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## JC RANCHES SUBDIVISION SEC 10 T5N R45E TETON COUNTY, IDAHO

### NATURAL RESOURCE ANALYSIS AND WILDLIFE HABITAT ASSESSMENT

3/31/24

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# CHAPTER 1 – PROPOSED ACTION

## SUMMARY

### PURPOSE

The purpose of this report is to identify and analyze wildlife and habitats within the area of the proposed JC Ranches Subdivision in Teton County, Idaho. It was completed in compliance with Teton County Code 9-3-2 (C-2-c-WH). This assessment is required because the proposed JC Ranches Subdivision is located within the 2006 Priority Wetland Habitat Natural Resource Overlays identified by Teton County. In this report, wildlife and habitats within the project area are described, potential impacts to wildlife and habitats within the project are identified, and suggested mitigation actions are provided to minimize or eliminate the impacts that may occur.

### PROPOSED ACTION

The proposed JC Ranches Subdivision includes twenty-six (26) lots ranging from 2.5 – 6.25 acres in size. Twenty-five of the lots have proposed building envelopes .75 acres in size. One lot is being set aside to contain the proposed fire pond (Figure 3) and all mitigation associated with wetland disturbance required by the Army Corps of Engineers (ACOE) permitting. The fire pond will be constructed in proposed lot 17 with a proposed surface acreage of 0.35 acres. The subdivision is split into two regions, split by the ditch that bisects the property from northeast to southwest. The two regions of the subdivision are both accessed from W 4000 N. Main roads have a proposed constructed width of twenty-two feet and driveways have a proposed constructed width of twelve feet. During construction, temporarily, main roads will be disturbed by fill material, ditches, and culverts to a width of sixty feet and driveways to a width of sixteen feet. The temporary disturbance area associated with the fire pond will be 0.6 acres. The total proposed disturbance is 29.19 acres (37% of the parcel) (Figure 3).

### FINDINGS

Based upon primary and secondary research, including multiple site visits to the JC Ranches Parcel, the project area includes habitat that migratory birds and raptors seasonally use. Songbird species likely use the upland and wetland areas of the parcel for foraging and nesting. Rodents likely use these areas of the parcel as well and lure the raptors who prey upon them. A ditch flows through the property from northeast to southwest seasonally. This ditch dries between times of inundation and does not appear to create habitat suitable to support fisheries. However, when inundated, the ditch possibly supports occasional waterfowl that pass through. It is likely that sandhill cranes may also use this habitat.

### CONCLUSION

This wildlife assessment concludes that the proposed JC Ranches Subdivision may negatively impact indicator species within the project area due to loss and fragmentation of habitat and human presence. This parcel provides wildlife habitat in the form of forage, cover, open space, and connectivity to other important habitats in the surrounding landscape. Construction of dwellings and increased human presence in this area will likely impact sandhill cranes, songbirds, and raptor species, and the vegetation, insects, and small mammals they rely on for food. However, through thoughtful design of the subdivision to minimize impacts to wetlands, maximize open space, and maintain habitat connectivity, mitigation actions could be utilized to minimize impacts.

# **CHAPTER 2 – CURRENT CONDITIONS/AFFECTED ENVIRONMENT**

## **CURRENT CONDITIONS/AFFECTED ENVIRONMENT – AREA DESCRIPTION**

In the summer of 2022, a wildlife specialist for Y2 Consultants, LLC (Y2) conducted a routine Natural Resource Analysis and Wildlife Habitat Assessment (WHA) on the 78.97-acre parcel known as JC Ranches, in Teton County, Idaho, at the request of Jim Herbert (the "Client/Agent/Owner"). The initial NRA site visit was completed on 6/15/22 with a follow up NRA site visit on 10/10/23. An Aquatic Resource Inventory was completed on 6/1/2022.

The purpose of the assessment was to identify, describe, and evaluate natural resources that occur within or adjacent to the JC Ranches Parcel. This process was conducted, and the supporting documentation was prepared following current Teton County Planning and Zoning Ordinances.

## **LOCATION AND PHYSIOGRAPHY**

The WHA consists of a 78.97-acre assessment area spanning one parcel, identified as the JC Ranches Parcel.

The assessment area is located approximately 3 miles south of the town of Teton in Teton County, Idaho (Figure 1). The property can be accessed from Teton by traveling south on Highway 33 then south on N 2000 W or from Driggs by traveling north on Highway 33 then west on W 4000 N. The parcel is bound on the north by W 4000 N.

The JC Ranches Parcel is predominantly pastureland, and the average elevation across the parcel is 6,124 feet (6,108 – 6,139 feet).

## **FLOODPLAINS, WETLANDS, AND RIPARIAN AREAS**

### **FLOODPLAINS**

The Teton County Floodplain Overlay indicates that the parcel is entirely outside the existing 100-year FEMA delineated floodplain and entirely outside the revised delineated floodplain.

### **WETLANDS**

The Teton County Natural Resource Overlay (TC-NRO) indicates that approximately 8.37 acres (11%) of the JC Ranches Parcel are priority wetland areas (Figure 10). During the NRA due diligence, other areas exhibiting wetland characteristics, but not included in the priority wetland overlay, were identified in the portion of the parcel. The client pursued an Aquatic Resource Inventory (ARI) to confirm wetlands on the parcel. The ARI confirmed other areas that exhibited soil characteristics consistent with relatively frequent inundation. Further, these areas exhibited vegetation communities that contained Obligate and Facultative Wetland vegetation species. The ARI identified significant differences between the TC-NRO, National Wetlands Inventory (NWI), and actual conditions on the ground. Due to proposed disturbance within wetland areas the client has pursued a preliminary jurisdictional determination by the Army Corps of Engineers (ACOE). ACOE has determined that the wetlands are likely jurisdictional due to connectivity with upstream waters. The client is pursuing proper permits with ACOE for the proposed development.

### **RIPARIAN AREAS**

Riparian areas/ecosystems are found along water bodies such as streams, rivers, floodplains, lakes, and wetlands. They are integral to maintaining bank stability providing floodplain stability and protection, and they filter sediment and nutrients and provide habitat for fish and wildlife.

The JC Ranches Parcel is located approximately one and one-half mile south of South Leigh Creek. Besides the ditch, no flowing water was observed on the parcel. Evidence suggesting frequent inundation, such as obligate/facultative wetland vegetation species, was observed in the areas surrounding the ditch.

## **GEOLOGY AND SEISMIC HAZARDS**

Teton County is within the Wyoming Overthrust Belt System located in eastern Idaho and western Wyoming. Only the main basin that runs the center length of the County is relatively level, with the surrounding mountainous landscape brought about by historic uplifts, faults, fault blocks, alluvial deposits, and stream cutting action that has created steep, narrow canyons. Approximately 50% of Teton County has slopes steeper than 40%. The Teton County All Hazard Mitigation Plan completed in 2016 identifies the Tetonia and Driggs areas as Moderately High earthquake risk. Exhibits within the report classify the Tetonia to Driggs area as Intermediate to High Liquefaction Susceptibility and in the National Earthquake Hazards Reduction Program (NEHRP) class C1. Moreover, numerous historical earthquakes have been recorded in the Teton Range east of Driggs ranging from Magnitude 1.9 – 2.4, and between Driggs and Tetonia ranging from Magnitude 1.5 – 4.0. (*Teton County, Idaho - Multi-Jurisdictional All Hazard Mitigation Plan, 2016*)

## **WILDFIRE DANGER**

Teton County, Idaho, completed a risk assessment for pertinent risks, including wildfire, and presented their findings in their 2016 Community Wildfire Protection Plan (CWPP). The CWPP defines Wildland-Urban Interfaces (WUI), including private property and public lands. This plan estimates risk levels to the WUI and management suggestions to improve or mitigate risk levels. The overall hazard risk for Driggs was determined to be moderately low in the All Hazard Mitigation Plan. However, upon further review, the CWPP classifies the area between Tetonia to Driggs to have the high classification of fire intensity (500 - 1,000 Btu/ft/s) and high classification of flame length (8 - 10.9 ft), most likely due to the vegetation cover dominated by varying densities of grass and brush. (*Teton County, Idaho - Multi-Jurisdictional All Hazard Mitigation Plan, 2016*)

## **VEGETATION**

Teton County, Idaho is a high elevation basin. The lower elevation valley bottoms are comprised mainly of wetlands, sloughs, and riparian areas; grazed and cultivated farmland; and residential development. The National Wetlands Inventory has classified 26,760 acres (~9%) of Teton County, Idaho, as wetlands (Teton Regional Land Trust, 2006). Riparian areas connect throughout and are comprised of trees, shrubs, forbs, and grasses that prefer greater access to water in varying degrees. Mid-elevations above the valley generally consist of sagebrush or tall shrub communities, depending on the northern or southern exposure. Sagebrush communities are found on southern exposures and are typically drier. They are characterized by moderately dense sagebrush overstory with perennial forb or perennial grass understories. Tall shrub communities are also found at mid to upper elevations and have more available moisture due to northern exposure or greater elevation. Common species include quaking aspen (*Populus tremuloides*), serviceberry (*Amelanchier alnifolia*), mountain snowberry (*Symphoricarpos oreophilus*), mountain mahogany (*Cercocarpus montanus*), etc. Also, in the mid to upper elevations above the valley bottoms, Engelmann spruce (*Picea engelmannii*), Douglas fir (*Pseudotsuga menziesii*), lodgepole pine (*Pinus contorta*), subalpine fir (*Abies lasiocarpa*), and quaking aspen dominate the overstory with forbs, grasses, and shrubs in the understory in varying densities depending upon seral maturity.

The vegetation communities observed on the JC Ranches Parcel are described in this document's Key Habitats section.

## RIDGES AND ROCK OUTCROPPINGS

Teton County, Idaho ranges in elevation from 9,016 feet (Garns Mountain Summit) to 5,080 feet (Teton River at Teton/Madison County line). The JC Ranches Parcel exhibits uniform elevation across the parcel with no ridges or rock outcroppings within the parcel.

