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OSPREY LANDING SUBDIVISION SEC 11, T4N, R45E TETON COUNTY, IDAHO

NATURAL RESOURCE ANALYSIS & WILDLIFE HABITAT ASSESSMENT

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Prepared by:
Russell Burton, Range/Wildlife/GIS Specialist
Y2 Consultants, LLC
P.O. Box 2870
Jackson, WY 83001

Prepared for:
Bidache, Inc.
Sadek Darwiche
PO Box 1677
Jackson, WY 83001

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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 Osprey Landing Subdivision, in Teton County, Idaho. It is being completed in compliance with Teton County Code 9-3-2 (C-2-c-WH). This assessment is required because the proposed Osprey Landing Subdivision is located within the 2023 Big Game Migration Corridors Natural Resource Overlay as identified by Teton County (Figure 4). The parcel was not included in the 2006 version of the Natural Resource Overlay (Figure 5). 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 from potential developments.

PROPOSED ACTION

The proposed Osprey Landing Subdivision includes twelve – 2.5 acre lots. Each lot has a proposed building envelope 1 acre in size. Each lot includes a private driveway of minimal length. The entire subdivision will gain access from W 3000 N, just off of Hwy 33. A fire pond with an estimated maximum disturbance of 0.4 acres will be constructed along Kingfisher Loop, between lots 3 and 4. A second pond for wildlife will be constructed in the northeast corner of lot 9. During construction, driveways will be temporarily disturbed by fill material, ditches, and culverts to a width of sixteen feet. Similarly, the main roads will have a final constructed width of 22 feet. The total proposed disturbance is 17.5 acres (58% of the parcel). The proposed development can be viewed in Figure 3.

FINDINGS

Based upon primary and secondary research, including two site visits to the Osprey Landing Parcel, the project area includes habitats that are occasionally used by elk, moose, and mule deer. Based on evidence observed at the parcel, no compelling evidence of frequent big game occupation was observed such as scat or shrub browse. The IDFG Wildlife Observations Database indicates that the surrounding habitats are important to songbird species who likely use the parcel most frequently seasonally. Though no songbird observations are recorded within the parcel, numerous observations of a diversity of songbird species occur within 400 meters of the parcel. No live water is present on the parcel and thus fisheries habitat is not a concern. (Idaho Department of Fish and Game, n.d.)

CONCLUSION

This wildlife assessment concludes that the proposed Osprey Landing Subdivision could negatively impact indicator species within the project area due to the cumulative effect of human development and presence that further contributes to the fragmentation of habitat for big game. Though this parcel provides limited habitat value in the form of forage and cover, primarily due to its location in relation to surrounding disturbance. The parcel is valuable to big game because it provides incidental open space and connectivity

to other important habitats in the surrounding landscape. Further, due to the density of the proposed development and its placement adjacent to Highway 33, the development will likely impact the passage of wildlife across the highway. Due to the density of the proposed development, it is unlikely to design the subdivision in a way that minimizes impacts to important habitats, maximizes open space, and maintains habitat connectivity entirely. Opportunities for mitigation on-site, are very limited. The proposed layout incorporates two ponds along movement corridors on the east and west boundaries of the parcel. The movement corridors were created by clustering the development to the center of the parcel with the intent to maximize the area between Osprey Landing building envelopes and existing disturbance in surrounding parcels. The eastern corridor is approximately 300-400 feet wide from the proposed building envelopes of Osprey Landing to the apparent building envelopes of the neighboring building envelopes. The western corridor is approximately 100 feet from Osprey Landing's proposed building envelopes to the parcel edge and highway right of way. This 100 feet corridor is set aside for a berm and vegetation screening.

CHAPTER 2 – CURRENT CONDITIONS/AFFECTED ENVIRONMENT

CURRENT CONDITIONS/AFFECTED ENVIRONMENT – AREA DESCRIPTION

A routine Natural Resource Analysis and Wildlife Habitat Assessment (WHA) was conducted on the 30-acre study area covering one parcel known as Osprey Landing in Teton County, Idaho in the summer of 2022 with a follow up site visit in fall of 2023. The assessment was conducted by a Range/Wildlife/GIS Specialist for Y2 Consultants, LLC (Y2) at the request of Bidache Inc. "Client/Agent/Owner".

The purpose for the assessment was to identify, describe, and evaluate natural resources that occur within, or adjacent to, the Osprey Landing Parcel. This process and supporting document is prepared following current Teton County Planning and Zoning Ordinances.

LOCATION AND PHYSIOGRAPHY

The WHA consists of a 30.0-acre study area spanning one lot, collectively identified as the Osprey Landing Parcel.

The assessment area is located approximately 3 miles south of the town of Driggs in Teton County, Idaho (Figure 1). Access to the property is gained by turning off of Highway 33 onto W 3000 S. The parcel is bound on the west by Highway 33 and south by W 3000 S.

Osprey Landing is predominantly intact sagebrush habitat and lies approximately 0.25 miles north of Darby and Dick Creeks, which eventually drains into the Teton River. The average elevation across the parcel is 6135 feet (6125 – 6152 feet).

FLOODPLAINS, WETLANDS, AND RIPARIAN AREAS

FLOODPLAINS

The Teton County Floodplain Overlay indicates that the southwest corner of the parcel contains 0.25 acres of the current floodplain overlay, approximately 0.83% of the parcel (Figure 12). The Preliminary FEMA Flood Hazard Area (8/15/25) shown on Teton County GIS, includes the western edge of the property. The preliminary area enters the parcel approximately 4-240 feet. During the 2022 site visit, the southwest corner of the parcel was inundated with flood waters.

WETLANDS

The 2023 and 2006 Teton County Natural Resource Overlays both indicate that no priority wetland areas are within the Osprey Landing Parcel (Figure 4 and Figure 5). The nearest priority wetland areas are approximately 0.4 miles northwest from the parcel. During the site visit, no areas of interest were identified

to justify further exploration into the site soils to verify wetland status. No areas were observed that contained Obligate or Facultative Wetland vegetation species.

RIPARIAN AREAS

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

The Osprey Landing Parcel is located approximately one-quarter mile north of Darby and Dick Creeks. No drainage areas were observed across the parcel. At the time of the initial site visit, standing water was observed in the southwest corner of the parcel within the delineated flood zone. No evidence suggesting perennial flows, such as sediment deposits or obligative/facultative vegetation species, were observed. Vegetation species commonly associated with riparian areas were not observed and the greater vegetation community, mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*), smooth brome (*Bromus inermis*), or intermediate wheatgrass (*Thinopyrum intermedium*), are not typically riparian obligate species, but tolerate wetter times throughout the year.

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 area as Moderately High earthquake risk. Exhibits within the report classify the Tetonia to Felt area as Low Liquefaction Susceptibility and in the National Earthquake Hazards Reduction Program (NEHRP) class C3. Moreover, numerous historic earthquakes have been recorded in the Teton Range east of Felt ranging from Magnitude 1.9 – 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, in 2016. Their findings are presented in their Community Wildfire Protection Plan (CWPP) which defines Wildland Urban Interfaces (WUI) that include private property and public lands. Within this plan are estimated risk levels to the WUI and management suggestions to improve or mitigate risk levels. The area around Driggs was determined to be moderately low in the All Hazard Mitigation Plan. However, upon further review, the CWPP classifies some of the area surrounding the Osprey Landing parcel as high to very high classification of fire intensity (>500 Btu/ft/s) and high to very high classification of flame length (>8 ft), most likely due to the vegetation cover dominated by brush and deciduous trees. A fire pond for primary and supplemental water for fire protection and prevention has been designed and will be incorporated into the proposed subdivision

infrastructure per Teton County, Idaho regulations. (*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 largely 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 are generally comprised of sagebrush communities 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 Osprey Landing Parcel are described within the Key Habitats section of this document.

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 Osprey Landing Parcel exhibits relatively uniform elevation across the main portion of the parcel with the northeast portion being relatively steep. Although there are steeper areas of the parcel, there are no ridges or rock outcroppings within the parcel.

PERCENT SLOPE

The Osprey Landing Parcel is relatively uniform. The Teton County slope percentage layer shows the parcel is dominantly less than 10% slope. U.S. Geological Service (USGS) resources classify the Osprey Landing Parcel as 1% average slope, ranging from 0.5 – 1.5% slope (*The National Map | U.S. Geological Survey*, n.d.).

