PRE-CONCEPT REPORT
STAR GREENBELT

CITY OF STAR, IDAHO

July 13, 2023

Inside front cover

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Pre-Concept Report
Star Greenbelt
Star, Idaho

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Project Number 26909.001

July 13, 2023

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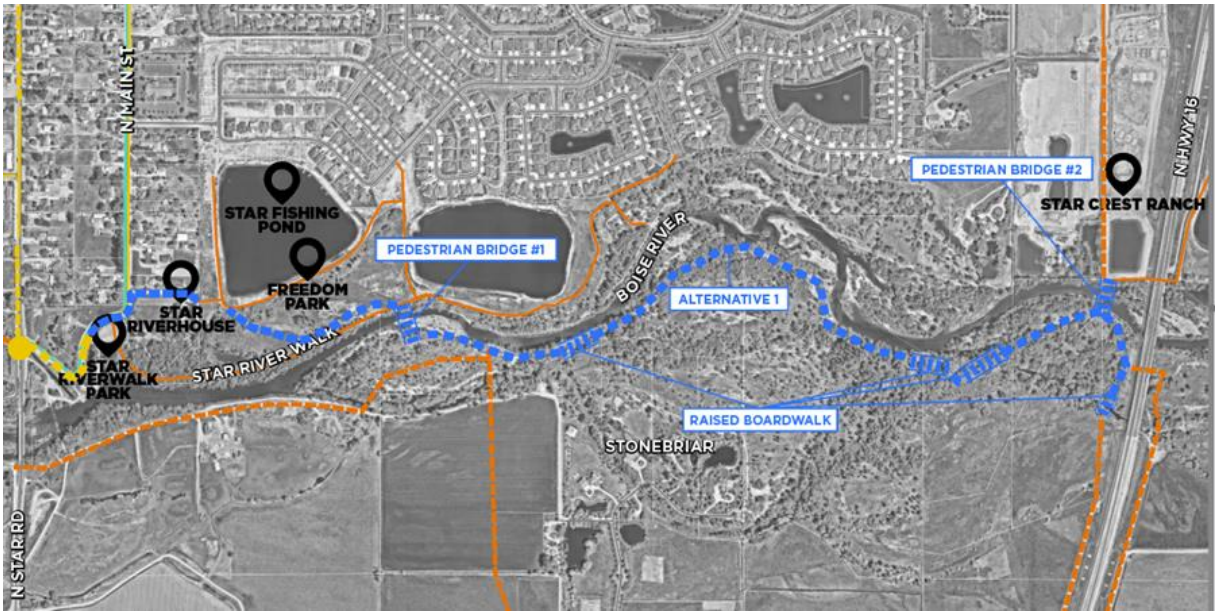
PROJECT SUMMARY

The City of Star (City) is planning to construct a trail which will establish the first leg of the regional Boise River Greenbelt system within the City limits. It will span approximately 1.5 miles along the Boise River from Star Road to the west and SH-16 to the east. The trail will consist of a 10-foot wide paved multi-use section with 5-foot shoulders on either side.

The purpose of this project is to complete a critical missing link of the Boise River Greenbelt trail system and create an important non-motorized mobility improvement tied into the regional trail system for Ada and Canyon counties. As seen in Table 1 on the following page, the project will align with goals set out in the Communities in Motion 2050 (CIM 2050) long range transportation plan prepared by COMPASS. As of April 2023, the Community Planning Association of Southwest Idaho (COMPASS) estimates that City is home to 17,190 residents.

As outlined in this report, Alternative 1 was determined to be the Preferred Alternative. As shown below, the Preferred Alternative begins on the north side of the Boise River at Star Road and runs east until it reaches the Star Fishing Pond, where it crosses the Boise River to the south via a new pedestrian bridge. On the south side of the river, the trail continues east to Star Road and SH-16, respectively. At the eastern end of the alignment, the trail makes another crossing to the north side of the river via a second pedestrian bridge, to connect with a future trail by others that will extend under SH-16.

Figure 1. Preferred Alternative



The construction of the Preferred Alternative will require the City to acquire right-of-way (ROW) and/or easements from adjacent property owners and obtain agreements from ITD and ACHD for the SH-16 undercrossing and connection to future Star Road improvements. The overall planning level opinion of cost of the design and construction of the trail extension is estimated to be $5.2 million if constructed in one phase, and $5.4 million if constructed in multiple phases (due to the cost associated with multiple design and construction mobilizations). The estimate includes the new trail and associated improvements, two shared-use pedestrian bridges over the Boise River, and bridges or pile structures over wetland and stream crossings.

PROJECT DESCRIPTION

This pre-concept report was commissioned by COMPASS on behalf of the City to formalize a trail alignment along the Boise River which starts at the east of Star Road and continues to east to SH-16.

PROJECT SCOPE

The scope of the project is per the *Star Greenbelt Pre-Concept Report Professional Service Agreement 2022-10 Task Order* dated October 2022. This Task Order is a part of the On Call Project Development services between COMPASS and Kittelson and Associates, Inc. As a part of this task order, the following tasks were completed by Kittelson:

1. Project Team Coordination
2. Project Supervision
3. Project Concept Development and Draft Report Information
4. Environmental Scan
5. Public Involvement Plan
6. Cost Estimates
7. Team Meetings (2)
8. Pre-Concept Report

PURPOSE & NEED

The purpose of this project is to provide a critical link to the Boise River Greenbelt trail system within the City of Star. The proposed trail will create an important non-motorized mobility improvement within the city limits for residents and visitors while also connecting into the regional trail system serving both Ada and Canyon counties.

The proposed trail will:

- Increase the accessibility of walking, biking, and rolling as mode choices of Star residents for recreational, commute, utilitarian, and exercise-based trips.
- Improve public health by increasing opportunities for active trips and contributing to a reduction in air pollution by reducing vehicle trips.
- Implement the vision and goals of the Communities in Motion 2050 plan, the City of Star Bicycle and Pedestrian Plan, the City of Star Trail Masterplan, and the City of Star South of River Plan.

In their long-range transportation plan, Communities in Motion 2050 (CIM 2050), COMPASS identified four distinct categories, each with supporting goals (Reference 1). Goals and their relevance to this project, are summarized in Table 1.

Table 1. CIM 2050 Goals and Project Relevance

Goal Area	Goal	Project Relevance
Safety	Provide a **safe** transportation system for all users	By providing a separate facility for people walking and biking, conflict exposure is reduced, which in turn can decrease the number of crashes, injuries, and fatalities for pedestrians and bicyclists
	Support a **resilient** transportation system by anticipating societal, climatic, and other changes; maintaining plans for response and recovery; and adapting to changes as they arise	The trail will provide safe and comfortable facilities, as well as connection to the regional network and, therefore, encourage walking and biking trips.
Economic Vitality	Promote transportation improvements and scenic byways that support the Treasure Valley as a regional hub for **travel and tourism.**	The trail will provide opportunity for recreation and access to parks and open space along the Boise River
Convenience	Develop a transportation system with high **connectivity** that preserves capacity of the regional system and encourages walk and bike trips.	The trail will provide safe and comfortable facilities, as well as connection to the regional network and, therefore, encourage walking and biking trips
Quality of Life	Develop and implement a regional vision and transportation system that protect and preserve the natural **environment.**	The trail will provide access to and preserve natural area around the Boise River
	Develop and implement a regional vision and transportation system that enhance **public health.**	The trail will provide a separate facility for people walking and biking, therefore encouraging walking and biking trips.
	Develop and implement a regional vision and transportation system that preserve open space and promote connectivity to **open space** areas, natural resources, and trails.	The trail will provide access to parks and natural open space area along the Boise River

EXISTING CONDITIONS

The project corridor runs approximately 1.5 miles along the Boise River from Star Road east to SH 16. Figure 2 provides an overview of the existing conditions.

LAND USE

Along the north side of the river, from west to east, the existing land use consists of:

- City of Star Riverwalk Park
- Single-family residential
- Two single-family estate homes
- An apartment complex

Along the south side of the river, from west to east, the existing land use consists of:

- Ranchland
- BLM land
- Single-family estate residential
- State of Idaho Department of Lands
- Private undeveloped land
- State of Idaho Department of Lands
- Idaho Transportation Department (ITD) land

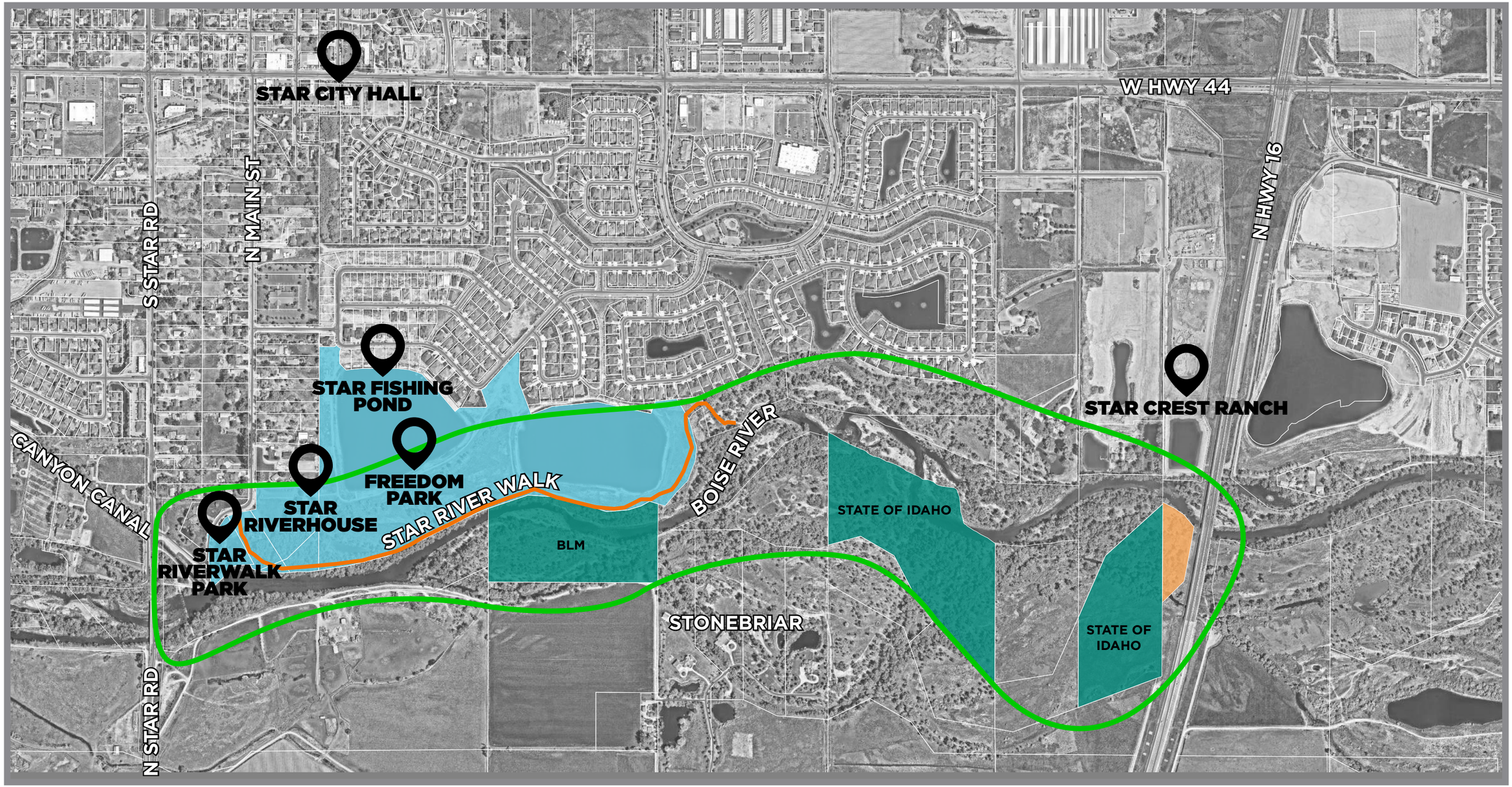
EXISTING TRAIL NETWORK

The existing trail network within the project area consists of the Star Riverwalk, which begins in the City of Star Riverwalk Park and traverses along the north side of the river where it connects to the private trail network associated with the Heron River residential development. It is understood at the time of this report that the trail is gated at the residential development. Portions of the existing Star Riverwalk may be re-used and re-purposed for the proposed Greenbelt trail.

UTILITIES AND IRRIGATION

According to publicly available data, and information provided by the applicable jurisdictions, there are no known wet or dry utilities present within the project area at the time of this report.

The Canyon Canal is in the northwest portion of the project area and branches off the Boise River where it continues under Star Road to the west. This canal is owned by the Canyon County Water Company. The project is not anticipated to impact the canal.



Legend

- Project Area
- Public Land
- City of Star Land
- ITD Land
- Existing Trails

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Figure 2

Star Greenbelt Planning
Project Area - Existing Conditions

REGIONAL & NETWORK CONNECTIONS

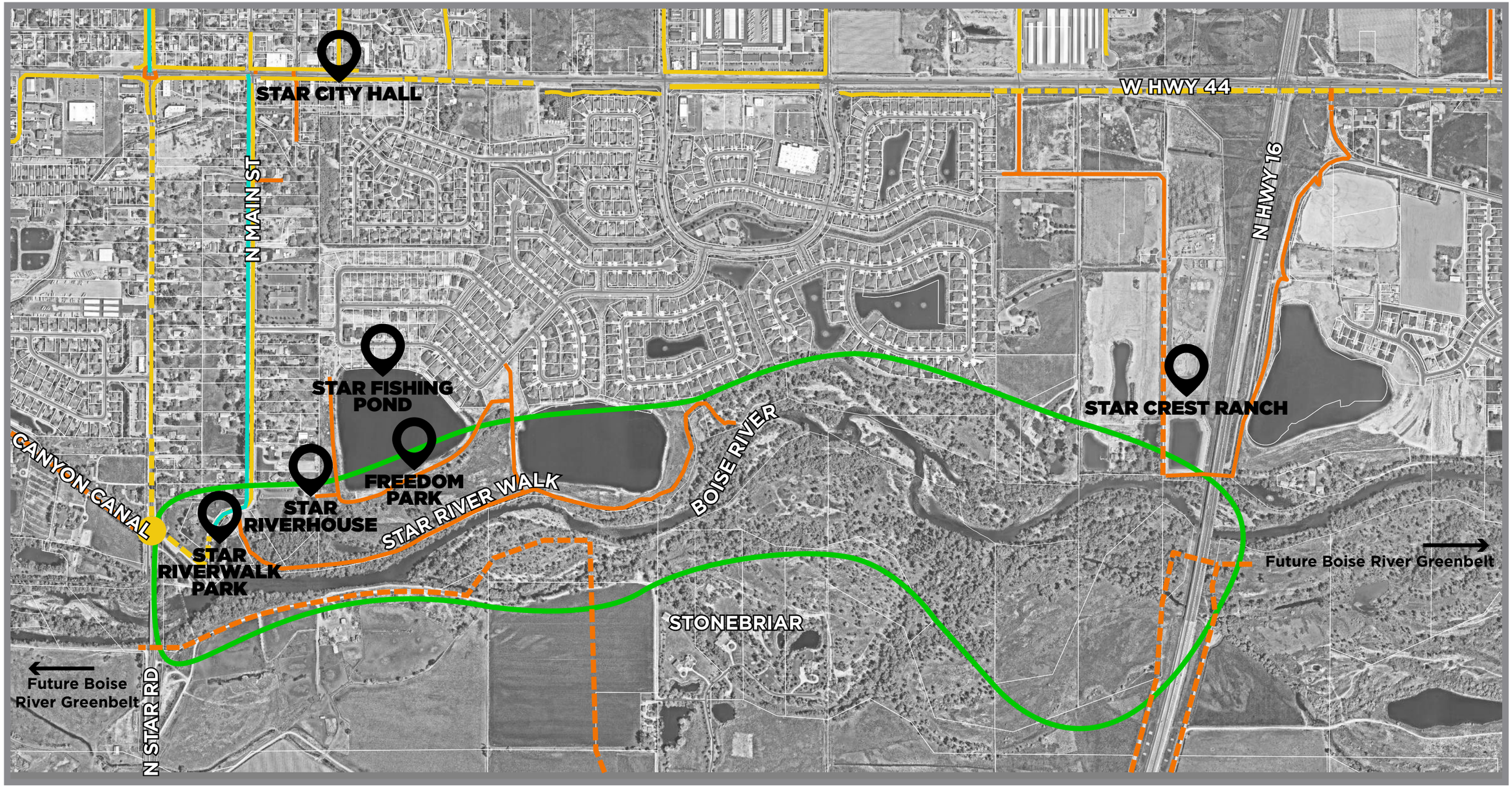
The proposed trail will ultimately become part of the regional Boise River Greenbelt network, as laid out in the Boise River Trail Coalition Plan (BRTCP, Reference 11). The vision of the BRTCP is, "to have a connected system of pathways on land and water on and near the Boise River from Lucky Peak Dam to the Snake River that binds the recreational, educational and economic opportunities of our river communities." The BRTCP is funded through a grant received from the National Parks Service and is facilitated by a National Parks Service planner.