## PERCENT SLOPE

The JC Ranches Parcel is relatively uniform. The Teton County slope percentage layer shows the entire parcel is under 10% slope. U.S. Geological Survey (US resources classify the JC Ranches Parcel as 0.7% average slope, ranging from 0.0 – 2.4% slope (*The National Map | U.S. Geological Survey, n.d.*).

## SOILS

Table 1 shows the five soil types mapped by the soil survey on the JC Ranches Parcel (*Custom Soil Resource Report for Teton Area, Idaho and Wyoming: GIS21109\_230109\_Herbert\_SoilReport, n.d.*). The Redfish-Foxcreek complex and mucky peat Map Units are listed as hydric, thus indicating wetland likelihood. The history of production agriculture on the parcel before 1985 is not known. Farming implements may have been used to prepare the soil for production agriculture and subsequently modified the soil structure during tilling and planting. Soil map units 13430 and 13431 may be altered from the model Figure 8 depicts the soil map units for the JC Ranches Parcel.

Table 1: Soils within the JC Ranches Parcel.

Map Unit Symbol	Map Unit Name	ESD	ESD Name	Acreage within Parcel	Percent of Parcel
13101	Redfish-Foxcreek complex, 0 to 2 percent slopes	R013XY050ID	RIPARIAN WET MEADOW SALIX/CAREX	17.3	21.6%
13113	Foxcreek mucky peat, 0 to 2 percent slopes	R013XY050ID	RIPARIAN WET MEADOW SALIX/CAREX	0.3	0.4%
13429	Alpine gravelly loam, 0 to 2 percent slopes	R013XY004ID	SHALLOW GRAVELLY 12-16 ARTRV/PSSPS	0.3	0.3%
13430	Alpine-St. Anthony complex, 0 to 2 percent slopes	R013XY004ID	SHALLOW GRAVELLY 12-16 ARTRV/PSSPS	35.3	44.0%
13431	Feltonia-Arimo complex, 0 to 2 percent slopes	R013XY001ID	LOAMY 12-16	27.0	33.7%

## AREAS WITHIN 1-MILE OF STATE HIGHWAY OR SKI HILL ROAD

The JC Ranches Parcel is one-half mile from Idaho State Highway 33 ( Figure 1) but is not within one mile of Ski Hill Road.



## CLIMATE

The 'growing season' for Driggs, Idaho (utilizing the most proximate WETs Station, ID16081) according to the United States Department of Agriculture (USDA) WETs table is between 81-92 days (based off years of record from 1971-2019) (NRCS, 2019). The average temperature annually is 40.6°F, and the average precipitation is 16.37 inches.

## LAND USE

The dominant use of the JC Ranches Parcel is production agriculture in the form of cattle grazing. An established road bounds the parcel across the northern border. There are no structures currently on the parcel.

## OVERVIEW

In general, shown in Figure 10, approximately 76.94 acres (~97%) of the 78.97-acre parcel remain intact with elements of native vegetation communities. Riparian and wetland areas are present on the parcel. However, most of the wetlands appear influenced by supplemental irrigation entering the parcel from irrigation ditches for periods of the growing season. Due to potential groundwater connectivity with the Teton River, some native wetland presence is possible. The parcel has been undeveloped, and only approximately 2.03 acres (~3%) have been disturbed as existing roads and the ditch. The parcel is likely utilized most by wildlife in wetland habitats, including migratory songbirds, waterfowl, and sandhill cranes. No evidence of ungulates or other indicator species was observed. Overall, the areas within the parcel with wetland characteristics exhibit the most significant habitat value due to the amount of food and shelter they provide to wildlife. These areas likely offer nesting opportunities for various bird species, support insect populations that birds forage on, and provide food and cover for rodents that raptors pursue for food. Portions of the JC Ranches Parcel are located within the Teton County, Idaho Priority Wetland Habitat overlay, and the areas described above represent that overlay to a high degree.

## INDICATOR SPECIES AND HABITATS

Portions of the JC Ranches Parcel are located within the Priority Wetland Overlay (Figure 5). Teton County has identified five indicator species and habitats. The following table outlines these species and habitats as they occur within the project area. The table provides summary information about each indicator species. For species and habitats present on the subject property, a more detailed discussion is provided below the table.

Table 2: Teton County, Idaho indicator species and habitats.

Indicator Species	Habitat	Does this occur within the project area?	Acres within the Project Area	Overall Description
Big Game Elk, Mule Deer, and Moose.	Mountain Shrublands	No	N/A	The parcel is not located within the Big Game Migration Corridors and Seasonal Habitat Overlay. Mountain shrubland vegetation communities are not present in the project area. No further analysis is necessary.
Trout	None Identified.	No.	N/A	Stream habitat is not present in the project area. No further analysis is necessary.
Water Birds Sandhill Crane, Trumpeter Swan	Palustrine emergent wetlands	Yes	7.89 acres	9.83 acres (~12%) of the parcel is located within the Priority Wetland Overlay. ARI confirmed areas with palustrine emergent wetland soil and vegetation characteristics comprise 7.89 acres (~10%) of the project area.
Songbirds and Raptors	Forested riparian habitat and mountain shrublands	No	N/A	The parcel is not located within the Songbirds and Raptors overlay. The project area does not contain forested riparian habitat or mountain shrubland vegetation communities. No further analysis is necessary.
Columbian Sharp- tailed Grouse	Sagebrush- steppe and mountain shrublands	No	N/A	The parcel is not located within the Columbian Sharp-tailed Grouse overlay. Sagebrush-steppe and mountain shrubland vegetation communities are not present in the project area. No further analysis is necessary.

## KEY HABITATS IN THE PROJECT AREA

The summary table above identified key habitats for big game, trout, and songbirds and raptors within the project area. The following sections provide habitat descriptions for each of these habitats.

Table 3: Identified habitat/cover types on the JC Ranches Parcel.

Habitat Type	Acreage
Upland Pasture Habitat	70.00
Emergent Wetland Habitat	7.89
Roads	1.26
Ditch	0.77

## UPLAND PASTURE HABITAT

This habitat comprises the majority of the parcel. Satellite imagery shows that cattle have regularly grazed it over the past 25 years, as well as much of the surrounding area. Evidence of harvest for grass hay was not apparent through a review of satellite imagery. Fencing surrounds the parcel, and cattle appear to be rotationally grazed depending upon the year. Smooth brome (*Bromus inermis*), western wheatgrass (*Pascopyrum smithii*), intermediate wheatgrass (*Thinopyrum intermedium*), Kentucky bluegrass (*Poa pratensis*), orchardgrass (*Dactylis glomerata*), crested wheatgrass (*Agropyron cristatum*), and other pasture grasses dominate these areas.

This habitat exhibited no big game use, nor any evidence of priority waterbirds. Although providing open space, a valuable habitat element, these areas lack adequate forage and thermal cover for big game. Idaho Fish and Game had no record of observations around the JC Ranches Parcel, and most big game use in the area is concentrated along South Leigh Creek, approximately 1.5 miles to the north. (Josh Rydalch, personal communication, January 10, 2022)

## EMERGENT WETLAND HABITAT

This habitat is subdominant in the JC Ranches Parcel and located through the lowest elevational areas in the central part of the parcel running primarily west to east from the ditch. These areas exhibit wetland characteristics due to water's frequent inundation, leading to diagnostic hydric soil characteristics such as gleying and root nodules. These areas also have unique vegetation communities and are dominated by obligate or facultative wetland species such as rushes, sedges, grasses, forbs, and shrubs. On the JC Ranches Parcel, these communities are dominated by tufted hairgrass (*Deschampsia cespitosa*), foxtail (*Alopecurus* spp.), creeping bentgrass (*Agrostis stolonifera*), Kentucky bluegrass, Nebraska sedge (*Carex nebrascensis*) and other obligate and facultative wetland species.

This habitat exhibited no big game use and no evidence of priority waterbirds.

## WILDLIFE INVENTORY

Table 3 describes the habitats for big game, trout, and songbirds/raptors that are present within the project area. The previous section describes those habitats and details the various flora within each habitat. This section describes the presence of indicator species as determined through primary and secondary research efforts. Field surveys and research methodologies are described under each group of species.

## WATERBIRDS

Waterbirds include waterfowl (ducks, geese, and swans), shorebirds, marshbirds, and colonial nesting species such as gulls and terns. Priority waterbirds in Teton County, Idaho include trumpeter swan, waterfowl, greater sandhill crane, long-billed curlew, and colonial nesting species.

## TRUMPETER SWAN

Trumpeter swans are designated as Species of Greatest Conservation Need by the Idaho Comprehensive Wildlife Strategy and designated species of conservation priority by the North American Waterbird Conservation Plan and the Intermountain West Waterbird Conservation Plan. In the winter, Teton County, Idaho provides important habitat for this species, but swans are seldom observed otherwise. During the winter, swans congregate in open water sections of the Teton River and other spring-fed tributaries. Adjacent terrestrial habitats, including meadows and pastures, provide important roosting/loafing areas. (G.L. Ivey & C.P. Herziger, 2006; Idaho Department of Fish and Game, 2005; Teton Regional Land Trust, 2006)

No trumpeter swans were observed during the site visit to the JC Ranches Parcel. Any observations of swans on the parcel are likely coincidental. The parcel likely provides limited habitat significance to the species due to lack of open water and distance from known winter habitat.

