Pre-Concept Report

Prepared for:

ACHD

COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

Black Cat Road Steel Truss Bridge Relocation

September 19, 2025 | Final Report

Prepared by:

kpff
Consulting
Engineers

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Table of Contents

List of Figures

List of Tables

Appendices

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1. PROJECT SUMMARY

Ada County Highway District (ACHD) is planning to enhance non-motorized mobility by implementing improvements through a new water crossing in one of four potential locations: North Indian Creek connecting South Stroebel Road; New York Canal connecting Amity Avenue; Settlers Canal on the west side of Comba Park, connecting West Montana Avenue to the park and to North Five Mile Road; or Ridenbaugh Canal connecting Hilton Street between Ponder Street and West Albion Court. The purpose of this project is to evaluate the feasibility of relocating an obsolete truss bridge from Black Cat Road to be used as the crossing based on field inspection and load rating, and identify a Preferred Alternative based on span utilization, regional network connections, construction staging, and right-of-way and creek or canal impacts.

As outlined in this report, the North Indian Creek option has been identified as the Preferred Alternative. This plan involves relocating the existing truss bridge approximately 0.2 miles south of the East Kuna Road and South Stroebel Road intersection in Kuna, Ada County. The process will include disassembling the bridge and reassembling it at the new site. The proposed crossing will significantly improve pedestrian safety by providing a dedicated pathway over North Indian Creek, connecting a public parking to the Indian Creek float put-in. Currently, pedestrians must use the vehicular bridge on South Stroebel Road, which has a speed limit of 50 mph and lacks pedestrian infrastructure. **Figure 1** illustrates the layout of the Preferred Alternative, showing the relocated truss bridge positioned adjacent to the existing vehicular bridge with a newly proposed pathway on the south side of the creek and crossing on South Stroebel Road.

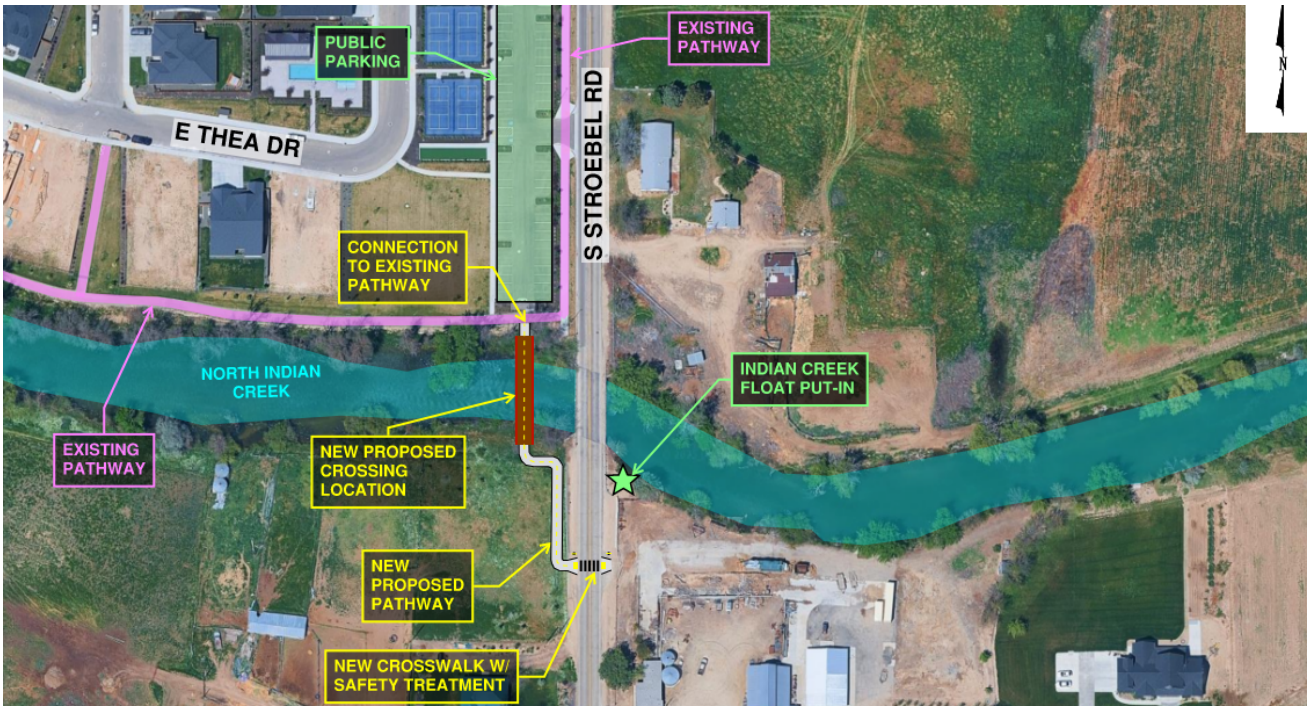


Figure 1: Preferred Alternative Layout (North Indian Creek Crossing)

A field inspection and load rating have confirmed that the truss bridge is structurally capable of supporting the required design loads. However, repairs are recommended, including repainting steel members, replacing bearings, repairing and replacing connections, and repairing pack rust. The construction of the Preferred Alternative will require ACHD to acquire right-of-way from the adjacent property on the south side of the North

Indian Creek and an easement from the City of Kuna on the north side of the creek. The concept layout also includes a new crosswalk with safety treatment (rapid flashing beacon or HAWK beacon) on South Stroebel Road due to the posted speed limit. The overall planning level opinion of cost of the Preferred Alternative is estimated to be approximately **$1,162,000**. The estimate includes the costs associated with the bridge relocation, including repairs and repainting, new abutments and sidewalls, decking, railing, and the construction of a new pathway, which includes fencing, paving, crossing beacon, and landing ramps.

2. PROJECT DESCRIPTION

This pre-concept report was commissioned by the Community Planning Association of Southwest Idaho (COMPASS) on behalf of ACHD to formalize the bridge relocation study and selection of a Preferred Alternative.

