January 16, 2025

Jamie Hull
3405 Hay Creek LLC
3405 Hay Creek Road
Colorado Springs, CO 80921

RE: Wetland Delineation Technical Memorandum
Hay Creek Ranch
El Paso County, Colorado

Mr. Hull:

On March 19, 2024, the U.S. Army Corps of Engineers (USACE) issued a Nationwide Permit Verification (Action No. SPA-2001-00552) for the *3045 Hay Creek* project (hereinafter referred to as Hay Creek Ranch or "Project"). The Project is located along Hay Creek, an intermittent stream, at 3405 Hay Creek Road, Colorado Springs, in El Paso County, Colorado (**Figure 1: 1**). The project was approved to discharge dredged or fill material into Waters of the United States (WOTUS) for the expansion of an existing stream crossing, centered at latitude 39.048095, longitude -104.891800, from a 14-foot wide to 24-foot wide unpaved dirt road to improve vehicular safety when accessing the southern part of the property.

The Project also has received clearance from the U.S. Fish and Wildlife Service (USFWS) regarding the potential presence of Preble's meadow jumping mouse (*Zapus hudsonius preblei*) on the site. The USFWS has determined that the new crossing would have only minor effects on Preble's meadow jumping mouse in a letter dated December 4, 2024.

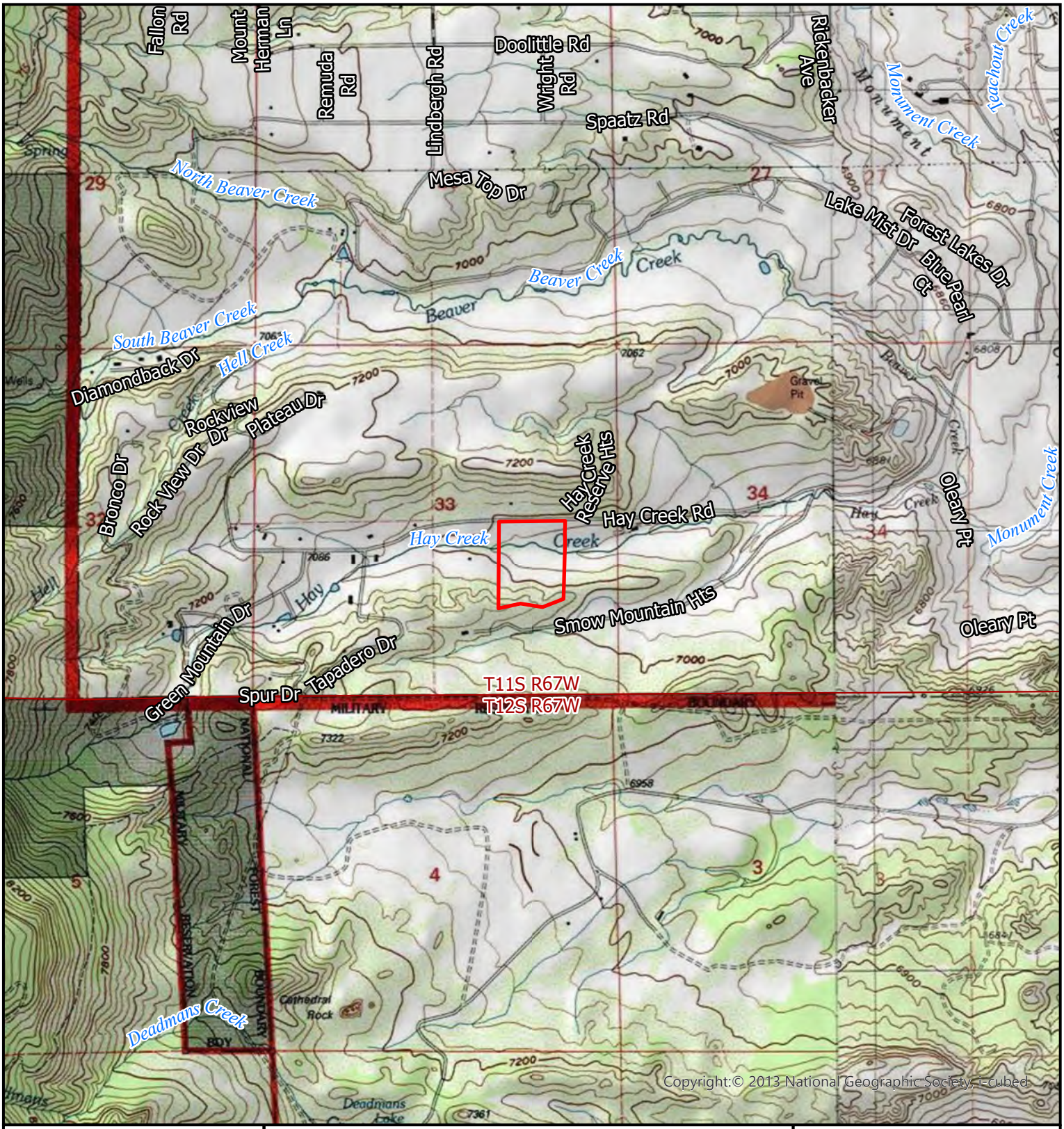
This memo describes the results of a wetland delineation of Hay Creek completed on January 2, 2025. Watercourses and other aquatic features identified in the desktop analysis were inspected in the field to assess their presence/absence and jurisdictional potential. The wetland delineation was performed in accordance with the Western Mountains, Valleys, and Coasts Regional Supplement (Version 2.0) (USACE 2010) to the 1987 USACE Wetland Delineation Manual (USACE 1987).

