

**TETON COUNTY**  
**JH Community Pathways Connector Project**  
**Path 22 Middle Section – Phase 2**

**ENVIRONMENTAL ANALYSIS**  
HABITAT ASSESSMENT/DEVELOPMENT IMPACT ANALYSIS

**Prepared for**

Teton County Planning and Development Department  
P.O. Box 1727  
200 South Willow Street  
Jackson, Wyoming 83001

Prepared by

Pioneer Environmental Services, Inc.



P.O. Box 8849  
Jackson, Wyoming 83002

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**1.0 INTRODUCTION**

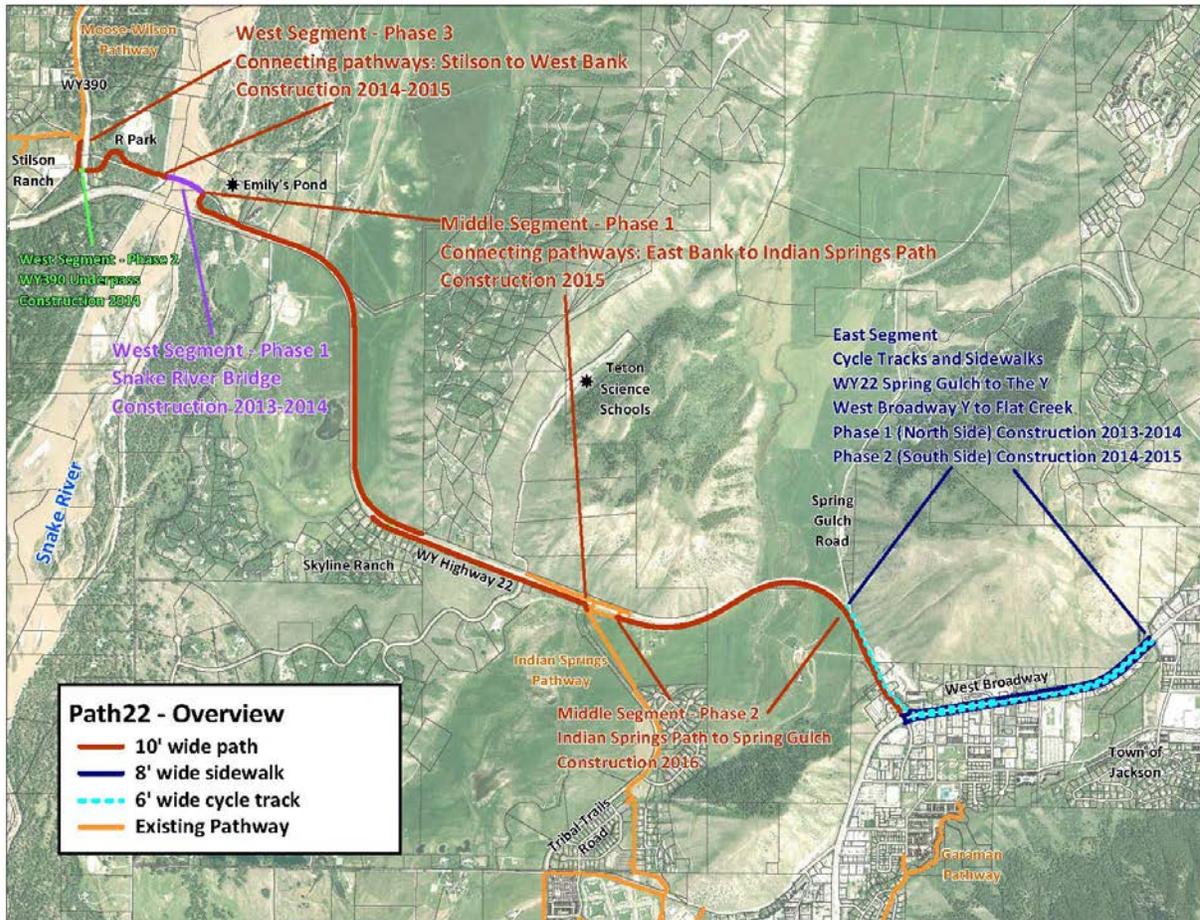
Teton County and Jackson Hole Community Pathways (TCJHCP) proposed a multi-use path (Path 22 Middle Section) along State Highway 22 (WY22), located in Teton County, WY. The Pathway 22 Middle Section Phase 2 (The Project) comprises a segment approximately 0.9 miles long extending from the Spring Gulch intersection to the existing cattle/pathway tunnel on the Teton Science School Connector Pathway. The pathway construction will include the construction of a Keystone Block Wall (stacked interlocking small blocks), as opposed to a gabion design which was considered but rejected, and replaced with safety railings at strategic locations.

The Project is implemented with the WYDEQ requirement and, pursuant to the Teton County Land Development Regulations (LDRs), the requirements of the Teton County, WY Planning Department. Teton County is preparing this Environmental Analysis (EA) for the WY22 Middle Section Phase 2 Pathway under provisions of their third-party consult agreement using Pioneer Environmental Services, Inc. (Pioneer). This EA has been prepared for the proposed development due to the terms of a settlement agreement between the TCJHCP and the landowner of a property that is located adjacent to the proposed pathway, signed June 2015. The applicant (TCJHCP) filed a preliminary application and was assigned a PAP number (PAP2015-0105) on November 13, 2015. The applicant received a briefing and initial checklist from the Planning Department at the pre-application conference held on November 3, 2015 with representatives from the Teton County Planning and Development Department, the applicant, Teton County Engineering Department, and the Engineers/Designers of the proposed project. This document includes Appendices A (maps and figures), Appendix B (photographs of the site), Appendix C (Cumulative Impact Analysis), Appendix D (Aquatic Resources Inventory Report), Appendix E (Habitat Enhancement Plan) and Appendix F Follow-up Regarding Use of a Categorical Exclusion of the Project). Appendices C and F are specific to this EA as an agreement between Teton County and contesting parties.