PROJECT SCOPE

The scope of the project is per the *Ada County Highway District Pre-Concept Report to Evaluate the Feasibility of Reusing the Obsolete Black Cat Steel Truss Bridge Professional Service Agreement 2024-13 Task Order* dated March 2025. This Task Order is a part of the On Call Project Development service agreement between COMPASS and KPFF. As part of this task order, the following tasks were completed by KPFF:

1. Project Team Coordination
2. Project Supervision
3. Existing Bridge Evaluation
4. Project Concept Development & Draft Report Information
5. Environmental Scan
6. Public Involvement Plan
7. Cost Estimates
8. Team Meetings
9. Pre-Concept Report

PROJECT PURPOSE AND NEED

The purpose of this project is to evaluate the feasibility of repurposing an obsolete steel truss bridge located on Black Cat Road for use as a bike and pedestrian bridge and to identify the preferred relocation site based on ACHD's Bridge site list.

The four relocation sites identified by ACHD are:

- **North Indian Creek (Preferred Alternative).** Crossing the creek south of the intersection of East Kuna Road and South Stroebel Road. The crossing will connect an existing pathway on the north side of the creek, adjacent to a City of Kuna park, with a newly proposed pathway and crosswalk with safety treatment on the south side, providing safe pedestrian access to the North Indian Creek float put-in.
- **New York Canal.** Crossing the canal near Amity Avenue, connecting the local neighborhoods to Silver Sage Elementary School and Amity Elementary School.
- **Settlers Canal.** Crossing on the west side of Comba Park and Boise Urban Garden School. This connection is identified within the Ustick Popular Concept and will connect West Montana Avenue to the park and North Five Mile Road.

- **Ridenbaugh Canal.** Crossing on Hilton Street, between Ponder Avenue and West Albion Court, connecting the local neighborhoods to Franklin Park.

Relocating the bridge will advance ACHD's objectives of improving bike and pedestrian infrastructure while aligning with COMPASS's Communities in Motion 2050 (CIM 2050) goals:

- **Economic Vitality.** Repurposing an 83-year-old bridge for bicycle and pedestrian use will support travel and tourism, adding historical value to the area where the bridge would be relocated.
- **Convenience.** The new crossing will provide a safer and more convenient route for cyclists and pedestrians, effectively closing a critical transportation gap.
- **Quality of Life.** Improved connectivity will promote healthier and more sustainable modes of transportation.

3. TRUSS BRIDGE EVALUATION

EXISTING CONDITIONS

The 111.25 ft x 16 ft bridge is a six-panel riveted steel Parker Truss bridge originally constructed in 1942 to span Indian Creek (**Figure 2**) and is supported on concrete abutments. The bridge was last rehabilitated in 1964 and has not been used for traffic since 1989, when a two-span concrete bridge was constructed immediately downstream as seen in **Figure 2** and **Figure 3**.

Figure 2: Aerial View of Existing Steel Truss Bridge

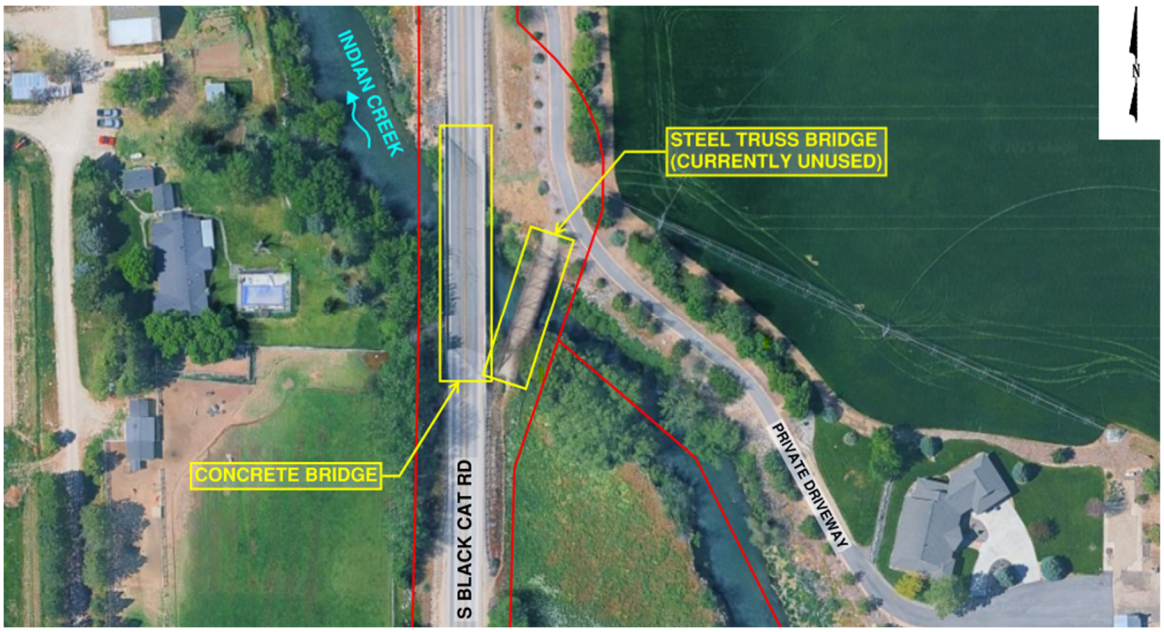


Figure 3: Current Site Condition

ACHD explored the possibility of relocating this bridge through a study in 1999, which included offering the City of Kuna the opportunity to move it within the city. **Figure 3** shows the current site condition, including the location of the obsolete steel truss bridge and the current Black Cat Road concrete bridge in relation to Indian Creek.

BRIDGE INSPECTION

A visual, on-site, inspection via rope access (**Figure 4**) was performed by KPFF bridge engineers/inspectors on May 28, 2025, to determine the condition of the bridge in its present configuration. To accomplish this objective, KPFF reviewed existing bridge data and performed a visual inspection of all steel truss members and their connections. The existing wood deck, wood stringers, and concrete abutments were not inspected since these elements are assumed to not be utilized after the bridge is relocated.

Figure 4: Inspection of Existing Steel Truss Bridge

The inspection determined that the truss is generally in fair condition, with isolated minor and moderate defects. Minor defects include surface corrosion, drilled holes, failing paint, incorrectly sized spacer plates, fabrication defects, and bent secondary members. Moderate defects include pack rust, surface pitting, minor section loss, cracked welds, missing bolts, undersized bolts, and bent primary and secondary members.