SOILS

Table 1 shows the six soil types mapped by the soil survey on the Osprey Landing Parcel (Natural Resources Conservation Service, n.d.). None of the soils are listed as hydric soils and do not indicate any wetland likelihood. Figure 8 depicts the soil map units for the Osprey Landing Parcel.

Table 1: Soils within the Osprey Landing Parcel.

Map Unit Symbol	Map Unit Name	ESD	ESD Name	Acreage within Parcel	Percent of Parcel
13430	Alpine-St. Anthony complex, 0 to 2 percent slopes	R013XY004ID	Shallow Gravelly 12-16 PZ ARTRV/PSSPS	30.0	100%

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

The Osprey Landing Parcel is directly adjacent to Idaho State Highway 33 (Figure 1), but 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 predominant historic use of the Osprey Landing parcel is likely production agriculture through cattle grazing. This land use is not evident in any evidence on the site, nor in historic imagery. Further, this land use likely diminished quickly when the area between Driggs and Victor started to be subdivided. There are no structures currently on the parcel. Established roads border the parcel across the southern, and western borders.

OVERVIEW

In general, shown in Figure 10, approximately 28.95 acres (~97%) of the 30-acre parcel remains intact with elements of native vegetation communities. Approximately 1.05 acres (~3%) have been converted to herbaceous dominated communities, likely through disturbance. There are no riparian or wetland areas present on the parcel. Supplemental water enters the floodplain portion of the property in the southwest corner but the area does not exhibit riparian characteristics. The majority of the parcel is undeveloped and only approximately 1.05 acres (~3%) has been disturbed. The parcel exhibits limited use by wildlife although it offers desirable forage species. The 2023 Teton County, Idaho delineated Big Game Migration Corridors and Seasonal Range Natural Resource Overlay includes 13.83-acres (~46%) of the parcel. The 2006 Natural Resource Overlay did not include the parcel. Though the dominant sagebrush habitat in the

parcel represents this overlay to a high degree regarding forage value, however the disturbance surrounding the parcel likely makes the parcel less desirable for big game.

INDICATOR SPECIES AND HABITATS

13.83-acres (~46%) Osprey Landing parcel is located within the 2023 Big Game Migration Corridors & Seasonal Range Natural Resource Overlay (Figure 4). The parcel was not in the 2006 Natural Resource 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 those 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. Calculations represent the 2023 Natural Resource Overlay.

Indicator Species	Habitat	Does this occur within the project area?	Acres within the Project Area	Overall Description
Big Game Elk, Mule Deer, and Moose.	Sagebrush, Mixed Tree/Shrub, Tall Shrub/Sagebrush, and Deciduous Tree Habitat.	Yes.	13.83 Acres	13.83-acres (~46%) are located within the 2023 Big Game Migration Corridors & Seasonal Range Overlay as identified by Teton County. Sagebrush dominated habitat occur across the majority of the parcel.
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	No	N/A	Palustrine emergent wetlands are not present in the project area. No further analysis is necessary.
Songbirds and Raptors	Forested riparian habitat and mountain shrublands	No	N/A	The parcel is not identified within the Songbirds and Raptors overlay. No further analysis is necessary.
Columbian Sharp-tailed Grouse	Sagebrush, Mixed Tree/Shrub, Tall Shrub/Sagebrush, and Deciduous Tree Habitat.	No	N/A	The parcel is not identified within the Columbian Sharp-tailed Grouse overlay. 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).

Table 3: Identified habitat/cover types on the Osprey Landing parcel.

Habitat Type	Acreage	%
Sagebrush Habitat – High Density	14.94	49.8
Sagebrush Habitat – Low Density	14.01	46.7
Mixed Herbaceous Habitat	1.05	3.5

SAGEBRUSH HABITAT

This habitat type is found across the majority of the parcel outside the small area of mixed herbaceous habitat along the northern boundary. It is dominated by mountain big sagebrush with a diverse herbaceous understory. Other shrubs observed include yellow rabbitbrush (*Chrysothamnus viscidiflorus*), snowberry (*Symphoricarpos oreophilus*), and antelope bitterbrush (*Purshia tridentata*). The herbaceous understory is dominated by grasses expected on the site including western wheatgrass and sandberg bluegrass (*Poa secunda*). Other forb species observed include penstemon, longleaf phlox (*Phlox longifolia*), onion (*Allium* spp.), and tiny trumpet (*Collomia linearis*).

This habitat exhibited limited amounts of big game use. Little to no scat or browse from elk, moose and mule deer was observed across most of this habitat.

MIXED HERBACEOUS HABITAT

This habitat type is isolated to a small patch along the northern boundary of the parcel. It is dominated by perennial grasses including Sandberg bluegrass and Western wheatgrass. Perennial forbs including longleaf phlox, pale agoseris, and yarrow were subdominant. Annual and biennial species including common mullein, thistle, tumbled mustard, tiny trumpet, and cheatgrass were also subdominant. The presence of these annual species may indicate historical disturbance. There was also old horse scat in this habitat.

This habitat exhibited no evidence of big game use.

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.

BIG GAME – MULE DEER, ELK, AND MOOSE

Mule deer, elk, and moose have various distinct and overlapping habitat needs. Elk can be considered habitat generalists. They prefer open woodlands, grasslands, and shrublands but can also be found in coniferous forest, clear cuts, aspen forests, and mixed coniferous hardwood forests. Elk prefer grazing on grasses, forbs, and sedges in the summer but may consume more woody browse such as trees and shrubs in winter. Mule deer are more selective in their habitats than elk and prefer open habitats with shrubby vegetation. They are concentrate selecting browsers and prefer leaves, twigs, buds, forbs, and grasses. Moose are browsers like mule deer and prefer more shrubby vegetation than elk as well. During the summer, moose prefer the young leaves and twigs of shrubs and trees and in winter utilize conifer and hardwood twigs. Also, when available moose seek aquatic plants with high levels of sodium. (Teton Regional Land Trust, 2006)

IDFG recognizes the habitat value of the Osprey Landing Parcel for big game habitat. Collar data and observations show that big game (mule deer, elk, and moose) use fluvial cottonwood corridors, including Dick Creek adjacent to the Osprey Landing parcel, as a movement paths across the valley. These corridors are especially important through the winter as they provide habitat connectivity for big game access to important adjacent habitats. Elk that winter in the Victor return to summer habitat in Grand Teton National Park and the adjacent national forest. The elk winter along the foothills of Teton County and move up in elevation as summer progresses. Other species that rely on the adjacent cottonwood corridor include various raptors, songbirds, and grizzly bears. Raptors and songbirds use mature cottonwoods for nesting habitat and these areas attract great gray owls in deep snow years. Similar to big game, grizzly bears use cottonwood corridors as security to move throughout the valley. There has been recorded grizzly bear conflict in the past decade near the Osprey Landing parcel. (R. Cavallaro, personal communication, January 16, 2024)

During the initial site visit on 6/7/2022, very little evidence of occupation by big game was observed. Given the extremely sparse distribution of scat and any evidence of browse, it appeared that big game likely use the parcel incidentally when moving through the area.

FENCING

The entire Osprey Landing Parcel is fenced with 4 – 5 wires and wood or steel fence posts. Although not constructed to wildlife friendly fence standards, the fence appeared to be maintained and there were no areas of significant concern for wildlife entanglement.

NOXIOUS SPECIES

Noxious and weed species were mostly observed in the Mixed Herbaceous Habitat. The primary noxious species observed included cheatgrass (*Bromus tectorum*) and musk thistle (*Carduus nutans*). Other weedy and occasionally invasive species observed included common mullein and tumbled mustard.

SPECIAL STATUS SPECIES

No known or suspected plant or animal species were identified on the Osprey Landing 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 Osprey Landing 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 Osprey Landing Parcel.

Group	Name	Population	Status
Mammals	Grizzly bear (<i>Ursus arctos horribilis</i>)	U.S.A., conterminous (lower 48) States, except where listed as an experimental population	Threatened
Mammals	North American wolverine (<i>Gulo gulo luscus</i>)	Wherever found	Proposed Threatened
Insect	Monarch Butterfly (<i>Danaus plexippus</i>)	Wherever found	Candidate

(US Fish and Wildlife Service, n.d.)