## **GREATER SANDHILL CRANES**

Greater sandhill cranes are designated as Species of Greatest Conservation Need by the Idaho Comprehensive Wildlife Strategy and designated species of conservation priority by the North American Waterbird Conservation Plan and the Intermountain West Waterbird Conservation Plan. Teton County, Idaho is an important nesting area for sandhill cranes, especially seasonally or perennially flooded habitat. These birds initiate nesting in April-May, raise 1-2 young through the summer, and gather in staging areas in September before migrating to central New Mexico and Mexico. The Teton Basin is a notable staging area for sandhill cranes in the Rocky Mountains. (G.L. Ivey & C.P. Herziger, 2006; Idaho Department of Fish and Game, 2005; Teton Regional Land Trust, 2006)

No sandhill cranes were observed during the site visit to the JC Ranches Parcel. The parcel's wetland habitat likely provides habitat to cranes preying upon invertebrates and rodents. Compared to other areas in the vicinity, the JC Ranches Parcel does exhibit vegetation height and density capable of supporting common food sources for cranes. Portions of the parcel do exhibit habitat, including vegetation type, vegetation height and water depth, that may be suitable for nesting. However, surrounding areas are less suitable for supporting food sources. The adjacent pivots likely provide suitable habitat. (McWethy & Austin, 2009)

## **LONG-BILLED CURLEW**

Long-billed curlew are designated as Species of Greatest Conservation Need by the Idaho Comprehensive Wildlife Strategy and Globally Imperiled in the U.S. National Shorebird Plan. The species is one of Teton County, Idaho's rarest vertebrate species. Curlews initiate nesting in early May, and eggs hatch in early June. They prefer large expanses of grassland habitat where grasses are short during nesting and move to dense cover for brood rearing. Diversely grazed habitat and proximity to water are essential habitat characteristics for long-billed curlews. (G.L. Ivey & C.P. Herziger, 2006; Idaho Department of Fish and Game, 2005; Teton Regional Land Trust, 2006)

No long-billed curlews were observed during the site visit to the JC Ranches Parcel. Due to the taller vegetation heights and increased vegetation density through the parcel, this parcel may be less important to curlews than surrounding areas. Areas surrounding this parcel exhibit more diversity of vegetation height and are likely more important to curlews for summer and breeding habitat. Livestock grazing practices in the area contribute to this habitat suitability. (Dark-Smiley & Keinath, 2004)

## **FENCING**

Fence surrounds the parcel including four, five, and woven wire. The fence appeared to be maintained. The fence was not wildlife friendly due to overall height and wire spacing.

## **NOXIOUS SPECIES**

The JC Ranches Parcel did not exhibit a diversity of noxious and weed species, and occurrences were mostly observed in the Upland Pasture Habitat and along the roads. Musk thistle (*Carduus nutans*) was the primary noxious species observed on the parcel. It varied in density across the parcel but increased notably in the northwest portion of the parcel, encroaching from surrounding parcels to the west.

## SPECIAL STATUS SPECIES

No known or suspected plant or animal species were identified on the JC Ranches Parcel that are listed, or currently proposed for listing, by the federal Endangered Species Act (ESA). Other species may be listed relevant to Teton County, Idaho, but not listed below, such as the Canada lynx (*Lynx canadensis*). These species are protected wherever they occur, however, only species identified by the U.S. Fish and Wildlife Service Environmental Consultation Online Service for the JC Ranches Parcel are listed in Table 4.

Table 4: Special Status Species identified by the U.S. Fish and Wildlife Service Environmental Consultation Online Service for the JC Ranches Parcel.

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status	Recovery Plan Stage
Mammals	Grizzly bear ( <i>Ursus arctos horribilis</i> )	U.S.A., conterminous (lower 48) States, except where listed as an experimental population	Threatened	Montana Ecological Services Field Office	Revised Grizzly Bear Recovery Plan	Implementation Progress	Final Revision 1
Insect	Monarch Butterfly ( <i>Danaus plexippus</i> )	Wherever found	Candidate	Montana Ecological Services Field Office			

(U.S. Fish and Wildlife Service, n.d.)

## **CHAPTER 3 – IMPACT ANALYSIS**

The proposed JC Ranches Subdivision includes twenty-six (26) lots ranging from 2.5 – 6.25 acres in size. Twenty-five of the lots have proposed building envelopes .75 acres in size. One lot is being set aside to contain the proposed fire pond (Figure 3) and all mitigation associated with wetland disturbance required by the Army Corps of Engineers (ACOE) permitting. The fire pond will be constructed in lot 17 with a proposed surface acreage of 0.35 acres. The subdivision is split into two regions, split by the ditch that bisects the property from northeast to southwest. The two regions of the subdivision are both accessed from W 4000 N. Main roads have a proposed constructed width of twenty-two feet and driveways have a proposed constructed width of twelve feet. During construction, temporarily, main roads will be disturbed by fill material, ditches, and culverts to a width of sixty feet and driveways to a width of sixteen feet. The temporary disturbance area associated with the fire pond will be 0.6 acres. The total proposed disturbance is 29.19 acres (37% of the parcel) (Figure 3).

### **FRESHWATER EMERGENT WETLAND**

Y2 Consultants was contracted in the summer of 2022 to complete an Aquatic Resource Inventory in the JC Ranches parcel. This inventory identified 7.89 acres of Emergent Wetlands compared to the 9.83 acres estimated by the National Wetlands Inventory. The observed habitat map (Figure 10) reflects these field observations.

Emergent wetlands are characterized by erect, rooted, herbaceous hydrophytic plants, excluding mosses and lichens (Cowardin et al., 1979). According to the standard definition, wetland vegetation must be present for most of the growing season in most years and is usually dominated by perennial plants. Palustrine emergent wetlands may exist in a variety of geomorphic settings and water regimes, both of which strongly influence plant species composition.

The proposed development is estimated to disturb approximately 0.9 acres of Emergent Wetland Habitat (Figure 11). This impact combines temporary and permanent disturbance. There is expected to be less than .5 acre of permanent disturbance that leaves little opportunity for reclamation due to the process of filling wetlands and disturbing the soil moisture profile during road construction, utilities and septic installation, and building construction. The client has pursued a preliminary jurisdictional determination where ACOE classified the wetlands as potentially jurisdictional due to connection with upstream waters.

### **WATER BIRDS, SANDHILL CRANE, TRUMPETER SWAN**

The proposed development will likely impact water birds, Sandhill Cranes, and Trumpeter Swans in two ways. The development will reduce available habitat in the parcel and the development's density of disturbance will likely deter these species from using the vegetation habitat in the future. The proposed subdivision's density will create sustained human presence, especially impacting species with limited tolerance of humans, pets, etc such as Sandhill Cranes. The layout of the proposed development breaks up existing continuity of the current habitat and may influence some species' ability to move across the landscape freely, specifically prey species for Sandhill Cranes like amphibians. If fencing is installed to delineate the parcels, regardless of its big game friendliness, it will serve as an obstruction that poses a collision risk to bird species that fly close to the ground. The increase in structures associated with the proposed subdivision will increase perching opportunities for aerial predators thus increasing competition for prey species and increasing opportunities for risk of predation upon Water Birds, Sandhill Cranes, and Trumpeter Swans as ground nesting birds.

# CHAPTER 4 – MITIGATION PLAN

## UPLAND PASTURE

There will be short and long-term disturbance with the development of the proposed JC Ranches Subdivision. All temporarily disturbed upland areas will be replanted with a native species seeding mix prescribed by soil type and moisture expectations.

A living snow fence will be planted along the western and southern edges of the parcel to provide screening, block wind, and capture snow. The living snow fence will be designed to provide functionality early in its establishment and when it's fully established decades into the future. The snow fence will utilize native shrub and tree species like those found in vegetation communities along Leigh Creek, north of the parcel. It is expected to include conifer species such as spruce, deciduous trees such as aspen, and shorter stature flowering shrubs such as chokecherry. To further support pollinator species, lilacs and dogwood are considered as well. This upland mitigation improvement will provide an overall enhancement to wildlife habitat on the parcel including songbirds and pollinators.

## FRESHWATER EMERGENT WETLAND

The proposed fire pond located in lot 17 will provide a great opportunity to create additional wetland habitat on the parcel. The pond design will incorporate a depth that will support aquatic life such as invertebrates, amphibians, or cool water fish species in both summer and winter. The design will incorporate adequate burial of the liner to support the development of riparian and wetland vegetation communities around the pond's banks which will support a greater diversity of wildlife and protect against wave action that may trigger erosion. Water for the pond will be supplied by a dedicated groundwater well. To limit unregulated input by the well water, the system will be controlled by a float that will respond to the actual level in the pond. This wetland mitigation improvement will greatly enhance the habitat for water birds, sandhill cranes, and trumpeter swans.

The status of jurisdictional waters by the Army Corps of Engineers has been pursued by the client, where ACOE classified the wetlands as potentially jurisdictional due to connection with upstream waters. Thus, the client has chosen to pursue permitting under a Nationwide permit through ACOE where all disturbance within Emergent Wetlands will be required to be mitigated at least one to one. Most often, when roadways are developed or buildings are constructed, suggested mitigation methods primarily focus on the conversion of uplands to wetlands through the development of ponds, installation of irrigation systems, etc. Lot 17 has been set aside entirely for the fire pond and mitigation associated with wetland disturbance on the parcel. Thus, the proposed design leaves plenty of area to meet ACOE's mitigation standards.

## WATER BIRDS, SANDHILL CRANE, TRUMPETER SWAN

Water birds, sandhill cranes, and trumpeter swans will benefit from the proposed fire pond and associated wetland mitigation. This pond will provide access to water for these species throughout much of the year. Open water is mostly lacking around the proposed subdivision and this pond would entice many bird species, especially those during migration. If a device is incorporated to limit freezing, such as an aerator, the pond could provide access to species that overwinter in the Teton Valley, such as trumpeter swans. Further, this pond is likely to be an oasis for invertebrates, amphibians and other prey species sought sandhill cranes and other water birds.

The layout of the proposed subdivision maximizes the open space available through the center of the parcel around the ditch, wetlands, and proposed fire pond. Overall, the central open space is approximately 15 acres. This space and its placement with the observed wetlands promote habitat connectivity across the parcel to surrounding habitat and wetlands.

## **FENCING**

Due to livestock grazing that is expected to continue around the parcel, there are no current plans to alter the existing boundary fence. Future fencing should be constructed following wildlife friendly fencing standards, including any modifications to the boundary fence. If interior boundary delineation is needed and no livestock are present, posts and signage should be considered opposed to other fencing methods for purely visual enhancement. If interior fencing is needed for livestock containment, future owners should consider temporary electric fencing.

## **CHAPTER 5 – LAND MANAGEMENT PLAN**

### **LIGHTING**

Outdoor lighting will be designed to be downcast to promote dark sky standards. Bright lights will detrimentally affect wildlife movement and hinder avian species navigation abilities. Motion detector lights are encouraged, but they shall meet the requirements for floodlights and when not needed (e.g. the residence is unoccupied), lights will remain off for the benefit of wildlife. (Dick, 2014)

### **PET CONTROL**

Household pets (primarily dogs and cats) living on the Property will be contained in a designated, enclosed area and taught to not chase wildlife. The proximity of this parcel to surrounding intact wetland habitat suggests that even after development, the edge of the parcels development will remain important to wildlife. Uncontrolled pets (particularly dogs) that chase and harass wildlife have a detrimental effect on wildlife's survivability and use of an area.