Several repairs are recommended, including repainting steel members, replacing bolted connections, repairing pack rust, replacing spacer plates, repairing welds, replacing bracing members, replacing floor beam connection plates, and replacing bearings. The bridge will need to be disassembled for transport, which will simplify these repairs by addressing them before reassembly. A complete inspection memo dated June 20, 2025, is included in **Appendix A**.

LOAD RATING

A load rating analysis for the bridge was conducted using the Load and Resistance Factor Rating (LRFR) method and following the Association of State Highway and Transportation Officials Manual of Bridge Evaluation (AASHTO MBE) and Idaho Manual for Bridge Evaluation (IMBE).

The following assumptions were considered for the load rating analysis of the bridge:

- **Bridge Geometry.** Based on original study documentation from 1999 and validated through field measurements, the bridge has a single-span of 111’-3” (six panels of 18’-6 ½”) and a width of 16’-0”. The bridge has a height of 28’-0” at the center and 24’-0” and 20’-0” at the other panels.

- **Material Properties.** The steel truss members and steel floor beams were assumed to have following material properties: F_y = 33 ksi, F_u = 66 ksi. This assumption was based on AASHTO MBE for the year of construction.
- **Loading.** In addition to the self-weight of the steel truss members and steel floor beams, it was assumed that new decking and railings will be installed after the bridge is relocated. The weight of this new decking was considered to be similar to the existing wood decking system, which was assumed to weigh 30 lb/ft^2, including the deck and supporting stringers. The new railing was assumed to weigh 50 lb/ft along each side of the bridge. Additionally, a pedestrian operating uniform live load of 90 lb/ft^2 was accounted for in the analysis of the bridge.
- **Condition.** Based on the on-site inspection, the bridge and its members are generally in fair condition with state condition factors ranging from 0.85 and 1.00. Refer to **Appendix A** for the bridge inspection memo and to **Appendix B** for Load Rating calculations. Additionally, it was assumed that new concrete abutments will be constructed at the relocation site.

Results of the rating factors (RF) obtained through the load rating analysis are shown in **Table 1**.

Table 1: Load Rating Results

Location	Controlling Member RF
Truss Top Chord	1.33
Truss Bottom Chord	2.32
Truss Verticals	9.16
Truss Diagonals	5.31
Truss Counter Rods	11.93
Floor Beam	1.32

The results of the load rating analysis indicate that the trusses and floor beams have the capacity to be repurposed for pedestrian and bike use. However, based on the on-site inspection, it is recommended to implement the repair recommendations outlined in the bridge inspection memo. Refer to **Appendix A**.

4. RELOCATION SITE ALTERNATIVES AND CONSTRAINTS

ACCESSIBILITY CONSIDERATIONS

The first option considered was to transport the steel truss bridge in one piece using a multi-axle flatbed trailer from its current location near Black Cat Road to a new site. The closest possible trip distance from its current location to each of the possible sites are shown below:

- **North Indian Creek.** 6.5 miles.
- **New York Canal.** 12.1 miles.
- **Settlers Canal.** 14.5 miles.
- **Ridenbaugh Canal.** 15.8 miles.

Given the bridge's dimensions, it will be classified as an oversized load, requiring additional coordination and special permits. Also, at a height of 28 ft at its highest point, transporting the bridge intact to any of the four sites will be extremely challenging due to overhead power lines and stop lights.

Therefore, it is recommended to disassemble the 111.25 ft x 16 ft steel truss bridge into smaller components before relocation. The bottom chord members, top chord members, diagonals members, and floor beams would be removed, transported to the new site, and reassembled at the final location. The existing riveted connections will be replaced with bolted connections upon reassembly.

NORTH INDIAN CREEK CROSSING (PREFERRED ALTERNATIVE)

This alternative involves relocating the truss bridge from its current location, adjacent to Black Cat Road, to a site 0.2 miles south of the intersection of East Kuna Road and South Stroebel Road crossing the North Indian Creek. At this location, the canal has a top-of-bank width of approximately 90 feet as shown in **Figure 5**.

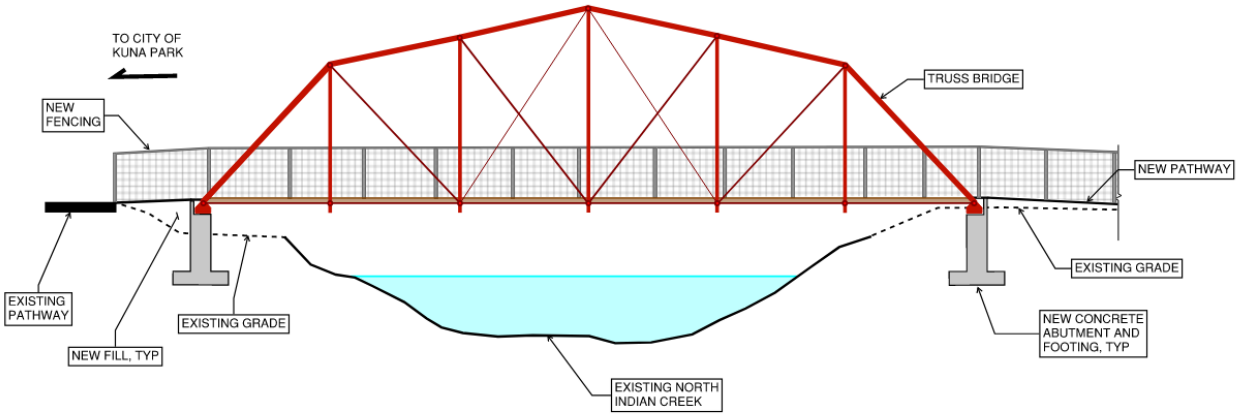


Figure 5: North Indian Creek Crossing Bridge Profile

Land Use

At the proposed crossing location on the west side of South Stroebel Road, the north side of the creek consists of a parcel owned by the City of Kuna and is used as a park with public pickleball courts and parking. On the south of the creek the existing land use consists of private property owned by Leonard William Flynn. A map showing the current land use adjacent to the crossing location is shown in **Figure 6**. The location of the pedestrian bridge in the concept layout shows the crossing location about 50 feet west of the existing vehicular bridge on South Stroebel Road, to ensure that the new bridge sidewalls will not conflict with the existing bridge sidewalls.