BACKGROUND INFORMATION REVIEW

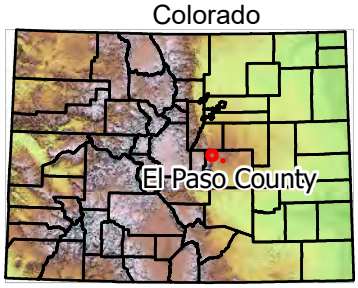
National Wetland Inventory (NWI) maps (USFWS 2024), flood hazard maps from the Federal Emergency Management Agency (FEMA 2024), and county soil survey maps were utilized to document background information on the Project Area prior to the on-site delineation. A discussion of each evaluation process follows.

National Hydrography Dataset and National Wetlands Inventory Review

The U.S. Geographical Survey's National Hydrography Dataset (NHD) and USFWS' NWI data were reviewed for the possible presence of wetlands and streams, respectively, within the Project Area. The NHD and NWI datasets depict the probable locations of aquatic resources based on aerial photograph interpretation. NHD and NWI maps may not accurately depict the extent or existence of wetland and river systems in a specific area, nor do maps consistently and accurately identify wetland type. As such, the maps were utilized for preliminary analysis only. Aquatic features that were depicted in these datasets can be seen in **Attachment A**: *Background Information Review*, and included the following aquatic feature:



Colorado



Project Area (28.2 acres)

N

Miles
0 0.5 1

1:24,000

Hay Creek Ranch

Site Location Map

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1/7/2025 D:\Data\GISProjects\Project Folders\24_013_HayCreekRanch\24_013_HayCreekRanch\24_013_HayCreekRanch.aprx

- A wetland identified in the NWI dataset as Palustrine, Scrub-Shrub, Broad Leaved Deciduous, Seasonally Flooded (PSS1C), running from the western center of the site to the eastern boundary of the site. This feature is also shown in the NHD as a stream/river crossing the site from the western boundary to the eastern boundary. These features correspond to the location of Hay Creek.

County Soil Survey Map Review

Soil survey data from the National Resource Conservation Service's (NRCS) Soil Survey Geographic Database (SSURGO) indicated that the site is composed of the Jarre-Tecolote complex (8 to 65 percent slopes, 28.3% of Project Area) and Peyton-Pring complex (3 to 8 percent slopes, 71.7% of Project Area) (**Attachment A**). Both soil types are rated as non-hydric in El Paso County; however, the minor Pleasant component of the Peyton-Pring complex is rated as hydric in El Paso County (NRCS 2024). Wetlands often form in areas where the Pleasant soil series is found.