The trail system planned by the BRTCP will span 63 miles of river, connecting two counties and nine cities with non-motorized paths, tie riverside destinations together, connect residential areas with employment centers and recreational areas, and provide children safe routes to school. Ada County Parks and Waterways is currently undergoing a Master Plan update process for the Boise River Greenbelt, an element of the overall BRTCP.

In the near-term, the proposed trail will serve local residents and visitors through connections to other existing and proposed bicycle and pedestrian network infrastructure within the City, including:

- At the Star Riverwalk Park, the trail will connect to South Main Street. South Main Street has dedicated bike lanes and sidewalk from the Riverwalk Park to West State Street, where additional connections are made to the existing City sidewalk and bicycle network.
- The trail will connect to Star Road at South Main Street. Per the City of Star Bicycle and Pedestrian Plan (Reference 2), sidewalk and bike treatments are planned for the west side of Star Road from the Boise River to State Street (projects S1 and B3), with a Pedestrian Hybrid Beacon to be constructed concurrently to allow for a crossing at South Main Street (project C3).
- The trail will make the following future connections depicted in the City of Star Pathway Masterplan South (Reference 3):
    - At the eastern end at SH 16, to a proposed highway path and future greenbelt extensions (by others)
    - On the north and south sides of the river to proposed community paths (by others)
    - At the western end, to future greenbelt extensions (by others)

Figure 3 depicts the regional network connections.



Legend

- Project Area
- Existing Bike Facilities
- Existing Sidewalks
- Existing Trails
- Future Pedestrian Crossing (PHB)
- Future Trails / Multi-Use Path (By Others)
- Future Sidewalk

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Figure 3

Star Greenbelt Planning
Regional Network Connections

ENVIRONMENTAL SCAN SUMMARY

The environmental scan consisted of a desktop review of multiple on-line, publicly available resources as described below. In addition, Kittelson and the City performed a field visit on January 9, 2023. The information in this summary is for preliminary planning purposes and for reference only. A more comprehensive environmental study will be required prior to final design activities.

BOISE RIVER

The Boise River is classified as a "water of the US," therefore, any construction activity around the Boise River is at a minimum subject to sections 303(d), 305(b), and 404 of the Clean Water Act (CWA) as well as the Idaho Stream Channel Protection Act.

Clean Water Act

Clean Water Act Section 303 (d) of Impaired Waters

The Idaho Department of Environmental Quality is the state agency responsible for implementing the Clean Water Act and for developing and enforcing water quality standards that protect beneficial uses. They will certify that projects requiring federal permits or licenses will not violate water quality standards.

The project runs within the Lower Boise River Subbasin (HUC 17050114). Per Idaho's 2022 Integrated Report (Reference 4), this portion of the Boise River is listed per section 303(d) of the CWA. The Assessment Unit Name is Boise River – Veterans Memorial Parkway to Star Bridge (ID17050114SW005-06). It is listed as 'Not Supporting' the following Assessed Beneficial Use(s): Cold Water Aquatic Life, Primary Contact Recreation, Salmonid Spawning. The Assessment unit also has approved EPA TMDLs 34394 and 735, which both are for Fecal Coliform and Sedimentation/Siltation. See Appendix A for the Assessment Unit Status Report.

U.S Army Corps of Engineers (USACE) Section 404 and Section 10 Rivers and Harbors Act

Discharge of Dredged or Fill Material

Section 404 of the Clean Water Act establishes a program to regulate the discharge of dredged or fill material into waters of the United States and a permit is required before dredged or fill material may be discharged into waters of the United States. Discharges or fills to the Boise River is subject to the regulations enforced under Section 404, which is administered by the USACE (Reference 5). Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) requires permits for structures (bridges) or work in navigable waters of the United States and is also administered by the USACE.

Wetlands

The project will likely impact wetlands. The U.S Fish and Wildlife Service (USFWS) maintains the National Wetlands Inventory database (NWI) which identifies the following wetlands within the project area.

- **PFO1A**; Palustrine (P), Forested (FO), Broad-Leaved Deciduous (1), Temporary Flooded (A)
- **R3USC**; Riverine (R), Upper Perennial (3), Unconsolidated Shore (US), Seasonally Flooded (C)
- **R3UBH**; Riverine (R), Upper Perennial (3), Unconsolidated Bottom (UB), Permanently Flooded (H)
- **PUBF**; Palustrine (P), Unconsolidated Bottom (UB), Semi permanently Flooded (F)
- **PEM1C**; Palustrine (P), Emergent (EM), Persistent (1), Seasonally Flooded (C)
- **PEM1/UBF**; Palustrine (P), Emergent (EM), Persistent (1), Unconsolidated Bottom (UB), Semi Performantly Flooded (F)
- **PUBH**; Palustrine (P), Unconsolidated Bottom (UB), Permanently Flooded (H)

A wetland delineation should be performed to confirm the extent of jurisdictional wetlands to accurately quantify impacts. The final design must consider practical alternatives to avoid or minimize impacts.

Idaho Stream Channel Protection Act

The Idaho Stream Channel Protection Act (SCPA) requires that the stream channels of the state and their environment be protected against alteration for the protection of fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, and water quality. To these ends, the Idaho Department of Water Resources (IDWR) reviews any work being done within the beds and banks of a continuously flowing stream, such as the Boise River (Reference 6). The SCPA applies to any type of alteration work, such as any activity that will obstruct, diminish, destroy, alter, modify, relocate, or change the natural existing shape of direction of water flow of any stream channel – this includes taking material out of the channel or placing material or structures in or across the channel where the potential exists to affect flow in the channel.

FEMA FLOODPLAIN

According to the FEMA Flood Insurance Rate Map (FIRM) Panel 16001C0140J (eff. 6/19/2020), most of the proposed trail alignment is within the Regulatory Floodway, Zone AE, or within the 100-year floodplain. The FEMA FIRM Panel can be found in Appendix A. There are also multiple General Structures within the project area, such as Levees, Dikes, and Floodwalls that the trail alignment may impact. Any project within the floodway must be reviewed to determine if the project will increase flood heights. An engineering analysis resulting in a No-Rise Certification may be required by FEMA prior to construction. If there are changes to the flood heights, coordination with FEMA may be necessary to request revisions to the effective Flood Insurance Study reports, Flood Insurance Rate Maps or Flood Boundary and Floodway Maps. At a minimum, the proposed pedestrian bridge across the Boise River should have at least 1 foot clear freeboard from the 50-year flood elevation and pass the 100-year flood elevation without overtopping the bridge deck.

SOILS

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) maintains a soils database and information produced by the National Cooperative Soil Survey called the Web Soil Survey. Table 2 summarizes the on-site soils per the Web Soil Survey (Appendix A).

Table 2. Soil Characteristics per USDA/NRCS Web Soil Survey

Name	Percent of Site	Description
Moulton-Phyllis complex, 0 to 1 percent slopes	0.1%	- Sandy Loam - Poorly drained - Depth to water table: ~0 to 7 inches - HSG B/D
Notus-LesBois complex, 0 to 1 percent slopes	83.3%	- Gravelly Loamy Sand - Somewhat poorly drained - Depth to water table: ~20 to 25 inches - HSG A/D
Ballentine-Eagle complex, 0 to 1 percent slopes	0.5%	- Fine Sandy Loam - Moderately well drained - Depth to water table: ~40 to 60 inches - HSG A
Moulton-Notus complex, 0 to 1 percent slopes	0.9%	- Fine Sandy Loam - Somewhat poorly drained - Depth to water table: ~20 to 30 inches - HSG B
Water	15.1%	- Water

The information in Table 2 is for preliminary planning purposes and for reference only. A licensed geotechnical engineer should be retained to perform a geotechnical report prior to final design to provide design recommendations based on site soils and to perform construction material testing and inspections.

BIOLOGICAL RESOURCES

The US Fish and Wildlife Service (USFWS) maintains a list of Endangered Species and Migratory Birds, on their Information for Planning and Consultation (IPaC) website. The IPaC printout for this site can be found in Appendix A. Table 3 summarizes the Endangered species potentially affected by the project.

Table 3. Endangered species per USFWS

Name	Status
Monarch Butterfly *Danaus plexippus*	Candidate
Slickspot Peppergrass *Lepidium papilliferum*	Threatened

Table 4 summarizes the migratory birds protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list, is a BCC in particular Bird Conservation Regions (BCRs) or warrant special attention in the project location.

Table 4. Protected Migratory Birds

Name	Level of Concern	Breeding Season
American White Pelican *Pelecanus erythrorhynchos*	BCC-BCR	Apr 1 to Aug 31
Bald Eagle *Haliaeetus leucocephalus*	Non-BCC Vulnerable	Dec 1 to Aug 31
Bobolink *Dolichonyx oryzivorus*	BCC Rangewide	May 20 to Jul 31
California Gull *Larus californicus*	BCC Rangewide	Mar 1 to Jul 31
Cassin's Finch *Carpodacus cassinii*	BCC Rangewide	May 15 to Jul 15
Clark's Grebe *Aechmophorus clarkii*	BCC Rangewide	Jun 1 to Aug 31
Evening Grosbeak *Coccothraustes vespertinus*	BCC Rangewide	May 15 to Aug 10
Franklin's Gull *Leucopheaus pipxcan*	BCC Rangewide	May 1 to Jul 31
Lesser Yellowlegs *Tringa flavipes*	BCC Rangewide	Breeds elsewhere
Long-eared Owl *asio otus*	BCC Rangewide	Mar 1 to Jul 31
Marbled Godwit *Limosa fedoa*	BCC Rangewide	Breeds elsewhere
Olive-sided Flycatcher *Contopus cooperi*	BCC Rangewide	May 20 to Aug 31
Rufous Hummingbird *selasphorus rufus*	BCC Rangewide	Apr 15 to Jul 15
Sage Thrasher *Oreoscoptes montanus*	BCC-BCR	Apr 15 to Aug 10
Western Grebe *aechmophorus occidentalis*	BCC Rangewide	Jun 1 to Aug 31

The IPaC report provides the "probability of presence" of birds within 10 km grid cell(s) that overlap the project area. The actual presence of migratory birds along the corridor may vary and coordination with the USFWS is recommended during planning and prior to construction. In general, it is illegal for anyone to "take" 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. Nationwide Conservation Measures (Appendix A) describes measures that can help avoid and minimize impacts to all birds at any location year-round.

CULTURAL AND RECREATIONAL RESOURCES

Projects that receive funding from or require approval by an agency of the US DOT are subject to the National Historic Preservation Act, Section 106 and Section 4(f) of U.S. Department of Transportation Act of 1966

The National Historic Preservation Act, Section 106 protects important historic buildings and archeological sites. A review of the National Register of Historic Places from Idaho State Historic Preservation Office (SHPO) indicated there are no listed cultural resources in the project area (Reference 7); however, there were no field reviews or eligibility determinations completed as part of this project and additional consultation with SHPO is recommended (Reference 8).

Additionally, Section 4(f) of U.S. Department of Transportation Act of 1966 requires consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development. Before approving a project that uses Section 4(f) property, FHWA must determine that there is no feasible and prudent alternative that avoids the Section 4(f) properties and that the project includes all possible planning to minimize harm to the Section 4(f) properties; or, FHWA makes a finding that the project has a de minimis impact on the Section 4(f) property. When FHWA determines that a project as proposed may use Section 4(f) property, there are three methods available for FHWA to approve the use:

- Preparing a de minimis impact determination;
- Applying a programmatic Section 4(f) evaluation; or
- Preparing an individual Section 4(f) evaluation.

Star Riverwalk Park impacts may require a Section 4(f) evaluation.

ENVIRONMENTAL JUSTICE & NEIGHBORHOODS

Providing safe and accessible active transportation infrastructure and mode choices are important in the pursuit of racial equity and environmental justice. Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d-1) states that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." In combination with subsequent federal nondiscrimination statutes, agencies receiving federal financial aid are prohibited from discriminating based on race, color, national origin, age, economic status, disability, or sex (gender).

Other relevant federal statutes include the Federal-Aid Highway Act, the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, the Civil Rights Restoration Act of 1987, the Americans with Disabilities Act of 1990 (ADA), Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and Executive Order 13166 Improving Access to Services for Persons with Limited English Proficiency.[1]

[1]Title VI populations include individuals who identify as minorities (both racial and ethnic), low-income, disabled, elderly (65+), youth/children (under 18), veterans, and LEP (primary language is not English) (FTA. 2015. Title VI of the Civil Rights Act of 1964, available at http://www.fta.dot.gov/civilrights/12328.html).

The USDOTJustice40 Initiative (Executive Order 14008) was established in order to address gaps in transportation infrastructure to address decades of underinvestment in disadvantaged communities. The initiative allows USDOT to identify and prioritize projects that benefit communities facing barriers to affordable, equitable, reliable, and safe transportation.

As shown Table 5, the project area has a higher percentage of people of a racial or ethnic minority, and of elderly population (65+) compared to Greater Star as a whole.

Table 5. Demographic Comparison Between Project Area & Greater Star

Demographic	Average Within 1 Mile of Trail	Greater Star Average
Population of Racial or Ethnic Minority Group	11%	9%
Limited English-Speaking Households	0%	0.4%
Population Experiencing Poverty	6%	7%
Youth Population (<18 years)	20%	30%
Elderly Population (65+)	31%	17%
Households Without Vehicle Access	1%	2%

Data presented in the table above was taken from the 2021 ACS 5-year estimate tables. The census tracts analyzed were 102.26, 102.27, 102.28, 102.29, 102.30, 103.55, and 219.06. The proposed trail is in census tracts 102.28 and 103.55.

KNOWN OR SUSPECTED HAZARDOUS MATERIALS

The EPA Enviromapper web app was accessed online to identify known hazardous materials (both short and long duration). No facilities within the project area were identified by the EPA in the areas of hazardous materials, air quality, or waste (Reference 9).

The Idaho Department of Environmental Quality (IDEQ) maintains an Underground Storage Tank Database. This online inventory contains both active and closed Underground Storage Tanks (USTs) and Leaking Underground Storage Tanks (LUSTs) sites. A review of IDEQ's database revealed no USTs or LUSTs within the project area (Reference 10).

PROJECT CONSTRAINTS

There are multiple factors which constrain the location and construction of the proposed multi-use trail, which are summarized below. Figure 4 graphically depicts the constraints.

- **FEMA Regulatory Floodway**
  - As noted in the Environmental Scan Summary, most of the project area is within FEMA Regulatory Floodway (the floodway).
  - A desktop review of the FEMA Flood Map Service Center (reference) shows that there are legs of the existing Boise River Greenbelt system that are within the floodway.