**1.1 BACKGROUND**

The proposed WY22 Middle Section Phase 2 Pathway Project (The Project) is located along Wyoming Highway 22 in Teton County, Wyoming. More specifically, the proposed pathway section is located in Sections 29, 31, 32 Township 41N Range 116W. The primary purpose of the proposed pathway is to improve infrastructure for non-motorized travel (bicycle and pedestrian) between Wilson and the Town of Jackson along WY22. The Project will consist of constructing a 10-foot wide paved multiuse pathway with a vegetative buffer, where feasible, between the highway and the pathway. Approximately 0.9 miles of the highway Right-of-Way (ROW) are involved in this project. The Project is the last segment of the Path 22 Pathway Project and stretches from the Spring Gulch intersection to an existing tunnel about a third of a mile east across from the Teton Science Schools’ entrance. A review of the depiction below is helpful to understand the location, juxtaposition, and general widths of the multi-use pathway project for the general project vicinity.

On February 22, 2013 TCJHCP submitted a draft Categorical Exclusion (CatEx) request to the Wyoming Department of Transportation for the East Section of the Path 22 Project, which directly adjoins the



Proposed Project at its eastern terminus and extends along WY22 from Spring Gulch Road to the intersection of WY Highway 22 and US Highway 89 (locally called the “Y”), and then east along US Highway 89 (West Broadway) to Flat Creek Bridge. A CatEx was prepared for the East Segment (Phase 1) because of the nexus to discretionary federal decisions based on federal funding (Scenic Byways and Transportation) of that portion of the multiuse pathway. Justification for the CatEx included the results of the Wyoming Department of Transportation Form 100, which showed that impacts from the Path 22 East Section would be minimal and temporary. On April 26, 2013 the Wyoming Department of Transportation concluded that the Path 22 East Section did qualify for a Categorical Exclusion under 23 CFR 771.117(c)(3). This decision was based on the findings presented in the CatEx including the Environmental Field Report which provided information and data that showed that minimal and temporary environmental impacts would result if the project were implemented.

On June 22, 2015, a Settlement Agreement was reached which stipulated that a review of the CatEx that was submitted to the Federal Highway Administration (FHWA) through the Wyoming Department of Transportation (WYDOT) under provisions of the National Environmental Policy Act (NEPA) be done. Alder Environmental, LLC conducted this follow-up on July 7, 2015. Alder concluded that the Path 22 East Section (Phase 1) had no extraordinary circumstances and no significant individual or cumulative impacts on the environment, thereby qualifying the project for implementation as a Categorical Exclusion under

the rules of the Federal Highway Administration's NEPA procedures. As part of the Settlement Agreement, Teton County also agreed to provide an Environmental Analysis in accordance with the Teton County LDR's that would specifically address the next phase of The Project. This is that report. This phase, the Middle Section Phase 2, is located entirely within the WYDOT ROW/Easement on WY22. The Project did not require an analysis under provisions of the NEPA because there was no federal nexus such as federal funding or a federal lead agency. The involvement of a Nationwide Wetland Permit (NWP) under provisions of Section 404 of the Clean Water Act is not discretionary as the NWP program has permits that are already issued; the applicant merely needs to show that they comply with the provisions of a particular permit in order to qualify for its use. However, also under the terms of the Agreement, Teton County agreed to review the CatEx prepared for the project and provide a Cumulative Impact Analysis for the Path 22 Middle phase project. As noted in Appendix C of this report, much of the Cumulative Impacts Analysis (CIA) prepared for the Path 22 East Section can be used in a discussion for The Project (Path 22 Middle Section Phase 2) because they are adjacent and the CIA looked at past, ongoing, and future impacts within 0.5 miles of the Path 22 East Section. The CIA was specifically updated for the Middle Section Phase 2 project.

On July 30, 2015 Y2 Consultants, LLC responded to the Categorical Exclusion Follow-up provided by Alder Environmental, LLC. Y2 Consultants challenged the Categorical Exclusion on the grounds that the follow-up analysis failed to meet the minimum requirements of a Cumulative Impact Analysis. Specifically, they referenced the lack of public outreach and involvement including the lack of landowner involvement. For the Proposed Project, TCJHCP filed a preliminary application and was assigned PAP number PAP2015-0105. In addition to this, TCJHCP applied for an amended Grading and Erosion Control Permit (GEC) for the Path 22 East Section Phase 2 and was assigned GEC numbers GEC2015-0099R and GEC2015-0070 in September of 2015. A pre-application conference was held for the Proposed Project on November 3, 2015 with representatives from the Teton County Planning and Development Department including the third-party environmental consultant (Pioneer), the applicant (TCJHCP), Teton County Engineering Department, and the Engineers/Designers of the proposed project.

