location was formerly developed as an annex pad to the CC 0697-15-54 well site. No native land will be disturbed in the development of this location.

Disturbance Acreage for the Annex Cuttings Facility

Annex Cuttings Facility Location	Disturbance in Acres
Proposed Construction on Previously Disturbed Land	2.95
Proposed Construction on Native Land	0
Working Pad Surface (WPS)	0.60
Total Area of Disturbance	2.95
Area to be Reclaimed	2.95
Long-Term Disturbance (after Reclamation)	0

Operations will be conducted in the following stages: initial grading activities, transportation, treatment, burial/disposal, and final grading and reclamation activities. Phases may occur simultaneously at the site. Sampling and inspection activities will occur during all stages of operation. Laramie anticipates that the facility will remain in operations for approximately 3-5 years.

Laramie Energy, LLC
2021 Cascade Creek Oil and Gas Development Plan
Wildlife Protection Plan



Rule 1202. Operating Requirements

Rule 1202.a. *The operating requirements identified in this Rule 1202.a apply to Oil and Gas Operations statewide unless the Operator obtains a signed waiver from CPW and the Director or Commission approves a Form 4, Sundry Notice or Form 2A documenting the relief.*

Laramie will adhere to applicable requirements stated in Rule 1202, unless a waiver is obtained from CPW and the Director or Commission approves a Form 4, Sundry Notice or Form 2A documenting the relief.

Black Bear Habitat - Rule 1202.a.(1) *In black bear habitat, Operators will install and utilize bear-proof dumpsters and trash receptacles for food-related trash at all facilities that generate trash.*

The Cascade Creek 0697-15-08 is located within black bear habitat. Laramie will install and utilize bear-proof dumpsters and trash receptacles for food-related trash at all facilities that generate trash. Laramie’s BMPs on bear habitat is provided with the Protection of Wildlife Resources.

Disinfecting - Rule 1202.a.(2)

For sites proposed in the Cascade Creek OGD, water will only pull from surface waters for drilling activities and dust mitigation efforts as stated in site-specific water plans. Laramie will not discharge into any surface waters. Laramie will collect water from two fresh water sources as shown below.

Name	Owner	Parcel #	Coordinates: Latitude/ Longitude	Water Source
Savage Pond	Savage Limited Partnership, Anderson, George M Revocable Trust	2411-0820-0019	39.466971° / -108.245172°	Spring
Firewater Pond	Laramie Energy, LLC 1001 17 th Street, Suite 1900 Denver, CO 80202	2169-2140-0026	39.542880°/-108.221807°	Spring

Laramie will not remove water from river, intermittent or perennial stream, lake, or wetland surface waters. Laramie or its contractors will disinfect water suction hoses and water transportation tanks withdrawing from used previously in another pond and discard rinse water in an approved disposal facility. Disinfection will be achieved by utilizing COGCC Rule 1202.a.(2).B. where applicable.

Ordinary High Water Mark - Rule 1202.a.(3)

At new and existing Oil and Gas Locations, Laramie will not situate new staging, refueling, or chemical storage areas within 500 feet of the (“OHWM”) of any river, perennial or intermittent stream, lake, pond, or wetland. None of the four (4) proposed sites are located

Laramie Energy, LLC
2021 Cascade Creek Oil and Gas Development Plan
Wildlife Protection Plan



within 500 feet of any surface water. Chemicals will not be stored at the ACF. For any chemicals stored as the three proposed well sites, chemicals will remain within the site perimeter and stored in accordance with the Cascade Creek OGDG.

Drilling Pits - Rule 1202.a.(4) *To prevent access by wildlife, including birds and bats, Laramie will fence and net or install other CPW-approved exclusion devices on new Drilling Pits, Production Pits, and other Pits associated with Oil and Gas Operations that are intended to contain Fluids.*

Laramie does not intent to construction or utilize open drilling pits, production pits, and other pits at the locations proposed in the Cascade Creek OGDG; therefore, fencing and nets will not be installed or required at the proposed sites. As a standard practice Laramie does not use open drilling pits, production pits, and other pits associated with Oil and Gas Operations other than those approved at E&P Waste Management Facilities.

Escape Ramps - Rule 1202.a.(5).

For trenches that are left open for more than 5 consecutive days during construction of pipelines regulated pursuant to the Commission's 1100 Series Rules, Laramie will install wildlife escape ramps at a minimum of one ramp per 1/4 mile of trench. The ACF will not require a pipeline. The three well sites will require trenching activities for flowlines. Laramie will adhere to Rule 1202.a.(5) if the trench remains open for more than 5 days.

Seed Mixes - Rule 1202.a.(6).

When conducting interim and final Reclamation pursuant to Rules 1003 and 1004, Laramie will use BLM-recommended seed mixes for Reclamation when consistent with the Surface Owner's approval and any local soil conservation district requirements. Laramie is the surface owner for the CC 0697-15-08 and ACF locations and Couey Family, LLLP is the surface owner for the CC 0603-23-32 and the CC 0610-21-41. BLM-recommended seed mixes are provided in the site-specific interim reclamation plans.

Fencing - 1202.a.(7).

At the time of the submittal, Laramie is not proposing the installation of fencing at the four Cascade Creek OGDG sites. Laramie is seeking a variance, per COGCC Rule 502.a., for fencing at the ACF. CPW has granted relief from the fencing requirement (COGCC Rule 907.b.(5).C).

Vegetation Removal - Rule 1202.a.(8).

Vegetation removal will be required for two of the four Cascade Creek OGDG locations. The CC 0697-15-08 (7.6 acres) and the CC 0603-23-32 (3.9 acres) will require vegetation removal. Laramie will attempt to conduct all vegetation removal necessary for Oil and Gas Operations outside of the nesting season for migratory birds (April 1 to August 31). Variables, including equipment availability and permitting timeframe, may prevent vegetation removal to occur outside the nesting season.

Laramie Energy, LLC
2021 Cascade Creek Oil and Gas Development Plan
Wildlife Protection Plan



For any vegetation removal that must be scheduled between April 1 to August 31, Laramie will implement appropriate hazing or other exclusion measures prior to April 1 to avoid take of migratory birds. If hazing or other exclusion measures are not implemented, Laramie will conduct pre-construction nesting migratory bird surveys within the approved disturbance area prior to any vegetation removal during the nesting season. If active nests are located, Laramie will provide work zone buffers around active nests.

Mosquito Treatment - 1202.a.(9). *Operators will treat Drilling Pits, Production Pits, and any other Pit associated with Oil and Gas Operations containing water that provides a medium for breeding mosquitoes with Bti (*Bacillus thuringiensis v. israelensis*) or take other effective action to control mosquito larvae that may spread West Nile virus to Wildlife Resources. Such treatment will be conducted in a manner which will not adversely affect aquatic Wildlife Resources.*

Laramie does not intend to construction or utilize open drilling pits, production pits, and other pits at the proposed locations. Laramie will treat for mosquitos at appropriate locations within the Cascade Creek operating field.



Best Management Practices

Rule 1202.a.(10).

Laramie will employ the following minimum Best Management Practices on new Oil and Gas Locations with a Working Pad Surface located between 500 feet and 1000 feet hydraulically upgradient from a High Priority Habitat identified in Rule 1202.c.(1).Q-S. The four proposed locations are not located within 500 feet of any perennial stream, lake, or pond.

Rule 1202.a.(10).A. Tanks will be utilized for the three well sites included in the Cascade Creek OGD. Laramie will install flowback fluids in tanks are located within the site perimeter in an area with downgradient perimeter berming.