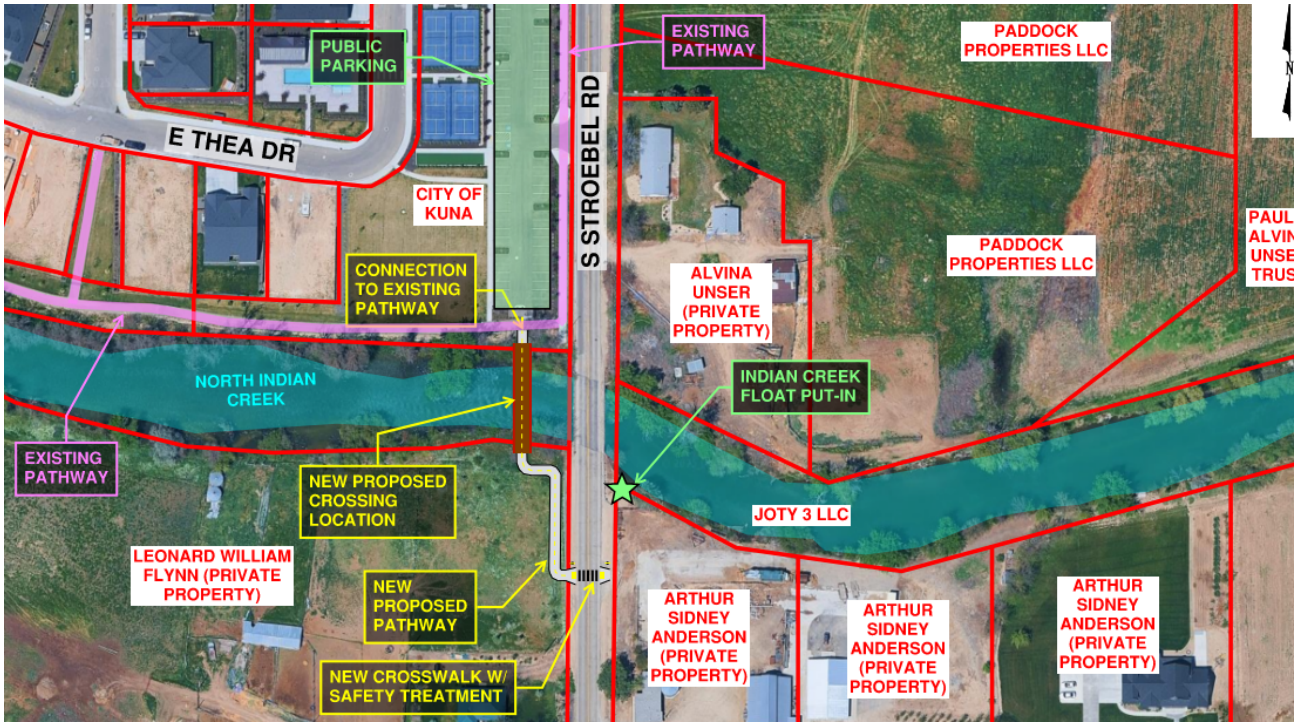


Figure 6: North Indian Creek Crossing Vicinity Map

Regional Network Connections

The proposed crossing at North Indian Creek will significantly improve community connectivity and pedestrian safety by providing a safe and accessible route for the users. It will link the existing pathway along the north bank adjacent to a public park (**Figure 7**), with a newly proposed pathway and crosswalk with safety treatment (rapid flashing beacon or HAWK beacon) on the south side of the creek. Currently, South Stroebel Road has a speed limit of 50 mph at the location and the existing two-span bridge (**Figure 8**) lacks adequate infrastructure for non-vehicular traffic, creating a gap in safe pedestrian access.

Figure 7: Existing Pathway

Figure 8: Existing Vehicular Bridge

On the north side, the park's sidewalk terminates at the creek, while the east side of the south bank serves as a popular launch point for the Indian Creek float. By positioning the new crossing on the west side of the creek, the project creates a direct and functional connection between these features. This crossing will promote public safety, improve mobility, and support recreational access, as illustrated in **Figure 9.**