## **1.2 PROJECT AREA**

The Project is located along the south side of WY22 between Spring Gulch Road and the existing cattle/pedestrian tunnel east of Coyote Canyon Road and Indian Springs Drive. This section of proposed pathway travels approximately 0.9 miles east-west along Highway WY22, in Section 29, 31, and 32 Township 41N Range 116W, Teton County, Wyoming (Figure 1). Although most of the area is not zoned because it lies within the ROW/Easement, surrounding areas have various rural zoning and are within the Scenic Resource Overlay (SRO) (Figure 2). In addition, the eastern end of The Project area lies within the Natural Resource Overlay (NRO) (Figure 2) (Teton County Wyoming MapServer (Ver. 2012/2013)). The Project is located entirely in the WYDOT ROW/Easement. Private properties lie adjacent to The Project area on the north and south side of WY22 (See above depiction).

## **1.3 PURPOSE AND NEED**

The primary purpose of The Project is to improve infrastructure for non-motorized travel (i.e. bicycle and pedestrian) through Teton County, and connecting to the Town of Jackson by constructing a paved pathway segment along WY22. The Proposed Pathway will serve both residents and visitors of Jackson Hole by increasing public safety through the creation of a safe area for non-motorized recreation and transportation. Improvements will include a new 10 ft. pathway adjacent to the roadway, though separated from the roadway by several feet. This will provide pathway users with a separate, safer, travel lane apart from high-speed motorized traffic on roadways that currently have limited shoulders. The construction of railings and retaining walls is required for compliance with the AASHTO 2010 Bicycle Facilities manual/standards (AASHTO 2010). The total length of railing proposed is 1,250 ft. and would be located only in areas where absolutely necessary. (Figure 9).

The completion of The Project will add a vital section to the Jackson Hole Community Pathways system that connects the Town of Jackson to Grand Teton National Park and the Town of Wilson. Further, The Project will also serve as a major component to the improved multimodal transportation system set forth in the 2012 Jackson/Teton County Comprehensive Plan and the 2007 Jackson/Teton County Pathways Master Plan.

## **2.0 METHODS**

### **2.1 USE OF EXISTING INFORMATION**

Most of the information used to create the maps and depictions used for this Environmental Analysis was derived from existing information found in the JH Community Pathways WY22 Pathway Connector Project files, the Aquatic Resources Inventory Report (Alder 2016), the MapServer files compiled for Teton County (<http://maps.greenwoodmap.com/tetonwy/mapserver/>), wildlife data from Wyoming Department of Game and Fish (WYGF), and files provided by the Town of Jackson and Teton County, Wyoming. All of the maps and depictions referenced in this Environmental Analysis are found in Appendix A. Sources for these analyses are found in the References Section of this document. Alder Environmental completed most of the surveying for the site using wetland determination data forms for the USACE Western Valleys, Mountains, and Coast Region Version 2.0, with the Sub Region (LLR) Rocky Mountain Forests and Rangeland. Alder prepared maps using ArcGIS 10.3.3 in the following datum and coordinate system; NAD 1983 State Plane Wyoming West FIPS 4904 Feet.

All neighbors and adjacent landowners were contacted by Pioneer Environmental Services, Inc. to ensure their questions and/or concerns were addressed in this EA and the associated DIA. This public outreach involved phone calls and email correspondence with representatives of the Teton Science Schools and the Oliver family, and the Brown family. The Teton Science Schools' view was in favor of the proposed pathway, but was concerned about the impact on traffic along WY22 during construction. The Brown family was also in support of the proposed pathway. The Oliver family wanted to see a thorough analysis of the potential environmental impacts that the implementation of this project would have, including:

impact on existing water resources, grading and erosion control management plans, and the potential impact on big game such as elk, moose, and mule deer. The design of the proposed fencing and retaining walls were also a concern and that the proper wildlife fencing requirements would be adhered to.

## **2.2 SITE VISITS AND PHOTOGRAPHY**

Preparation of this Environmental Analysis required making visits to the site. Pioneer Environmental Services visited the site in March 2016, in order to assess the environmental impact of the proposed pathway. Photos of the site taken during those visits with brief descriptions, as well as photos taken by Alder in 2013 and 2016 are included in this report in Appendix B.

## **2.3 EXISTING SITE CONDITIONS AND LAND USES**

The Project occurs entirely within the WYDOT ROW/Easement along WY22 and will have no impact on any current land uses, nor will it alter the ROW/Easement width. The Mountain View Baptist Church is located nearby the project area (within the East Section Phase 2 Pathway project area), but does not lie within the boundaries of the Middle Section Phase 2 Pathway (The Project). Besides Diana Brown's small, home-based sewing business on the Brown Ranch property, no other businesses are within The Project boundaries. The Poodle Ranch property and Brown Ranch property are located on the south side of WY22 along the majority of the length of the Project, near the existing tunnel at the west terminus of The Project. Access to the Poodle Ranch and Brown Ranch private driveways will not be affected and safety for residents will be maintained during construction.

The Project is located in an important transportation corridor between Jackson and Wilson, where traffic usage is high. Safety of access and movement is currently restricted for non-motorized users (i.e. bicycles and pedestrians) due to the lack of a separate pathway and the high speed vehicular traffic present on WY22. No cultural resources such as archaeological sites or historic buildings are known to be present within The Project area, and there is very low probability that any will be found during construction. Teton Science Schools is located at the west end of The Project area boundary; however, there are no schools present within the actual Project area.

## **3.0 ALTERNATIVE SITE DESIGN ANALYSIS**

Given the purpose and function of The Project, TCJHCP developed several alternatives for designs of the larger Path 22 Pathway project between Stilson Ranch and the Town of Jackson. Over six different alternative designs were carefully examined to determine the best possible placement of the pathway (Figure 3, A-F). In addition, the No Action alternative was also considered; however, if it were implemented it would not have met the purpose, needs, or obligations of The Project.