Rule 1202.a.(10).B. Construct lined berms or other lined containment devices pursuant to Rule 603.o around any new crude oil, condensate, and produced water storage tanks that are installed after January 15, 2021.

Rule 1202.a.(10).C. Inspect the Oil and Location on a daily basis, unless the approved Form 2A provides for different inspection frequency or alternative method of compliance.

Rule 1202.a.(10).D. Laramie and its contractor will maintain adequate spill response equipment at the Oil and Gas Location during drilling and completion operations. Spill response equipment is stored onsite in enclosed containers during pre-production phases. During the production phase, spill response equipment is stored in vehicles accessing the Cascade Creek field.

Rule 1202.a.(10).E. Not construct or utilize any Pits, except that Operators may continue to utilize existing Pits that were properly permitted, constructed, operated, and maintained in compliance prior to January 15, 2021.

Laramie Energy, LLC
2021 Cascade Creek Oil and Gas Development Plan
Wildlife Protection Plan



Laramie Energy, LLC
Best Management Practices (BMP's)
To Reduce Impacts to Wildlife in the Piceance Basin
Mesa, Garfield, and Rio Blanco County's, CO

The following BMP's are part of Laramie Energy's (Laramie) standard operating procedures for drilling and operations within the Piceance Basin. This list is a partial of Laramie's policy.

1. Road design and General

- No firearms, no dogs on location, and no feeding of wildlife.
- Minimize the amount of traffic on lease roads within 3 hours of sunrise and sunset.
- Use existing routes as much as possible to avoid new disturbance and habitat fragmentation and minimize new road construction.
- Maximize the topography as much as possible in designing roads to reduce, visual, noise, impacts, etc.
- Participate in road sharing agreements with other Operators when possible.
- Design and surface roads based on the traffic, speed, and type of vehicles to reduce, dust, mud, and environmental damage.
- Locate roads away from riparian areas and bottoms of drainages as much as possible or re-route entirely.
- Obtain Army Corp of Engineer Permits for any stream crossings prior to construction.
- Analyze crossings and flow characteristics to determine the best method of crossing, (i.e. culvert, bridge, or low water).
- Armor all stream crossings to reduce erosion and to comply with Stormwater Requirements.
- Implementation of fugitive dust control measures including but not limited to water or magnesium chloride applications, and road surfacing.
- Limit traffic to the minimum needed for safe and efficient operations.
- No driving or parking off of disturbed areas.
- Install and use locked gates or other means when allowed by landowner or Federal Agencies to prevent unauthorized travel on roads and rights-of ways.

2. Well pad design and location

- Locate well pads to maximize directional drilling practices. Laramie currently plans and attempts to locate pads for the maximum number of wells which can safely be developed from each pad. This is normally 16-20 wells per pad which equates to roughly 4 well pads per section.
- Design each location to accommodate both current and future gas production.
- Locate well pads to minimize disturbance yet maximize use to reduce surface impacts.

Laramie Energy, LLC
2021 Cascade Creek Oil and Gas Development Plan
Wildlife Protection Plan



- Review State and Federal GIS mapping to avoid Sensitive Wildlife Habitat (SWH), High Priority Habitat, Restricted Surface Occupancy (RSO) areas, steep slopes, etc., as much as possible with roads and pad location.
- Design and install gathering lines within the disturbed area of new roads and adjacent to as much as possible to reduce disturbance construction.
- Design Rights-of Way widths to the minimum needed for safe and efficient construction of pipelines.
- Remote Telemetry for production operations.

3. Drilling and Production Operations

- Implement remote telemetry in all operations
- Where topographically possible and subject to landowner approval, use centralized water gathering and transportation systems.
- Install exclusionary devices to prevent bird and other wildlife access to equipment stacks, vents, and openings.
- Locate facilities to minimize visual effects (e.g., paint color, screening, etc.)
- Laramie implements a dewatering system in its operations. No fluid pits are constructed or used during drilling or completion operations.
- Laramie implements an aggressive weed management program. Laramie incorporates and uses the BLM Colorado River Valley Field Office's "Noxious and Invasive Weed Management Plan for Oil and Gas Operators- March 2007" for all operations. Each spring, Laramie Energy inventories all pads, roads, and pipelines to ensure no noxious weeds have been introduced. If noxious weeds are found, the county will be notified, and the weeds will be treated. Weeds are continuously monitored and treated throughout the growing season. Only herbicides approved by the EPA and State are used by certified weed applicators.

4. Reclamation

- Strip and segregate topsoil from other soil horizons during pad, road, and pipeline construction.
- Minimize topsoil degradation by windrowing no higher than 5 feet when possible.
- Immediately seed topsoil to reduce erosion and prevent weed establishment and maintain soil microbial activity.
- Use only certified weed free native seed mixes, unless recommended otherwise by Federal Agencies or the Landowner.
- Use locally adapted seed when available.
- Use diverse seed mixes to mirror the surrounding area unless recommended otherwise by Federal Agencies or the Landowner.
- Monitor re-vegetation success until a minimum of 75% of preferred perennial plant cover (no weeds) is established.
- Perform "interim" reclamation on all disturbed areas not needed for active producing operations.

Laramie Energy, LLC
2021 Cascade Creek Oil and Gas Development Plan
Wildlife Protection Plan



- If possible, conduct interim and final reclamation during optimum periods (e.g. late fall/early winter or early spring).
- If needed, fence reclaimed areas to minimize livestock/wildlife impact until plant species are capable of sustaining grazing.

LARAMIE ENERGY, LLC

BMPS FOR

Sensitive Wildlife Habitat and Restricted Surface Occupancy
Areas Specific to Laramie Energy, LLC
Operations Within the Piceance Basin
Garfield County, CO

Sensitive Wildlife Habitat (SWH)

Black Bear

- Initiate a food and waste/refuse management program that uses bear-proof food storage containers and trash receptacles.
- Initiate an education program that reduces bear conflicts.
- Establish policy to prohibit keeping food and trash in sleeping quarters.
- Establish policy to support enforcement of state prohibition on feeding of black bear.
- Report bear conflicts immediately to CPW.