### **WILDLIFE FRIENDLY FENCING**

All future fences on the property will be designed to minimize impacts on indicator species' current use of the Property and habitat and built to sustain safe wildlife movement. Fencing shall be designed by a qualified person and consider adjacent land use. Updating existing fences for wildlife friendliness should be considered whenever possible. Guidelines will be followed as outlined in Teton County Idaho Zoning Ordinance, Title 9 Division 9-3-2 (C-2-c-WH-vi-b) (Teton County, 2013b). Fences for livestock containment shall be clustered near development and not create wildlife movement barriers (i.e. bisect the Property). Further, fences for livestock management will utilize a single electric strand whenever possible. Fences for pet containment may impact wildlife passage and should be isolated to building envelopes.

### **OPEN SPACE MANAGEMENT**

The undeveloped areas on the property constitute open space and will be maintained for the benefit of Teton County indicator wildlife species that currently utilize the Property. Maintenance includes control of state listed noxious weed species according to state laws and eradicated from the Property.

### **GARBAGE/WASTE STORAGE**

Teton County Code Title 4 Chapter 7 will be followed to minimize the potential for attracting bears into residential areas.

### **FEEDING OF BIG GAME ANIMALS**

Unless specifically conducted by or in cooperation with IDFG, big game animals shall not be fed under any circumstances.



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# APPENDIX A – FIGURES

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Figure 12: Observed Habitat, 2006 Natural Resource Overlay, and Proposed Development Map, JC Ranches Subdivision, Teton County, Idaho ..... 30

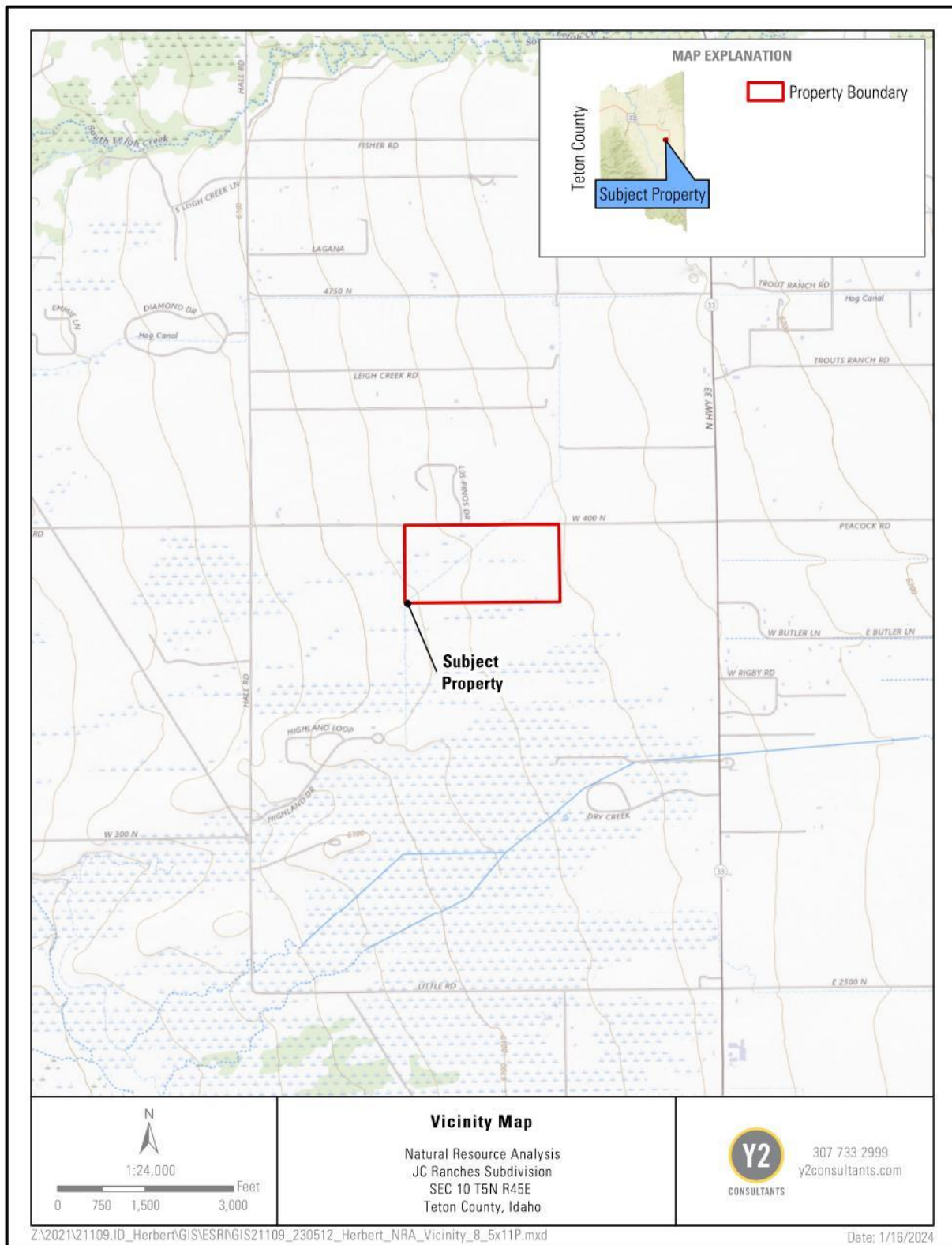


Figure 1: Site Vicinity Map, JC Ranches Subdivision, Teton County, Idaho.

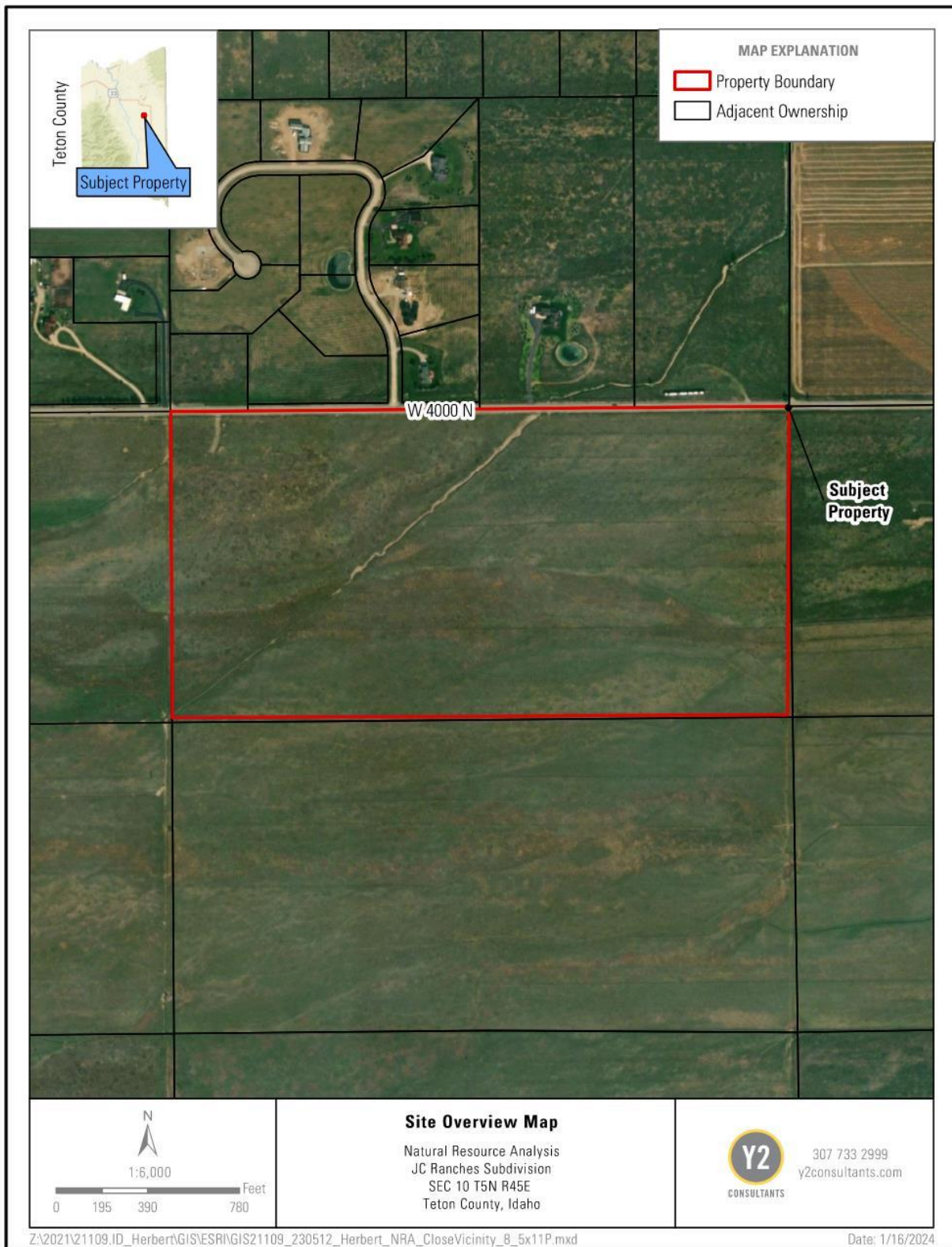


Figure 2: Site Overview Map, JC Ranches Subdivision, Teton County, Idaho.