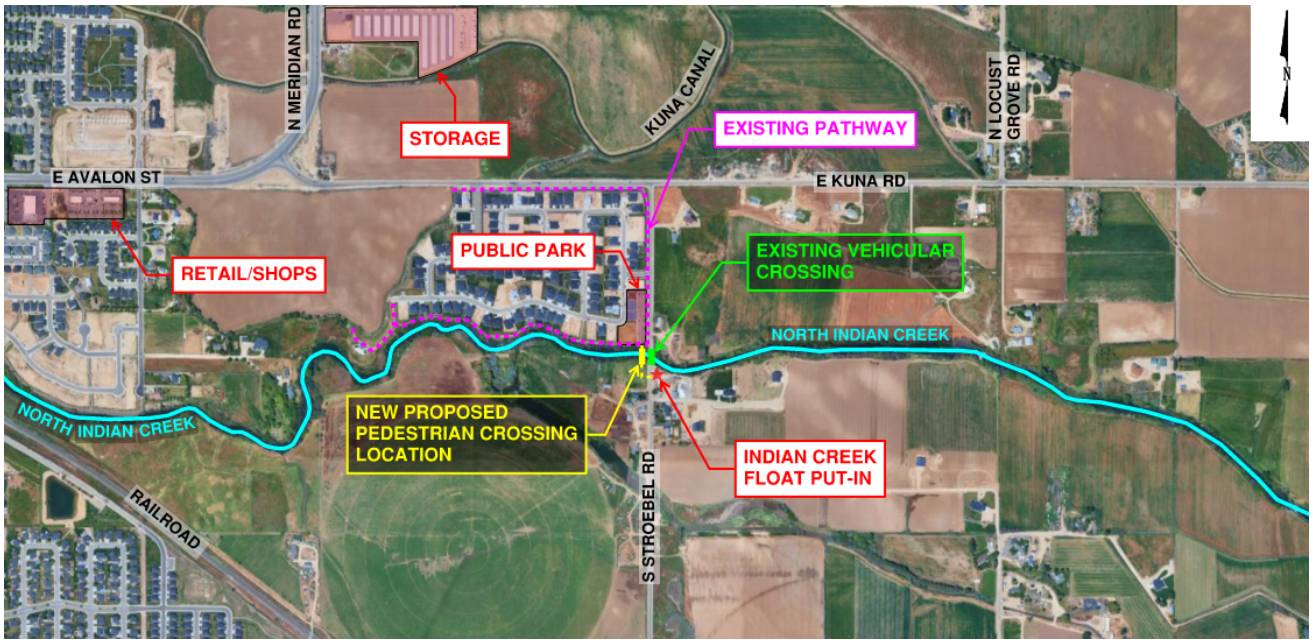


Figure 9: North Indian Creek Crossing Proposed Improvements

Utilities and Irrigation

Based on site observations, there are existing overhead power lines running north-south along the east side of South Stroebel Road and are not expected to be impacted by this project. On the west side of South Stroebel Road, near the proposed crossing location, there are storm drains near the end of the west sidewalk on South Stroebel Road (**Figure 8**) and adjacent to the existing pathway, in the parking lot (**Figure 7**). Utilities coordination is expected to be required based on the concept crossing layout.

Right-of-Way Impacts

This alternative is expected to require the acquisition of right-of-way or a public use easement from a privately owned parcel on the west side of South Stroebel Road, just south of North Indian Creek. The property is owned by Leonard William Flynn. In addition, coordination with the City of Kuna will be necessary to connect the existing sidewalk and pathway to the newly proposed crossing and pathway. This will likely include securing an easement within City-owned property to facilitate the connection.

Other Locations Considered

NEW YORK CANAL CROSSING

This alternative involves relocating the truss bridge from its current location, adjacent to Black Cat Road, to a site near the intersection of Amity Avenue and South Maple Grove Road crossing the New York Canal. At this location, the canal has a top-of-bank width of approximately 90 feet as shown in **Figure 10**.

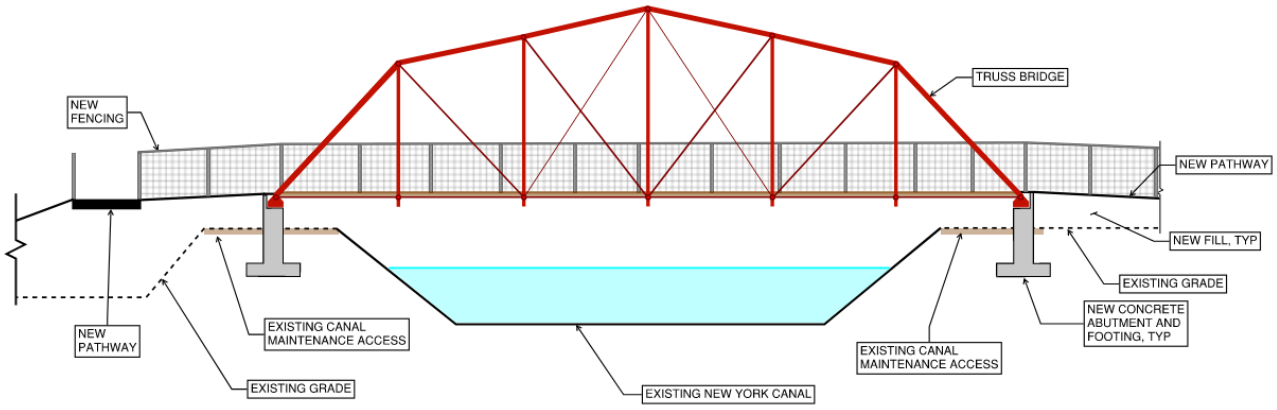


Figure 10: New York Canal Crossing Bridge Profile

Land Use

A map showing the current land use adjacent to the crossing location is shown in **Figure 11**. At the proposed crossing location, the east side of the canal consists of private properties that appear to be unused, with single-family residences further east. On the west side of the canal, the existing landing use includes a community HOA playground park (**Figure 12**) and private single-family residences adjacent on either side.