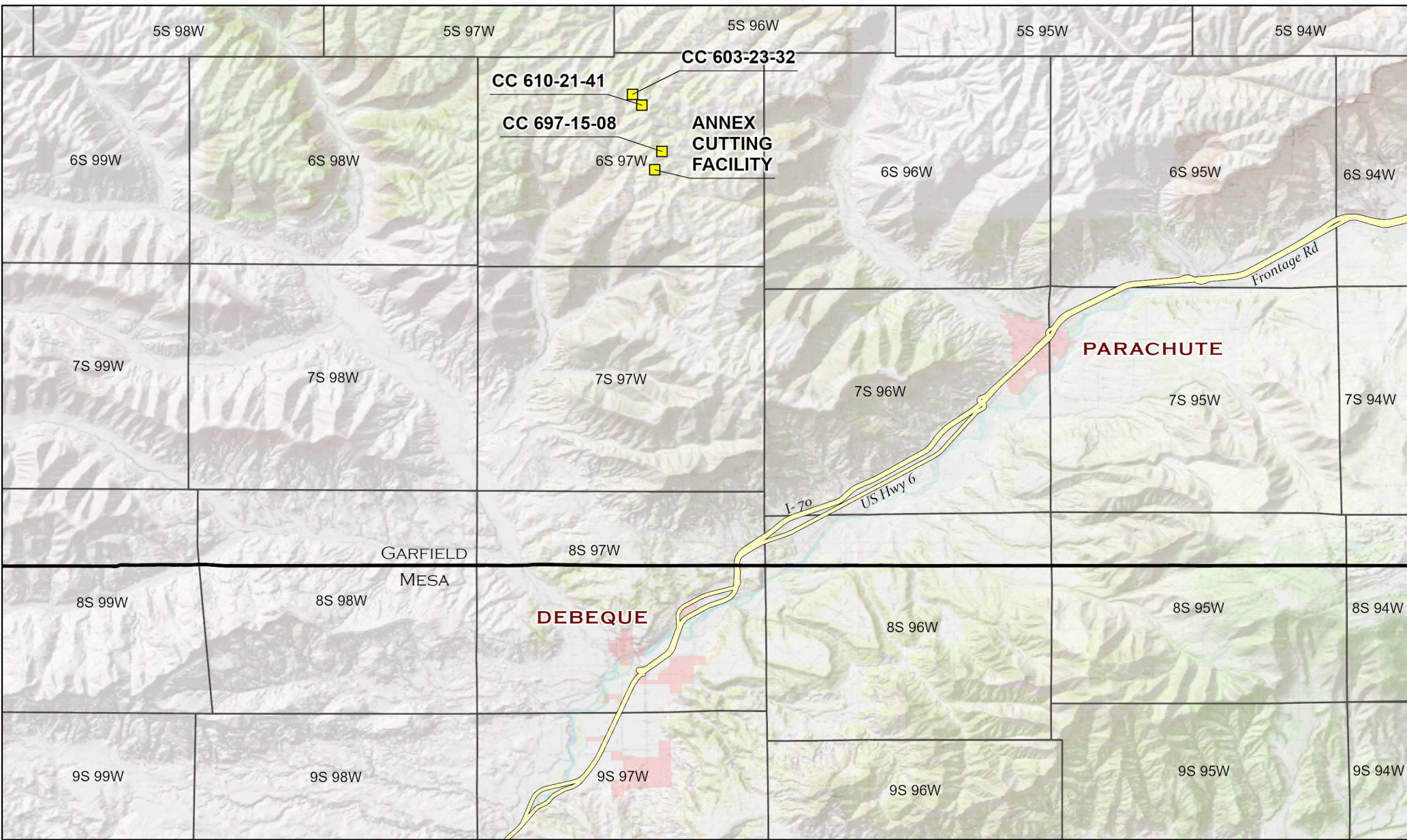
Greater Sage Grouse

- During the greater sage-grouse lekking period (March 1 - July 15), Laramie will avoid heavy equipment operations at the Annex Cuttings Facility between the hours of 4:00 pm and 9:00 am. Laramie will conduct heavy equipment operations to the allowable hours of 9:00 am to 4:00 pm during the period from March 1 to July 15.



List of Appendices

Attachment A	OGDP Vicinity Map
Attachment B	CC 0697-15-08 Well Site Wildlife Maps
Attachment C	CC 0610-21-41 Well Site Wildlife Maps
Attachment D	CC 0603-23-32 Well Site Wildlife Maps
Attachment E	Annex Cuttings Facility E&P Waste Management Facility Wildlife Maps
Attachment F	Existing Network of Access Roads for OGDP Route



LEGEND
■ Site Location

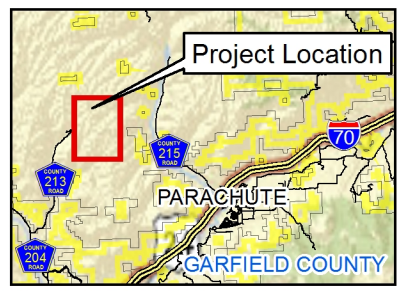
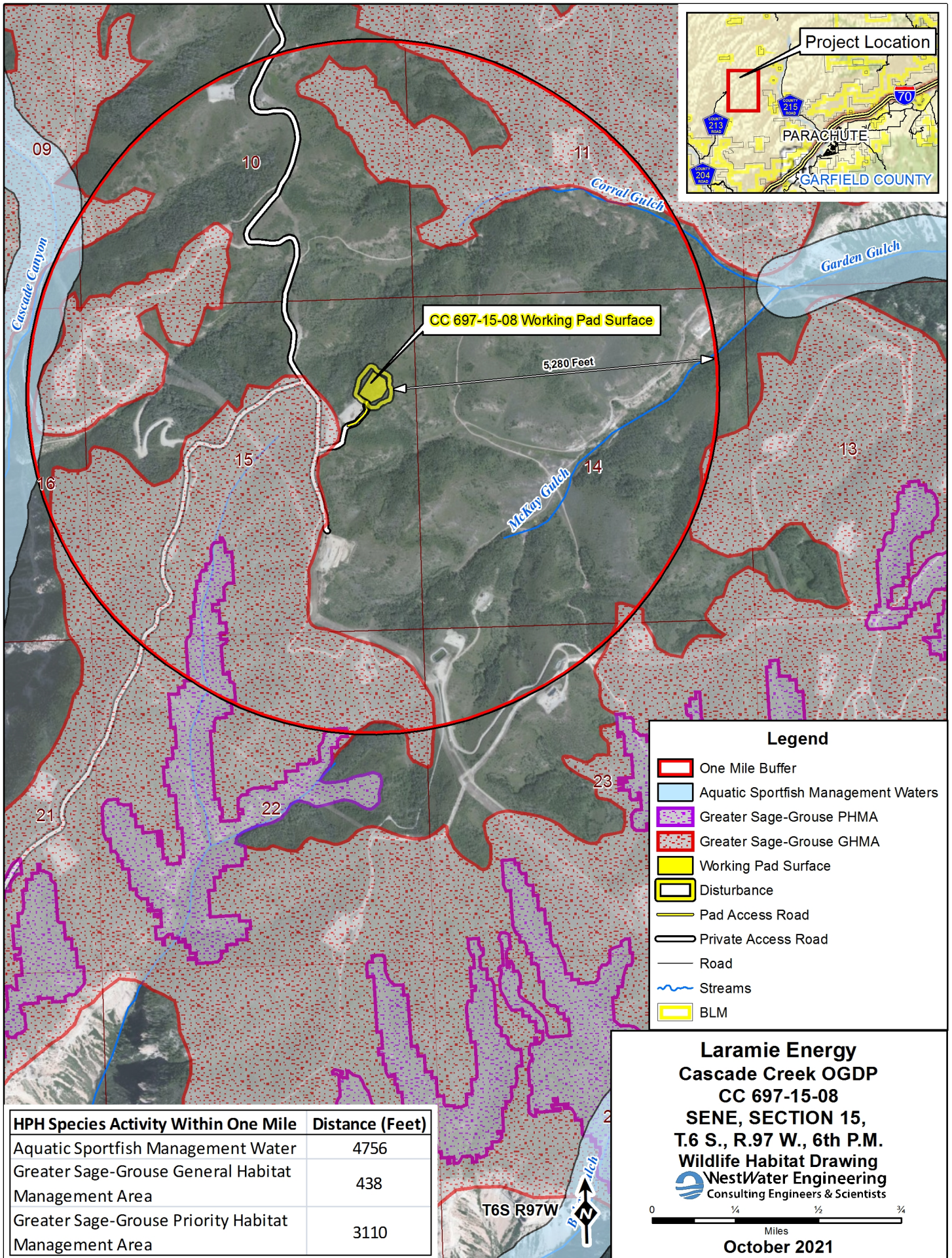
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 mi
 1 inch = 3.5 mi

Project No: 021-039
Map By: NDB
Date: 5/3/2021

Vicinity Map
 Cascade Creek OGD
 Laramie Energy
 Sections 3, 10, 15, T6S R97W, 6th P.M.
 Garfield County, Colorado