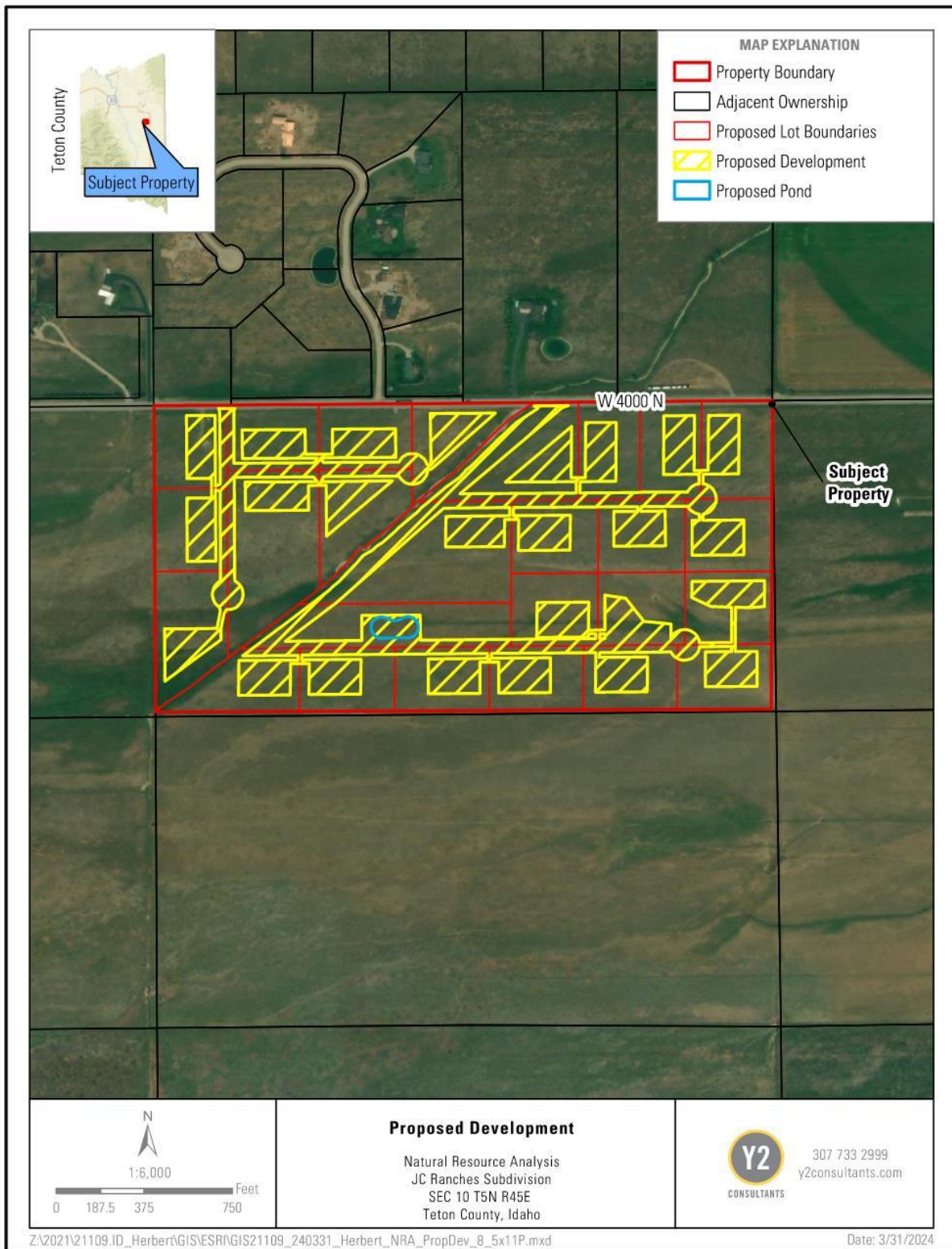


Figure 3: Proposed Development Map, JC Ranches Subdivision, Teton County, Idaho.

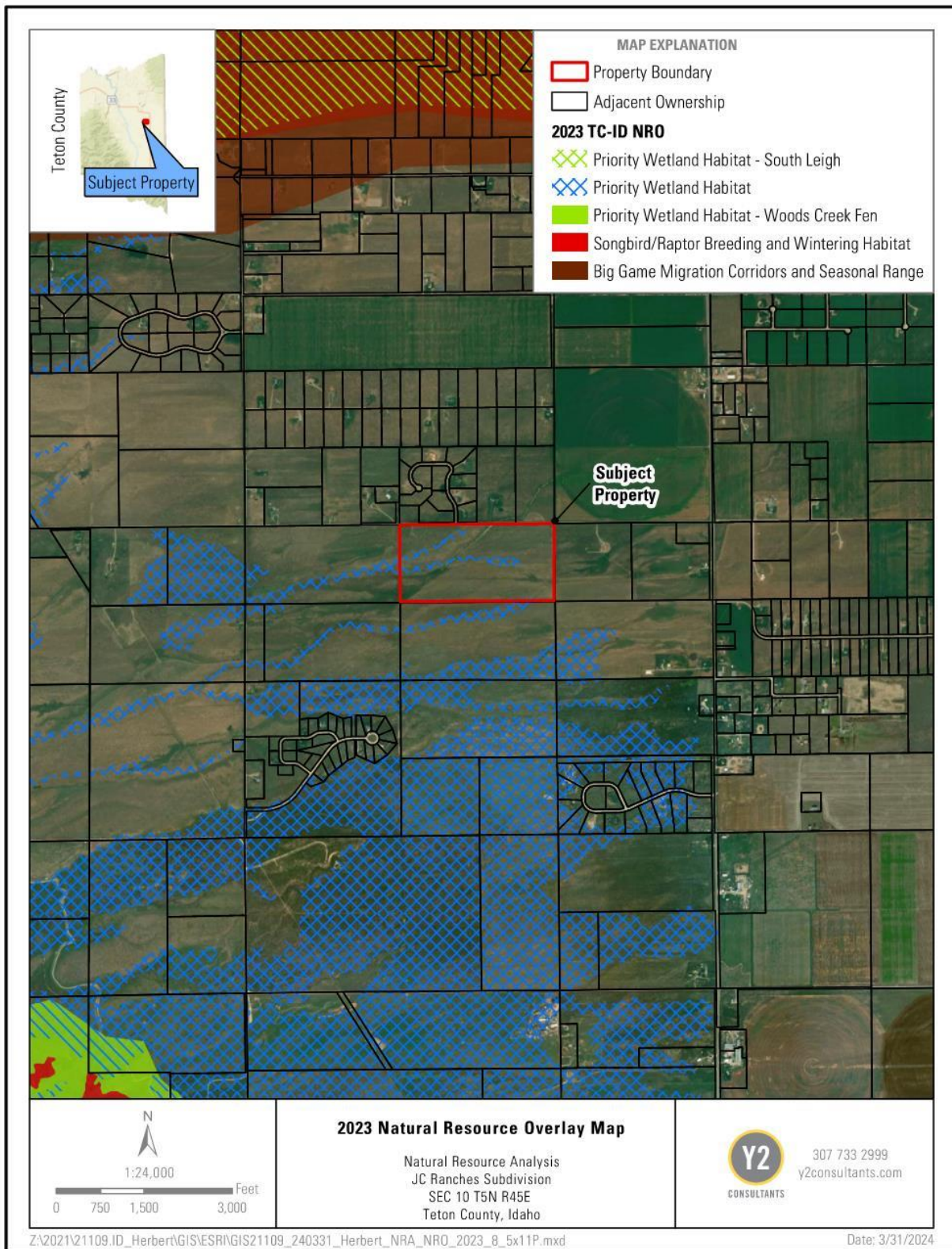


Figure 4: 2023 Natural Resource Overlay Map, JC Ranches Subdivision, Teton County, Idaho.



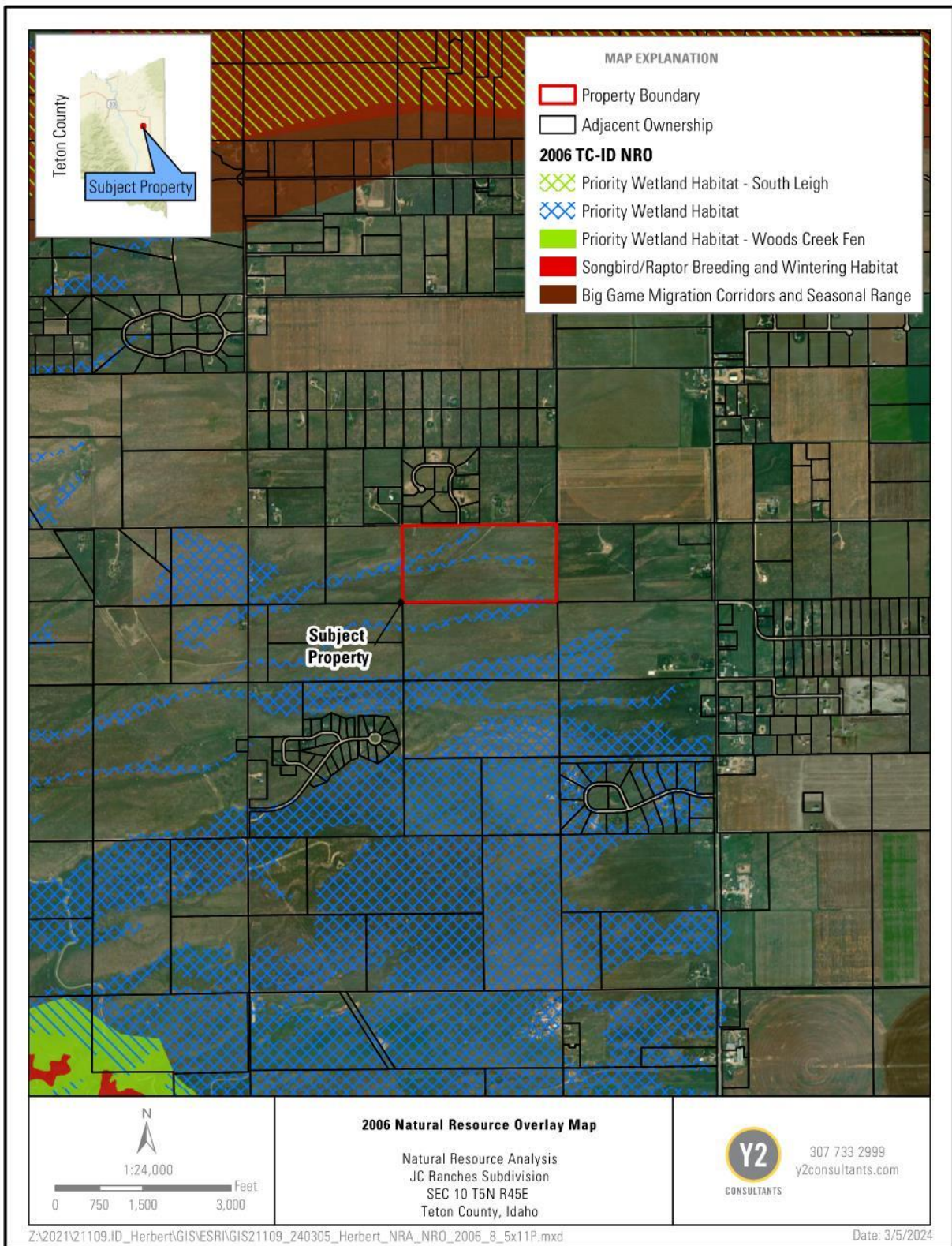


Figure 5: 2006 Natural Resource Overlay Map, JC Ranches Subdivision, Teton County, Idaho.