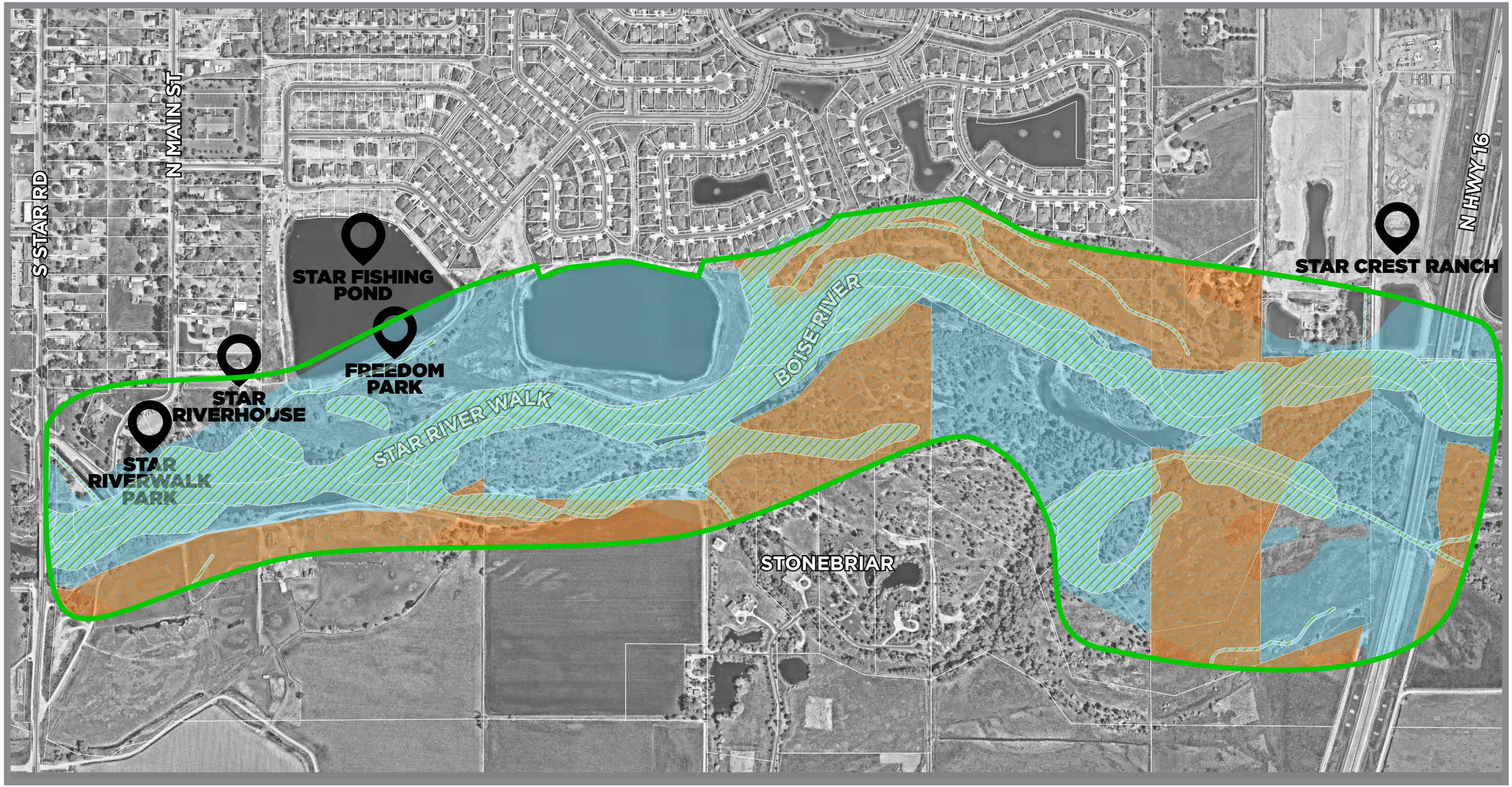
- **Wetlands and Streams**
  - As noted in the Environmental Scan Summary, there are various wetlands and streams throughout the project area, which are regulated by the USACE and IDWR.
  - Impact to the wetlands and streams should be avoided to the greatest extent possible, however multiple perpendicular crossings will likely be required.
  - Prior to final design, a stream and wetland delineation should be performed, and preliminary routing refined accordingly. Any proposed impacts to wetlands or streams should be coordinated with USACE and IDWR.

- **Boise River**
  - Two crossings of the Boise River are proposed. Any impacts to the Boise River are regulated by the USACE and IDWR and may require a Section 404 and 10 permit and / or permitting through the Idaho Stream Protection Act.

- **Road Crossings**
  - At the western end of the trail on the north side of the river, a crossing of Star Road is proposed. During final design, coordination with ACHD will be required to confirm the location of the proposed pedestrian hybrid beacon crossing and other applicable ACHD standards.
  - At the eastern end of the trail, the trail will pass under the SH 16 overpass. During final design, further investigation and coordination with ITD will be required to confirm the trail will meet height clearances for underpasses and any other applicable ITD standards.

- **Private Land Holdings**
  - There are multiple developed and undeveloped privately held parcels along the proposed trail.
  - ROW acquisitions, easements or dedication will need to be negotiated for the proposed trail with property owners.

- **Public Land Holdings**
  - The trail will traverse City-owned parks in the western section of the project.
  - At this time, no properties along the preferred alignment of the trail have been identified as Section 4(f) properties. The project team should perform further investigation to determine if any property (i.e., Star Riverwalk Park) is subject to FHWA review under Section 4(f) under the USDOT Act of 1966.
  - The preferred alignment of the trail traverses BLM, State of Idaho, and ITD lands. The City should work closely with these agencies to determine the final alignment of the trail and permit construction.



Legend

- Project Area
- Wetlands
- Floodway
- Private Land Holdings

COMPASS COMMUNITY PLANNING ASSOCIATION of Southwest Idaho

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Figure 4

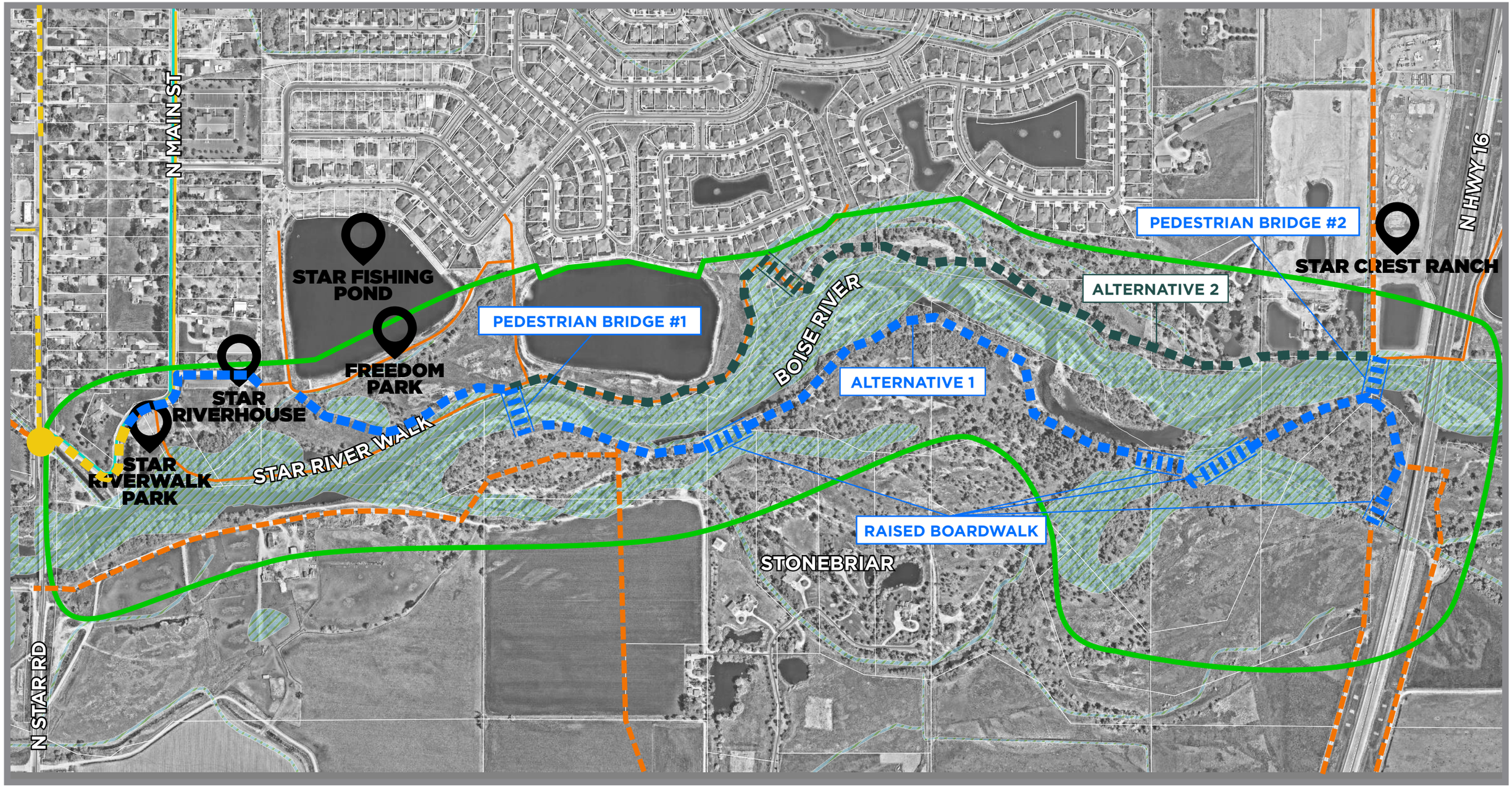
Star Greenbelt Planning Constraints

TRAIL ALIGNMENT ALTERNATIVES

The goal of this project is to formalize a trail which starts east of Star Road and continues east along the Boise River until it reaches the west side of Highway 16. Two alternative alignments were considered and are described below. For alignment planning purposes, a 20-foot wide corridor with a 10-foot wide multi-use trail was used. Figure 5 depicts the Alignment Alternatives.

- **Alternative 1 – Northside alignment with two river crossings to south side**
    - The trail begins at the intersection of South Star Road and South Main Street, where it connects to the proposed ACHD Star Road crossing improvements.
    - The trail runs to the east, south of South Main Street to the Riverwalk Park parking lot. The trail will loop around the parking such that it connects to South Main Street on either side.
    - The trail runs to the east, along the Boise River, avoiding mapped wetlands except for one crossing, until reaching the eastern most pond.
    - The trail makes a perpendicular crossing of the Boise River to the south to avoid the pond via a proposed pedestrian bridge structure.
    - From the river crossing, the trail goes east until it reaches SH 16.
        - From the river crossing, the trail runs to the east along the Boise River, avoiding mapped wetlands.
        - There are three potential perpendicular wetlands / stream crossings along this route, each potentially requiring a pedestrian bridge structure.
        - The trail runs east along the Boise River, and under the SH 16 overpass. Additional investigation is required to determine if multi-use trail underpass standards can be met with this crossing.
        - Prior to reaching SH 16, the trail turns to the north, to make a perpendicular crossing of the Boise River, utilizing a pedestrian bridge structure. This trail will connect to future greenbelt, highway, and community trails that are not a part of this project.
        - The southeastern terminus of the trail will be extended in the future along the south side of the Boise River and is not a part of this project.

- **Alternative 2 – Northside alignment**
    - The trail follows the same alignment as Alternative 1 until reaching the easternmost pond
    - As opposed to crossing the river (Alternative 1), the trail continues east along the north side of the Boise River, avoiding mapped wetlands.
    - As the trail moves east, up to 3 mapped wetlands may be crossed. A raised walk with wooden piles may be required to cross the wetlands.
    - The trail runs east until it reaches the west side of SH 16, where it will connect to a future community trail that is not a part of this project.



Legend

- Wetlands
- Existing Bike Facilities
- Existing Sidewalks
- Existing Trails
- Future Pedestrian Crossing (PHB)
- Future Trails / Multi-Use Path (By Others)
- Future Sidewalk
- Proposed Path - ALT 1
- Proposed Path - ALT 2
- Proposed Structures
- Project Area

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COMPASS COMMUNITY PLANNING ASSOCIATION of Southwest Idaho

Figure 5

Star Greenbelt Planning
Pathway Alignment Alternatives

PREFERRED ALTERNATIVE

The Alternatives Review meeting was held on January 19, 2023 at the City of Star City Hall. During the meeting, Alternatives 1 and 2 were presented and discussed by the project team. During the meeting, Alternative 1 was identified as the preferred alternative for the following reasons:

- It provides a crossing to the south of the Boise River, which is consistent with the City of Star's Pathway Masterplan (South), South of the River Sub-Area Plan, and Bicycle and Pedestrian Plan.
- It impacts fewer privately owned parcels, reducing cost and right-of-way acquisition.

RIGHT-OF-WAY ASSESSMENT

The new trail will impact approximately 8 parcels of private property. Table 6 provides a summary of estimated acquisition and/or easements requirements, and Figure 6 displays the potentially impacted parcels.

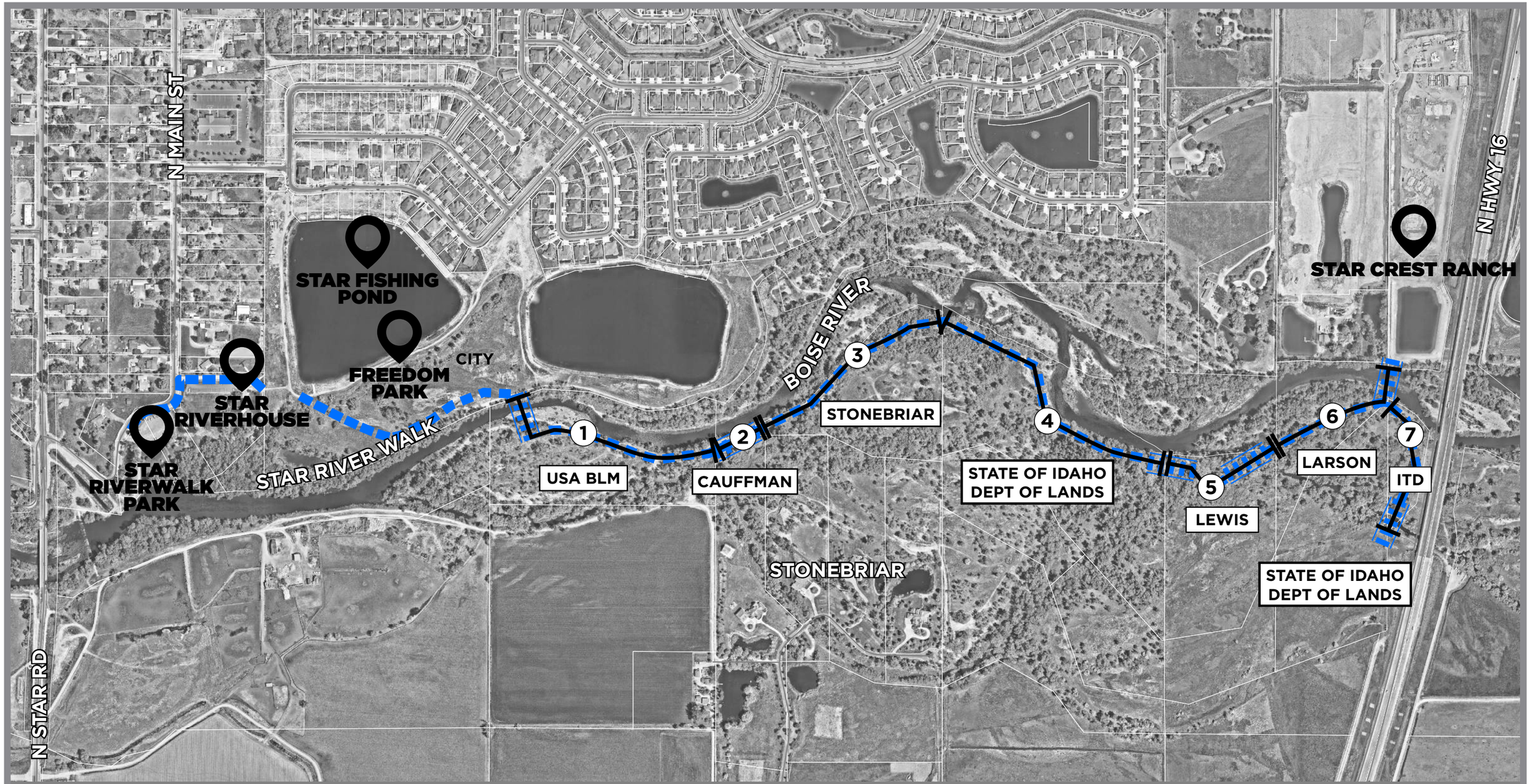
Table 6. Parcels for Easement Acquisition - Preferred Alternative

Location	Owner	Parcels	Estimated Easement Area (SF) (Length x Width)
1	USA (Bureau of Land Management)	S0417427810	78,780 (2,626' x 30')
2	Cauffman Nathaniel J	R8180730120	9,000 (300' x 30')
3	Stonebriar HOA, Inc.	R8180730160	55,800 (1,860' x 30')
4	State of Idaho (Department of Lands)	S0416325500	69,300 (2,310' x 30')
		S0416336230	3,000 (100' x 30')
5	Lewis Roger W	S0416346650	33,000 (1,100' x 30')
6	Larson Paul	S0416314900	37,200 (1,240' x 30')
7	Idaho Transportation Department	S0416428605	30,000 (1,000 x 30')

At the time of this report, there are no existing easement agreements for the proposed trail with the owners of locations 1, 4, 5, 6, and 7. Outreach to these owners was not performed as a part of this report.