330 Grand Avenue, Unit C
 Grand Junction, CO 81501
 970-549-1015

Figure
1



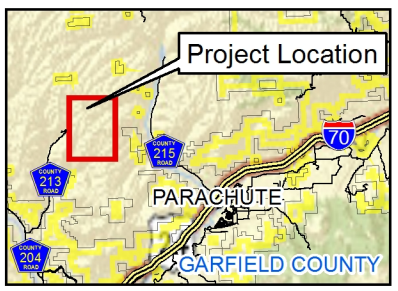
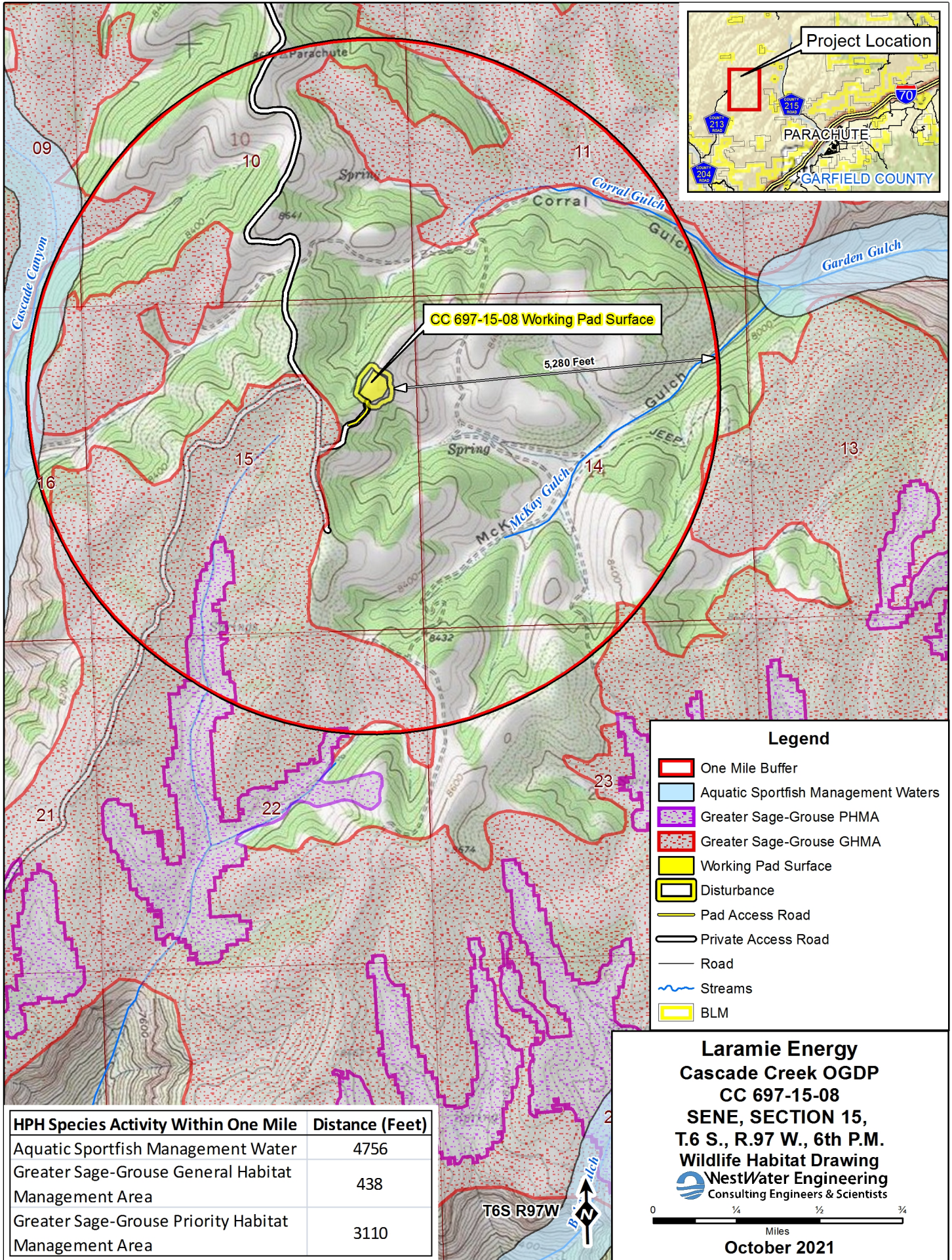
- Legend**
- One Mile Buffer
 - Aquatic Sportfish Management Waters
 - Greater Sage-Grouse PHMA
 - Greater Sage-Grouse GHMA
 - Working Pad Surface
 - Disturbance
 - Pad Access Road
 - Private Access Road
 - Road
 - ~ Streams
 - BLM

HPH Species Activity Within One Mile	Distance (Feet)
Aquatic Sportfish Management Water	4756
Greater Sage-Grouse General Habitat Management Area	438
Greater Sage-Grouse Priority Habitat Management Area	3110

Laramie Energy
Cascade Creek OGDG
CC 697-15-08
SENE, SECTION 15,
T.6 S., R.97 W., 6th P.M.
Wildlife Habitat Drawing
WestWater Engineering
 Consulting Engineers & Scientists

0 1/4 1/2 3/4
 Miles

October 2021



CC 697-15-08 Working Pad Surface

5,280 Feet

Legend

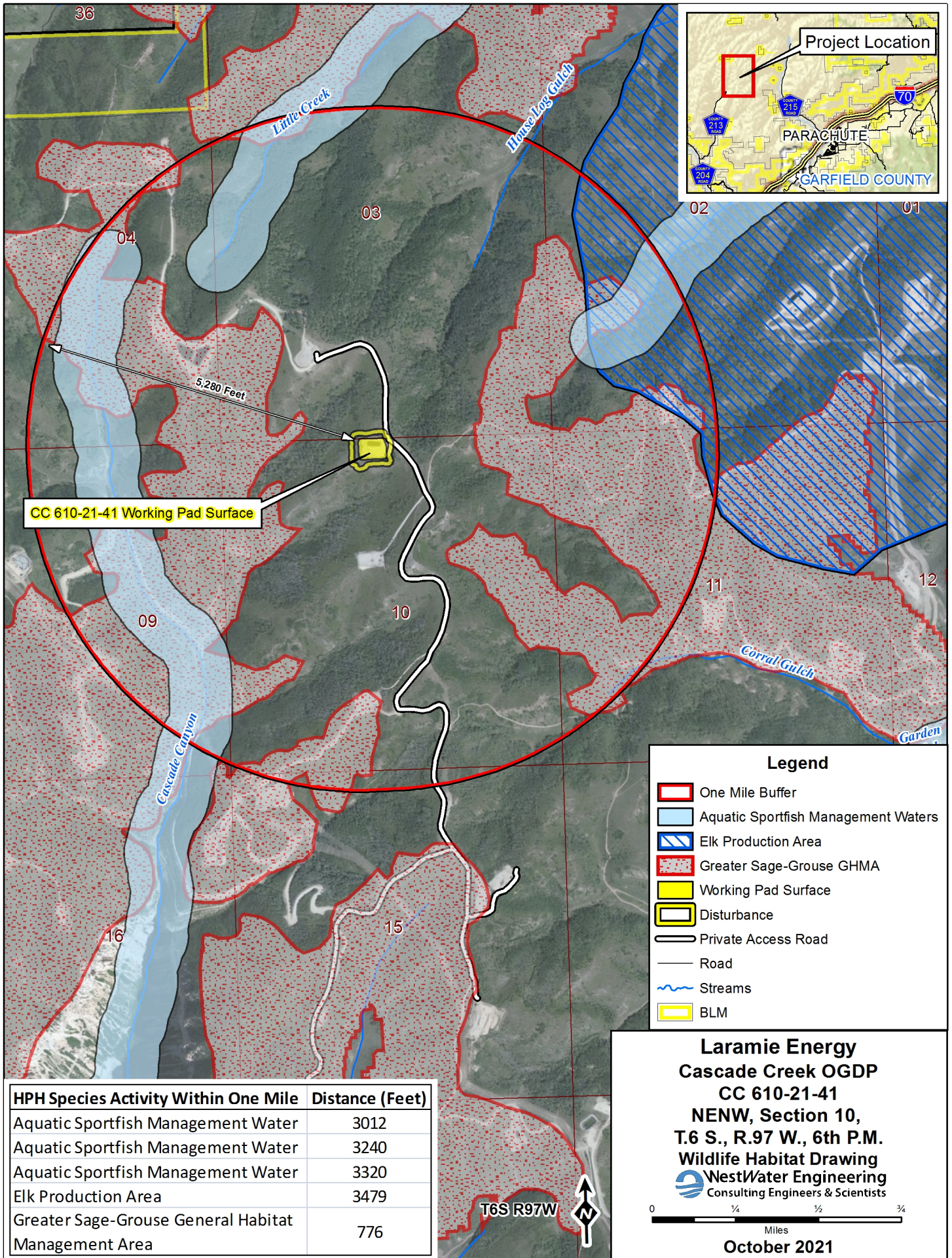
- One Mile Buffer
- Aquatic Sportfish Management Waters
- Greater Sage-Grouse PHMA
- Greater Sage-Grouse GHMA
- Working Pad Surface
- Disturbance
- Pad Access Road
- Private Access Road
- Road
- ~ Streams
- BLM