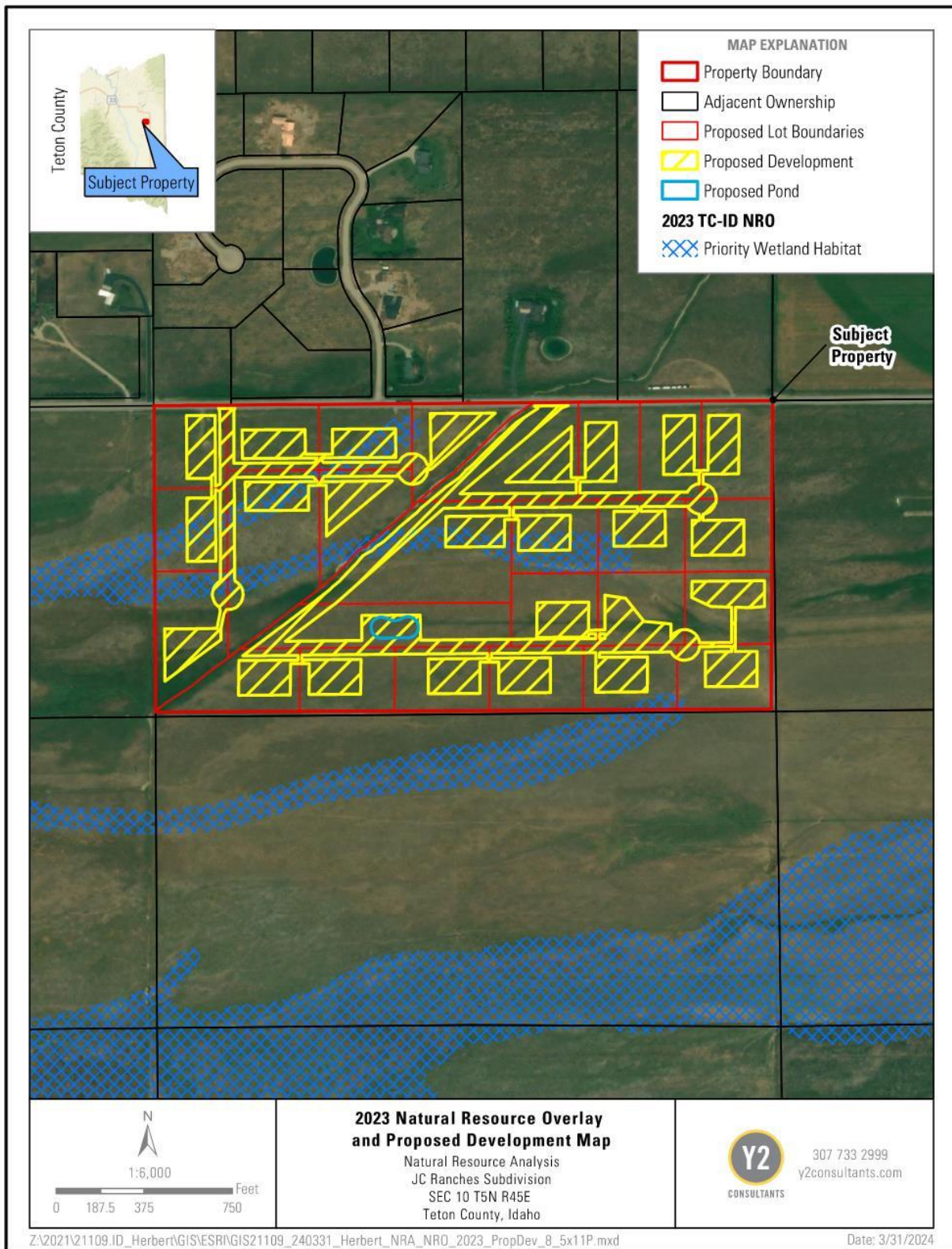


Figure 6: 2023 Natural Resource Overlay and Proposed Development Map, JC Ranches Subdivision, Teton County, Idaho.



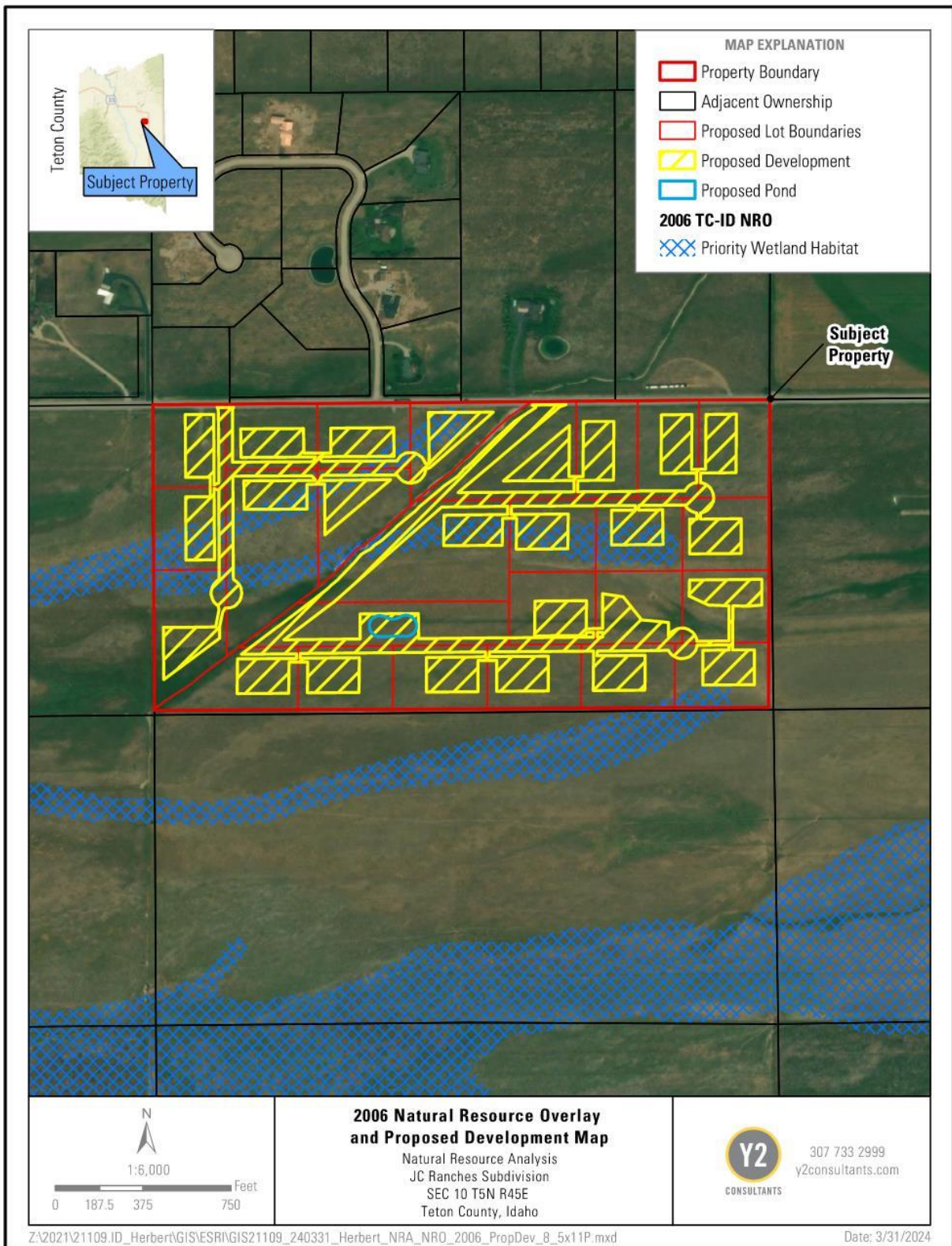


Figure 7: 2006 Natural Resource Overlay and Proposed Development Map, JC Ranches Subdivision, Teton County, Idaho.