Per conversations with the City, there are existing easement agreements with the owners of location 2 and 3, and the trail proposed on ITD land is already earmarked for trail construction by ITD.

The City of Star should consider further coordination and obtaining easement agreements with the additional owners above (including BLM, State of Idaho, and private landowners) prior to applying for grant funding of the project.



Legend

- Proposed Path - ALT 1
- Proposed Structures

KITTELSON & ASSOCIATES

Figure 6

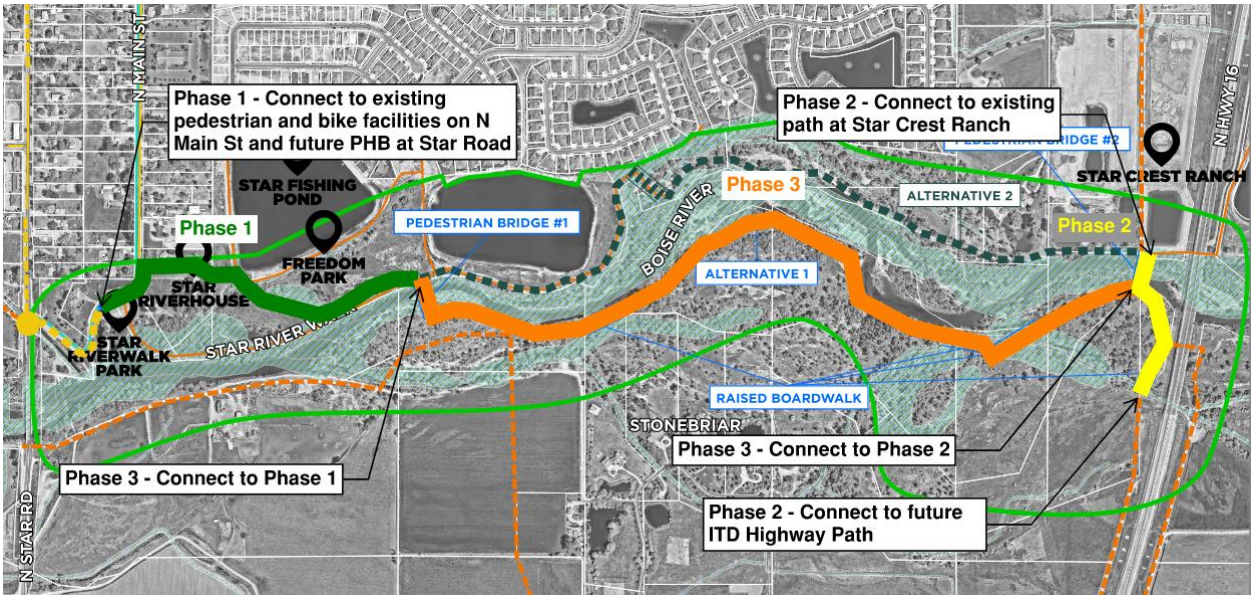
Star Greenbelt Planning
Preferred Alternative Right-of-Way Assessment

PHASING

This section describes one potential phasing option for the Preferred Alignment. The phasing option assumes that federal funds will be used for Phases 2 and 3 and therefore each phase will need a 'logical terminus.' Multiple phasing options could be feasible depending on funding sources and requirements. This section is not intended to exhaust all potential phasing and funding options.

A potential phasing option is shown in Figure 7 below.

Figure 7. Potential Phasing Option



- **Phase 1** as shown in green above would consist of the trail from Star Road to the first pedestrian bridge. This phase is either on City-owned land or public right-of-way.
- **Phase 2** as shown in yellow above would consist of connecting to the existing trail and SH 16 underpass at Star Crest ranch, construction of the second pedestrian bridge and trail construction to the south to connect to the proposed ITD highway trail. If federal funds are used, the ITD highway trail would need to be in place prior to Phase 2 to provide for a local terminus.
- **Phase 3** as shown in orange above would consist of the construction of the first pedestrian bridge, the trail from that bridge to Phase 2 trail, with associated raised boardwalks across wetlands.

COST ESTIMATE

This section describes the planning level opinion of cost for the Preferred Alignment. Unit costs were estimated using professional experience from recent trail design projects as well as recent Ada County Highway District bid abstracts, among other planning and engineering resources. These costs include design engineering, permitting, and construction management fees as well as a 30% contingency and escalation factor. These costs do not include on-going operations and maintenance costs.

The planning level opinion of cost estimate for completing the project in a single phase is estimated to be approximately $5.2 million. To maximize funding cycles and opportunities, the project is proposed to be completed in 3 phases as described in the Phasing section above. A detailed breakdown of estimated costs is included in Appendix B. Additionally, Idaho Department of Transportation Forms 1150 and 2435 can be found in Appendix C.

The planning level opinion of cost for completing the project in the phases laid out above is as follows:

- Phase 1 - $401,454
- Phase 2 - $1,586,336
- Phase 3 - $3,402,692

POTENTIAL FUNDING SOURCES

Table 7 outlines potential funding sources for environmental studies, design, easement/right of way acquisition, and construction of the trail.

Table 7. Potential Funding Sources

Funding	Overview	Comments
IIJA / Federal *Seeks to award projects that improve equity and environmental justice*		
Safe Streets for All Program Funding to support local initiatives to prevent death and serious injury on roads and streets, commonly referred to as "Vision Zero" or "Zero Death Initiative."	Action Plan Grants are used to develop, complete, or supplement a comprehensive safety action plan. To apply for an Implementation Grant, an eligible applicant must have a qualifying Action Plan. **Notice of Funding Opportunity (NOFO) – (From 2023 grant, next opportunity is expected in spring of 2024)**	To be eligible for an implementation grant, the trail would have to be included in an approved Safety Action Plan and demonstrate a nexus to improved roadway safety.
Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Surface transportation infrastructure projects that will have a significant local or regional impact.	Urban and rural projects that modernize roads, bridges, transit, rail, ports, and intermodal transportation and other projects that make the transportation systems safer, more accessible, more affordable, and more sustainable. FY 2023 RAISE Grants Notice of Funding Opportunity | US Department of Transportation **(From 2023 grant, next opportunity is expected in spring of 2024)**	Does not call out trails projects specifically but does state that projects which advance the goals of the program are eligible such as non-motorized projects.
Active Transportation Infrastructure Investment Program (ATIIP). Program will establish competitive grants that invest in projects that connect active transportation networks and spines, accelerating local and regional plans to create safe and	The US Department of Transportation has not yet released information on the application timeline or directions.	

convenient walking and biking routes to everyday destinations and to fill gaps in trails between communities.		
State		
Idaho Department of Commerce (IDC) Community Development Block Grant (CDBG) Assists Idaho cities and counties with the development of needed public infrastructure.	Used to construct projects benefiting low- and moderate-income persons, help prevent or eliminate slum and blight conditions, or mitigate health and safety threats in local areas.	**https://commerce.idaho.gov/communities/community-grants/community-development-block-grant-cdbg/**
Recreational Trails Program (RTP) – Transportation Alternatives Set-Aside Provides funds to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses.	Projects must be from trail plans included or referenced in a Statewide Comprehensive Outdoor Recreation Plan required by the Land and Water Conservation Fund Act (Section 1302 (a)(b)). Permissible uses of the funds are: maintenance and restoration of existing recreational trails; development and rehabilitation of trailside and trailhead facilities and trail linkages for recreational trails; purchase and lease of recreational trail construction and maintenance equipment; and construction of new recreational trails (with restrictions for new trails on Federal lands).	The Idaho Department of Parks and Recreation is responsible for the administration of the Recreational Trails Program in the state of Idaho. Recreational Trails Program (RTP) Factors for Revised Apportionments for FY 2009 to 2012 - Funding - Recreational Trails - Environment - FHWA (dot.gov) The Recreational Trails Program | Department of Parks and Recreation (idaho.gov)
Transportation Alternative Program (TAP) Administered Through Local Highway Technical Assistance Council (LHTAC) LHTAC and ITD administer this program which is meant to provide for a variety of ITD's strategic goals of	The application period to fund projects through FY25 is closed. Directions for next application period have not yet been released.	https://lhtac.org/programs/tap/

Mobility, Safety and Economic Opportunity		
Federal Lands Access Program (FLAP) Administered Through LHTAC This program seeks to improve transportation facilities that provide access to, or are adjacent to, or are located within Federal lands, with an emphasis on high-use recreation sites and economic generators	The last application period for this program closed in January 2022. Directions for next application period have not yet been released.	https://lhtac.org/programs/flap/
Other Potential Funding Sources		
PeopleForBikes Funds for bike paths, lanes, trails and bridges	Funds engineering and design work, construction costs including materials, labor and equipment rental and reasonable volunteer support costs.	Grant Guidelines | PeopleForBikes Open Fall 2023
Rails to trails Conservancy Strategic investments that support significant regional and community trail development goals.	Relatively small investments, to help complete and connect trails, improve the trail user experience, and support local organizations dedicated to new and existing trails.	Trail Grants | Rails-to-Trails Conservancy (railstotrails.org)
Bloomberg Philanthropies Releases specialized grant opportunities related to transportation, safety and public health	Monitor for potential grant opportunities	Bloomberg Philanthropies
Leading Idaho Local Bridge Program (LILB) Funds the repair or replacement of bridges 20' or more in length on the local road network.	Round 3 Funded Projects Announced 4/14/23. Directions for Round 4 Applications have not yet been released.	https://lhtac.org/programs/lilb/

NEXT STEPS

- Perform Environmental Investigation
  - Wetland Delineation
  - Depending on the final alignment and if the project receives federal funding, the following studies are anticipated to meet permitting needs:
    - National Environmental Policy Act (NEPA) documentation (likely a documented categorical exclusion)
    - Biological survey with possible assessment
    - A Section 4(f) finding (likely a de-minimus determination)
    - Archaeological and Historic Survey Report for Section 106 compliance
  - Regardless of funding, other permits will likely include:
    - U.S. Army Corps of Engineers Section 404 Permit – wetlands
    - U.S. Army Corps of Engineers Section 10 of the Rivers and Harbors Appropriation Act – river crossings / bridges
    - FEMA Floodplain Permit
    - BLM NEPA Process
    - Idaho Stream Channel Permit
- Perform Conceptual Design and Public Engagement as required to confirm approximate final alignment.
- Perform Final Design and Permitting Activities.
- Secure easements and / or right-of-way for conceptual pathway alignment.
- Identify and secure funding.
- Construct trail.

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11. Boise River Trails Coalition. "Boise River Trails". 2009
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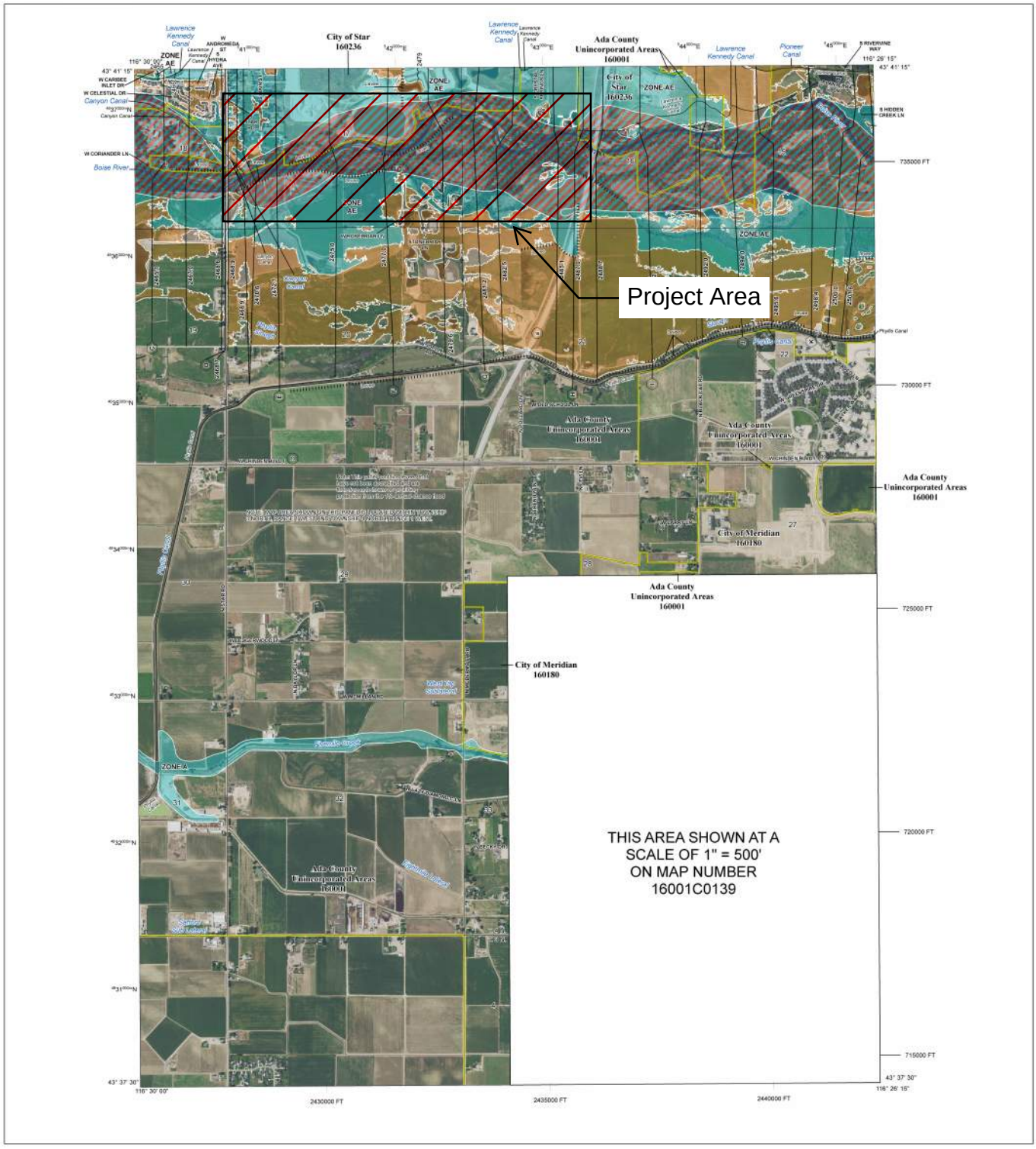
APPENDICES

A. Existing Conditions Supporting Documentation
B. Planning Level Opinion of Probable Cost
C. Idaho Transportation Department Forms 1150 and 2435
D. List of Stakeholders
E. Team Meeting Summaries

Appendix A
Existing Conditions Supporting Documentation



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A, V, A99* With BFE or Depth *Zone AE, AO, AH, VE, AR* Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X* Future Conditions 1% Annual Chance Flood Hazard *Zone X* Area with Reduced Flood Risk due to Levee See Notes. *Zone X* Area with Flood Risk due to Levee *Zone D*
OTHER AREAS	NO SCREEN Area of Minimal Flood Hazard *Zone X* Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer Levee, Dike, or Floodwall Cross Sections with 1% Annual Chance Water Surface Elevation Coastal Transect Coastal Transect Baseline Profile Baseline Hydrographic Feature Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary
OTHER FEATURES	

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the National Agricultural Imagery Program United States Geological Survey (NAIP) administered by the United States Department of Agriculture. This information was derived from digital orthophotography at a 2-foot resolution from photography dated 2015.