FEMA Floodplain Map Review

A review of FEMA floodplain hazard maps (FEMA 2024) was conducted to determine the existence, location, and extent of floodplains located within the Project Area. The floodplain hazard maps depict floodplain areas along rivers and tributaries. The maps record the following data: 100-year floodplains (1% chance of annual flooding); 500-year floodplains (0.2% annual chance of flooding); the height of the base flood (Base Flood Elevations); and the risk premium zones developed from topographical information across a floodplain. FEMA generates floodplain maps for flood insurance purposes.

A review of the National FEMA flood hazard layer (2024) indicated that the area along Hay Creek is in a Zone A floodplain and is thus in an area of 1% annual chance of flooding (**Attachment A***;* FEMA 2024). The remainder of the site is in Zone X, i.e., outside of the 100-year floodplain (**Attachment A**).

FIELD DELINEATION

The determination of a wetland depends on the presence or absence of three parameters: 1) hydrophytic vegetation, 2) hydric soils, and 3) wetland hydrology during the wettest season. Vegetation, soils, and hydrology were analyzed to determine the presence of wetlands, watercourses, and other aquatic features. The boundaries of any identified wetlands, watercourses, or other aquatic features were delineated using a handheld Trimble mapping unit with sub-meter accuracy (see **Attachment B:** *Wetland Location Map*). Results of the field assessment and descriptions of the observed features are detailed in **Attachment C:** *Wetland Determination Data Forms*. Wetland indicator status for vegetation was based on the National Wetland Plant List (Lichvar et al. 2020). Photographs were taken depicting field conditions at the time of the site visit (**Attachment D:** *Photographic Log*).

WETLAND 1

Location

Wetland 1 (0.04 acres delineated) is located within the Hay Creek intermittent stream, south of Hay Creek Road (**Attachment B**). Hay Creek flows into the site from the west and extends through the eastern edge of the site; it connects directly to Monument Creek downstream of the site. The wetlands associated with

the intermittent stream are delineated as Wetland 1. The area delineated corresponds to the road crossing planned for the site; wetland extents continue both upstream and downstream, but these portions of Hay Creek will not be disturbed and were thus not delineated.

Classification

Under the Cowardin Classification System for Wetlands and Deepwater Habitats (Cowardin, et al., 1979), Wetland A is in the Palustrine System, with Scrub-Shrub Wetland Class.

Vegetation

Wetland A is a shrub-scrub wetland within the confines of an intermittent, C Class stream, Hay Creek. The wetland is dominated by sandbar willows (*Salix exigua*), panicled bulrushes (*Scirpus microcarpus*), and clustered field sedges (*Carex praegracilis*; **Attachment C**). Other vegetation present in the wetland includes prairie rose (*Rosa arkansana*), fowl mannagrass (*Glyceria striata),* fringed willowherb *(Epilobium ciliatum*), and Kentucky bluegrass (*Poa pratensis*; **Attachment C**). The vegetation community just outside of the wetland transitioned to being dominated by speckled alder (*Alnus incana*), Kentucky bluegrass, and abundant smooth brome (*Bromus inermis*), an upland grass (**Attachment C**).

Hydrology

Wetland 1 is primarily fed by precipitation and surface flows from Hay Creek. Flows are highly precipitation dependent. Indicators of wetland hydrology, including Drift Deposits (B3), Oxidized Rhizospheres on Living Roots (C3), Drainage Patterns (B10), and FAC-Neutral Test (D5), were clear within the extent of the wetland, and tapered off just outside of the wetland area (**Attachment C**).

Wetland 1 is entirely within the confines of Hay Creek, which conveys flows to and from the wetland and throughout the rest of the site.

Soils

Soils sampled at SP1 within Wetland 1 exhibited hydric soil indicator Sandy Redox (S5) (**Attachment C**). Paired upland sample point SP2 did not exhibit any indicators of hydric soils. The soil at SP2 was partially frozen between 2-4" from the surface, but was easily penetrated with an auger, exposing unfrozen soil below and allowing for soil analysis. There was a single pocket of redox present in the SP2 soil pit, but not enough for the soil to pass any hydric soil indicators.