CHAPTER 3 – IMPACT ANALYSIS

The proposed Osprey Landing Subdivision includes twelve – 2.5 acre lots. Each lot has a proposed building envelope 1 acre in size. Each lot includes a private driveway of minimal length. The entire subdivision will gain access from W 3000 N, just off of Hwy 33. A fire pond with an estimated maximum disturbance of 0.4 acres will be constructed along Kingfisher Loop, between lots 3 and 4. A second pond for wildlife will be constructed in the northeast corner of lot 9. During construction, driveways will be temporarily disturbed by fill material, ditches, and culverts to a width of sixteen feet. Similarly, the main roads will have a final constructed width of 22 feet. The total proposed disturbance is 17.5 acres (58% of the parcel). The proposed development can be viewed in Figure 3.

BIG GAME MIGRATION CORRIDORS & SEASONAL RANGE

The proposed development will directly impact 8.18 acres of the 2023 Big Game Migration Corridors and Seasonal Range (Figure 6). The 2006 Natural Resource Overlay did not include the parcel (Figure 5). Direct impacts will include converting relatively intact wildlife habitat into lands characterized as human disturbance such as roads, buildings, fences, and landscaped areas with limited habitat value. These lands are surrounded by existing disturbance on the west, north, and east edges of the Osprey Landing Parcel. The primary indirect impact is the perpetual negative influence on habitat connectivity for big game due to the disturbance and presence of humans. Human presence can impact connectivity due to the presence of pets, light sources, general activity, and others. Development of the Osprey Landing Parcel would further contribute to the encroachment of humans into important wildlife habitat areas such as the Darby Creek Cottonwood Corridor.

ELK, MULE DEER, AND MOOSE.

Elk, mule deer, and moose are all negatively affected by increased human presence and disturbance. As stated above, these big game species will experience impacts to their habitat connectivity, primarily due to development and human presence. If fencing is constructed around the proposed lots, significantly increased risk of entanglement will occur.

The conversion of habitat to landscaping can reduce forage availability. Although native forage species may be chosen for landscaping plans, most often exclusion fencing is implemented to protect new plantings, resulting in a net loss of forage availability. If non-native ornamental species are chosen for landscaping, the least impactful result would be a loss of forage availability and the most impactful result would be selecting species that are toxic to big game species, such as ornamental yew.

Although the parcel is not located near delineated wildlife migration corridors in the Idaho Fish and Wildlife Observation System Database, observations by IDFG field staff suggest the importance of fluvial cottonwood corridors to wildlife moving throughout the valley. (R. Cavallaro, personal communication, January 16, 2024; Idaho Department of Fish and Game & Idaho Natural Heritage, n.d.)

Moose migration corridors and stopover points have not been delineated in the vicinity of the Osprey Landing Parcel. However, recorded moose observations have been documented approximately one and one half miles south of the Osprey Landing Parcel. (Idaho Department of Fish and Game & Idaho Natural Heritage, n.d.)

SCENIC OVERLAY AND RESOURCES

The entire proposed development associated with the proposed Osprey Landing Subdivision will be visible from Highway 33. Currently, no dense vegetation is present between the Highway 33 right of way and the parcel and no topography is present to screen the proposed development.

FLOODPLAINS

The FEMA Zone A Floodplain enters the parcel in the southwest corner and includes about 0.25 acres or 0.8 percent of the parcel overall (Figure 12). The Zone A classification indicates a 1% yearly chance of flooding. The proposed building envelope in the southwest corner lies against the floodplain boundary, with a very slight overlap accounting for 0.001 acres (~43 square feet) along the building envelope's southern edge (Figure 13). Given common building placement in the neighborhoods surrounding Osprey Landing, it is unlikely that a future home or building will be placed to meet the building envelope boundary. Thus, it is unlikely that the Zone A Floodplain will interfere with the development.

CHAPTER 4 – PROPOSED MITIGATION

BUILDING ENVELOPE PLACEMENT AND MOVEMENT CORRIDORS

Based upon feedback received from IDFG regarding wildlife movement in the area surrounding the Osprey Landing Parcel, the client chose to prioritize a clustered design with the intent to maximize the area between Osprey Landing building envelopes and existing disturbance in surrounding parcels. All building envelopes were reduced to 1 acre in size and clustered to the center of the parcel around Kingfisher Loop (Figure 3). Movement corridors were created by clustering the development to the center of the parcel. The eastern corridor is approximately 300-400 feet wide from the proposed building envelopes of Osprey Landing to the apparent building envelopes of the neighboring building envelopes. The western corridor is approximately 100 feet from Osprey Landing's proposed building envelopes to the parcel edge and highway right of way. This 100 feet corridor is set aside for a berm and vegetation screening.

FENCING

There are no current plans to alter the existing fence around the parcel currently used for boundary delineation. Future fencing will be stipulated by the fencing section of the Land Management Plan section of this report.

RECLAMATION

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

PONDS

All wildlife species are expected to benefit from the proposed ponds on the Osprey Landing parcel. Aside from providing readily available fire prevention to the subdivision, these ponds will provide access to water for wildlife 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. The wildlife pond is located in the wildlife corridor as a resource to all wildlife using the corridor. If a device is incorporated to limit freezing, such as an aerator, the ponds could provide access to species that overwinter in the Teton Valley, such as trumpeter swans. Further, these ponds will likely to be an oasis for invertebrates, amphibians and other prey species sought by sandhill cranes and other water birds. Native vegetation will be planted around the pond to increase screening for wildlife surrounding building envelopes. The proposed ponds can be viewed in Figure 3.

BERM

A berm is proposed for construction along the western edge of the parcel to provide additional screening of the subdivision from Highway 33. Coupled with the proposed vegetation screening discussed below, this

feature will provide a way for big game to exit the highway right of way and travel around the subdivision to the southern cottonwood corridor.

VEGETATION SCREENING

Per stipulations regarding the Scenic Overlay, all future lot owners will be required to install landscaping to screen the view of any outdoor storage areas, outdoor trash collection areas, satellite dishes over two (2) meters in diameter, and areas with inoperable equipment or more than four (4) inoperable cars or trucks from Highway 33. Further, the client has chosen to install dense screening along the proposed berm on the western edge of the parcel.

To create further separation between building envelope disturbance and the eastern and western wildlife corridors. Future owners will be required to install vegetation screening at the edge of their development or building envelope.

All installed landscaping and screening discussed above will be designed to provide functionality early in its establishment and when it's fully established decades into the future. The design will utilize native shrub and tree species like those found in vegetation communities along Darby Creek, south of the parcel. It is expected to include conifer species such as spruce, deciduous trees such as aspen, and shorter stature flowering/fruited shrubs such as chokecherry and currants. To further support pollinator species, lilacs and dogwood should be considered as well.

These upland mitigation improvements will provide an overall enhancement to wildlife habitat on the parcel including big game, raptors, songbirds and pollinators. Once established, the screening along the eastern side of the parcel will support habitat connectivity for elk, mule deer, and moose by screening the human development.

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. 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 pet containment may impact wildlife passage and will be limited to building envelopes. Pet fencing should be clustered to development within 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 controlling 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.

REFERENCES

- Cavallaro, R. (2024, January 16). *Correspondence with Rob Cavallaro, IDFG* [Personal communication].
- Dick, R. (2014). Applied scotobiology in luminaire design. *Lighting Research & Technology*, 46(1), 50–66.
<https://doi.org/10.1177/1477153513505758>
- Idaho Department of Fish and Game. (n.d.). *Idaho Fish and Wildlife Information System* [Dataset].
- Idaho Department of Fish and Game & Idaho Natural Heritage. (n.d.). *Idaho Fish and Wildlife Information System, Species Diversity Database* [Geodatabase].
- Natural Resources Conservation Service. (n.d.). *Custom Soil Resource Report for Teton Area, Idaho and Wyoming: GIS21089_240106_Bidache_PropertyBoundary*.
- Teton County, Idaho—Multi-Jurisdictional All Hazard Mitigation Plan. (2016, February).
<https://www.tetoncountyidaho.gov/pdf/forms/2016tetonahmpupdate.femaapproved-24aug2016page1.pdf>
- Teton Regional Land Trust. (2006). *Wildlife Overlay and Wildlife Conservation Measures for Teton County, Idaho*.
- The National Map | U.S. Geological Survey. (n.d.). Retrieved January 27, 2022, from
<https://www.usgs.gov/programs/national-geospatial-program/national-map>
- US Fish and Wildlife Service. (n.d.). *GIS21089_240219_Bidache_USFWS_IPaC.pdf*.