SCALE

Map Projection:
Universal Transverse Mercator Zone 11N; North American Datum 1983;
Western Hemispheric Vertical Datum: NAVD 88

1 inch = 1,000 feet 1:12,000

0 1,000 2,000 4,000 feet

0 250 500 1,000 meters

PANEL LOCATOR

* PANEL NOT PRINTED

FEMA
National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

ADA COUNTY, IDAHO
and Incorporated Areas

PANEL **140** OF **875**

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
ADA COUNTY	160001	0140	J
MERIDIAN, CITY OF	160180	0140	J
STAR, CITY OF	160236	0140	J

VERSION NUMBER
2.3.1.1

MAP NUMBER
16001C0140J

MAP REVISED
JUNE 19, 2020

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Ada County, Idaho

Star Greenbelt

November 29, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


116° 29' 47" W
116° 27' 32" W
43° 41' 29" N
43° 40' 25" N
540600
540900
541200
541500
541800
542100
542400
542700
543000
543300
543600
4837700
4837400
4837100
4836800
4836500
4836200
4835900
Lawrence Kennedy Canal
Driveway
S Star Rd
Star Rd
Joplin Rd
Boise River
1004
1002
1001
9999
1000
Map Scale: 1:13,800 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0
200
400
800
1200
Feet
0
500
1000
2000
3000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ada County, Idaho
Survey Area Data: Version 10, Sep 2, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 19, 2021—Apr 21, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1000	Moulton-Phyllis complex, 0 to 1 percent slopes	0.3	0.1%
1001	Notus-LesBois complex, 0 to 1 percent slopes	195.3	83.3%
1002	Ballentine-Eagle complex, 0 to 1 percent slopes	1.2	0.5%
1004	Moulton-Notus complex, 0 to 1 percent slopes	2.2	0.9%
9999	Water	35.5	15.1%
Totals for Area of Interest		**234.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Ada County, Idaho

1000—Moulton-Phyllis complex, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 20kdy
Elevation: 2,450 to 2,870 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 50 to 52 degrees F
Frost-free period: 145 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Moulton and similar soils: 45 percent
Phyllis and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Moulton

Setting

Landform: Flood-plain steps
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium over sandy and gravelly alluvium

Typical profile

Ap - 0 to 6 inches: fine sandy loam
A - 6 to 12 inches: fine sandy loam
Bw1 - 12 to 19 inches: fine sandy loam
Bw2 - 19 to 26 inches: fine sandy loam
2C1 - 26 to 30 inches: very gravelly loamy sand
2C2 - 30 to 60 inches: stratified gravelly loamy sand to very gravelly coarse sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 20 to 30 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: B
Ecological site: R011XY001ID - Loamy 8-12 PZ
Other vegetative classification: black cottonwood series - riparian (HC)
Hydric soil rating: No

Description of Phyllis

Setting

Landform: Flood-plain steps
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Coarse-loamy alluvium over sandy and gravelly alluvium

Typical profile

A - 0 to 7 inches: fine sandy loam
Ag - 7 to 11 inches: very fine sandy loam
Cg1 - 11 to 22 inches: fine sandy loam
Cg2 - 22 to 29 inches: fine sandy loam
2C - 29 to 59 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 7 inches
Frequency of flooding: NoneFrequent
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: B/D
Ecological site: R011XY027ID - Wet Meadow Carex-Juncus
Other vegetative classification: Moist meadow series (MM)
Hydric soil rating: Yes

Minor Components

Fluvaquentic endoaquolls, poorly drained

Percent of map unit: 10 percent
Landform: Flood-plain steps
Down-slope shape: Linear
Across-slope shape: Concave
Other vegetative classification: Moist meadow series (MM)
Hydric soil rating: Yes

Fluvaquentic endoaquolls

Percent of map unit: 5 percent
Landform: Flood-plain steps
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R011XY019ID - Meadow DECA18-CANE2
Other vegetative classification: Moist meadow series (MM)
Hydric soil rating: Yes

1001—Notus-LesBois complex, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 20kf1
Elevation: 2,450 to 2,870 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 50 to 52 degrees F
Frost-free period: 145 to 155 days
Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

Notus, gravelly surface, and similar soils: 45 percent
Lesbois and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Notus, Gravelly Surface

Setting

Landform: Flood-plain steps
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and gravelly alluvium

Typical profile

A - 0 to 6 inches: fine gravelly loamy sand
C1 - 6 to 28 inches: very gravelly sand
C2 - 28 to 60 inches: very gravelly sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 20 to 30 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R011XY016OR - Sandy 8-11 PZ
Other vegetative classification: black cottonwood series - riparian (HC)
Hydric soil rating: No

Description of Lesbois

Setting

Landform: Flood-plain steps
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium

Typical profile

A1 - 0 to 1 inches: loamy sand
A2 - 1 to 7 inches: fine sandy loam
C1 - 7 to 18 inches: loamy sand
C2 - 18 to 25 inches: fine sandy loam
C3 - 25 to 34 inches: sand
C4 - 34 to 42 inches: fine sandy loam
Ab - 42 to 44 inches: fine sandy loam
2C5 - 44 to 66 inches: stratified loamy sand to very gravelly coarse sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 20 to 25 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A/D
Ecological site: R011XY019ID - Meadow DECA18-CANE2
Other vegetative classification: black cottonwood series - riparian (HC)
Hydric soil rating: No

Minor Components

Aeric fluvaquents

Percent of map unit: 5 percent
Landform: Flood-plain steps
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Moist meadow series (MM)
Hydric soil rating: Yes

Mollic endoaquents

Percent of map unit: 5 percent
Landform: Channels on flood-plain steps
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: sedge plant associations (meadow series) - wetland (MW)
Hydric soil rating: Yes

1002—Ballentine-Eagle complex, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 20kdz
Elevation: 2,450 to 2,840 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 50 to 52 degrees F
Frost-free period: 145 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Ballentine and similar soils: 45 percent
Eagle and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ballentine

Setting

Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy alluvium over sandy and gravelly alluvium

Typical profile

A1 - 0 to 2 inches: fine sandy loam
A2 - 2 to 14 inches: fine sandy loam
AC - 14 to 22 inches: fine sandy loam
C1 - 22 to 35 inches: fine sandy loam
2C2 - 35 to 70 inches: stratified extremely gravelly coarse sand to very gravelly loamy sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 40 to 60 inches
Frequency of flooding: NoneRare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: A
Ecological site: R011XY001ID - Loamy 8-12 PZ
Other vegetative classification: Upland shrub/bunchgrass subseries (SMGX)
Hydric soil rating: No

Description of Eagle

Setting

Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and gravelly alluvium

Typical profile

A - 0 to 3 inches: gravelly fine sandy loam
AC - 3 to 10 inches: fine sandy loam
C1 - 10 to 15 inches: gravelly fine sandy loam
2C2 - 15 to 63 inches: very gravelly sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 40 to 60 inches
Frequency of flooding: NoneRare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R011XY020ID - Dry Meadow POSE-PHAL2
Other vegetative classification: Upland shrub/bunchgrass subseries (SMGX)
Hydric soil rating: No

1004—Moulton-Notus complex, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 20kf3
Elevation: 2,460 to 2,780 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 50 to 52 degrees F
Frost-free period: 145 to 155 days
Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

Moulton and similar soils: 45 percent
Notus and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Moulton

Setting

Landform: Flood-plain steps
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium over sandy and gravelly alluvium

Typical profile

Ap - 0 to 6 inches: fine sandy loam
A - 6 to 12 inches: fine sandy loam
Bw1 - 12 to 19 inches: fine sandy loam
Bw2 - 19 to 26 inches: fine sandy loam
2C1 - 26 to 30 inches: very gravelly loamy sand
2C2 - 30 to 60 inches: stratified gravelly loamy sand to very gravelly coarse sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 20 to 30 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: B
Ecological site: R011XY001ID - Loamy 8-12 PZ
Other vegetative classification: black cottonwood series - riparian (HC)
Hydric soil rating: No

Description of Notus

Setting

Landform: Flood-plain steps
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Sandy and gravelly alluvium

Typical profile

A - 0 to 1 inches: sandy loam
AC - 1 to 14 inches: fine sandy loam
2C - 14 to 60 inches: very gravelly coarse sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 20 to 30 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: R011XY016OR - Sandy 8-11 PZ
Other vegetative classification: black cottonwood series - riparian (HC)
Hydric soil rating: No

Minor Components

Fluvaquentic endoaquolls, loamy

Percent of map unit: 10 percent
Landform: Flood-plain steps
Down-slope shape: Linear
Across-slope shape: Concave
Other vegetative classification: Moist meadow series (MM)
Hydric soil rating: Yes

Phyllis

Percent of map unit: 5 percent
Other vegetative classification: Moist meadow series (MM)
Hydric soil rating: Yes

Fluvaquentic endoaquolls, gravelly substratum

Percent of map unit: 5 percent
Landform: Flood-plain steps
Down-slope shape: Linear
Across-slope shape: Convex
Other vegetative classification: Moist meadow series (MM)
Hydric soil rating: Yes

9999—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Ada County, Idaho

Local office

Idaho Fish And Wildlife Office

(208) 378-5243
(208) 378-5262

1387 South Vinnell Way, Suite 368
Boise, ID 83709-1657

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Slickspot Peppergrass Lepidium papilliferum There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4027	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American White Pelican pelecanus erythrorhynchos This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6886	Breeds Apr 1 to Aug 31
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Bobolink Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31

California Gull Larus californicus — Breeds Mar 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Cassin's Finch Carpodacus cassinii — Breeds May 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9462

Clark's Grebe Aechmophorus clarkii — Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Evening Grosbeak Coccothraustes vespertinus — Breeds May 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Franklin's Gull Leucophaeus pipixcan — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Long-eared Owl asio otus — Breeds Mar 1 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3631

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Rufous Hummingbird selasphorus rufus — Breeds Apr 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Sage Thrasher Oreoscoptes montanus — Breeds Apr 15 to Aug 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9433

Western Grebe aechmophorus occidentalis — Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/6743

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

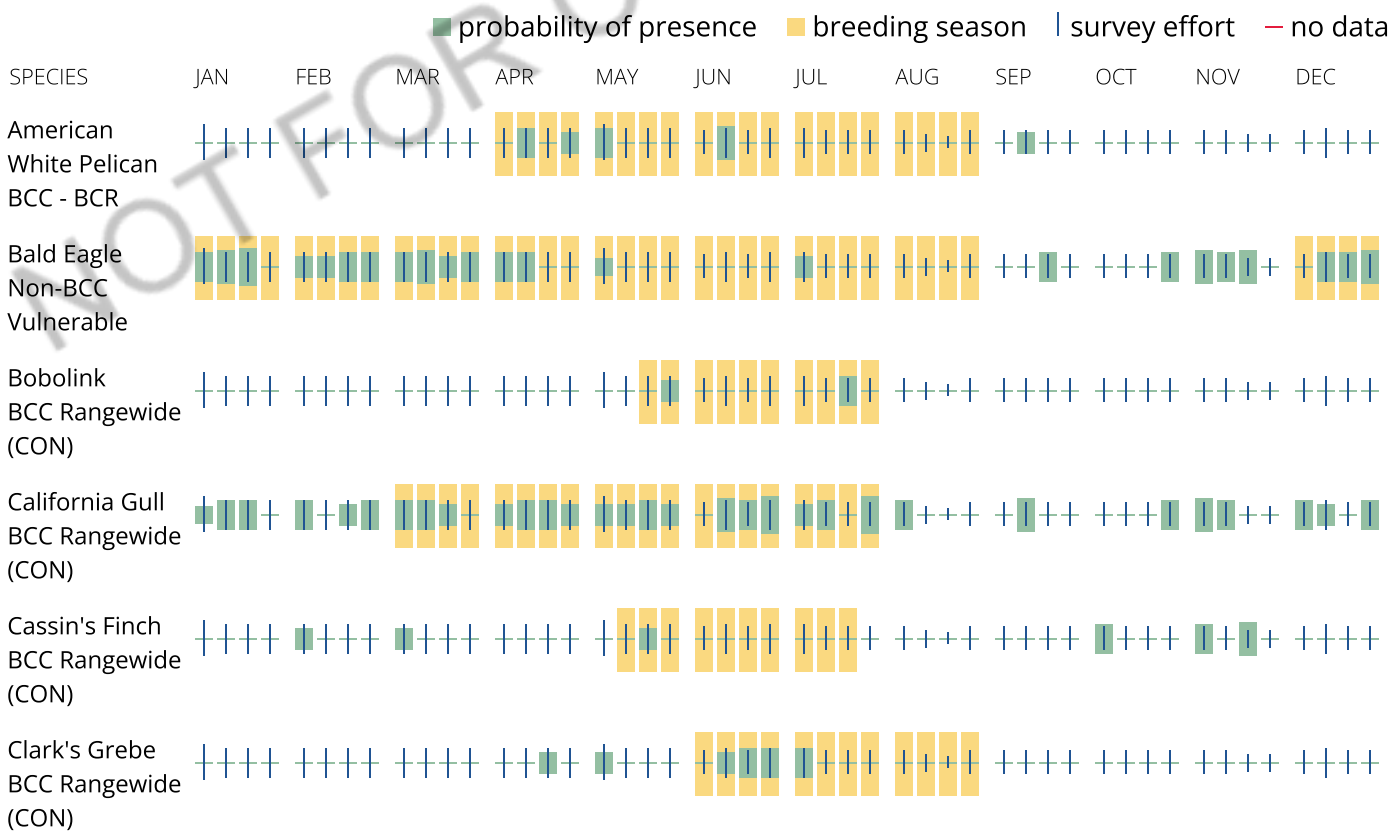
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

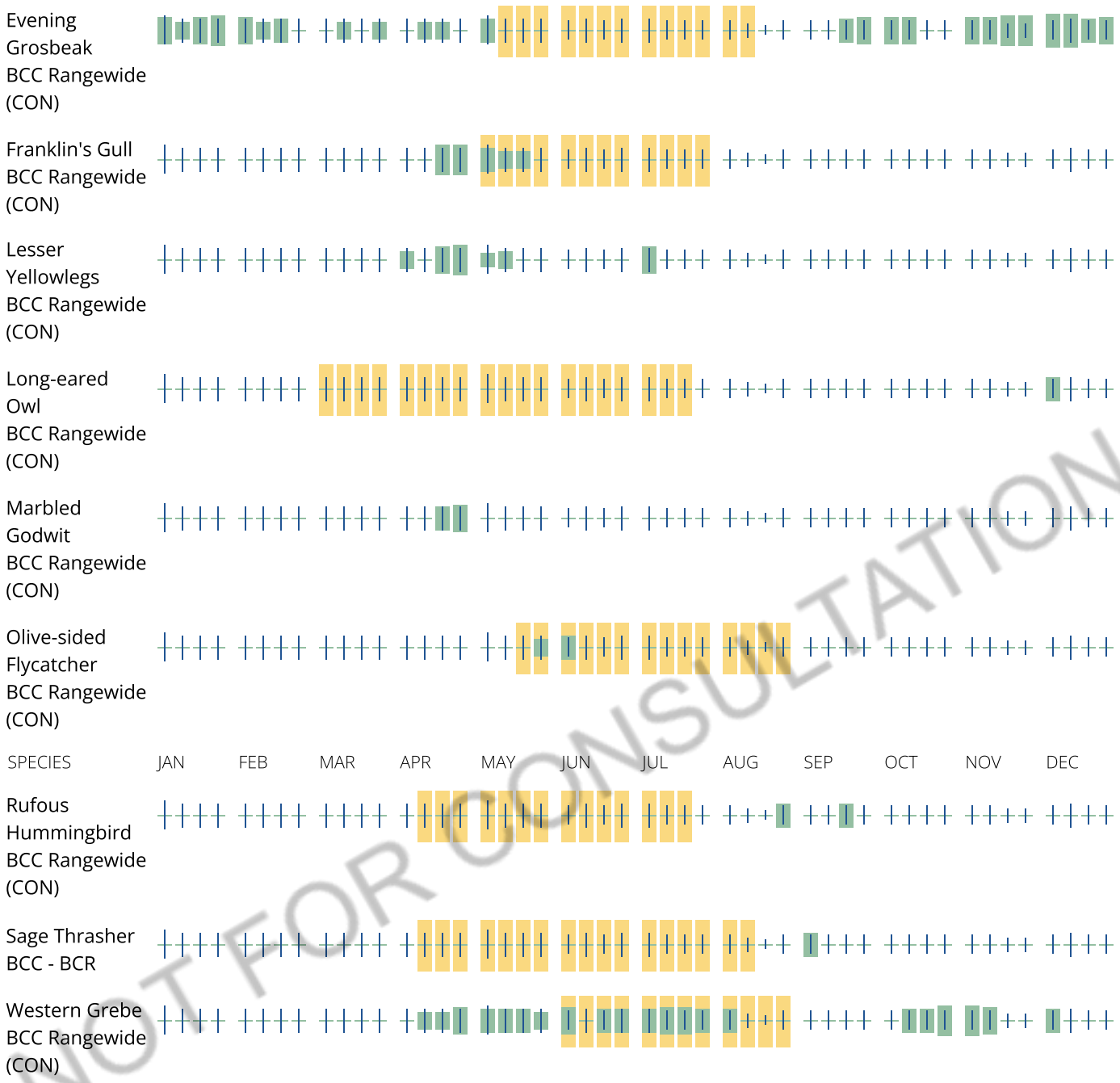
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and

minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on Federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more

information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local

government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NATIONWIDE STANDARD CONSERVATION MEASURES

Listed below are effective measures that should be employed at all project development sites nationwide with the goal of reducing impacts to birds and their habitats. These measures are grouped into three categories: General, Habitat Protection, and Stressor Management. These measures may be updated through time. We recommend checking the Conservation Measures website regularly for the most up-to-date list.