The various alternatives evaluated alignments on both sides of WY22 and examined crossing locations at different points along the entire corridor between Stilson Ranch and the WY22/US89 intersection. With regards to the Path 22 Middle Section Phase 2 segment, three alternatives were considered to construct the pathway on the northern side of WY22. These were Option South C (12b South Cattle North), Option

South B (12a South Skyline North), and Option North A (2a North North), connecting the Spring Gulch Road intersection to the existing pathway near Teton Science Schools. The north side alternative for the Project segment was ruled out due to the lack of space between the road and the existing cliff/steep hillside to the north of the highway. These options were also costlier and required the construction of more underpasses and tunnels. Three other alternatives evaluated constructing the pathway on the south side of WY22. These were Option South A (1a South South), North C (21b North Cattle South), and Option North B (21a North Skyline South). These options were the least expensive, provided the best connectivity for users to neighborhoods and destinations along the corridor, and had the least environmental impact. The details of each alternative are discussed in detail in the Development Impact Analysis and can be found in Appendix A (Figures 3 A-F).

Ultimately, TCJHCP determined that the preferred alternative Option North B which included construction of the pathway along the south side of WY22 from Spring Gulch to the existing tunnel across from the Teton Science Schools' property because it fulfilled The Project goal (to improve motorized access to this stretch of busy highway, and serve the purpose of creating a link between pathway systems, connecting Grand Teton National Park, Jackson, Wilson, and Teton Village) in the most cost effective way and with the least environmental impact.

## **4.0 HABITAT INVENTORY**

### **4.1 VEGETATION COVER TYPES**

WY22 borders the northern project boundary and agricultural lands extend along the southern boundary. Since construction of WY22 in 1945, The Project area has remained well vegetated (Alder 2016). Existing vegetation consists primarily of:

- Natural and Introduced Grassland,
- Scrub Shrub Wetland,
- Mesic Tall Shrub – Willow,
- Mixed Tall Shrub,
- Mesic Shrub - Sagebrush
- Agricultural Meadow - Irrigated (Figure 4)
- Developed / Disturbed – Highway and Driveways (Greenwood Mapping, Inc. 2016).

The 'Natural and Introduced Grassland' area is dominated by introduced grasses as a result of the revegetation associated with the construction of WY22. The 'Mixed Tall Shrub' is comprised mainly by sagebrush (*Artemisia spp.*). The 'Mesic Tall Shrub' is dominated by coyote (sandbar) willow (*Salix exigua.*). The 'Mesic Shrub' is dominated by rubber rabbitbrush (*Ericameria nauseosa*). The 'Agricultural Meadow' are actively flood irrigated.

The table below describes the existing vegetation cover types and their acreage within The Project study area. These cover types are also depicted on Figure 4 in Appendix A of this EA.

<b>Habitat Type</b>	<b>Map Code</b>	<b>Existing Area (acres)</b>
Palustrine Scrub-Shrub Wetland	PSSA	0.56
Natural and Introduced Grassland	HPG	1.83
Open Water	NID/NLP	0.0013
Agricultural Meadow	NIPI	0.27
Developed / Disturbed / Landscaped	NRDR	2.69
Developed / Disturbed / Landscaped	NRDS	0.44
Developed / Disturbed / Landscaped	NSMT	0.03
Mixed Tall Shrub	SRB	0.10
Mesic Shrub	SSD	2.58
Mesic Tall Shrub	SWL	0.35
<b>Total</b>		<b>8.83 acres</b>

As with the adjacent Path 22 East section (Phases 1 and 2) and the Path 22 Middle Section Phase 1, the entire project area is located almost entirely in an area of previous disturbance. During a site visit in March, 2016, Pioneer Environmental Services identified grasses and flowering plants including Indian ricegrass (*Achnatherum hymenoides*), feather reed grass (*Calamagrotis spp.*), cinquefoil (*Potentilla spp.*), and aster (*Aster spp.*). Irrigation dependent wetland species include meadow foxtail (*Alopecurus pratensis*), coyote (sandbar) willow, and watercress (*Nasturtium officinale*). Meadow foxtail and watercress are wetland indicator species (NRCS 2016).

In March 2016, Alder Environmental identified irrigation-induced wetlands, with obligate and facultative hydrophytic species, running along the southeastern portion of the property bordering the Poodle Ranch (Figure 5). The wetland species identified include coyote (sandbar) willow, Northwest Territory sedge (*Carex utriculata*), meadow foxtail, Canada thistle (*Cirsium arvense*), sedges (*Carex spp.*), smooth brome (*Bromus inermis*), western wheatgrass (*Pascopyrum smithii*), golden currant (*Ribes aureum*), arctic rush (*Juncus arcticus*) and reed canarygrass (*Phalaris arundinacea*) (Alder 2016). The presence of facultative and facultative upland plant species indicates prolonged drier periods or ground water depths decreasing below 12 inches during the growing season (Alder 2016).

## **4.2 NOXIOUS WEEDS**

The Project area lies within the ROW/Easement of WY22 and has vegetation characteristics typical of roadsides including non-native species that dominate nonagricultural settings. These species include timothy (*Phleum pratense*), Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), and Canada bluegrass (*Poa compressa*). Other invasive and noxious weeds are located in isolated patches throughout Teton County and likely found in The Project area include spotted knapweed (*Centaurea maculosa*), houndstongue (*Cynoglossum officinale*), St. John's wort (*Hypericum perforatum*), Dyer's woad (*Isatis tinctoria*), and Canada thistle (*Cirsium arvensis*) (Cogan and Johnson 2013). Alder Environmental,

LLC, noted the presence of nonnative/weedy species indicative of disturbed or degraded habitat during the wetland delineation in March 2016 (Alder 2016). The proposed pathway project is subject to the Teton County Noxious Weed Control Regulations (TCWPD 2015).