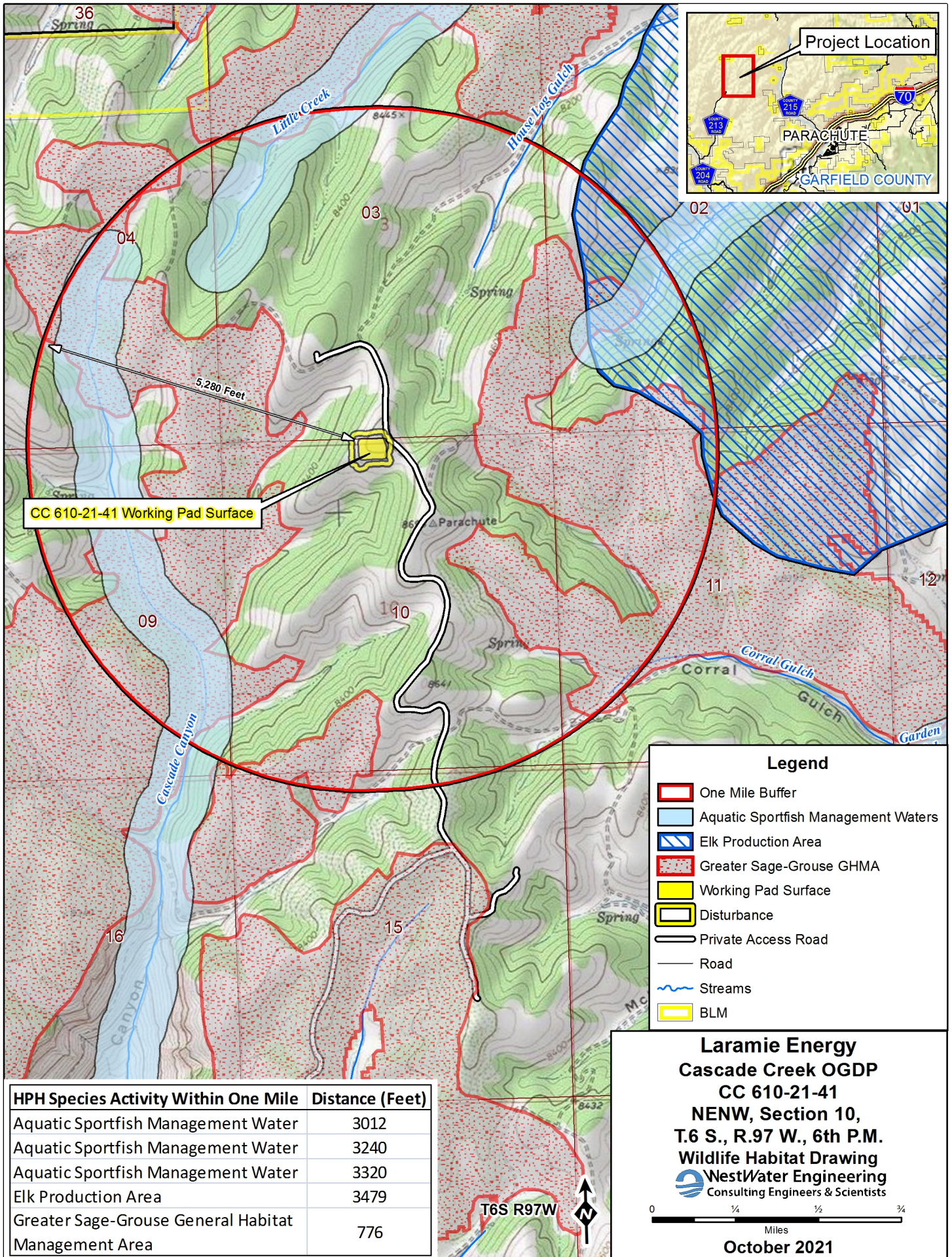
Laramie Energy
Cascade Creek OGD
CC 697-15-08
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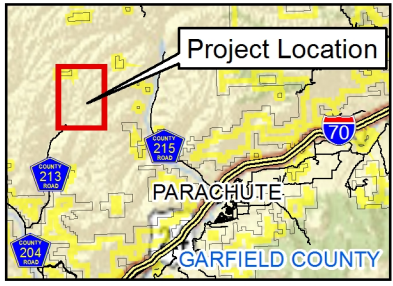
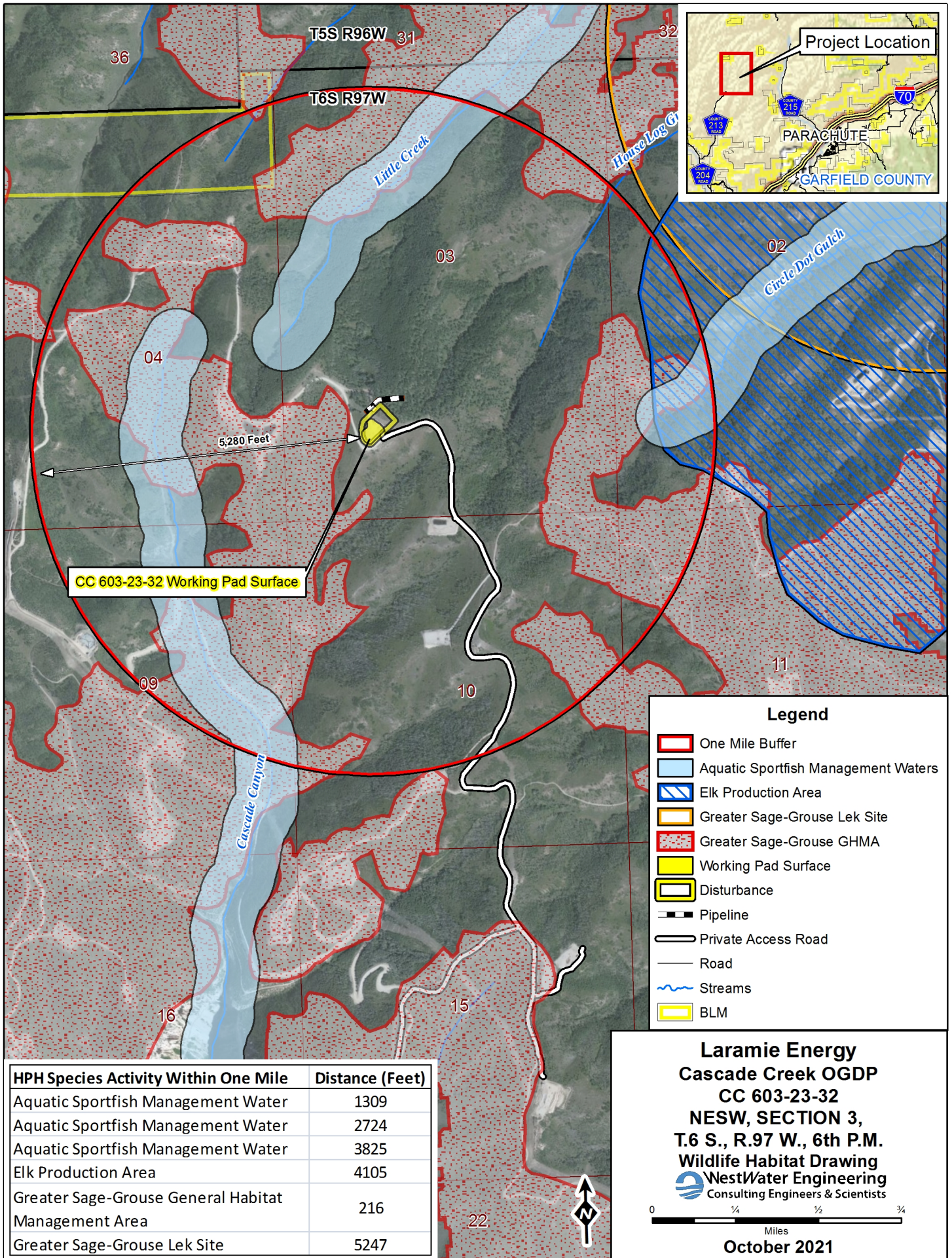
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 Miles