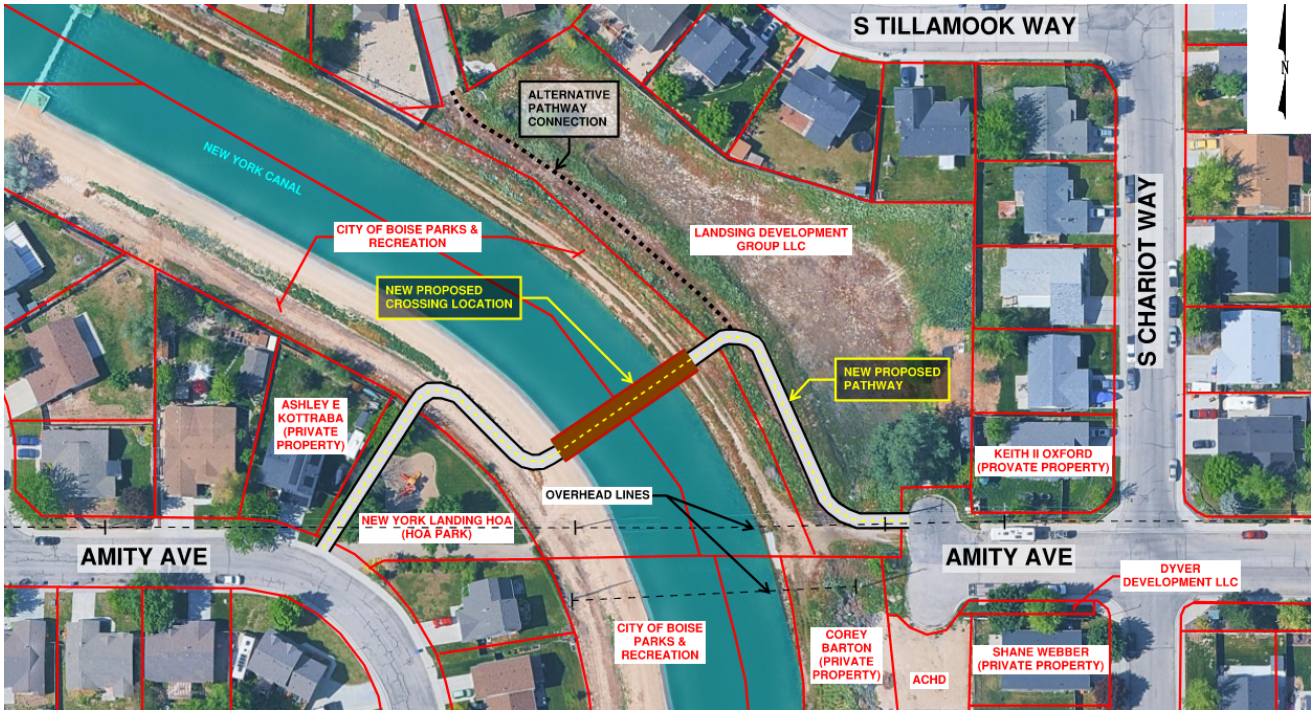


Figure 11: New York Canal Crossing Vicinity Map

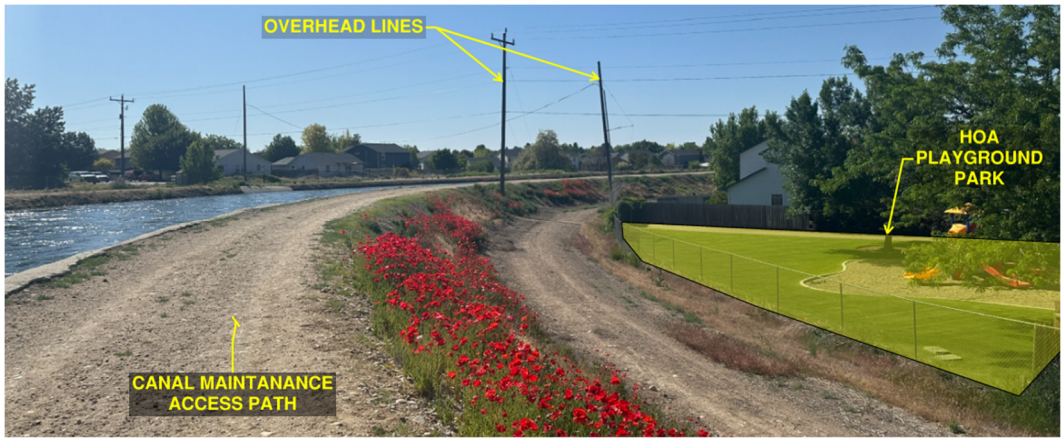


Figure 12: Looking South from West Side of New York Canal

Regional Network Connections

The new crossing will significantly benefit the local community by providing a connection between the neighborhoods on either side of the New York Canal. This crossing aligns closely with the City of Boise's Pathway Master Plan and offers special improvements to the local communities. For the neighborhoods on the west side of the New York Canal, it will create a safer and more convenient non-motorized option for accessing Silver Sage Elementary School. Currently, Amity Avenue ends at the canal, requiring users to travel an additional 1.5 mile through West Desert Avenue to reach the school. For the neighborhoods on the east side of the canal, it will create a more direct connection to South Maple Grove Road, to businesses along that road, and to Amity Elementary School, which is about one mile west from the crossing location. **Figure 13** shows the network connections of the new crossing.

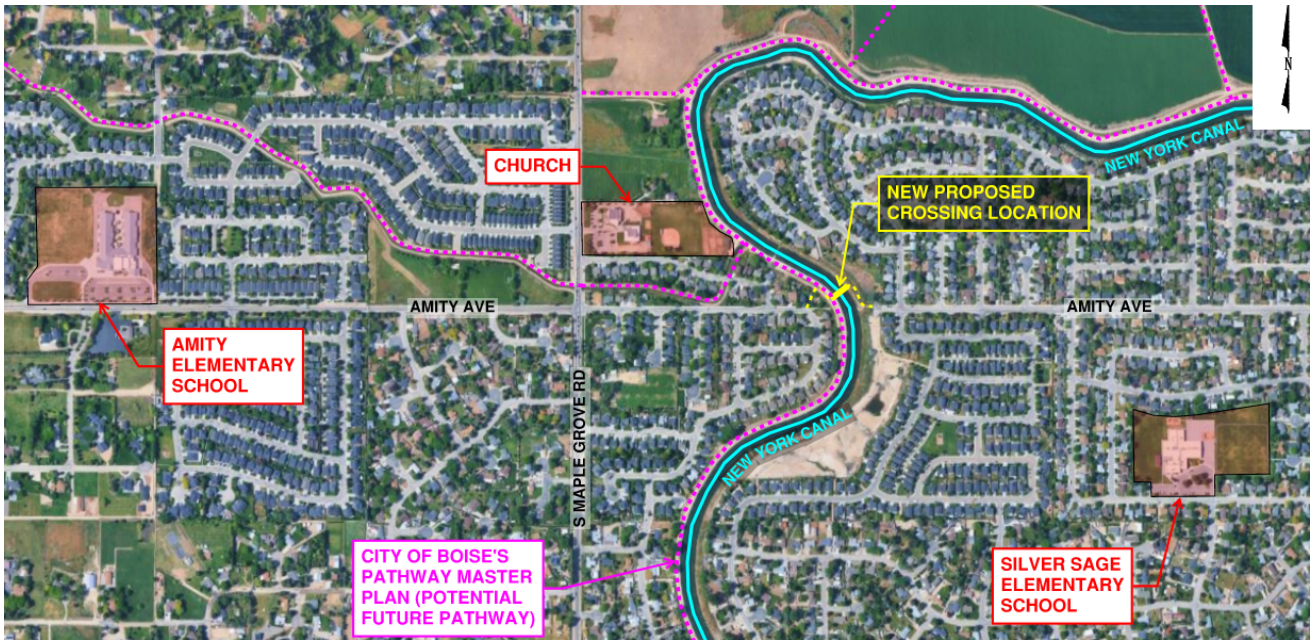


Figure 13: New York Canal Crossing Proposed Improvements

Utilities and Irrigation

Based on site observation, there are existing overhead lines along the north sidewalk of Amity Avenue on both east and west sides of the New York Canal. Additionally, approximately 50 feet south of this location, there are more overhead lines crossing the New York Canal. These overhead lines are illustrated on **Figure 11** and shown on **Figure 14** and **Figure 15**. Temporary relocation of these power lines would likely be necessary during construction of the new crossing.