## **4.3 HYDROLOGY**

### **4.3.1 SURFACE HYDROLOGY**

The Project area is part of the Spring Creek – Snake River sub-watershed (HUC 12-170401030504) (USGS 2015). As documented by Remlinger and Smith (2015), Waters of the US (WOTUS) are present in The Project area. The only naturally occurring surface water feature in The Project area is Spring Creek which originates from spring seeps flowing from the base of East and West Gros Ventre Buttes. In addition to this natural surface water, three constructed irrigation ditches are located within The Project area including Spring Creek Ditch, Badger Ditch, and Stephen Adams Ditch (Figure 5). The Gros Ventre River flooding and recharge may contribute to Spring Creek flows (Alder 2016). The Spring Creek Ditch is a primary irrigation ditch that diverts water from the Gros Ventre River to irrigate pastures and meadows between East and West Gros Ventre Butte. Stephen Adams Ditch diverts water from Spring Creek and crosses WY22, then flows east along the southern boundary of The Project area. South of The Project area, a return ditch flows west from Stephen Adams Ditch to Spring Creek Ditch. Badger Ditch diverts water from Spring Creek and runs along the eastern base of West Gros Ventre Butte, then crosses the property and continues flowing south. Wetlands associated with Badger Ditch are influenced by irrigation practices, not from natural hydrologic conditions. Wetland hydrology will disappear when water from Spring Creek is no longer diverted into Badger Ditch, Spring Creek Ditch or the Steven Adams Ditch.

All water features flow north to south and enter the property through culverts running under WY22 from the Mead Ranch on the north side of the highway (Greenwood Mapping, Inc. 2016). These water features have existed for over a century, remaining mostly undisturbed according to aerial photographs dating back to 1945 (Alder 2016).

### **4.3.2 GROUNDWATER**

In an October 2011 wetland delineation, Alder Environmental observed water table and saturation levels in 16-inch soil pits as well as surface drainage and ground water present in the irrigation ditch. During the March 2015 and 2016 field work, Alder did not observe these primary wetland hydrology indicators. However, surface and groundwater (estimated to be <12" deep) exists in areas directly adjacent to Spring Creek Ditch and Spring Creek and a low lying area with wetland hydrology to the east of Spring Creek. These wetlands are likely attributed to a combination of natural and irrigation induced hydrology. Wetlands adjacent to Badger Ditch, and Stephen Adams Ditch are a result of irrigation practices (Alder 2016).

### **4.3.3 FLOODPLAIN**

The section of Spring Creek that runs through this property is located within the 100-year floodplain (Zone

AE). There will be no impacts to this floodplain (Remlinger and Smith, NEPA Categorical Exclusion Follow Up per June 22, 2015 Settlement Agreement 2015).

#### 4.3.4 WETLANDS

Approximately 24,393 square feet (.56 acres) of scrub-shrub wetland (PSSE) is present within the proposed project area (Figure 5, Figure 6). Hydrology associated with this wetland is supplied primarily by flood irrigation and existing ditches. However, part of this wetland area includes a “Natural Wetland Hydrology Area”, which is influenced mainly by the natural hydrology associated with Spring Creek (Alder 2016). Wetlands adjacent to Spring Creek are likely attributed to a combination of natural and irrigation induced hydrology. Wetlands adjacent to Badger Ditch, and Stephen Adams Ditch are a result of irrigation practices (Alder 2016). The full text of the Aquatic Resources Inventory Report (Alder 2016) for The Project area is found in Appendix D, along with the letter of concurrence from the USACE (for the NWP14) dated 20 April 2016.

### 4.4 WILDLIFE

#### 4.4.1 RAPTORS

##### 4.4.1.1 BALD EAGLE

The bald eagle (*Haliaeetus leucocephalus*) is known to be present in the Spring Creek-Snake River sub-watershed, including areas surrounding Spring Creek. Bald eagles generally nest near coastlines, rivers, large lakes or streams that support an adequate food supply. They often nest in mature or old growth trees, snags (dead trees), cliffs, rock promontories, rarely on the ground, and with increasing frequency on human-made structures such as power poles and communication towers. Although it is no longer listed as a Threatened species under provisions of the Endangered Species Act, the species and its habitat remain protected under the Bald and Golden Eagle Protection Act as well as the Migratory Bird Species Act. Provisions to protect bald eagle nests within 660 feet of a proposed development are included in the LDRs for Teton County. There are four documented bald eagle observations within The Project area (Figure 7) (NMJH/JHWF 2016). The nearest nest is approximately 0.6 miles away from The Project area on High School Butte (Patla 2015).

##### 4.4.1.2 PEREGRINE FALCON

The American peregrine falcon (*Falco peregrinus anatum*) was delisted as a species protected under the Endangered Species Act but is protected under the Migratory Bird Treaty Act. Breeding pairs often utilize habitats containing cliffs and almost always nest near water. They commonly use open habitats for foraging. Many artificial habitats like towers, bridges and buildings are also utilized by the species. There are no documented occurrences within The Project area nor are there any peregrine nest sites in The Project area.