October 2021

HPH Species Activity Within One Mile	Distance (Feet)
Aquatic Sportfish Management Water	4756
Greater Sage-Grouse General Habitat Management Area	438
Greater Sage-Grouse Priority Habitat Management Area	3110







CC 603-23-32 Working Pad Surface

5,280 Feet

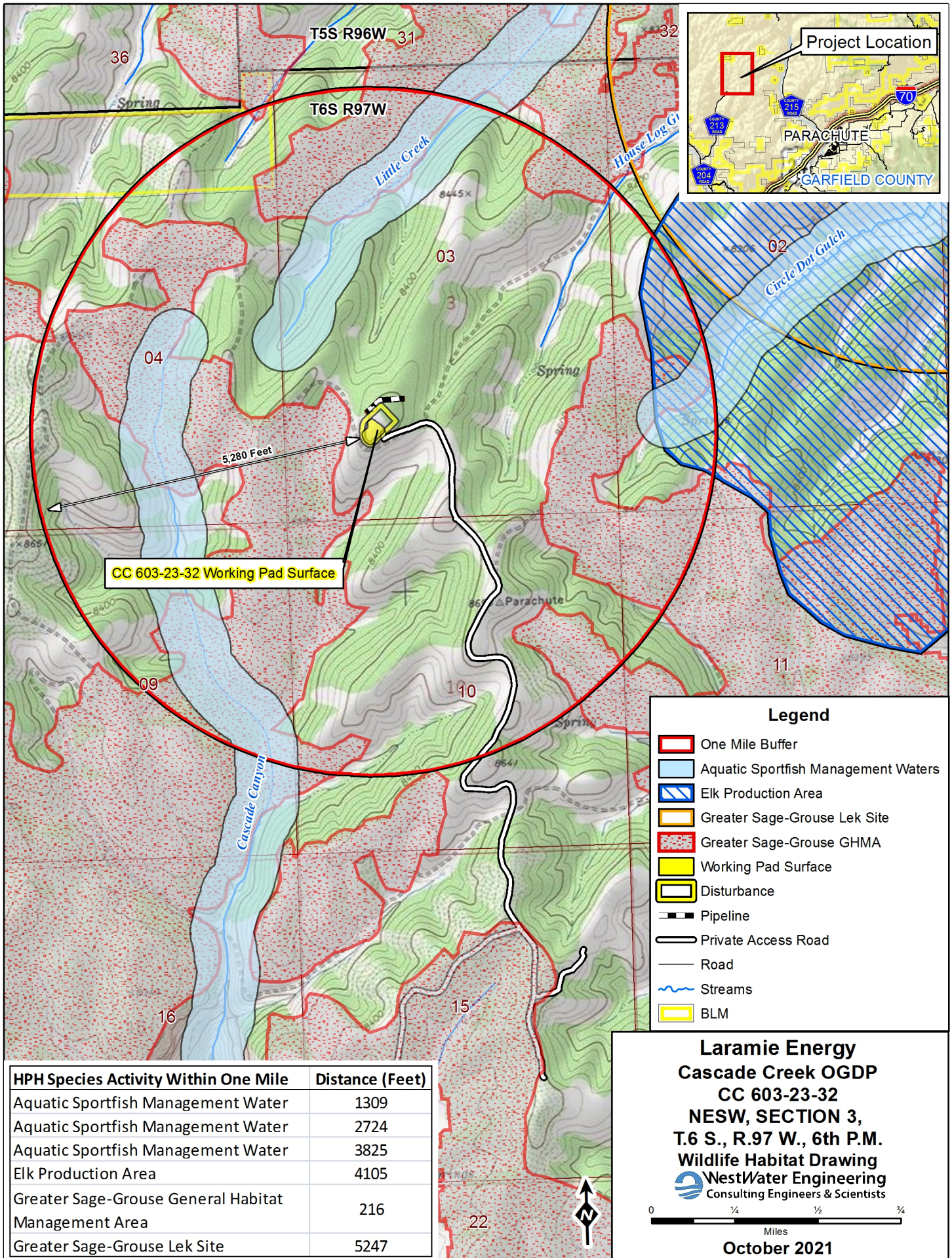
- Legend**
- One Mile Buffer
 - Aquatic Sportfish Management Waters
 - Elk Production Area
 - Greater Sage-Grouse Lek Site
 - Greater Sage-Grouse GHMA
 - Working Pad Surface
 - Disturbance
 - Pipeline
 - Private Access Road
 - Road
 - Streams
 - BLM