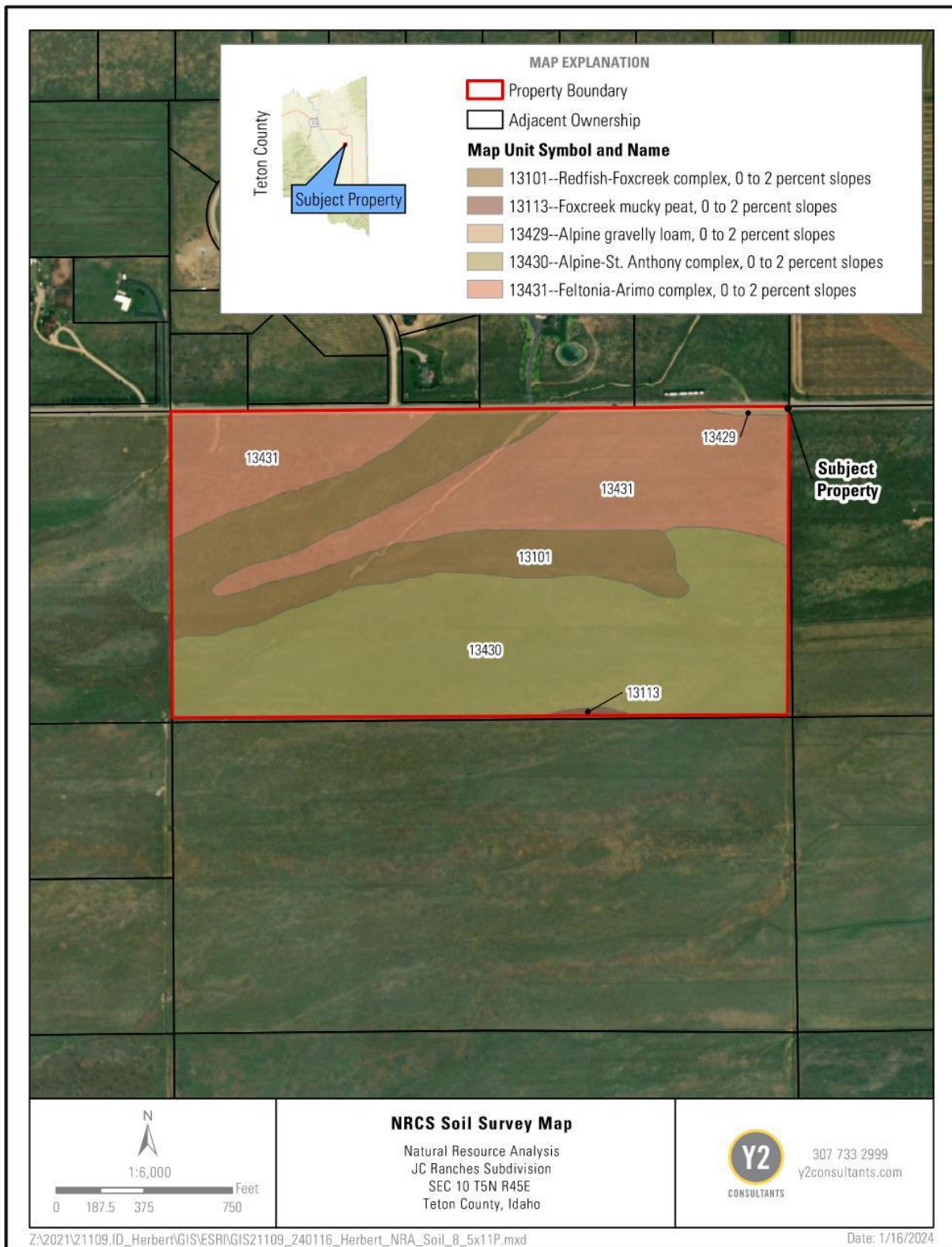


Figure 8: NRCS Soil Survey Map, JC Ranches Subdivision, Teton County, Idaho.





Figure 9: Photo Point Map, JC Ranches Subdivision, Teton County, Idaho.

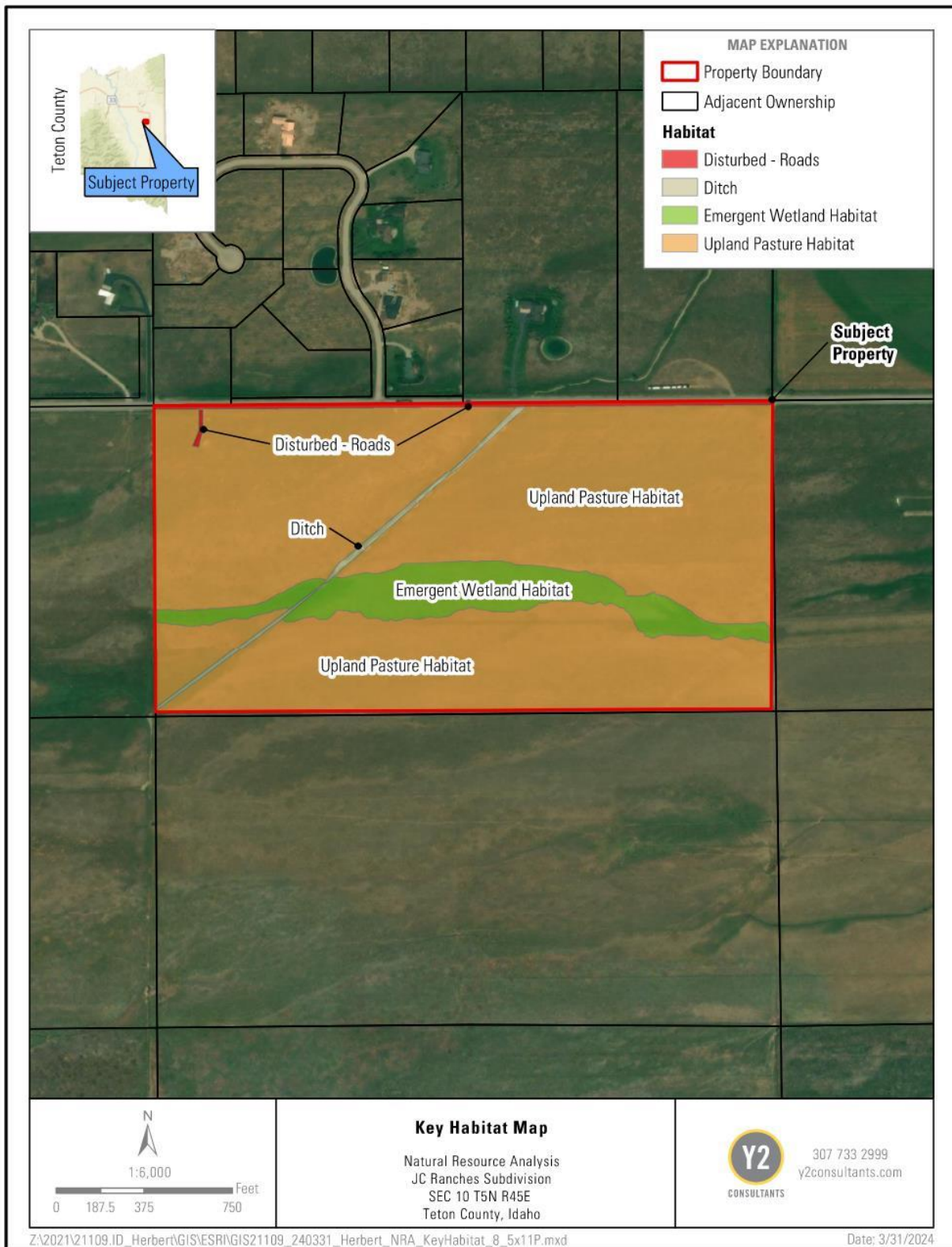


Figure 10: Key Habitats Map, JC Ranches Subdivision, Teton County, Idaho.



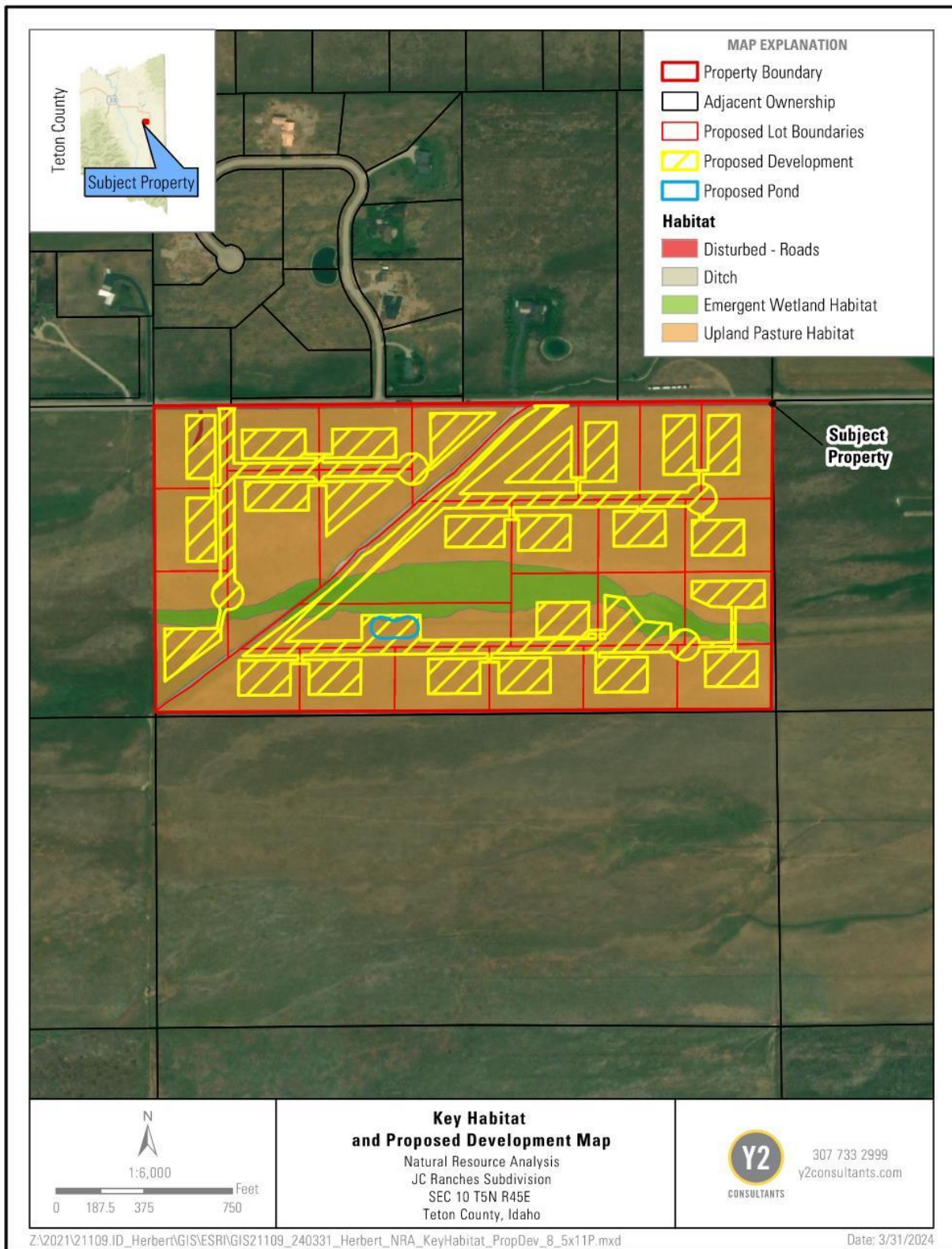


Figure 11: Key Habitats and Proposed Development Map, JC Ranches Subdivision, Teton County, Idaho.