#### 4.4.2 SNAKE RIVER FINE-SPOTTED CUTTHROAT TROUT

Snake River fine-spotted cutthroat trout (*Oncorhynchus clarkii behnkei*) are protected under the Teton County LDRs. Specifically, trout spawning areas are included in the Natural Resource Overlay as crucial habitat. The proposed Middle Section Pathway intersects with Spring Creek, a 14.0 mile long tributary to the Snake River, at the confluence of WY22 and Spring Creek. Trout are known to inhabit this section of Spring Creek, and it is highly likely that this section of Spring Creek also provides trout spawning areas (WGFD 2015).

#### 4.4.3 TRUMPETER SWANS

Trumpeter Swans (*Cygnus buccinators*) are protected under the Teton County LDRs. The NRO specifically lists trumpeter swan nests and winter habitat as essential to the survival of the species. Typical trumpeter swan foraging habitat is generally restricted to shallow, freshwater marshes, ponds, lakes, and infrequently slow moving rivers, though they may occasionally be found in fields and other upland habitats (Slater 2006).

The Project area is used as a migration (flight) path for trumpeter swans moving from the wetlands on the National Elk Refuge to the open water wetlands located along Flat Creek, Spring Gulch and the Gros Ventre River corridor. The Wyoming Wetlands Society (WWS) believes that power lines pose a potential issue and encourage that any power lines in the area be buried (WWS 2015).

#### 4.4.4 MOOSE

Crucial moose winter habitat is protected by the LDRs and is essential to the survival of the moose. Moose find food and/or cover in these areas during the most inclement and difficult weather conditions. Crucial moose winter habitat is described as primarily palustrine-shrub willow and cottonwood, palustrine-forested cottonwood, highly mesic forest-cottonwood, and cottonwood/spruce, upland forest-subalpine fir habitat types, and secondarily xeric and mesic sagebrush-grasslands and mixed shrub types. These habitat types are used by moose during winter 8 out of every 10 years. The Project area does not include crucial moose winter range.

Although not a protected habitat by the LDRs, the Wyoming Game and Fish Department does consider The Project area and the vicinity as moose seasonal range, including both Spring/Summer/Fall Range, and Winter/Yearlong Range (Figure 7a) (Wyoming Game & Fish Department 2015); however, moose use is expected to be minimal with occasional foraging along the edges and possibly in the willow patch along the eastern portion of the property (Campbell 2015).

#### 4.4.5 ELK

The LDRs provide protection for crucial elk migration routes and elk crucial winter range. The LDRs define crucial elk migration routes as the migration routes used by elk 8 out of every 10 years to migrate from summer ranges to winter ranges. Crucial elk winter range generally consists of xeric and mesic sagebrush-

grasslands, mixed shrub, mesic and xeric open grassland, and certain agricultural meadow types, that are used during winter months by elk 8 out of every 10 years.

The Project area is not part of an elk crucial migration route. However, the property to the south of the proposed pathway (Poodle Ranch) includes migration corridors for elk (Younkin 2015). Elk use in this area is believed to be less than mule deer with movement between neighboring buttes to the north and west of the property, (East Gros Ventre Butte and West Gros Ventre Butte) and the Poodle Ranch Hay Fields and High School Hill to the south.

Although The Project area does not provide crucial winter habitat for elk, the Wyoming Game and Fish consider the Teton Science School property (located about 886 ft. (0.17 miles) to the west) crucial elk winter habitat. The majority of The Project area consists of elk parturition area with the exception of the section east of Spring Creek (Figure 7b) (Wyoming Game & Fish Department 2015).

#### 4.4.6 MULE DEER

The LDRs provide protection to crucial mule deer migration routes and crucial winter range. Crucial mule deer migration routes are used by mule deer 8 out of every 10 years to migrate from summer ranges to winter ranges. Although specific mule deer migration routes are less common than elk migration routes, a few very important routes have been identified as crucial to Teton County mule deer.

Crucial mule deer winter range generally consists of xeric and mesic sagebrush-grasslands and mixed shrub types which are used during the crucial winter months by the mule deer 8 out of every 10 years. This crucial winter range is limited and occurs at low elevations where shrub scrub-grassland habitat types are located.

The Project area does not provide crucial mule deer migration routes; however, the eastern section of the property adjacent to East Gros Ventre Butte includes crucial mule deer winter range (Figure 7c) (Wyoming Game & Fish Department 2015). The adjacent Poodle Ranch also provides crucial winter range for mule deer (Younkin 2015). During the winter and early spring months, mule deer congregate on both East Gros Ventre Butte and High School Hill (Alder 2011). This general area is also sometimes referred to as Vogel's Hill or the south end of West Butte.

According to wildlife-vehicle collision data, from 1976-1981, 12 mule deer were killed on WY22 between Spring Gulch Road and the WY22/US89 intersection (Alder 2011). In the following years from 1980 to 2012, nine mule deer and two elk have been killed along WY22 from the Spring Gulch Road intersection to just south of the Poodle Ranch entrance (Campbell 2015). The property contains similar habitat to this adjacent Pathway 22 East section, where mule deer cross the highway. However, the density and growth of wetland shrubs may inhibit and in some areas possibly prohibit the crossing of ungulates into the southern habitat (Campbell 2015). During a site visit in March, 2016, Pioneer Environmental identified mule deer scat in the wetlands on the western section of the property.