Figure 14: Overhead Lines East of New York Canal

Figure 15: Overhead Lines West of New York Canal

Right-of-Way Impacts

This alternative is expected to require right-of-way acquisition or public use easements from Landsing Development Group LLC on the east side of the crossing for the new pathway connecting to Amity Avenue. On the west side of the New York Canal, this alternative is expected to require right-of-way acquisition or public use easements from New York Landing HOA, which owns the community playground park. Relocating their playground within their lot may be necessary to a new pathway connecting Amity Avenue from either side of the canal through the bridge.

SETTLERS CANAL CROSSING

This alternative involves relocating the truss bridge from its current location, adjacent to Black Cat Road, to a site near the intersection of West Ustick Road and North Five Mile Road crossing the Settlers Canal near West Montana Avenue. At this location, the canal has a top-of-bank width of approximately 8 feet. A bridge profile along the path's centerline is shown in **Figure 16**.

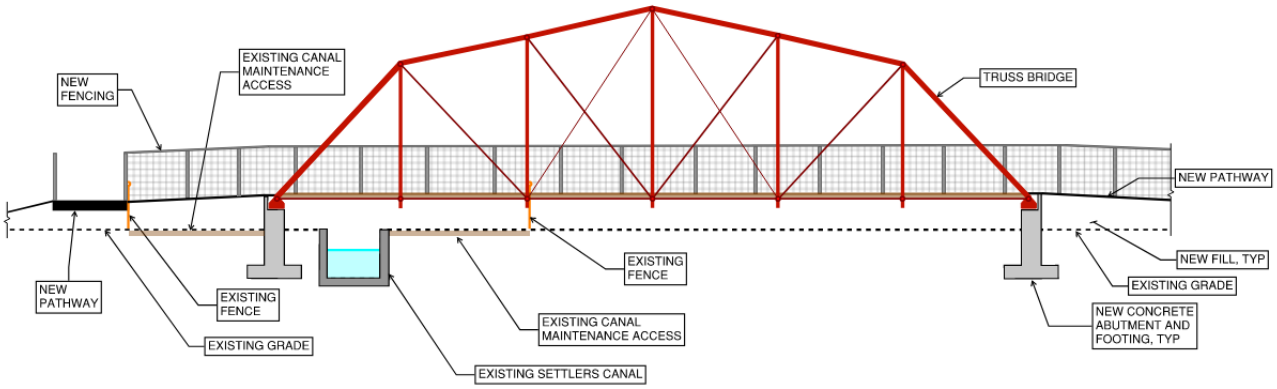


Figure 16: Settlers Canal Crossing Bridge Profile

Land Use

At the proposed crossing location, the east side of the canal features Comba Park and Boise Urban Garden School to the south of the proposed pathway and Westridge Apartments to the north. On the west side of the canal, the existing land use includes private property containing a fenced ACHD stormwater pond facility. Additionally, canal maintenance pathways are present on both sides of the canal. A map showing the current land use adjacent to the crossing location is shown in **Figure 17**.

Figure 17: Settlers Canal Crossing Vicinity Map

Regional Network Connections

This new crossing will benefit the local community, particularly the properties near West Montana Avenue, by providing direct access to Comba Park and Boise Urban Garden School. Currently, West Montana Avenue ends at the canal, requiring users to travel an additional mile through busy roads such as West Ustick Road and North Five Mile Road to reach the park and the school. The new pathway, as shown in **Figure 18**, will run along the south and east sides of the ACHD stormwater facility (**Figure 19**), within their fences, connecting into the Boise Urban Garden School (**Figure 20**) access street and parking. **Figure 18** shows the network connections of the new crossing.

Figure 18: Settlers Canal Crossing Proposed Improvements

Figure 19: ACHD Stormwater Pond Facility, West Side of Proposed Crossing Location

Figure 20: Boise Urban Garden School, East Side of Proposed Crossing Location

Utilities and Irrigation

Based on publicly available data and information provided by the relevant jurisdictions, there are currently no known utilities within the project area.

Right-of-Way Impacts

This alternative is expected to require right-of-way acquisition on the east side of the canal from The City of Boise Parks and Recreation, which owns the land used for Comba Park and Boise Urban Garden School. Additionally, considerable coordination with the city is expected to be required to relocate and rearrange parts of their school plantation to allow for the new bridge and pathway.

On the west side of the canal, this alternative is expected to require coordination with ACHD to convert part of their stormwater facility into a pathway. Additionally, a temporary construction easement may be needed from the private property owned by Joe D Aucoin.

RIDENBAUGH CANAL CROSSING

This alternative involves relocating the truss bridge from its current location, adjacent to Black Cat Road, to a site near North Orchard Street and West Cassia Street crossing the Ridenbaugh Canal on Hilton Street. At this location, the canal has a top-of-bank width of 20 feet, and the bridge is skewed in relation to the channel. A profile of the bridge at the crossing location is shown in **Figure 21**.

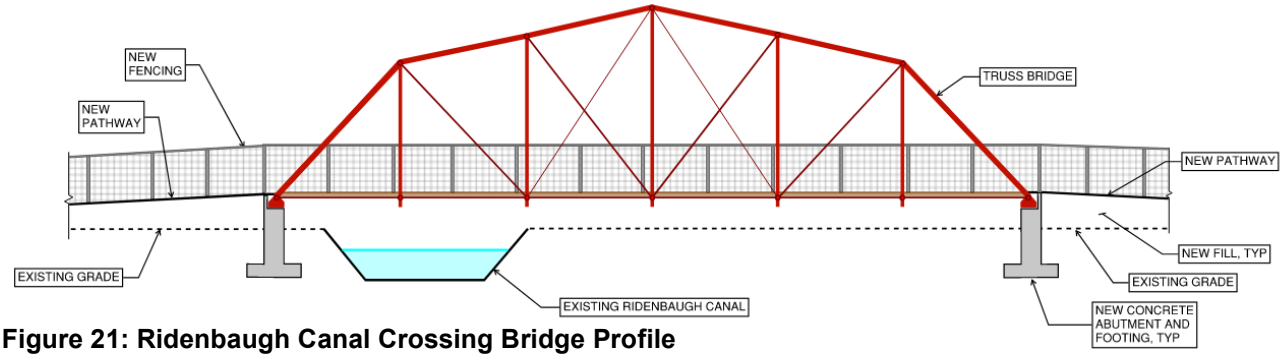


Figure 21: Ridenbaugh Canal Crossing Bridge Profile

Land Use

A map showing the current land use adjacent to the crossing location is shown in **Figure 22**. At the proposed crossing location, both the north and south side of the canal consists of private properties with single-family residences (**Figure 23** and **Figure 24**). **Figure 25** shows a view from Hilton Street Looking North.