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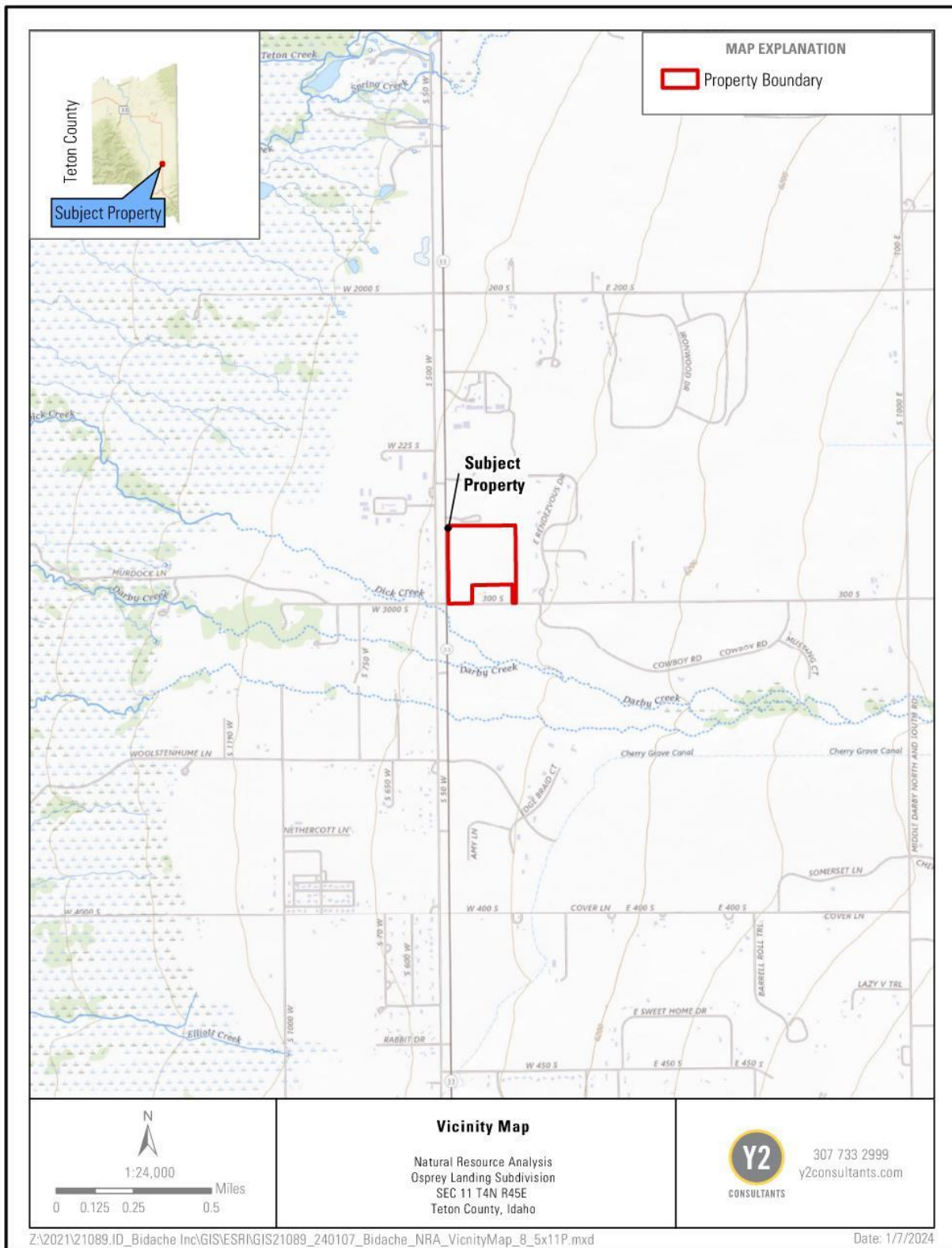


Figure 1: Site Vicinity Map, Osprey Landing Subdivision, Teton County, Idaho.



Figure 2: Site Overview Map, Osprey Landing Subdivision, Teton County, Idaho.

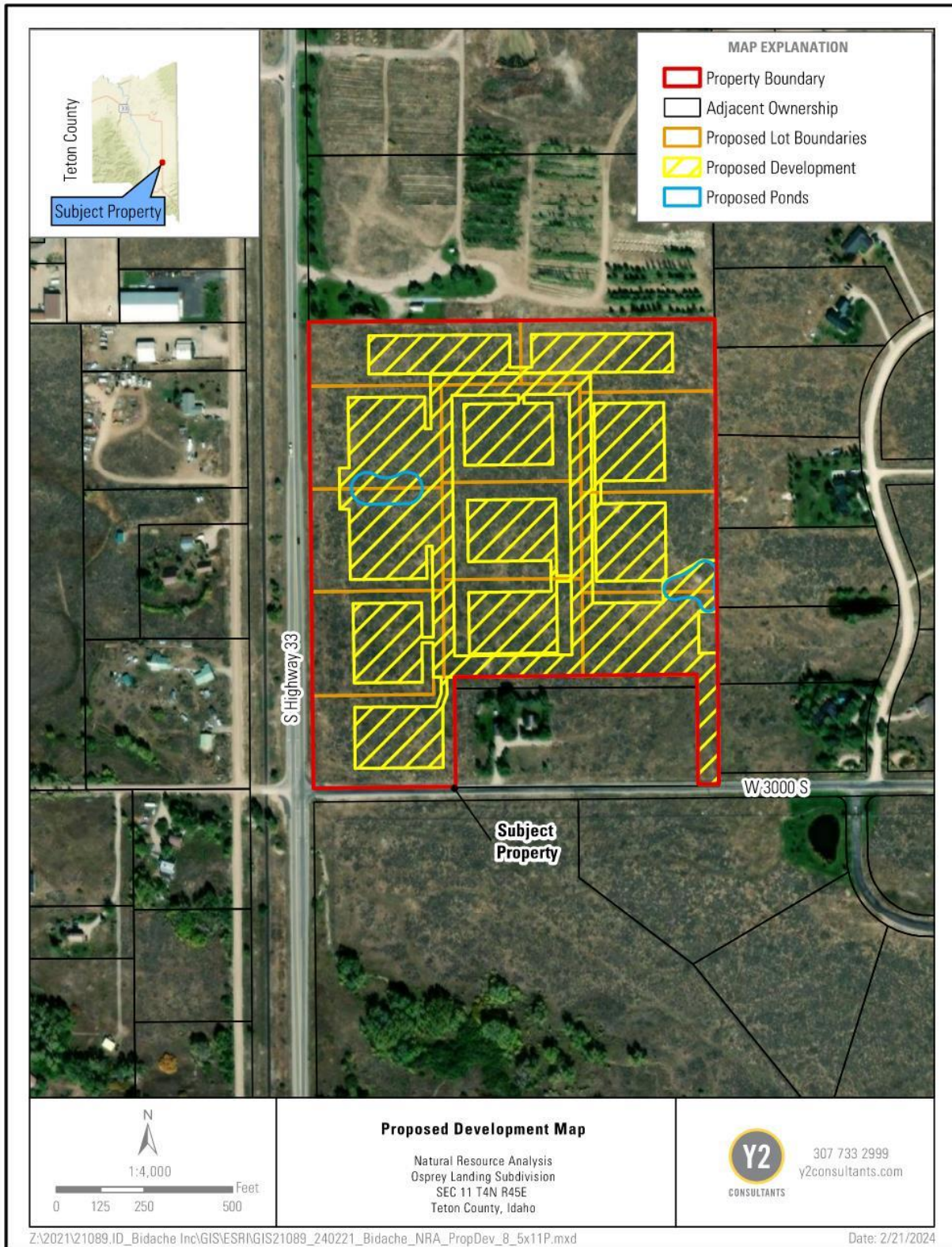


Figure 3: Proposed Development Map, Osprey Landing Subdivision, Teton County, Idaho.