According to the plans for the Proposed Pathway, the retaining wall will consist of segmented/terraced sections of keystone block to avoid long, continuous stretches. The wall heights have been minimized and terraced to provide permeability for wildlife and allow movement through areas even when there are retaining walls present (Keystone Retaining Wall Systems 2016). The proposed railing will be a 42" high wooden 2-rail fence, intended to meet wildlife friendly design with the bottom rail more than 18" above the ground (Teton County 2016) (Figure 8). Campbell (2015) advised that installing a 70-foot length of retaining wall and 320-foot length of pedestrian railing within the Path 22 East section would "result in adverse impacts to Teton County protected wildlife species" but that the adverse impacts associated with the proposed retaining wall and railing would be negligible. Since then, the Path 22 East section has been reengineered to eliminate the retaining wall and pedestrian railing.

#### 4.4.7 MIGRATORY BIRDS

The Migratory Bird Treaty Act (1916, as amended) makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The migratory bird species protected by the Act are listed in 50 CFR 10.13. Species that were observed within The Project area include the American dipper (*Cinclus mexicanus*), also known as the water ouzel, which was seen at a site visit in March, 2016 (Pioneer). This species is an indicator of good environmental health, and feeds on macroinvertebrates and fish. Also present on site are juncos, sparrows, and robins, which are oftentimes found by roadsides and areas of disturbance (Audubon 2016). The lack of shrubs, brush, and trees largely limits the nesting species to ground nesting birds, and does not provide suitable habitat for any listed Threatened or Endangered species. All migratory birds are protected under provisions of the Migratory Bird Treaty Act.

#### 4.4.8 AMPHIBIANS

There are two sources of permanent water on-site, including Spring Creek, located at the eastern portion of The Project site, and Stephen Adams Ditch, an agricultural ditch which crosses under The Project area through an existing culvert and then continues parallel to WY22. Although a small amount of aquatic habitat is present within the actual project area, it is covered by an existing culvert. The Project will utilize this culvert and construct the pathway on top of it, to avoid any fill within Spring Creek or the ditch. Although it is possible for amphibians such as the Columbia Spotted Frog (*Rana luteiventris*) to be found at the site, The Project is unlikely to affect these species or habitat. These species and similar species are likely present downstream of The Project area, in which case it is encouraged that BMPs are followed carefully during construction in order to reduce any potential impact downstream.

#### 4.4.9 BEARS

The pathway project area is entirely located within Bear Conflict Priority Area 2 (Figure 7d). Black bears (*Ursus americanus*) are commonly seen on nearby National Forest Service (NFS) land as well as the valley floor. No reports of grizzly bear (*Ursus arctos horribilis*) within The Project area were found; however, there is always a potential for grizzly bears to occasionally wander through an area on the edges of their

normal range if attracted by food during years when natural foods are scarce. The grizzly bear has been expanding its known distribution during the past few years (WYGF 2015).

#### 4.5 FEDERALLY LISTED THREATENED, ENDANGERED AND CANDIDATE SPECIES

The species listed by the U.S. Fish and Wildlife Service under provisions of the Endangered Species Act (1973, as amended) that have a potential for occurring in Teton County, their scientific name, status, and general habitat are noted below:

<b>TABLE 2. STATUS, HABITAT AND POTENTIAL FOR OCCURRENCE OF FEDERALLY LISTED THREATENED, ENDANGERED AND CANDIDATE SPECIES WITHIN THE PATH 22 MIDDLE SECTION PROJECT AREA.</b>				
<b>SPECIES/CRITICAL HABITAT</b>	<b>SCIENTIFIC NAME</b>	<b>STATUS</b>	<b>HABITAT</b>	<b>POTENTIAL FOR OCCURRENCE IN PROJECT AREA</b>
Canada Lynx*	<i>Lynx canadensis</i>	Threatened	Montane forests	Extremely low
Gray Wolf	<i>Canis lupus</i>	Experimental/ Non-essential	Greater Yellowstone Ecosystem	Unlikely
Grizzly Bear	<i>Ursus arctos horribilis</i>	Threatened	Montane forests	No reports of species present at site
Yellow-billed Cuckoo (Western)	<i>Coccyzus americanus</i>	Threatened	Riparian areas/cottonwood forests west of Continental Divide	Extremely low-habitat not present
Greater Sage-grouse	<i>Centrocercus urophasianus</i>	Candidate	Sagebrush communities	Habitat not present
North American Wolverine	<i>Gulo gulo luscus</i>	Candidate	Subalpine to alpine	Habitat not present
Whitebark Pine	<i>Pinus albicaulis</i>	Candidate	Cold and windy subalpine to alpine sites above 8,000 ft. elevation	Species not present site is below 8,000 feet

\*Canada Lynx Critical Habitat: Designated areas include boreal forest landscapes within Fremont, Lincoln, Park, Sublette, and Teton Counties of Wyoming (see 50 CFR 17.95(a)).

One of the species of special concern that is potentially present near The Project area is the yellow-billed cuckoo (*Coccyzus americanus*), listed as a Threatened species. However, its primary habitat, cottonwood riparian, does not exist within The Project area (Remlinger 2016). In addition, the gray wolf (*Canis lupus*) (Experimental Population, Non-essential) and the grizzly bear (*Ursus arctos horribilis*) (Threatened) may pass through The Project area; however, because the entire Project area lies within previously disturbed areas adjacent to SR22, there is no appropriate habitat present for either species. Similarly, no other

threatened, endangered or candidate species listed by the U.S. Fish and Wildlife Service are present on the proposed project site (see Table 1, Section 6.10 of EA) because the project area is already heavily disturbed and does not provide suitable habitat for these species. This project is not located in any critical habitat for any of the other species listed above. The USFWS was consulted in 2012 by the applicant and determined that this project is in accordance with the Endangered Species Act (WYDOT 2013).