1. General Measures

a. Educate all employees, contractors, and/or site visitors of relevant rules and regulations that protect wildlife. See the Service webpage on Regulations and Policies for more information on regulations that protect migratory birds.

b. Prior to removal of an inactive nest, ensure that the nest is not protected under the Endangered Species Act (ESA) or the Bald and Golden Eagle Protection Act (BGEPA). Nests protected under ESA or BGEPA cannot be removed without a valid permit.
   i. See the Service Nest Destruction Policy

c. Do not collect birds (live or dead) or their parts (e.g., feathers) or nests without a valid permit. Please visit the Service permits page for more information on permits and permit applications.

d. Provide enclosed solid waste receptacles at all project areas. Non-hazardous solid waste (trash) would be collected and deposited in the on-site receptacles. Solid waste would be collected and disposed of by a local waste disposal contractor. For more information about solid waste and how to properly dispose of it, see the EPA Non-Hazardous Waste website.

e. Report any incidental take of a migratory bird, to the local Service Office of Law Enforcement.

f. Consult and follow applicable Service industry guidance.

2. Habitat Protection

a. Minimize project creep by clearly delineating and maintaining project boundaries (including staging areas).

b. Consult all local, State, and Federal regulations for the development of an appropriate buffer distance between development site and any wetland or waterway. For more information on wetland protection regulations see the Clean Water Act sections 401 and 404.

c. Maximize use of disturbed land for all project activities (i.e., siting, lay-down areas, and construction).

d. Implement standard soil erosion and dust control measures. For example:
   i. Establish vegetation cover to stabilize soil
   ii. Use erosion blankets to prevent soil loss
   iii. Water bare soil to prevent wind erosion and dust issues

3. Stressor Management

Stressor: Vegetation Removal

Conservation Goal: Avoid direct take of adults, chicks, or eggs.

Conservation Measure 1: Schedule all vegetation removal, trimming, and grading of vegetated areas outside of the peak bird breeding season to the maximum extent practicable. Use available resources, such as internet-based tools (e.g., the FWS's Information, Planning and Conservation system and Avian Knowledge Network) to identify peak breeding months for local bird species; or, contact local Service Migratory Bird Program Office for breeding bird information.

Conservation Measure 2: When project activities cannot occur outside the bird nesting season, conduct surveys prior to scheduled activity to determine if active nests are present within the area of impact and buffer any nesting locations found during surveys.

1) Generally, the surveys should be conducted no more than five days prior to scheduled activity.
2) Timing and dimensions of the area to be surveyed vary and will depend on the nature of the project, location, and expected level of vegetation disturbance.
3) If active nests or breeding behavior (e.g., courtship, nest building, territorial defense, etc.) are detected during these surveys, no vegetation removal activities should be conducted until nestlings have fledged or the nest fails or breeding behaviors are no longer observed. If the activity must occur, establish a buffer zone around the nest and no activities will occur within that zone until nestlings have fledged and left the nest area. The dimension of the buffer zone will depend on the proposed activity, habitat type, and species present and should be coordinated with the local or regional Service office.
4) When establishing a buffer zone, construct a barrier (e.g., plastic fencing) to protect the area. If the fence is knocked down or destroyed, work will suspend wholly, or in part, until the fence is satisfactorily repaired.
5) When establishing a buffer zone, a qualified biologist will be present onsite to serve as a biological monitor during vegetation clearing and grading activities to ensure no take of migratory birds occurs. Prior to vegetation clearing, the monitor will ensure that the limits of construction have been properly staked and are readily identifiable. Any associated project activities that are inconsistent with the applicable conservation measures, and activities that may result in the take of migratory birds will be immediately halted and reported to the appropriate Service office within 24 hours.
6) If establishing a buffer zone is not feasible, contact the Service for guidance to minimize impacts to migratory birds associated with the proposed project or removal of an active nest. Active nests may only be removed if you receive a permit from your local Migratory Bird Permit Office. A permit may authorize active nest removal by a qualified biologist with bird handling experience or by a permitted bird rehabilitator.

Conservation Measure 3: Prepare a vegetation maintenance plan that outlines vegetation maintenance activities and schedules so that direct bird impacts do not occur.

Stressor: Invasive Species Introduction
Conservation Goal: Prevent the introduction of invasive plants.

Conservation Measure 1: Prepare a weed abatement plan that outlines the areas where weed abatement is required and the schedule and method of activities to ensure bird impacts are avoided.

Conservation Measure 2: For temporary and permanent habitat restoration/enhancement, use only native and local (when possible) seed and plant stock.

Conservation Measure 3: Consider creating vehicle wash stations prior to entering sensitive habitat areas to prevent accidental introduction of non-native plants.

Conservation Measure 4: Remove invasive/exotic species that pose an attractive nuisance to migratory birds.

Stressor: Artificial Lighting
Conservation Goal: Prevent increase in lighting of native habitats during the bird breeding season.

Conservation Measure 1: To the maximum extent practicable, limit construction activities to the time between dawn and dusk to avoid the illumination of adjacent habitat areas.

Conservation Measure 2: If construction activity time restrictions are not possible, use down shielding or directional lighting to avoid light trespass into bird habitat (i.e., use a 'Cobra' style light rather than an omnidirectional light system to direct light down to the roadbed). To the maximum extent practicable, while allowing for public safety, low intensity energy saving lighting (e.g. low pressure sodium lamps) will be used.

Conservation Measure 3: Minimize illumination of lighting on associated construction or operation structures by using motion sensors or heat sensors.

Conservation Measure 5: Bright white light, such as metal halide, halogen, fluorescent, mercury vapor and incandescent lamps should *not* be used.

Stressor: Human Disturbance
Conservation Goal: Minimize prolonged human presence near nesting birds during construction and maintenance actions.

Conservation Measure 1: Restrict unauthorized access to natural areas adjacent to the project site by erecting a barrier and/or avoidance buffers (e.g., gate, fence, wall) to minimize foot traffic and off-road vehicle uses.

Stressor: Collision

Conservation Goal: Minimize collision risk with project infrastructure and vehicles.

Conservation Measure 1: Minimize collision risk with project infrastructure (e.g., temporary and permanent) by increasing visibility through appropriate marking and design features (e.g., lighting, wire marking, etc.).

Conservation Measure 2: On bridge crossing areas with adjacent riparian, beach, estuary, or other bird habitat, use fencing or metal bridge poles (Sebastian Poles) that extend to the height of the tallest vehicles that will use the structure.

Conservation Measure 3: Install wildlife friendly culverts so rodents and small mammals can travel under any new roadways instead of over them. This may help reduce raptor deaths associated with being struck while tracking prey or scavenging road kill on the roadway.

Conservation Measure 4: Remove road-kill carcasses regularly to prevent scavenging and bird congregations along roadways.

Conservation Measure 5: Avoid planting "desirable" fruited or preferred nesting vegetation in medians or Rights of Way.

Conservation Measure 6: Eliminate use of steady burning lights on tall structures (e.g., >200 ft).

Stressor: Entrapment

Conservation Goal: Prevent birds from becoming trapped in project structures or perching and nesting in project areas that may endanger them.

Conservation Measure 1: Minimize entrapment and entanglement hazards through project design measures that may include:

1. Installing anti-perching devices on facilities/equipment where birds may commonly nest or perch
2. Covering or enclosing all potential nesting surfaces on the structure with mesh netting, chicken wire fencing, or other suitable exclusion material prior to the nesting season to prevent birds from establishing new nests. The netting, fencing, or other material must have no opening or mesh size greater than 19 mm and must be maintained until the structure is removed.
3. Cap pipes and cover/seal all small dark spaces where birds may enter and become trapped.

Conservation Measure 2: Use the appropriate deterrents to prevent birds from nesting on structures where they cause conflicts, may endanger themselves, or create a human health and safety hazard.

1. During the time that the birds are trying to build or occupy their nests (generally , between April and August, depending on the geographic location), potential nesting

surfaces should be monitored at least once every three days for any nesting activity, especially where bird use of structures is likely to cause take. It is permissible to remove non-active nests (without birds or eggs), partially completed nests, or new nests as they are built (prior to occupation). If birds have started to build any nests, the nests shall be removed before they are completed. Water shall not be used to remove the nests if nests are located within 50 feet of any surface waters.

2. If an active nest becomes established (i.e., there are eggs or young in the nest), all work that could result in abandonment or destruction of the nest shall be avoided until the young have fledged or the nest is unoccupied. Construction activities that may displace birds after they have laid their eggs and before the young have fledged should not be permitted. If the project continues into the following spring, this cycle shall be repeated. When work on the structure is complete, all netting shall be removed and properly disposed of.

Stressor: Noise

Conservation Goal: Prevent the increase in noise above ambient levels during the nesting bird breeding season.

Conservation Measure 1: Minimize an increase in noise above ambient levels during project construction by installing temporary structural barriers such as sand bags

Conservation Measure 2: Avoid permanent additions to ambient noise levels from the proposed project by using baffle boxes or sound walls.

Stressor: Chemical Contamination

Conservation Goal: Prevent the introduction of chemicals contaminants into the environment.

Conservation Measure 1: Avoid chemical contamination of the project area by implementing a Hazardous Materials Plan. For more information on hazardous waste and how to properly manage hazardous waste, see the EPA Hazardous Waste website.

Conservation Measure 2: Avoid soil contamination by using drip pans underneath equipment and containment zones at construction sites and when refueling vehicles or equipment.

Conservation Measure 3: Avoid contaminating natural aquatic and wetland systems with runoff by limiting all equipment maintenance, staging laydown, and dispensing of fuel, oil, etc., to designated upland areas.

Conservation Measure 4: Any use of pesticides or rodenticides shall comply with the applicable Federal and State laws.

1. Choose non-chemical alternatives when appropriate
2. Pesticides shall be used only in accordance with their registered uses and in accordance with the manufacturer's instructions to limit access to non-target species.

3. For general measures to reducing wildlife exposure to pesticides, see EPA's Pesticides: Environmental Effects website.

Stressor: Fire

Conservation Goal: Minimize fire potential from project-related activities.

Conservation Measure 1: Reduce fire hazards from vehicles and human activities (e.g., use spark arrestors on power equipment, avoid driving vehicles off road).

Conservation Measure 2: Consider fire potential when developing vegetation management plans by planting temporary impact areas with a palate of low-growing, sparse, fire resistant native species that meet with the approval of the County Fire Department and local FWS Office.

SUBBASIN

17050114 - Lower Boise

ASSESSMENT UNIT STATUS REPORT 2022

Assessment Unit ID: ID17050114SW005_06

Assessment Unit Name: Boise River - Veterans Memorial Parkway to Star Bridge

Assessment Unit Type: RIVER

Assessment Unit Size: 36.89 Miles

Assessment Date: 2021-04-20

This Assessment Unit is in Multiple Categories: 5, 4A, 4C

Assessed Beneficial Use	Assessed Date	User Flag	Support Status	Parameter	Parameter Status	TMDL ID	Category
Cold Water Aquatic Life	04-02-2021	DESIGNATED	Not Supporting	FLOW REGIME MODIFICATION	Not meeting criteria		4c
Cold Water Aquatic Life	04-02-2021	DESIGNATED	Not Supporting	PHYSICAL SUBSTRATE HABITAT ALTERATIONS	Not meeting criteria		4c
Cold Water Aquatic Life	04-02-2021	DESIGNATED	Not Supporting	TEMPERATURE	Not meeting criteria		5
Cold Water Aquatic Life	04-02-2021	DESIGNATED	Not Supporting	SEDIMENTATION/SILTATION	Not meeting criteria	34394,735	4a
Primary Contact Recreation	04-20-2021	DESIGNATED	Not Supporting	FECAL COLIFORM	Not meeting criteria	34394,735	4a
Salmonid Spawning	04-02-2021	DESIGNATED	Not Supporting	TEMPERATURE	Not meeting criteria		5

Unassessed Beneficial Uses	User Flag
Aesthetic	DESIGNATED
Agricultural Water Supply	DESIGNATED
Industrial Water Supply	DESIGNATED
Wildlife Habitat	DESIGNATED

Beneficial Use Comments

Cold Water Aquatic Life

02/07/2020 (DM): Data submitted by the City of Boise in 2019 showed that the temperature exceeded criteria for cold water aquatic life at Eagle Road Bridge in 2013 and 2015. This assessment unit was originally placed in category 5 for temperature in 2016. At that time, it was determined that elevated temperature is impairing aquatic life. That assessment further stated that the assessment unit will remain listed for temperature pending additional data collection further down the unit, towards Star Road. Due to the fact that there were still exceedances in the criteria, and no additional data was collected in a downstream representing area, the AU will remain NF for temperature. 04/02/2021 (EW): Three toxics samples were taken by USGS (site 13206000) in 2019. Although the samples met applicable criteria for arsenic, cadmium, lead, nickel, and zinc, they are considered insufficient to assess beneficial uses because there are less than three years of data and only three samples. City of Boise temperature data collected from 2019-2020 indicate that Cold Water Aquatic Life (CWAL) use is Not Supporting due to the exceedance of daily average temperature criteria (19 degrees C) more than 10% of the time at their Linder temperature logger site. City of Boise data submitted from sondes deployed at Glenwood and Eagle Road bridge met CWAL temperature criteria, but due to the fact that there were still exceedances at the Linder location the assessment unit will remain Not Supporting.

Primary Contact Recreation

04/20/2021 (EW): Three toxics samples were taken by USGS (site 13206000) in 2019. Although the samples met applicable criteria for selenium, nickel, and zinc, they are considered insufficient to assess beneficial uses because there are less than three years of data and only three samples. Primary Contact Recreation (PCR) in this assessment unit is associated with a fecal coliform impairment and will remain Not Supporting.

Salmonid Spawning

02/07/2020 (DM): Data submitted by the City of Boise in 2019 showed that the temperature exceeded criteria for site specific salmonid spawning at Eagle Road Bridge in 2015 and 2016. This assessment unit was originally placed in category 5 for temperature in 2016. At that time, it was determined that elevated temperature is impairing aquatic life. That assessment further stated that the assessment unit will remain listed for temperature pending additional data collection further down the unit, towards Star Road. Due to the fact that there were still exceedances in the criteria, cold water aquatic life criteria is not meeting its beneficial uses, and no additional data was collected in a downstream representing area, the AU will remain NF for temperature. 04/02/2021 (EW): City of Boise temperature data from 2019-2020 indicate that Cold Water Aquatic Life (CWAL) is Not Supporting. Salmonid Spawning (SS) is a subcategory of CWAL, and because CWAL is Not Supporting, neither is SS (Idaho's WBAG III, section 6.5.2).