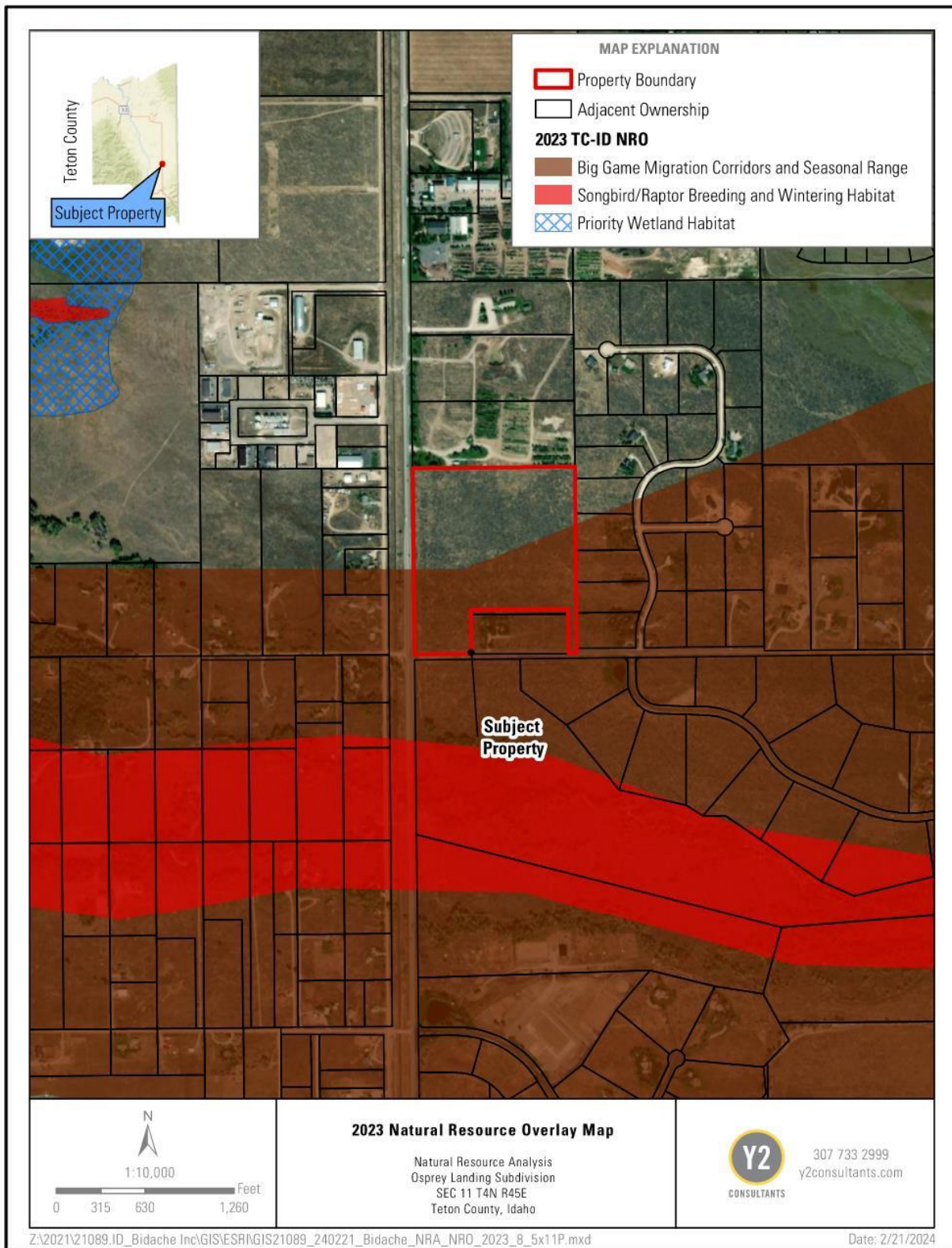


Figure 4: 2023 Natural Resource Overlay Map, Osprey Landing Subdivision, Teton County, Idaho

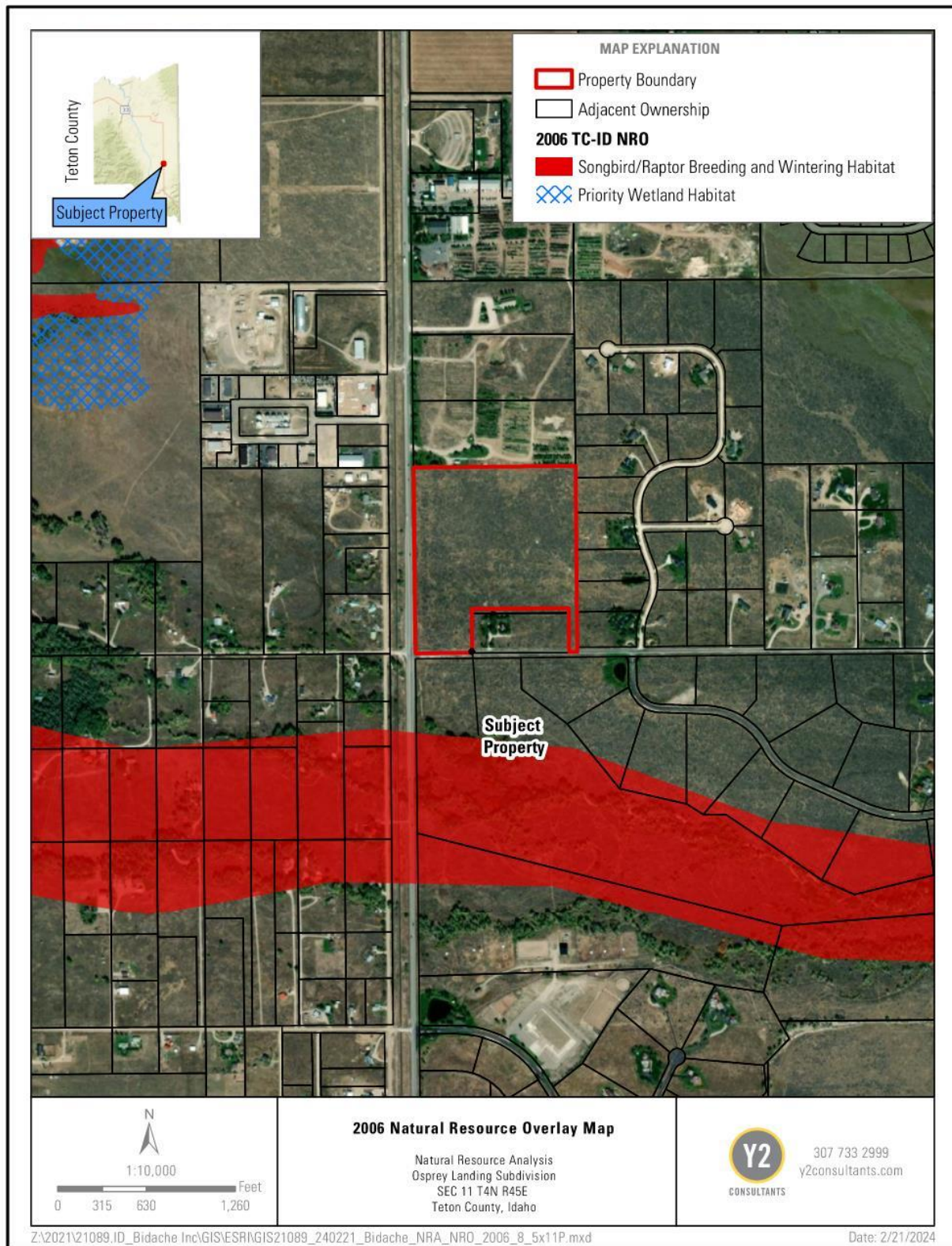


Figure 5: 2006 Natural Resource Overlay Map, Osprey Landing Subdivision, Teton County, Idaho