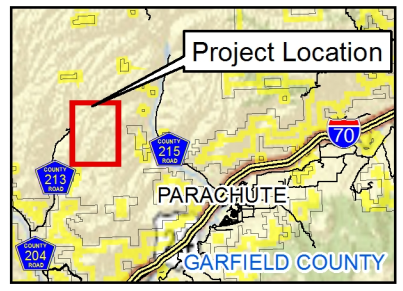
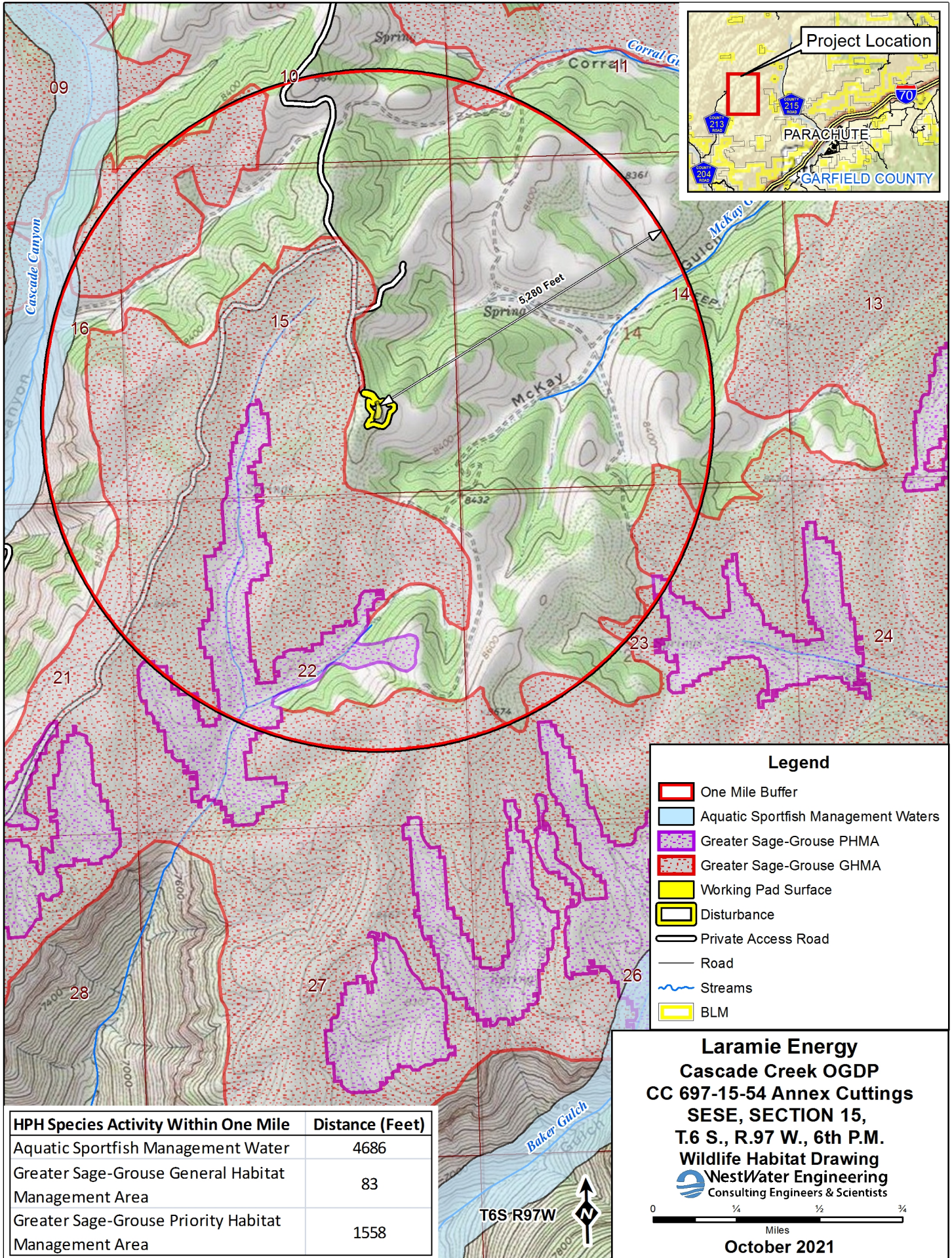
HPH Species Activity Within One Mile	Distance (Feet)
Aquatic Sportfish Management Water	1309
Aquatic Sportfish Management Water	2724
Aquatic Sportfish Management Water	3825
Elk Production Area	4105
Greater Sage-Grouse General Habitat Management Area	216
Greater Sage-Grouse Lek Site	5247

Laramie Energy
Cascade Creek OGD
CC 603-23-32
NESW, SECTION 3,
T.6 S., R.97 W., 6th P.M.
Wildlife Habitat Drawing
NestWater Engineering
 Consulting Engineers & Scientists

0 1/4 1/2 3/4
 Miles

October 2021



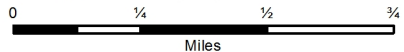


HPH Species Activity Within One Mile	Distance (Feet)
Aquatic Sportfish Management Water	4686
Greater Sage-Grouse General Habitat Management Area	83
Greater Sage-Grouse Priority Habitat Management Area	1558

Legend

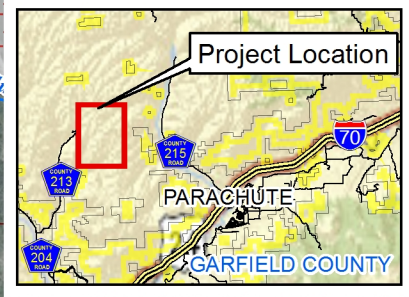
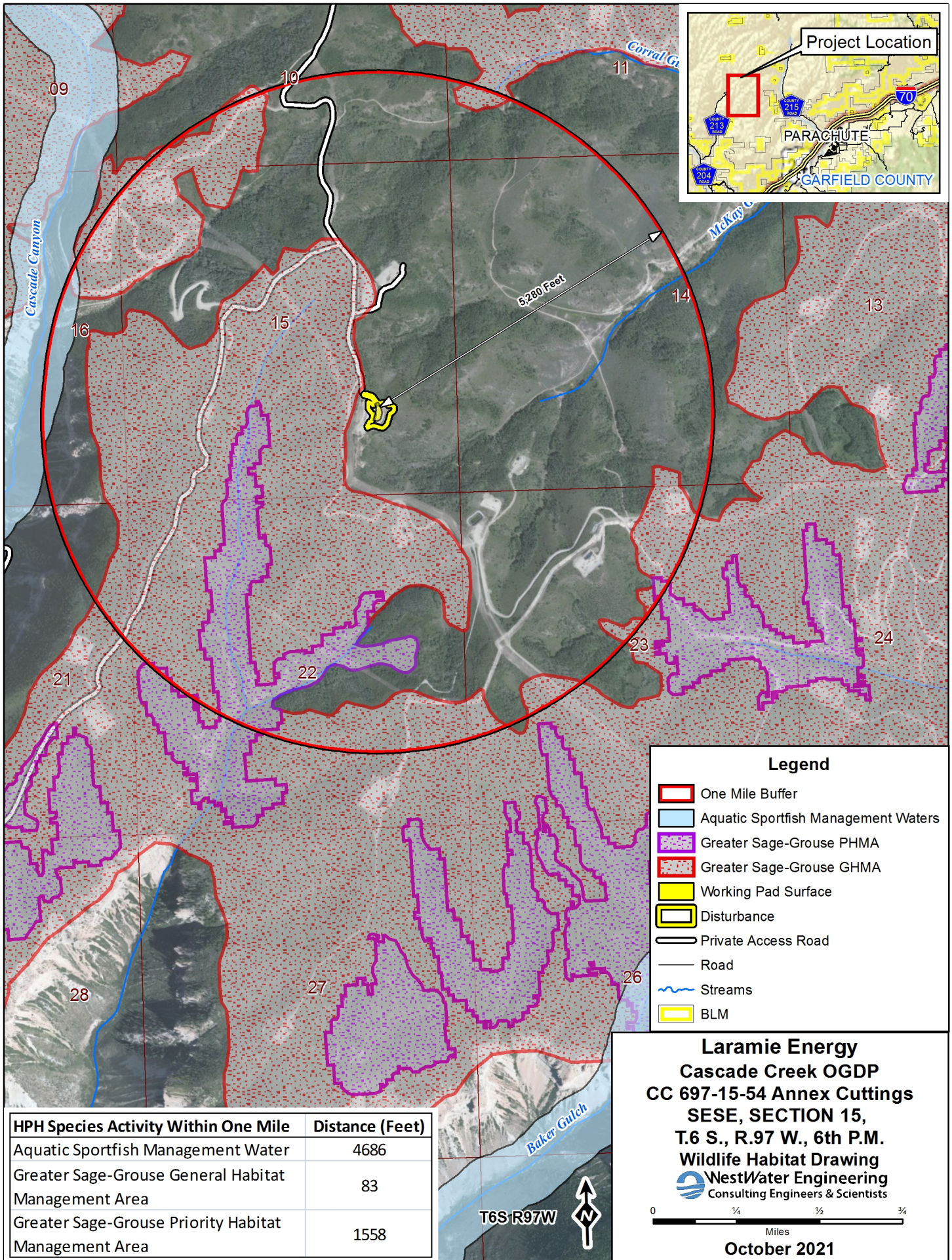
- One Mile Buffer
- Aquatic Sportfish Management Waters
- Greater Sage-Grouse PHMA
- Greater Sage-Grouse GHMA
- Working Pad Surface
- Disturbance
- Private Access Road
- Road
- Streams
- BLM