CONCLUSION

In summary, one wetland, referred to as either Wetland 1 or Hay Creek, is present in the Project Area. This wetland will be impacted by construction of an improved road crossing of the creek, which has been permitted under Action No. SPA-2001-00552 pursuant to the Clean Water Act. Following the announcement of the U.S. Supreme Court's ruling on May 25th, 2023 (SCOTUS 2023) and the USACE's subsequent guidance in September 2023, jurisdictional wetlands include wetlands that abut or maintain "a continuous surface connection" to WOTUS. Impacts to WOTUS should be avoided and minimized to the extent possible. A permit under Section 404 of the CWA is required for the discharge of dredged or fill material into WOTUS and mitigation may be required.

Wetland 1 abuts (or is co-located with) Hay Creek, which maintains continuous surface flows to Monument Creek downstream, and is thus likely a jurisdictional wetland. The USACE concurred with this assessment and permitted the Project under a Nationwide Permit 14. The existing stream crossing over Hay Creek and its associated wetlands is 14 feet wide, while the proposed crossing will be 24 feet wide, resulting in approximately 0.001 acre of permanent loss of palustrine scrub-shrub wetlands, and the discharge of approximately 18.5 cubic yards of fill within an intermittent stream, as described in the permit issued for the Project.

Should you have any questions regarding the information or recommendations provided in this report, please contact Bristlecone Ecology at dmaynard@bristleconeecology.com.

Sincerely,
Bristlecone Ecology, LLC

Daniel Maynard
Owner/Ecologist

References

Cowardin, Lewis M., Virginia Carter, Francis C. Goulet, and Edward T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States.

Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2020. The National Wetland Plant List: 2020 Update of Wetland Ratings.

SCOTUS (Supreme Court of the United States). 2023. *Sackett v. Environmental Protection Agency*. Dockett No. 21-454. https://ballotpedia.org/Sackett_v._Environmental_Protection_Agency_(2022). Accessed January 2025

USACE (U.S. Army Corps of Engineers). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coasts (Version 2).

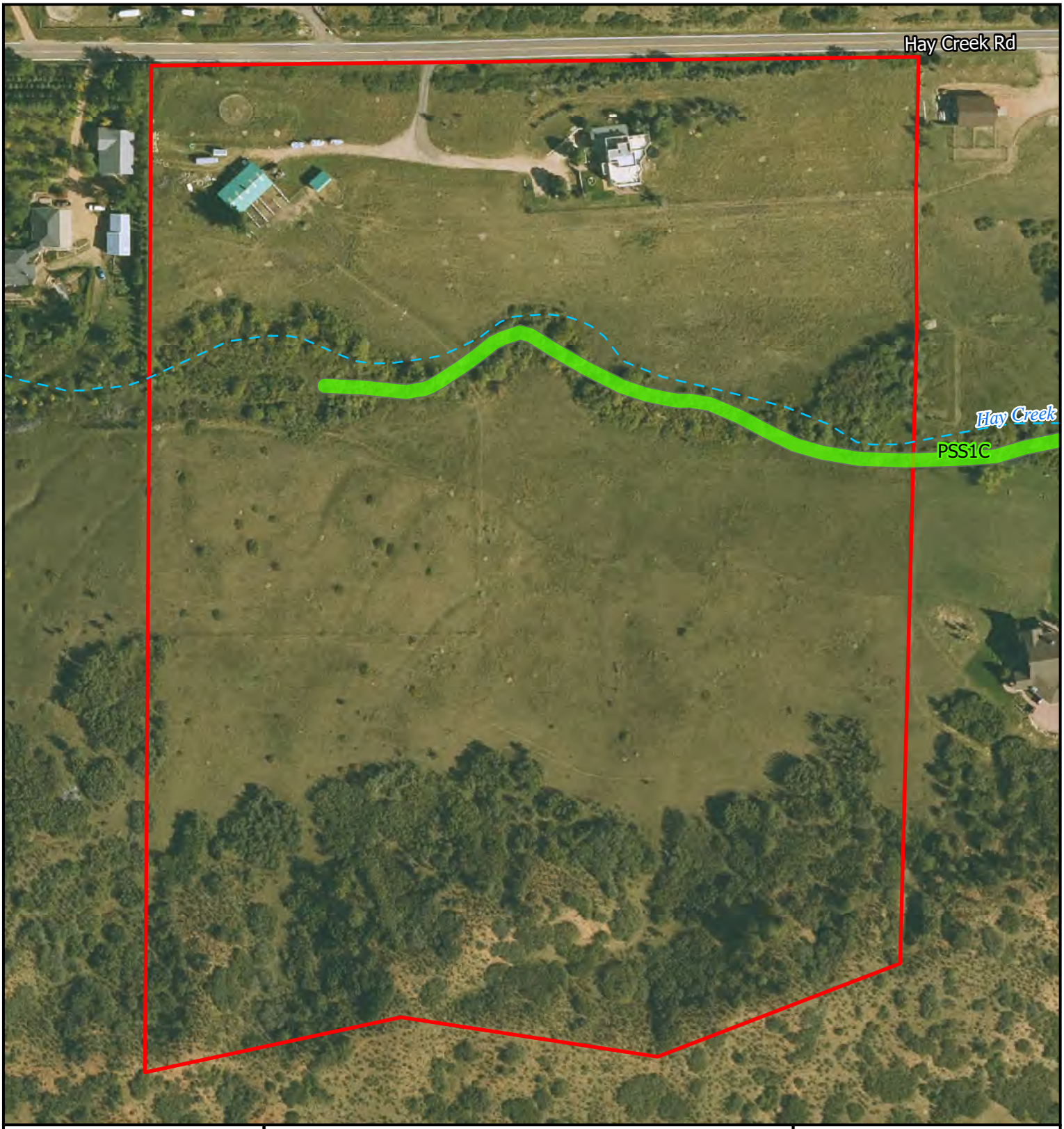
USACE. 1987. Wetlands Delineation Manual.