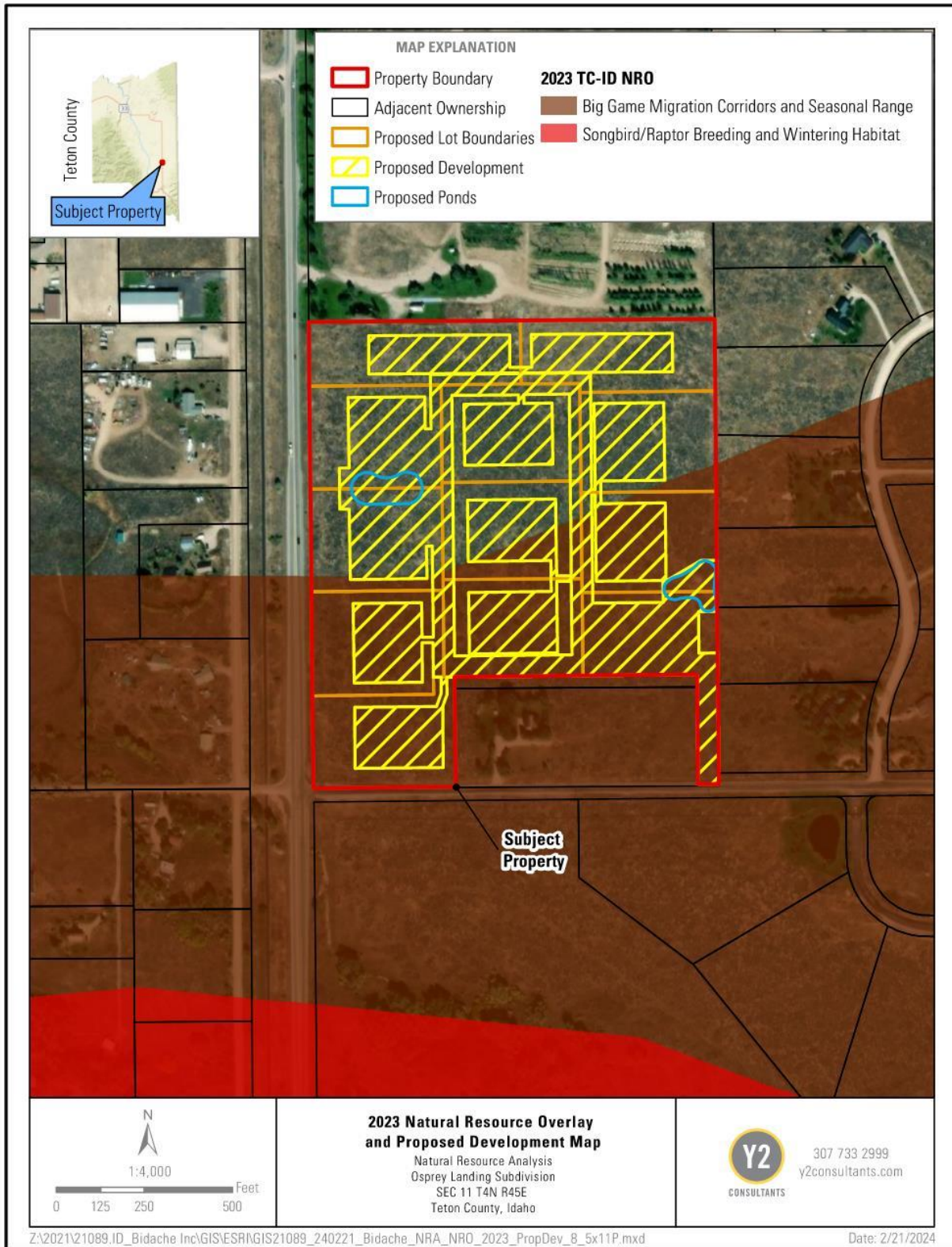


Figure 6: 2023 Natural Resource Overlay and Proposed Development Map, Osprey Landing Subdivision, Teton County, Idaho.

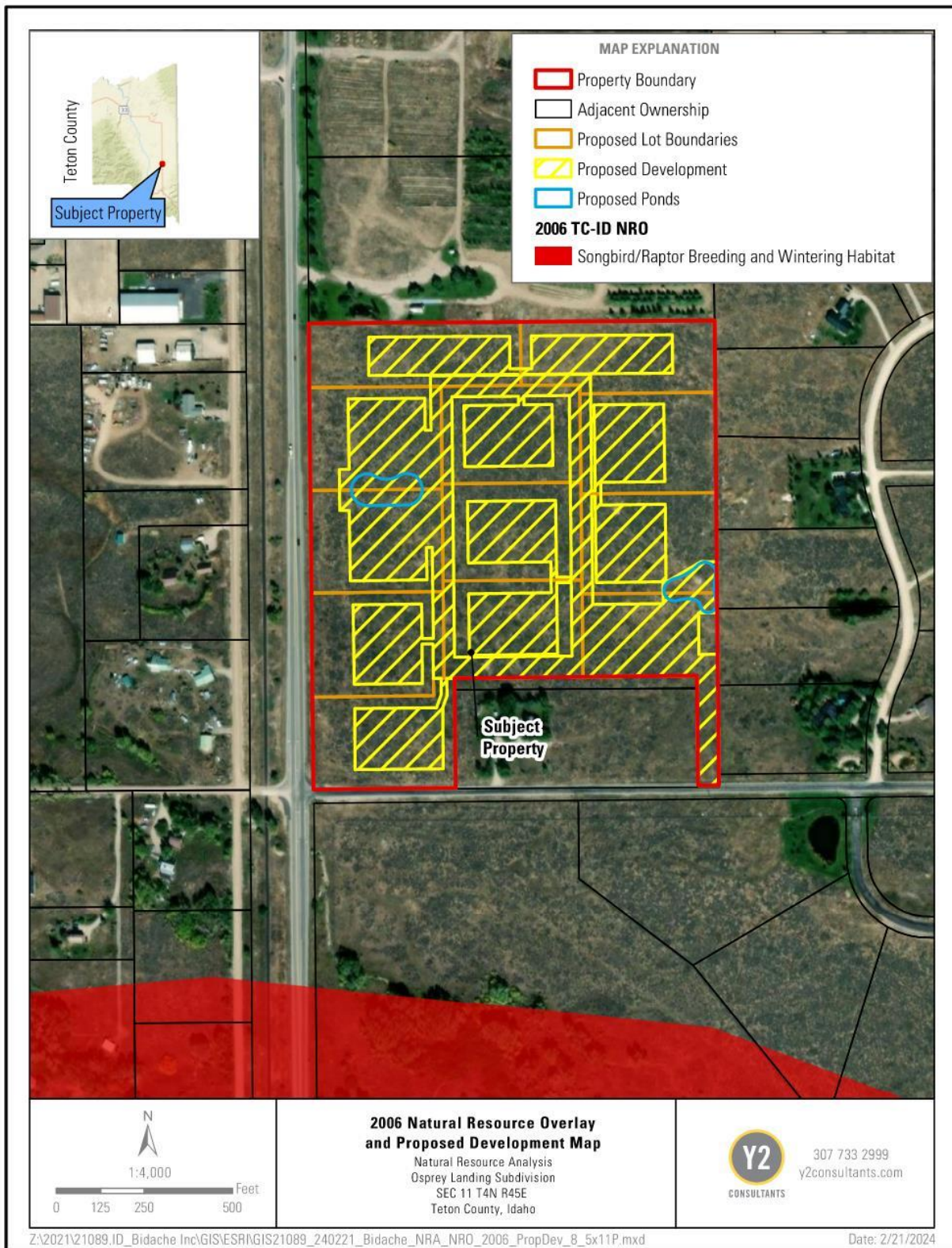


Figure 7: 2006 Natural Resource Overlay and Proposed Development Map, Osprey Landing Subdivision, Teton County, Idaho.



Figure 8: NRCS Soil Survey Map, Osprey Landing Subdivision, Teton County, Idaho.



Figure 9: Photo Point Map, Osprey Landing Subdivision, Teton County, Idaho.



Figure 10: Key Habitats Map, Osprey Landing Subdivision, Teton County, Idaho.