#### 4.6 NATURAL RESOURCES OVERLAY

The entire project area lies within the SRO and the eastern portion of the site, adjacent to East Gros Ventre Butte, lies within the NRO (Figure 2). This portion of the property is mapped in the NRO because it provides crucial mule deer winter range, however, there is no mule deer migration present within The Project area.

#### 4.7 PROJECT VICINITY

The Project area lies entirely within the WYDOT ROW/Easement along WY22, and is located entirely within the SRO with the eastern portion of the property in the NRO. The property directly north of The Project is privately owned agricultural land (Mead Ranch). The East Gros Ventre Butte is located to the east of The Project area, while the West Gros Ventre Butte is located on the west side. The Teton Science Schools’ Jackson campus is located to the northwest of the project area in Coyote Canyon. A private property with mixed agricultural uses lies adjacent to the pathway near the eastern end of The Project on the south side of WY22. The land directly to the south of The Project contains privately owned agricultural land (including the Oliver property and Brown property.) WY22, and by consequence the Proposed Pathway, bisect Spring Creek, a tributary to the Snake River, on the eastern portion of The Project area. The Town of Jackson lies to the southeast of The Project area. The half-mile vicinity area map is included in Appendix A (Figure 8). The only crucial habitat present on The Project property is mule deer winter range on eastern section adjacent to East Gros Ventre Butte (Figure 7c) (Wyoming Game & Fish Department 2015). The specific habitats and species protected under provisions of the LDRs are noted in Section 4.4 and are depicted in Appendix A and Section 3.3 of the Development Impact Analysis prepared by Pioneer.

### 5.0 DEVELOPMENT IMPACT ANALYSIS

The following is a summary of the Development Impact Assessment (DIA). The complete text and figures for the DIA are included with this report. The impacts to vegetation at the site are summarized below in Table 3 (same table as Table 1 in the DIA). The impacts to wetland areas are also summarized below. Implementing The Project, including the construction of the paved pathway with retaining walls and safety railings (Figure 9), would negatively affect approximately 3,113 square feet (0.07 acre) of scrub-shrub wetland habitat which includes ‘Mesic Tall Shrub’ (SWL) (Figure 5). In addition, a small amount of ‘Mesic Shrub (SSD) and “Natural and Introduced Grassland’ (HPG) vegetative cover types will be affected (Figure 4b).

Habitat Type	Map Code	Acreage	Impact (acres)
Palustrine Scrub-Shrub Wetland	PSSA	0.56	0.07

(Delineated)			
Natural and Introduced Grassland	HPG	1.83	1.06
Open Water	NID/NLP	0.001	0.002
Agricultural Meadow	NIPi	0.27	0.07
Developed / Disturbed / Landscaped	NRDR	2.69	0.04
Developed / Disturbed / Landscaped	NRDS	0.44	0.04
Developed / Disturbed / Landscaped	NSMT	0.01	0.03
Mixed Tall Shrub	SRB	0.10	0.006
Mesic Shrub	SSD	2.58	1.33
Mesic Tall Shrub	SWL	0.35	0.078
	<b>Total</b>	<b>8.83 acres</b>	<b>2.724 acres</b>

Because the majority of this Project takes place in the previously disturbed highway ROW/Easement, mitigation is not required for vegetative cover types (Hurley 2015). In addition, impacts to wetlands are less than 0.10 acre, and therefore do not require mitigation. Regardless, TCJHCP has established an off-site out-of-kind mitigation. The Project meets the criteria for mitigation exemption for public pathways outlined in Sec. 5.1.D.2.f. of the Teton County LDRs. Proposed conceptual mitigation (Figure 10) is discussed in detail in both the Development Impact Analysis as well as the Habitat Enhancement Plan from Alder (2016) (Appendix E).

## 6.0 PREPARERS

### LIST OF PREPARERS, AFFILIATION, RESPONSIBILITIES, QUALIFICATIONS

Preparer	Affiliation	Responsibilities	Qualifications
Dr. Roy Hugie	Pioneer ES, Inc.	Project Manager	PhD, Wildlife
Anna DiSanto	Pioneer ES, Inc.	Research and Report Writing (EA and DIA)	BS, Biology
Brandi Allred	Pioneer ES, Inc.	Research and Report Writing (EA and DIA)	BS, Anthropology
Heidi Bellorado	Pioneer ES, Inc.	Research and Report Writing (EA and DIA)	MS, Land Resources and Environmental Sciences

Amy Kuszak	Pioneer ES, Inc. (Sub-consultant)	Research and Report Writing (EA and DIA)	BA, Geography and Anthropology
Jeff Jensen	Pioneer ES, Inc. (Sub-consultant)	Maps and Figures (EA and DIA)	BS, Geography

## 7.0 REFERENCES

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## **APPENDIX A: MAPS & FIGURES**

## **APPENDIX B: PHOTOS OF THE PROJECT SITE**

## **APPENDIX C: CUMULATIVE IMPACTS ANALYSIS**

## **APPENDIX D: Aquatic Resources Inventory Report (Alder 2016)**

## **APPENDIX E: HABITAT ENHANCEMENT PLAN**

**APPENDIX F: FOLLOW-UP REGARDING USE OF A CATEGORICAL  
EXCLUSION FOR THE PROJECT**