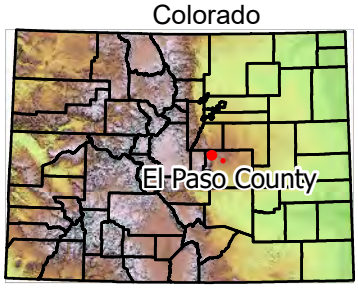
USFWS (U.S. Fish and Wildlife Service). 2024. National Wetlands Inventory Online Wetlands Mapper. Accessed January 2025. https://www.fws.gov/wetlands/data/mapper.html

USGS (U.S. Geological Survey). 2023. The National Map: National Hydrography Dataset. https://viewer.nationalmap.gov/basic/?basemap=b1&category=nhd&title=NHD%20View. Accessed January 2025.

ATTACHMENT A:

BACKGROUND INFORMATION REVIEW





Project Area

National Wetlands Inventory

National Hydrology Dataset

Stream/River

N

Feet
0 50 100

1:2,067

Hay Creek Ranch

National Wetlands Inventory
&
National Hydrography Dataset

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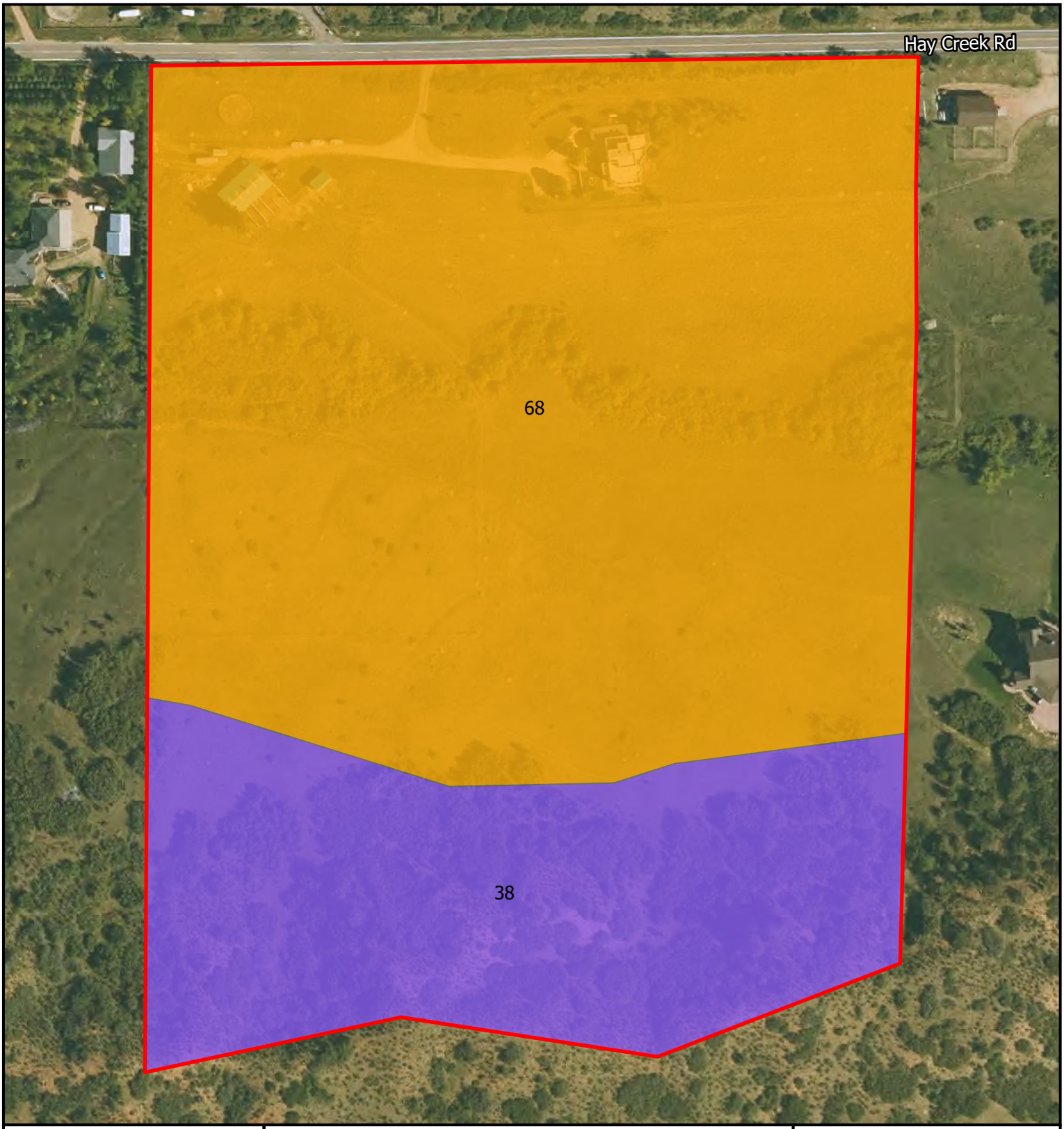
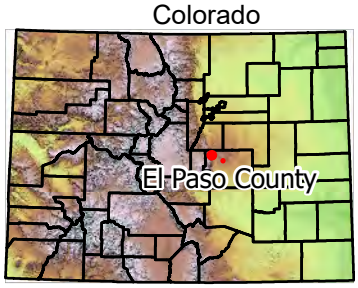


Colorado



Project Area

38; Jarre-Tecolote complex, 8 to 65 percent slopes (28.3%)

68; Peyton-Pring complex, 3 to 8 percent slopes (71.7%)