Cause Comments

TEMPERATURE

02/07/2020 (DM): Data submitted by the City of Boise in 2019 showed that the temperature exceeded criteria for cold water aquatic life in 2013 and 2015 and salmonid spawning in 2015 and 2016 at Eagle Road Bridge. This assessment unit was in Category 5 for temperature in the 2016 Integrated Report. At that time, it was determined that elevated temperature was impairing aquatic life. That assessment further stated that the assessment unit will remain listed for temperature pending additional data collection further down the unit, towards Star Road. Due to the fact that there were still exceedances in the criteria, and no additional data was collected in a downstream representing area, the AU will remain impaired for temperature. 04/02/2021 (EW): City of Boise temperature data from 2019-2020 indicate that Cold Water Aquatic Life (CWAL) use is Not Supporting due to the exceedance of daily average temperature criteria (19 degrees C) more than 10% of the time at their Linder temperature logger site. Data submitted from sondes deployed at Glenwood and Eagle Road bridge met CWAL temperature criteria, but due to the fact that there were still exceedances at the Linder location the assessment unit will remain Not Supporting. Salmonid Spawning (SS) is a subcategory of CWAL, and because CWAL is Not Supporting, neither is SS (Idaho's WBAG III, section 6.5.2)

APPROVED TMDLS

EPA TMDL ID	EPA APPROVED TMDL	TMDL CAUSE	APPROVAL DATE
34394	LOWER BOISE RIVER SEDIMENT AND BACTERIA TMDLS ADDENDUM	FECAL COLIFORM	Jun 03, 2008
34394	LOWER BOISE RIVER SEDIMENT AND BACTERIA TMDLS ADDENDUM	SEDIMENTATION/SILTATION	Jun 03, 2008
735	BOISE RIVER, LOWER	FECAL COLIFORM	Jan 25, 2000
735	BOISE RIVER, LOWER	SEDIMENTATION/SILTATION	Jan 25, 2000

2018-2020 STATUS 2016 STATUS

Query Executed On: Monday, November 28, 2022

Disclaimer || Public Records Request || Surface Water 305B IR

Appendix B
Planning Level Opinion of Probable Cost

Star Greenbelt - Single Project

COMPASS ; City of Star

Engineer's Conceptual Estimate

Prepared By: Chase Fuquay - Kittelson		*Date: April 2023*		
Reviewed By: Jamie Markosian - Kittelson				
This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
Mobilization	LS	ALL	$288,000.00	$288,000.00
Construction Staging	LS	ALL	$144,000.00	$144,000.00
Erosion Control	AC	10.0	$10,000.00	$100,000.00
Clearing, Grubbing, Removals	LS	ALL	$150,000.00	$150,000.00
General Earthworks	CY	2,500	$50.00	$125,000.00
Asphalt Path	SF	73,500	$3.90	$286,650.00
Raised Wooden Path (Timber Piles)	SF	10,000	$70.00	$700,000.00
Bridge Structures (2), Complete	SF	4,800	$300.00	$1,440,000.00
Permanent Landscaping	SF	36,750	$4.20	$154,350.00
Pavement Markings, Complete	LS	ALL	$15,000.00	$15,000.00
Signage, Complete	LS	ALL	$9,000.00	$9,000.00
		TOTAL CONSTRUCTION COST	**$**	**3,412,000**

Star Greenbelt - Single Project

COMPASS ; City of Star

Engineer's Conceptual Estimate

Prepared By: Chase Fuquay - Kittelson		*Date: April 2023*		
Reviewed By: Jamie Markosian - Kittelson				
This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
CONSTRUCTION SUPPORT				
Engineering Design & Permits	LS	ALL	$200,000.00	$200,000.00
Environmental Resources & Permitting	LS	ALL	$100,000.00	$100,000.00
Planning & Administrative Costs	LS	ALL	$100,000.00	$100,000.00
Construction Management & Survey	LS	ALL	$200,000.00	$200,000.00
Preliminary Right-of-Way Acquisition	To Be Determined			
CONSTRUCTION SUPPORT SUBTOTAL				**$ 600,000**
			TOTAL PROJECT SUBTOTAL	**$ 4,012,000**
			30% Contingency	**$ 1,203,600**
			TOTAL ESTIMATED PROJECT COST	**$ 5,215,600**

Unit Costs Note:

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we cannot guarantee these costs for any duration of time.

Assumptions:

- The assumed greenbelt section is 3 inches ACP over 5 inches of compacted aggregate base.
- The pedestrian bridge is assumed to be prefabricated, have a 10-ft interior width, and not to be rated for vehicular traffic

Scope Accuracy:

Level 1: Project scope well understood and well defined.

Level 2: Project scope conceptual. Scope lacks detail due to potential permit requirements; Unknown project conditions; limited knowledge of external impacts.

Level 3: Project scope is a "vision" with limited detail.

Engineering Effort:

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining).

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed.

Star Greenbelt - Phase 1

COMPASS ; City of Star

Engineer's Conceptual Estimate

Prepared By: Chase Fuquay - Kittelson		*Date: May 2023*		
Reviewed By: Jamie Markosian - Kittelson				
This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
Mobilization	LS	ALL	$25,950.00	$25,950.00
Construction Staging	LS	ALL	$12,110.00	$12,110.00
Erosion Control	AC	4.0	$10,000.00	$40,000.00
Clearing, Grubbing, Removals	LS	ALL	$4,000.00	$4,000.00
General Earthworks	CY	800	$45.00	$36,000.00
Asphalt Path	SF	21,000	$3.90	$81,900.00
Permanent Landscaping	SF	10,500	$4.20	$44,100.00
Pavement Markings, Complete	LS	ALL	$5,000.00	$5,000.00
Signage, Complete	LS	ALL	$2,000.00	$2,000.00
		TOTAL CONSTRUCTION COST	**$**	**251,060**

Star Greenbelt - Phase 1

COMPASS ; City of Star

Engineer's Conceptual Estimate

Prepared By: Chase Fuquay - Kittelson		*Date: May 2023*		
Reviewed By: Jamie Markosian - Kittelson				
This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
CONSTRUCTION SUPPORT				
Engineering Design & Permits	LS	ALL	$25,106.00	$25,106.00
Environmental Resources & Permitting	LS	ALL	$7,531.80	$7,531.80
Planning & Administrative Costs	LS	ALL	$7,531.80	$7,531.80
Construction Management & Survey	LS	ALL	$17,574.20	$17,574.20
Preliminary Right-of-Way Acquisition	To Be Determined			
CONSTRUCTION SUPPORT SUBTOTAL				**$ 57,744**
TOTAL PROJECT SUBTOTAL				**$ 308,804**
30% Contingency				**$ 92,650**
TOTAL ESTIMATED PROJECT COST				**$ 401,454**

Unit Costs Note:

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we cannot guarantee these costs for any duration of time.

Assumptions:

- The assumed greenbelt section is 3 inches ACP over 5 inches of compacted aggregate base.
- The pedestrian bridge is assumed to be prefabricated, have a 10-ft interior width, and not to be rated for vehicular traffic

Scope Accuracy:

Level 1: Project scope well understood and well defined.

Level 2: Project scope conceptual. Scope lacks detail due to potential permit requirements; Unknown project conditions; limited knowledge of external impacts.

Level 3: Project scope is a "vision" with limited detail.

Engineering Effort:

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining).

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed.

Star Greenbelt - Phase 2

COMPASS ; City of Star

Engineer's Conceptual Estimate

Prepared By: Chase Fuquay - Kittelson		*Date: May 2023*		
Reviewed By: Jamie Markosian - Kittelson				
This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
Mobilization	LS	ALL	$102,840.00	$102,840.00
Construction Staging	LS	ALL	$64,275.00	$64,275.00
Erosion Control	AC	1.0	$10,000.00	$10,000.00
Clearing, Grubbing, Removals	LS	ALL	$17,000.00	$17,000.00
General Earthworks	CY	200	$40.00	$8,000.00
Asphalt Path	SF	7,000	$3.90	$27,300.00
Raised Wooden Path (Timber Piles)	SF	1,000	$70.00	$70,000.00
Permanent Landscaping	SF	3,500	$4.20	$14,700.00
Bridge Structures, Complete	SF	2,400	$300.00	$720,000.00
TOTAL CONSTRUCTION COST			**$**	**1,034,115**

Star Greenbelt - Phase 2

COMPASS ; City of Star

Engineer's Conceptual Estimate

Prepared By: Chase Fuquay - Kittelson		*Date: May 2023*		
Reviewed By: Jamie Markosian - Kittelson				
This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
CONSTRUCTION SUPPORT				
Engineering Design & Permits	LS	ALL	$72,388.05	$72,388.05
Environmental Resources & Permitting	LS	ALL	$31,023.45	$31,023.45
Planning & Administrative Costs	LS	ALL	$31,023.45	$31,023.45
Construction Management & Survey	LS	ALL	$51,705.75	$51,705.75
Preliminary Right-of-Way Acquisition	To Be Determined			
CONSTRUCTION SUPPORT SUBTOTAL				**$ 186,141**
			TOTAL PROJECT SUBTOTAL	**$ 1,220,256**
			30% Contingency	**$ 366,080**
			TOTAL ESTIMATED PROJECT COST	**$ 1,586,336**

Unit Costs Note:

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we cannot guarantee these costs for any duration of time.

Assumptions:

- The assumed greenbelt section is 3 inches ACP over 5 inches of compacted aggregate base.
- The pedestrian bridge is assumed to be prefabricated, have a 10-ft interior width, and not to be rated for vehicular traffic

Scope Accuracy:

Level 1: Project scope well understood and well defined.

Level 2: Project scope conceptual. Scope lacks detail due to potential permit requirements; Unknown project conditions; limited knowledge of external impacts.

Level 3: Project scope is a "vision" with limited detail.

Engineering Effort:

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining).

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed.

Star Greenbelt - Phase 3

COMPASS ; City of Star

Engineer's Conceptual Estimate

Prepared By: Chase Fuquay - Kittelson		*Date: May 2023*		
Reviewed By: Jamie Markosian - Kittelson				
This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
Mobilization	LS	ALL	$218,640.00	$218,640.00
Construction Staging	LS	ALL	$127,540.00	$127,540.00
Erosion Control	AC	5.0	$10,000.00	$50,000.00
Clearing, Grubbing, Removals	LS	ALL	$100,000.00	$100,000.00
General Earthworks	CY	1,600	$50.00	$80,000.00
Asphalt Path	SF	46,000	$3.90	$179,400.00
Raised Wooden Path (Timber Piles)	SF	9,000	$70.00	$630,000.00
Bridge Structure, Complete	SF	2,400	$300.00	$720,000.00
Permanent Landscaping	SF	23,000	$4.20	$96,600.00
Pavement Markings, Complete	LS	ALL	$10,000.00	$10,000.00
Signage, Complete	LS	ALL	$6,000.00	$6,000.00
		TOTAL CONSTRUCTION COST	**$**	**2,218,180**

Star Greenbelt - Phase 3

COMPASS ; City of Star

Engineer's Conceptual Estimate

Prepared By: Chase Fuquay - Kittelson		*Date: May 2023*		
Reviewed By: Jamie Markosian - Kittelson				
This Estimate has a Rating of:		**2B**	*(See rating scale guide below.)*	
ITEM	**UNIT**	**TOTAL QUANTITY**	**UNIT PRICE**	**TOTAL COST**
CONSTRUCTION SUPPORT				
Engineering Design & Permits	LS	ALL	$155,272.60	$155,272.60
Environmental Resources & Permitting	LS	ALL	$66,545.40	$66,545.40
Planning & Administrative Costs	LS	ALL	$66,545.40	$66,545.40
Construction Management & Survey	LS	ALL	$110,909.00	$110,909.00
Preliminary Right-of-Way Acquisition	To Be Determined			
CONSTRUCTION SUPPORT SUBTOTAL				**$ 399,272**
			TOTAL PROJECT SUBTOTAL	**$ 2,617,452**
			30% Contingency	**$ 785,240**
			TOTAL ESTIMATED PROJECT COST	**$ 3,402,692**

Unit Costs Note:

The associated product and material costs are based upon the most recent available cost data. Due to the current volatility of the construction market, we cannot guarantee these costs for any duration of time.

Assumptions:

- The assumed greenbelt section is 3 inches ACP over 5 inches of compacted aggregate base.
- The pedestrian bridge is assumed to be prefabricated, have a 10-ft interior width, and not to be rated for vehicular traffic

Scope Accuracy:

Level 1: Project scope well understood and well defined.

Level 2: Project scope conceptual. Scope lacks detail due to potential permit requirements; Unknown project conditions; limited knowledge of external impacts.

Level 3: Project scope is a "vision" with limited detail.

Engineering Effort:

Level A: Preliminary engineering performed. Technical information is available, engineering calculations have been performed; clear understanding of the materials size and quantities needed to execute job. Schedule understood; staff and permitting is fairly clear, (however this element may still need refining).

Level B: Conceptual engineering performed. Technical information is available, rough engineering calculations may have been performed, or similar information from previous similar work is compared and used.

Level C: No engineering performed. Educated guesstimating. Limited technical information available and/or analysis performed.

Appendix C
Idaho Transportation Department Forms 1150 and 2453

ITD 2435 (Rev. 01-09)

Local Federal-Aid Project Request

Instructions

1. Under Character of Proposed Work, mark appropriate boxes when work includes Bridge Approaches in addition to a Bridge.
2. Attach a Vicinity Map showing the extent of the project limits.
3. Attach an ITD 1150, Project Cost Summary Sheet.
4. Signature of an appropriate local official is the only kind recognized.

Note: In Applying for a Federal-Aid Project, You are Agreeing to Follow all of the Federal Requirements Which Can Add Substantial Time and Costs to the Development of the Project.

Sponsor (City, County, Highway District, State/Federal Agency)	Date
City of Star	June 2023

Project Title (Name of Street or Road)	F.A. Route Number	Project Length	Bridge Length
Star Greenbelt	N/A	1.5 miles	N/A

Project Limits (Local Landmarks at Each End of the Project)
Star Riverwalk Park to SH-16

Character of Proposed Work (Mark Appropriate Items)

☐ Excavation	☒ Bicycle Facilities	☐ Utilities	☐ Sidewalk
☐ Drainage	☐ Traffic Control	☐ Landscaping	☐ Seal Coat
☐ Base	☒ Bridge(s)	☐ Guardrail	☒ Multi-Use Trail (Greenbelt)
☒ Bit. Surface	☐ Curb & Gutter	☐ Lighting	

Estimated Costs (Attach ITD 1150, Project Cost Summary Sheet)

Preliminary Engineering (ITD 1150, Line 1)	$ 650,000
Right-of-Way (ITD 1150, Line 2)	$
Construction (ITD 1150, Line 18)	$ 4,562,000

Preliminary Engineering By: ☐ Sponsor Forces ☒ Consultant

Checklist (Provide Names, Locations, and Type of Facilities)

Railroad Crossing	N/A
Within 2 miles of an Airport	N/A
Parks (City, County, State or Federal)	Star Riverwalk Park, Freedom Park
Environmentally Sensitive Areas	Floodway / Floodplain, Wetlands, River Crossings
Federal Lands (Indian, BLM, etc.)	BLM, Idaho State Dept of Lands
Historical Sites	N/A
Schools	N/A
Other	

Additional Right-of-Way Required: ☐ None ☒ Minor (1-3 Parcels) ☐ Extensive (4 or More Parcels)

Will any Person or Business be Displaced: ☐ Yes ☒ No ☐ Possibly

Standards	Existing	Proposed	Standards	Existing	Proposed
Number of Lanes	N/A	N/A	Roadway Width (Shoulder to Shoulder)	N/A ft	N/A ft
Pavement Type	N/A	Asphalt	Right-of-Way Width	N/A ft	30 ft

Sponsor's Signature	Title

Additional Information to be Furnished by the District

Functional Classification	Terrain Type	20	ADT/DHV

Project Cost Summary Sheet

ITD 1150 (Rev. 06-17)
itd.idaho.gov

Round Estimates to Nearest $1,000

Key Number	Project Number	Date
		Jun-23

Location	District
Star Greenbelt, Along Boise River from Star Riverwalk Park to SH 16	3

Segment Code	Begin Mile Post	End Mile Post	Length in Miles
N/A	N/A	N/A	1.5

	Previous ITD 1150	Initial or Revise To
1a. Preliminary Engineering (PE)		$300,000
1b. Preliminary Engineering by Consultant (PEC)		$350,000
2. Right-of-Way: Number of Parcels 7 Number of Relocations		
3. Utility Adjustments: ☐ Work ☐ Materials ☐ By State ☑ By Others		
4. Earthwork		$125,000
5. Drainage and Minor Structures		
6. Pavement and Base		$300,000
7. Railroad Crossing:		
Grade/Separation Structure N/A		
At-Grade Signals ☐ Yes ☑ No		
8. Bridges/Grade Separation Structures:		
☑ New Structure Length/Width 200 x 12 (2), 10K SF of Raised Path		$2,200,000.00
Location Two River Crossings, Wetland Crossings		
☐ Repair/Widening/Rehabilitation Length/Width		
Location		
9. Traffic Items (Delineators, Signing, Channelization, Lighting, and Signals)		$40,000
10. Temporary Traffic Control (Sign, Pavement Markings, Flagging, and Traffic Separation)		
11. Detours		
12. Landscaping		$160,000
13. Mitigation Measures		
14. Other Items (Roadside Development, Guardrail, Fencing, Sidewalks, Curb and Gutter, C.S.S. Items)		$394,000
15. Cost of Constructions (Items 3 through 14)		$3,219,000
16. Mobilization 9 % of Item 15		$290,000
17. Construction Engineer and Contingencies 30 % of Items 15 and 16		$1,053,000
18. Total Construction Cost (15 + 16 + 17)		$4,562,000
19. Total Project Cost (1 + 2 + 18)		$5,212,000
20. Project Cost Per Mile	$1,000	$3,475,000

Prepared By:

Chase Fuquay, PE - Kittelson & Associates, Inc.