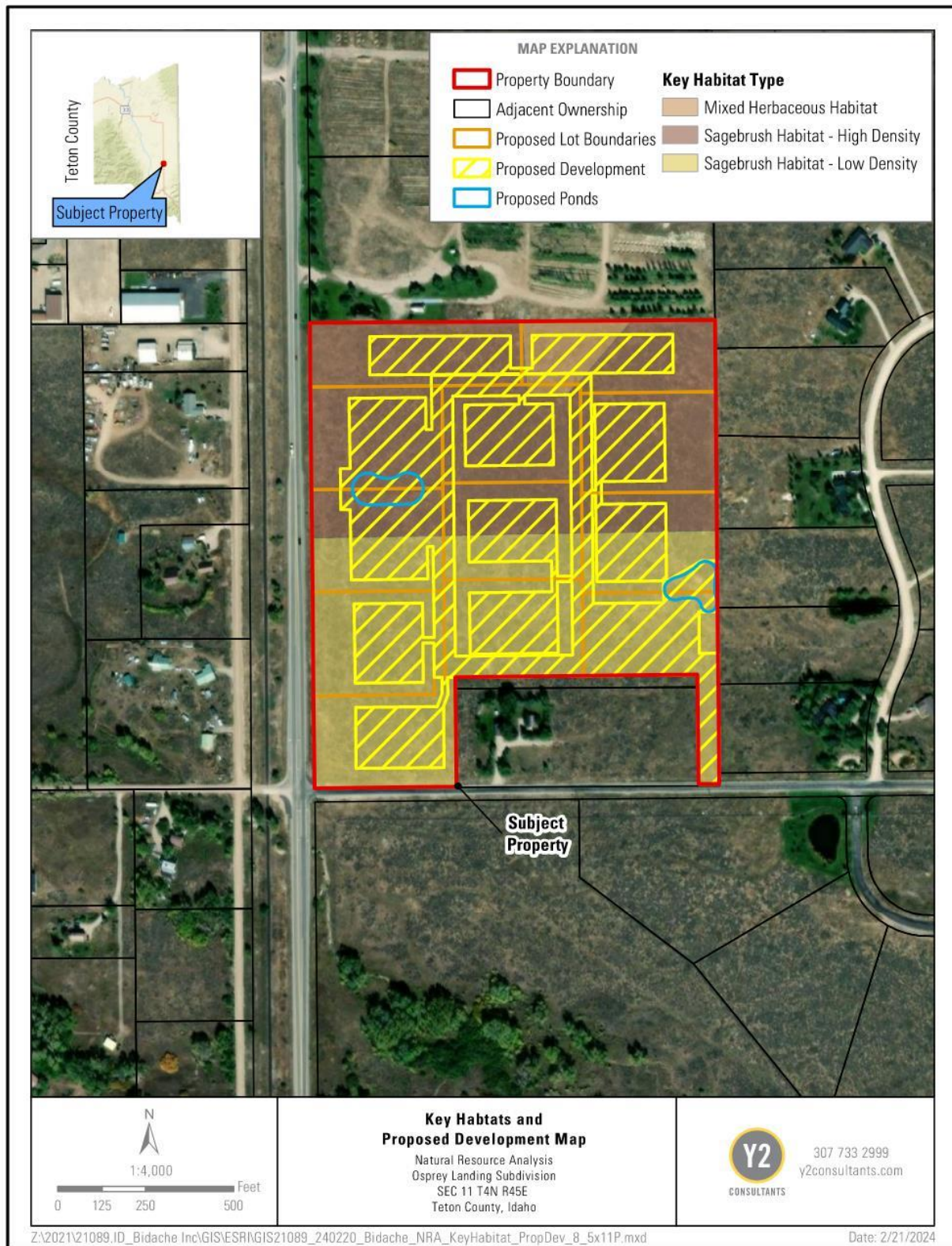


Figure 11: Key Habitats and Proposed Development Map, Osprey Landing Subdivision, Teton County, Idaho