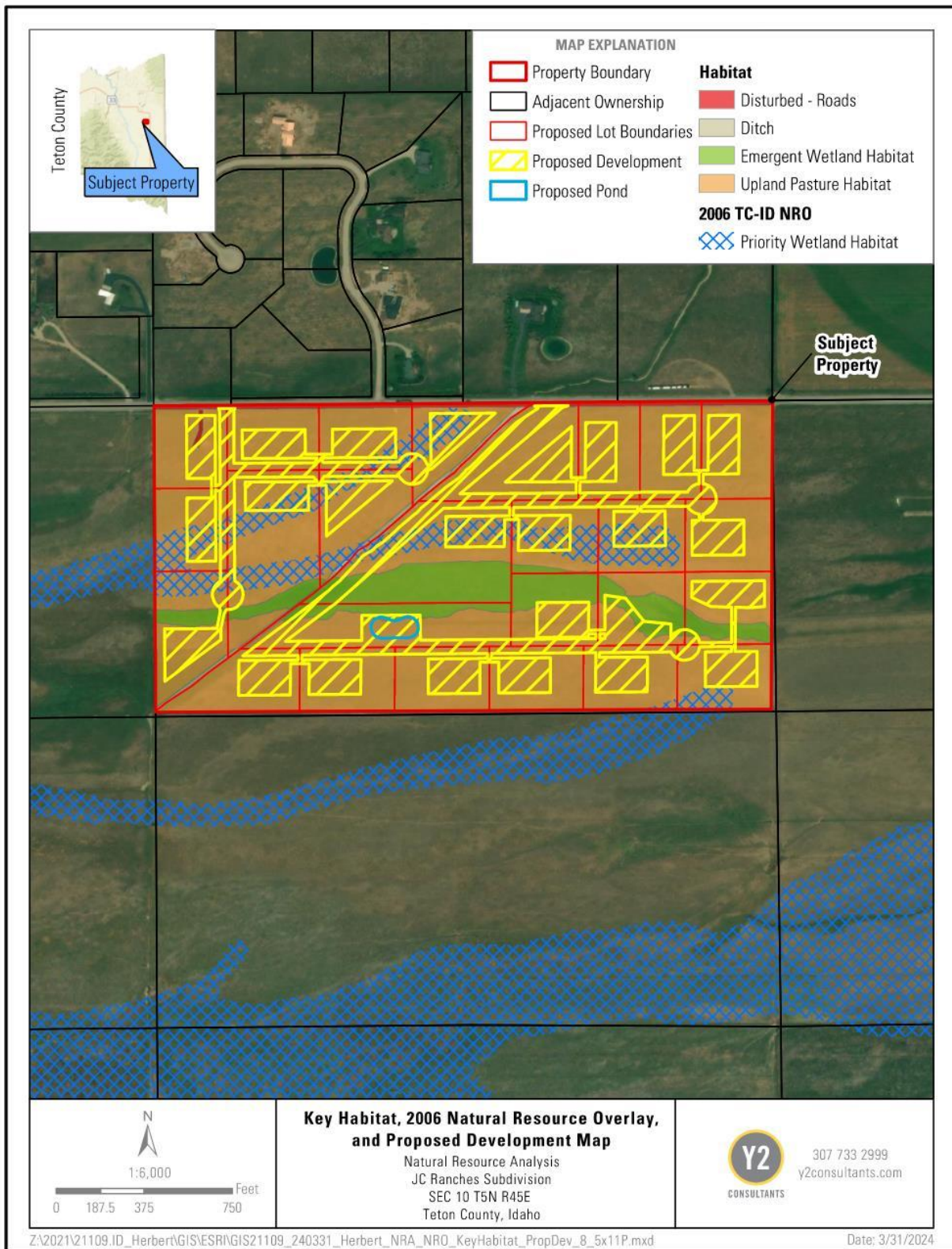


Figure 12: Observed Habitat, 2006 Natural Resource Overlay, and Proposed Development Map, JC Ranches Subdivision, Teton County, Idaho



# APPENDIX B – STUDY SITE PHOTOS

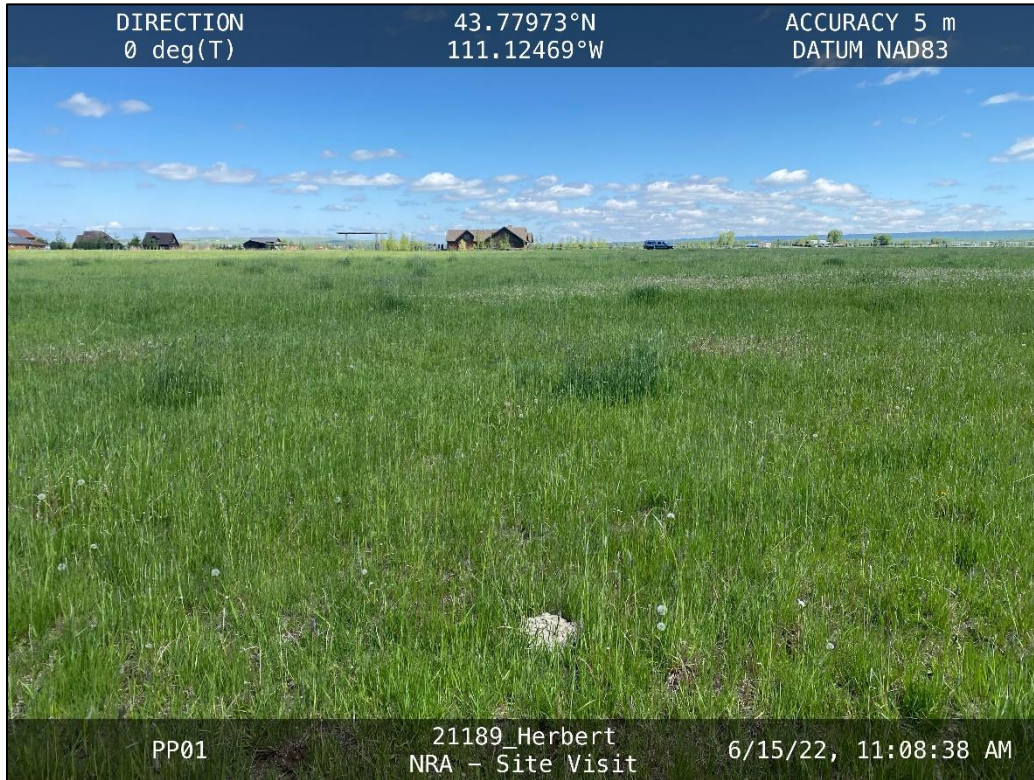


Photo 1: Photo Point 1 looking north toward N 4000 W across upland pasture habitat. (6/15/22)





Photo 2: Photo point #2 facing west across emergent wetland habitat. (6/15/22)



Photo 3: Photo point #3 facing north across ditch towards northwestern upland pasture habitat. (6/15/22)



# APPENDIX C – ADDITIONAL STUDY PHOTOS



Photo 4: From NW corner of property looking south across disturbance area and towards livestock well. (10/10/23)

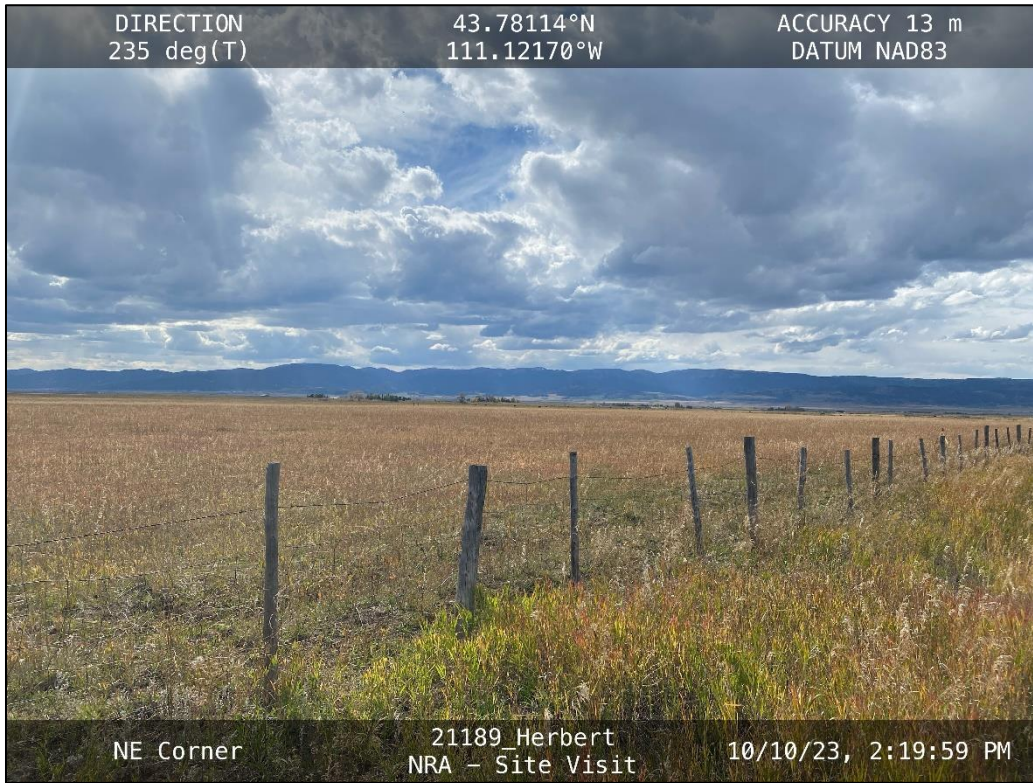


Photo 5: From northeast corner of property looking southwest across upland pasture area. (10/10/23)



Photo 6: From southwest corner of property looking east across flooded ditch area along southern property boundary during aquatic resource inventory. (6/1/22)

# APPENDIX D – ADDITIONAL ATTACHMENTS

- ASCE 7 Hazards Report
- US Seismic Design Report