Appendix D
List of Stakeholders

The following stakeholders were identified by the project team throughout the preparation of this report.

- Agencies
    - Idaho Bureau of Land Management (BLM)
    - Idaho Transportation Department (ITD)
    - Ada County Highway District (ACHD)
    - Flood Control District 10
        - Floodplain Administrator – Ryan Morgan
    - Idaho Department of Water Resources (IDWR)
        - District 63
    - US Army Corps of Engineers (USACE)

- Landowners
    - River Stone, LLC
    - Sundance Investments LLLP
    - Star Crest Apts LLC
    - R-A Land, LLC – Rivermoor
    - M3 Companies (Moon Valley)
    - Stonebriar HOA, Inc.
    - Nathaniel J Cauffman
    - George R Jamison
    - Heron River HOA, Inc.
    - Heron Lakes Development, Inc.
    - Roger W Lewis
    - Stillwell 117 Ranch, Inc.
    - Frank W Phillips III
    - Orme Family Living Trust
    - Paul Larson
    - Jason Daniel Dickman
    - Berend Group

Appendix E
Team Meeting Summaries

MEETING SUMMARY

Project# 26909.001

November 21, 2022

Project Name: Star Greenbelt Planning

Meeting Location: City of Star City Hall Conference Room

Prepared By: Chase Fuquay, EI – Kittelson & Associates

Attend	Invited	Organization
X	Trevor Chadwick	City of Star
X	Shawn Nickel	City of Star
X	Jennifer Salmonsen	City of Star
	Ryan Morgan	City of Star
X	Joey Schueler	COMPASS
X	Toni Tisdale	COMPASS
X	Chase Fuquay	Kittelson & Associates
X	Jamie Markosian	Kittelson & Associates
	Wende Wilber	Kittelson & Associates

MEETING SUMMARY

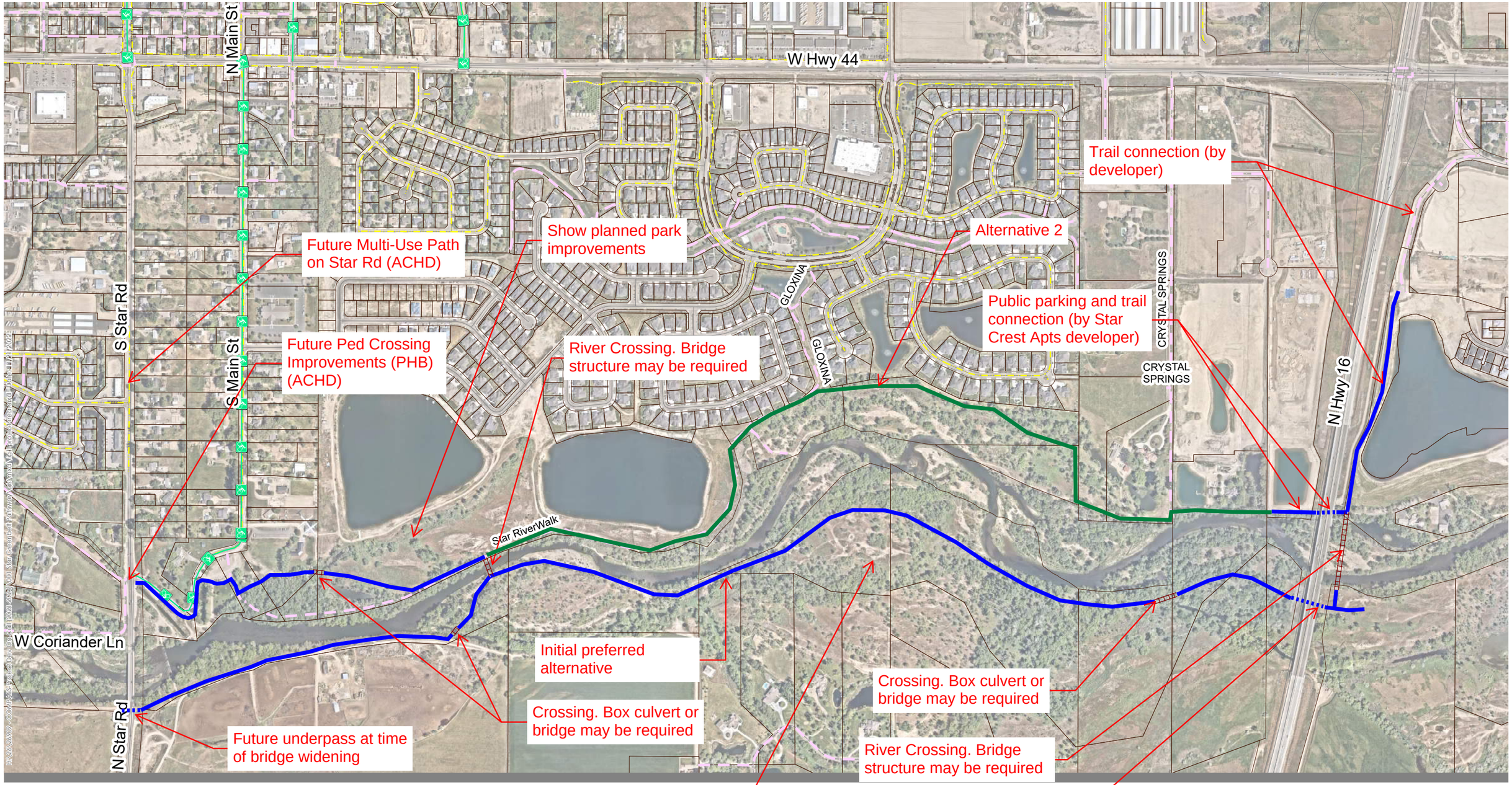
- Project Schedule & Approach
  - Alternatives Review Meeting – 1/18/23
  - Follow up Team Meeting – 2/27/23
  - 1st Draft of Pre-Concept Report – 4/3/23
  - 1st Draft Review Meeting – 4/12/23
  - 2nd Draft of Pre-Concept Report – 5/10/23
  - 2nd Draft Review Meeting – 5/19/23
  - Final Draft of Pre-Concept Report – 6/20/23

- Potential Routes / Desired Outcomes
  - See attached summary markup

- Project Stakeholders
    - Agencies
        - Idaho Bureau of Land Management (BLM)
        - Idaho Transportation Department (ITD)
        - Ada County Highway District (ACHD)
        - Flood Control District 10
            - Floodplain Administrator – Ryan Morgan
        - Idaho Department of Water Resources (IDWR)
            - District 63
        - US Army Corps of Engineers (USACE)
    - Landowners
        - River Stone, LLC
        - Sundance Investments LLLP
        - Star Crest Apts LLC
        - R-A Land, LLC – Rivermoor
        - M3 Companies (Moon Valley)
        - Stonebriar HOA, Inc.
            - Nathaniel J Cauffman
            - George R Jamison
        - Heron River HOA, Inc.
        - Heron Lakes Development, Inc.
        - Roger W Lewis
        - Stillwell 117 Ranch, Inc.
        - Frank W Phillips III
        - Orme Family Living Trust
        - Paul Larson
        - Jason Daniel Dickman
        - Berend Group

- Data Gaps / Needs – GIS preferable
    - City of Star South of the River Plan
    - City of Star Riverwalk Park improvement plan
    - City of Star Bicycle & Pedestrian Plan
    - City of Star Pathways Master Plan North & South

- Next Steps
    - COMPASS and City of Star to follow up with any relevant data / plans to include in project background
    - Alternatives Review Meeting



Legend

- Roadways
- Trails
- Sidewalks
- Bike Facilities

KITTELSON & ASSOCIATES

Figure 1

Star Greenbelt Planning Project Area
November 21, 2022

MEETING SUMMARY

Project# 26909.001

January 19, 2023

Project Name: Star Greenbelt Planning

Meeting Location: City of Star City Hall Conference Room

Prepared By: Chase Fuquay, EI – Kittelson & Associates

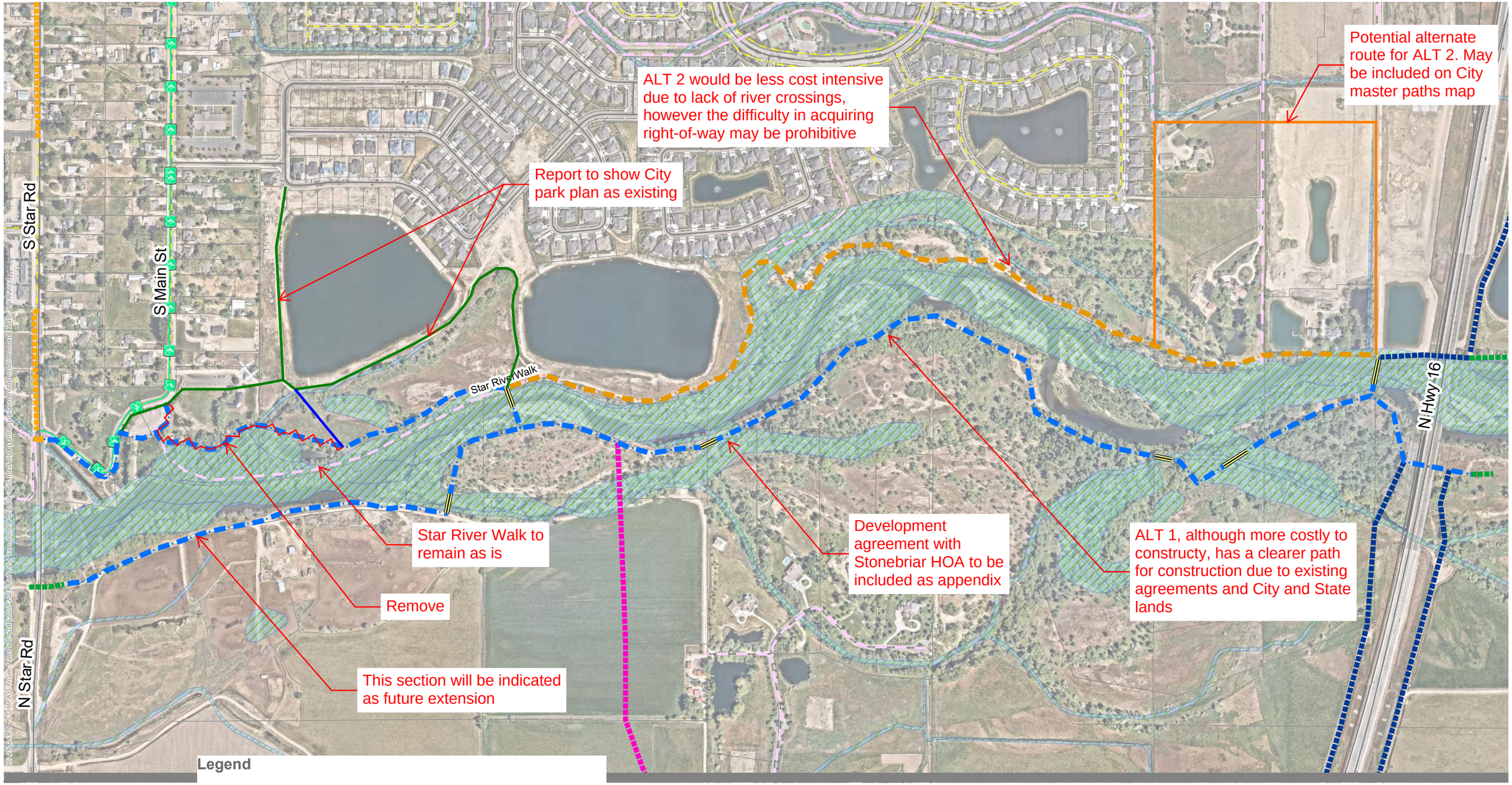
Attend	Invited	Organization
X	Trevor Chadwick	City of Star
X	Shawn Nickel	City of Star
	Jennifer Salmonsen	City of Star
X	Ryan Morgan	City of Star
X	Toni Tisdale	COMPASS
X	Chase Fuquay	Kittelson & Associates
	Jamie Markosian	Kittelson & Associates
	Wende Wilber	Kittelson & Associates

ALTERNATIVES REVIEW MEETING SUMMARY

- Project Schedule Update
  - Follow up Team Meeting – 3/16/23
  - 1st Draft of Pre-Concept Report – 4/3/23
  - 1st Draft Review Meeting – 4/12/23
  - 2nd Draft of Pre-Concept Report – 5/10/23
  - 2nd Draft Review Meeting – 5/19/23
  - Final Draft of Pre-Concept Report – 6/20/23

- Alternatives Discussion
    - See attached summary markup
    - Project Team identified Alternative 1 as 'preferred' alternative for purposes of the report
        - Alternative 1 was identified as the more 'realistic' option in regards to acquiring the necessary right-of-way and / or easements due to existing development agreements.
        - Alternative 2 may be feasible, however the required right-of-way acquisition may be prohibitive.
    - Kittelson and COMPASS to discuss potential funding sources off line for inclusion in report (State / Federal grants)

- Next Steps
    - 1st draft of Pre-Concept Report



KITTELSON & ASSOCIATES

Figure 4

Star Greenbelt Planning
Pathway Alignment Alternatives
January 2023

MEETING SUMMARY

Project# 26909.001

March 27, 2023

Project Name: Star Greenbelt Planning

Meeting Location: City of Star City Hall Conference Room

Prepared By: Chase Fuquay, EI – Kittelson & Associates

Attend	Invited	Organization
	Trevor Chadwick	City of Star
X	Shawn Nickel	City of Star
X	Jennifer Salmonsen	City of Star
X	Ryan Morgan	City of Star
	Toni Tisdale	COMPASS
X	Matt Carlson	COMPASS
X	Chase Fuquay	Kittelson & Associates
X	Jamie Markosian	Kittelson & Associates
	Wende Wilber	Kittelson & Associates

PROJECT UPDATE MEETING SUMMARY

- Reviewed Preferred Alignment – Team still in agreement that Alternative 1 is still preferred.
    - Southwest portion of Alternative 1 removed due to extended timeline and funding.
- Reviewed Cost Estimate for Preferred Alignment.
    - Kittelson to refine cost estimate regarding a few pay items (such as mobilization, clearing & grubbing / tree removal, and pavement section).
    - COMPASS noted that the total project cost (~$5.5 million) would likely require the project to be split into at least three phases for funding reasons.
    - Team discussed multiple phasing and funding options to be refined further in the pre-concept report.
- Reviewed right-of-way assessment.

NEXT STEPS

- Kittelson to refine cost estimate and adjust to reflect discussion around phasing and project funding.
- Kittelson and COMPASS to collaborate on potential funding sources write-up to be included in the pre-concept report.
- First Draft of Pre-Concept Report. Review meeting scheduled for 4/12/2023.