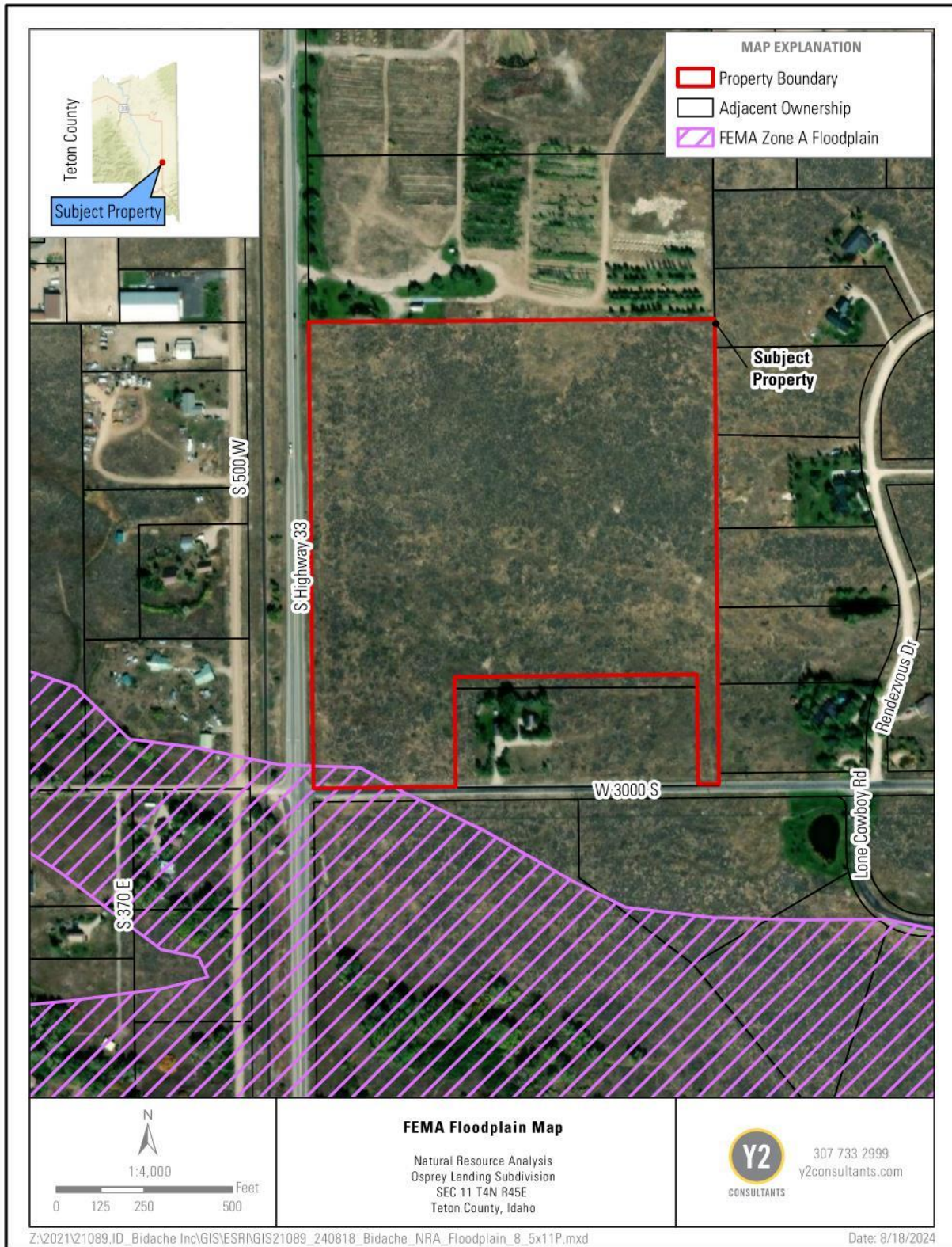


Figure 12: FEMA Floodplain Map, Osprey Landing Subdivision, Teton County, Idaho

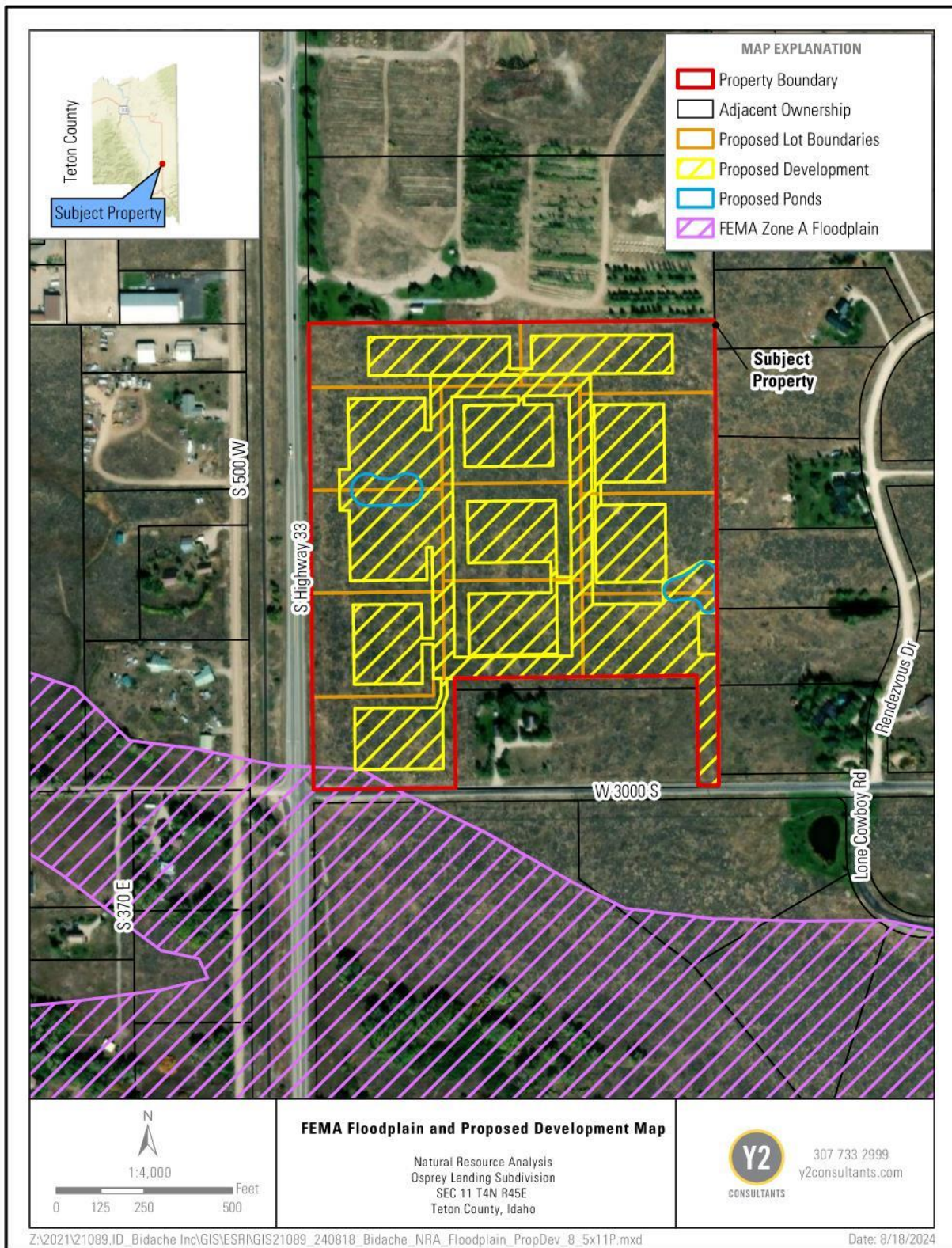


Figure 13: FEMA Floodplain and Proposed Development Map, Osprey Landing Subdivision, Teton County, Idaho

APPENDIX B – STUDY SITE PHOTOS

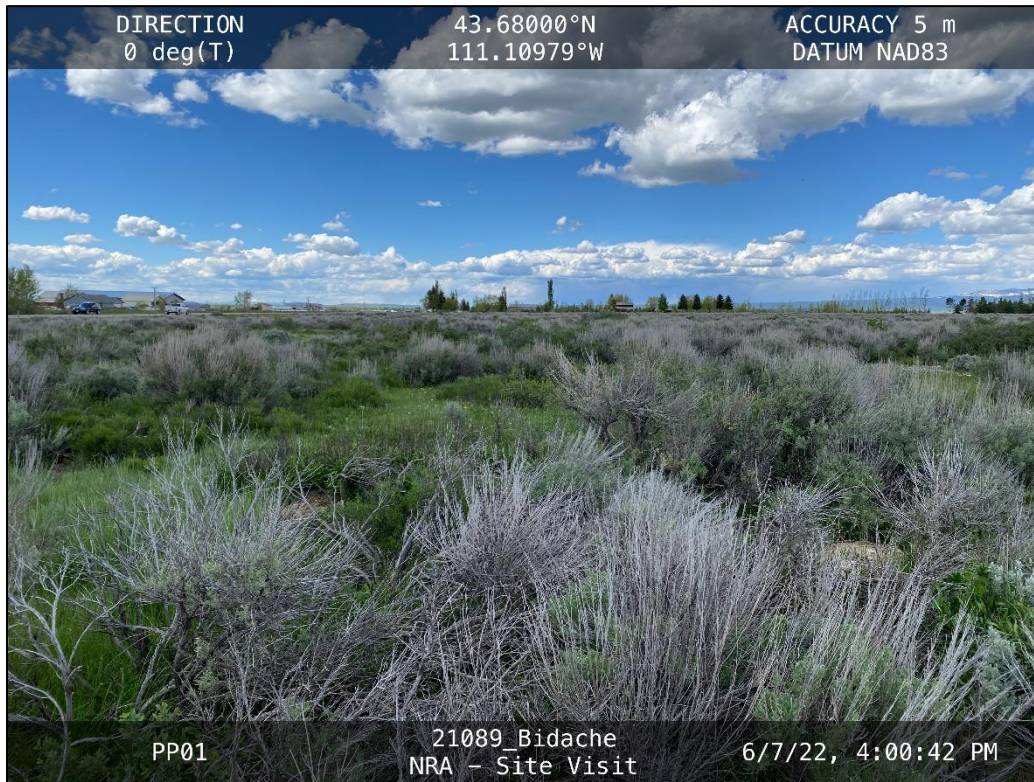


Photo 1: Photo Point 1 facing north showing the lower density sagebrush community of the southern half of the parcel. Also visible is Highway 33 to the west and adjacent disturbance to the north and east. (6/7/2022)

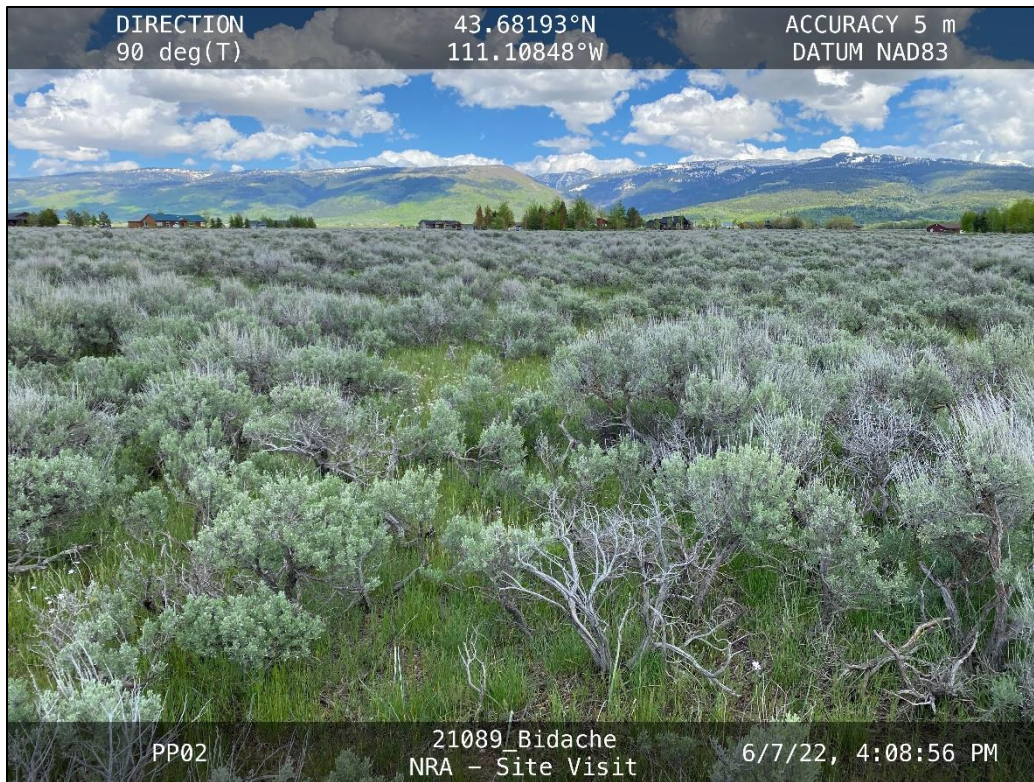


Photo 2: Photo point #2 facing east and looking across the higher density sagebrush community. Visible in the background is the adjacent disturbance to the east and the view of the Teton Range. (6/7/2022)



Photo 3: Photo point #3 facing east looking across the mixed herbaceous community along the northern boundary of the parcel. Also visible in the background is the adjacent disturbance to the east and Teton Range. (6/7/2022)

APPENDIX C – ADDITIONAL ATTACHMENTS

- ASCE 7 Hazards Report
- US Seismic Design Report