Laramie Energy
Cascade Creek OGD
CC 697-15-54 Annex Cuttings
SESE, SECTION 15,
T.6 S., R.97 W., 6th P.M.
Wildlife Habitat Drawing
NestWater Engineering
 Consulting Engineers & Scientists



October 2021

Map Source: Z:\Laramie Energy \Cascade Creek Oil and Gas Development Plan\2021\GIS\Wildlife Protection Plan Report Maps Revised 11-9-21\CC 697-15-54 Annex Cuttings Figure 2 topo.mxd 11/10/2021 rb



Legend

- One Mile Buffer
- Aquatic Sportfish Management Waters
- Greater Sage-Grouse PHMA
- Greater Sage-Grouse GHMA
- Working Pad Surface
- Disturbance
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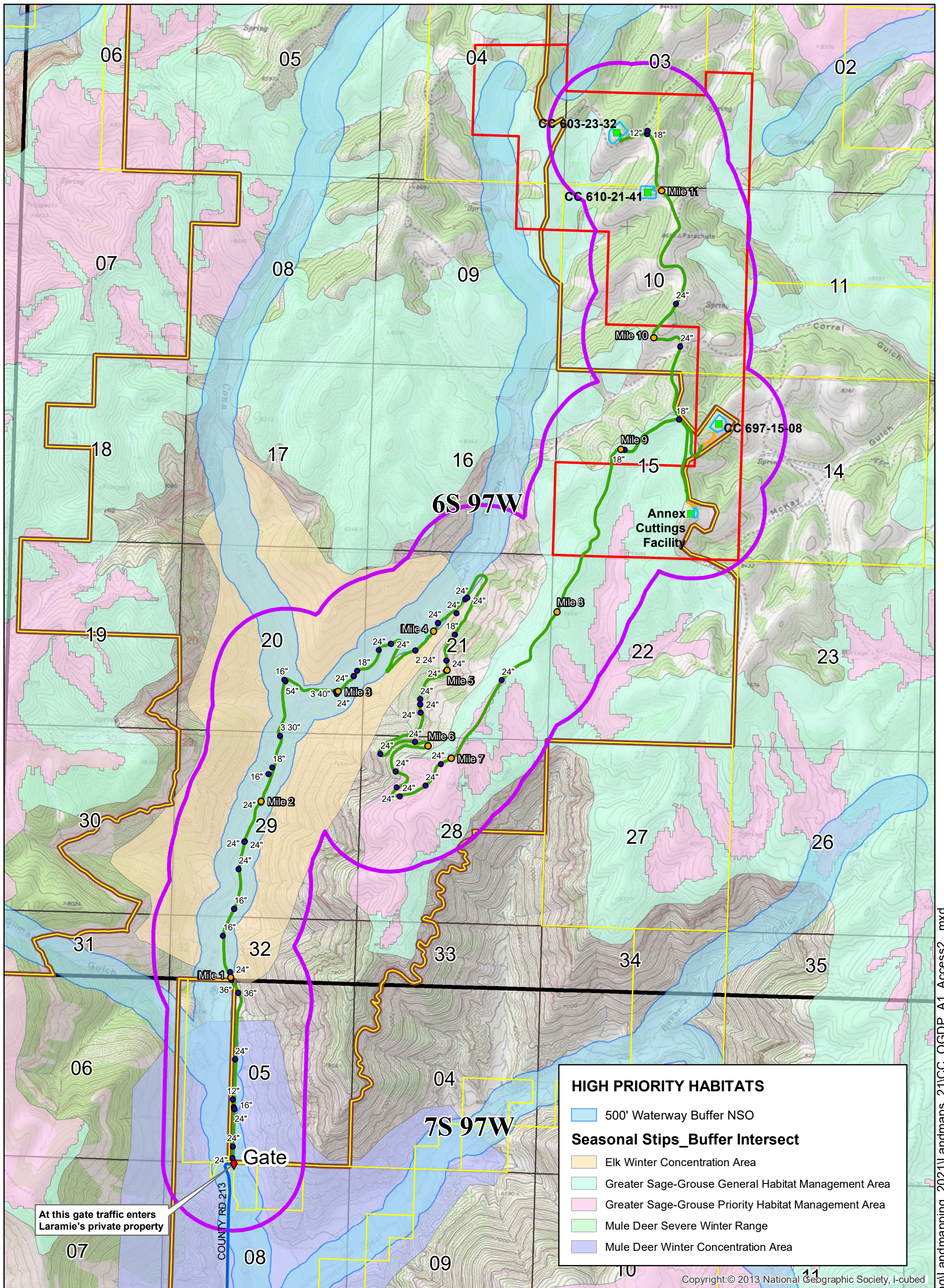
Laramie Energy
Cascade Creek OGD
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SESE, SECTION 15,
T.6 S., R.97 W., 6th P.M.
Wildlife Habitat Drawing
WestWater Engineering
 Consulting Engineers & Scientists

0 1/4 1/2 3/4
 Miles

October 2021

HPH Species Activity Within One Mile	Distance (Feet)
Aquatic Sportfish Management Water	4686
Greater Sage-Grouse General Habitat Management Area	83
Greater Sage-Grouse Priority Habitat Management Area	1558

Map Source: Z:\Laramie Energy III\Cascade Creek Oil and Gas Development Plan\2021\GIS\Wildlife Protection Plan Report Maps Revised 11-9-21\CC 697-15-54 Annex Cuttings Figure 2.mxd 11/10/2021 rfb



HIGH PRIORITY HABITATS

- 500' Waterway Buffer NSO

Seasonal Stips_Buffer Intersect

- Elk Winter Concentration Area
- Greater Sage-Grouse General Habitat Management Area
- Greater Sage-Grouse Priority Habitat Management Area
- Mule Deer Severe Winter Range
- Mule Deer Winter Concentration Area

- Mile Markers, Private Road
- Private Access Road
- 2000' Access Road Buffer
- Proposed Access Road
- Public Road
- Culverts
- OGDP Sites
- Proposed Working Pad Surface
- OGDP Application Lands
- Laramie Owned Surface
- Parcels_GarCo

OGDP ACCESS ROAD BUFFERS - 2000'
LARAMIE ENERGY, LLC
GARFIELD COUNTY, COLO.



Date: 10/4/2021