N

Feet
0 50 100

1:2,067

Hay Creek Ranch

NRCS SUURGO Soils Data

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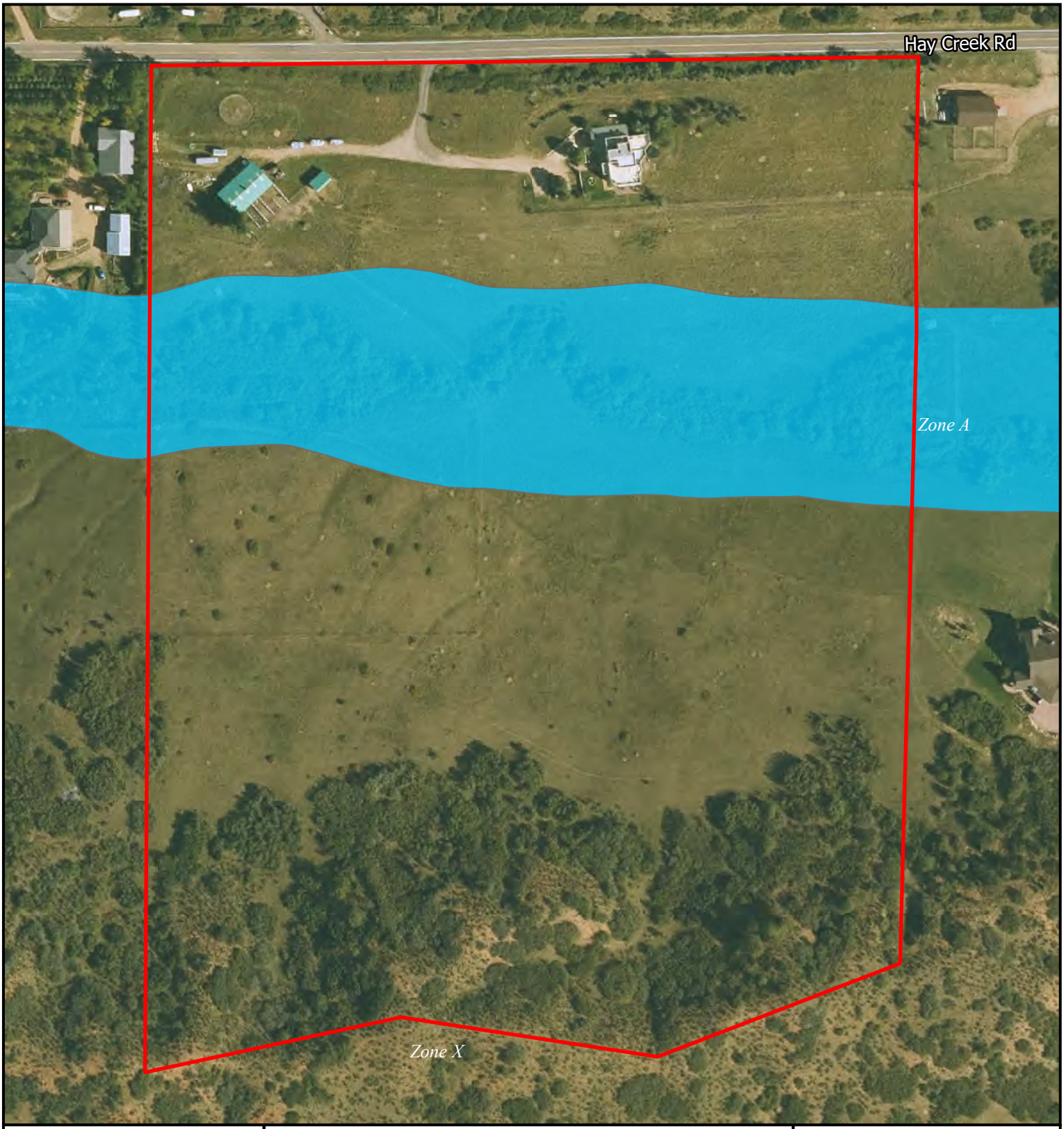

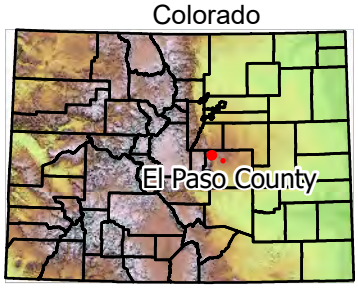

ProjectArea
Zone A
Zone X

N

Feet
0 50 100

1:2,067

Hay Creek Ranch

FEMA Flood Hazard Layer

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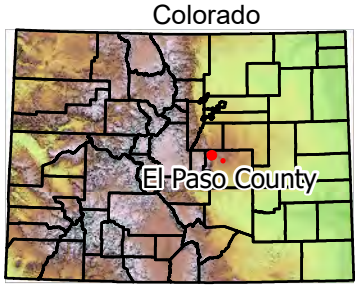
ATTACHMENT B:
WETLAND LOCATION MAP



Project Area
Wetlands
Upland Sample Point
Wetland Sample Point

N

Feet
0 50 100

1:2,067

Hay Creek Ranch

Wetland Location Map

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ATTACHMENT C:

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Hay Creek Ranch City/County: El Paso Co. Sampling Date: 1/2/25
Applicant/Owner: Jamie Hull State: CO Sampling Point: SP1
Investigator(s): DSM Section, Township, Range:
Landform (hillslope, terrace, etc.): Drainage/Creek bed Local relief (concave, convex, none): Concave Slope (%): 3%
Subregion (LRR): LRR E Lat: 39.047961 Long: -104.850902 Datum: WGS 84
Soil Map Unit Name: Peyton - Pring Complex NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No N (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ✓ No ____
Is the Sampled Area within a Wetland? Yes ✓ No ____

Remarks: Very dry and warm for January; almost no precip. in prior 30 days

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30'x30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15'x15')			
1. Salix exigua	70	✓	FACW
2. Rosa arkansana	5		
3.			
4.			
5.			
	75 = Total Cover		
Herb Stratum (Plot size: 5'x5')			
1. Scirpus microcarpus	60	✓	OBL
2. Carex praegracilis	20	✓	FACW
3. Epilobium ciliatum	3		FACW
4. Glyceria striata	10		OBL
5. Apocynum cannabinum	2		FAC
6. Poa pratensis	2		FAC
7.			
8.			
9.			
10.			
11.			
	97 = Total Cover		
Woody Vine Stratum (Plot size: 30'x30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 10%

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
+ 1 - Rapid Test for Hydrophytic Vegetation
+ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2/2	95	5YR 4/6	5	C	CS, PL	SL	Coarse
4-10"	7.5YR 2/2	90	5YR 4/6	10	C	M	SCL	Gravelly
10-16"	7.5YR 3/2	100					Sand	Gravelly
16-24"	7.5YR 3/2	97	5YR 4/6	3	C	CS	LS	Coarse

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ± Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ± Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ± Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ± Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ± FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Hay Creek City/County: El Paso Co. Sampling Date: 11/2/25
Applicant/Owner: Jamie Hull State: CO Sampling Point: SP2
Investigator(s): DOM Section, Township, Range:
Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 8%
Subregion (LRR): LRR E Lat: 39.047948 Long: -104.890932 Datum: WGS84
Soil Map Unit Name: Peyton - Pring Complex NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	
Hydric Soil Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: Very close to wetland boundary
Dry and warm for this time of year

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30'x30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15'x15')			
1. Alnus incana	10	✓	FACW
2. Salix exigua	25	✓	FACW
3. Rosa arkansana	3		FACU
4.			
5.			
	38	= Total Cover	
Herb Stratum (Plot size: 5'x5')			
1. Poa pratensis	25	✓	FAC
2. Bromus inermis	60	✓	UPL
3. Cirsium arvense	5		FAC
4. Potentilla sp.	3		FACU
5. Juncus balticus	7		FACW
6. Bouteloua curtipendula	3		UPL
7. Other forbs	10		—
8.			
9.			
10.			
11.			
	113	= Total Cover	
Woody Vine Stratum (Plot size: 30'x30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 2%

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	42	x 2 =	84
FAC species	30	x 3 =	90
FACU species	6	x 4 =	24
UPL species	63	x 5 =	315
Column Totals:	141 (A)		513 (B)

Prevalence Index = B/A = 3.64

Hydrophytic Vegetation Indicators:
— 1 - Rapid Test for Hydrophytic Vegetation
+ 2 - Dominance Test is >50%
— 3 - Prevalence Index is ≤3.0[1]
— 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
— 5 - Wetland Non-Vascular Plants[1]
— Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: Failed Prevalence Index

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	10 YR 2/2	99	5 YR 4/6	1	C	M	Loam	
8-18"	10 YR 2/2	100					SL	Coarse
18-24"	10 YR 3/2	100					Sand	Gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) **(except MLRA 1)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks: Frozen layer at 2-4", easily penetrated exposing softer soil below. Despite a single pocket of redox concentration, hydric soil not present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) **(LRR A)**
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) **(LRR A)**
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

ATTACHMENT D:
PHOTOGRAPHIC LOG

Photo 1: Overview facing south of the vegetation surrounding the existing Hay Creek crossing. The surrounding shrub-scrub wetland (Wetland 1) is dominated by sandbar willow, panicled bulrush, and clustered field sedge.

Photo 2: View facing east of the existing Hay Creek crossing. Wetland 1 is visible along the stream crossing, with sandbar willow and panicled bulrush the dominant plants present. SP2 was taken near the edge of the willow stand.

Photo 3: Closeup view facing southeast of the existing Hay Creek crossing – no more than a footbridge as shown in the photo. Sample Point 1 was taken just off the edge of the footbridge.