Figure 22: Ridenbaugh Canal Crossing Vicinity Map

Figure 23: View from Grover St Looking South

Figure 24: View from Grover St Looking North

Figure 25: View from Hilton St Looking North

Regional Network Connections

The new Ridenbaugh Canal crossing on Hilton Street will benefit the community, particularly by connecting the neighborhood near West Cassia Street and Hilton Street intersection to Franklin Park. The new pathway and crossing will provide a non-motorized transportation option, allowing the users to access Franklin Park directly via Hilton Street, without needing to access it through North Orchard Street. **Figure 26** shows the network connections of the new crossing.

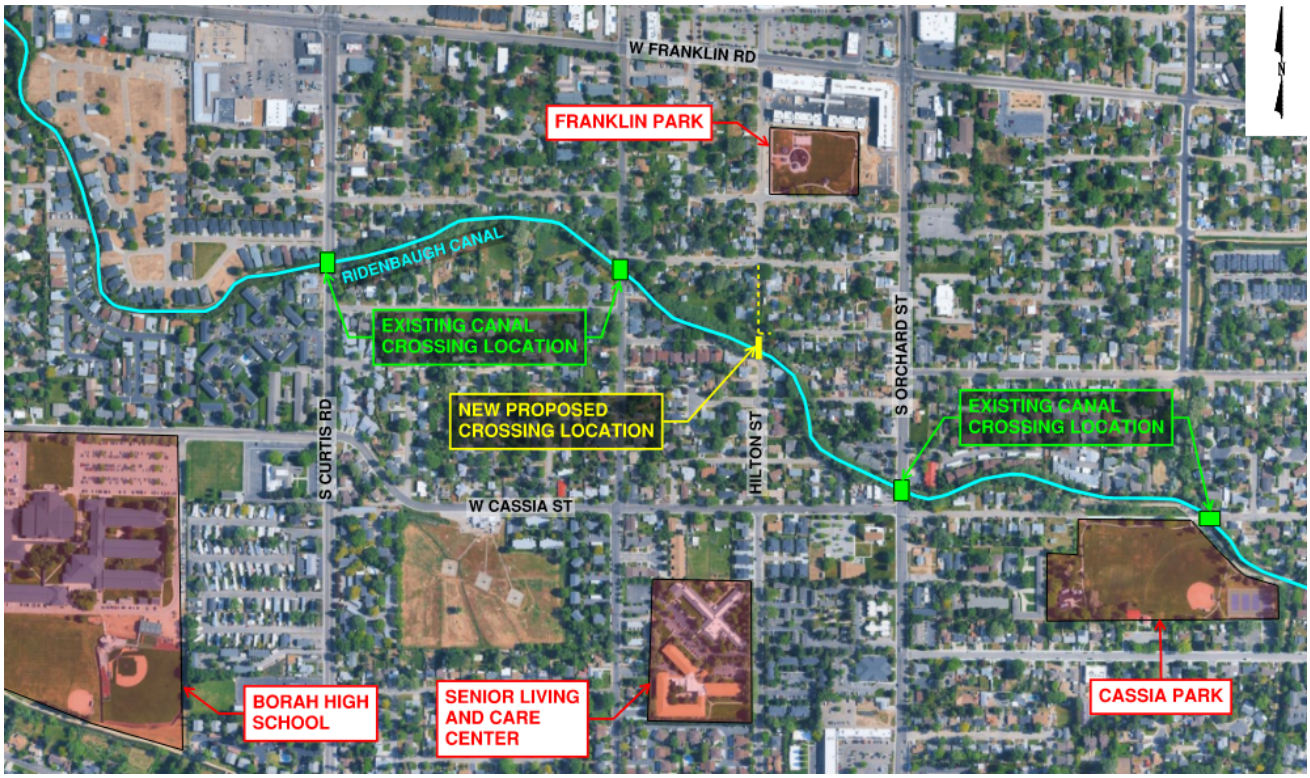


Figure 26: Ridenbaugh Canal Crossing Proposed Improvements

Utilities and Irrigation

Based on site observation, there are overhead lines on Hilton Street on both sides of the Ridenbaugh Canal as seen in **Figure 23**, **Figure 24**, and **Figure 25**. These lines would be in conflict with the proposed bridge location and would run along the proposed pathway.

Right-of-Way Impacts

This alternative is anticipated to require temporary construction easements from the adjacent properties. On the north side of the crossing, from private properties (William D Odom, Michael McNeeley, Charles Roy Turner, Carl J Barningham, and Cheryl A Barber) and on the south side of the crossing, from Keanan Cassidy. This alternative is not expected to require right-of-way acquisition. Additionally, this alternative would require coordination with the properties on West Grover Street from William D Odom and Charles Roy Turner, who currently use the land outside their right-of-way, where the new pathway would be constructed.

5. SELECTION OF PREFERRED ALTERNATIVE

Each of the bridge relocation alternatives were evaluated and ranked based on the best value for ACHD.

COMPARISON CATEGORIES AND DESCRIPTIONS

To evaluate and compare the alternatives, each option was scored based on the following five categories: ROW Feasibility, Canal/Creek Impacts, Construction Staging, Span Utilization, and Regional Connections. Each category was assigned a weight factor between 1 and 5 to reflect its importance in the overall evaluation. The categories are detailed as follows:

ROW Feasibility

This category accounts for the feasibility of any right-of-way or easement acquisitions that would be needed to construct the crossing. Since this is a pathway project, and not part of a roadway improvements project, the project will not have condemnation authority for property acquisitions. Therefore, all acquisitions would have to be negotiated with willing property owners. Due to this restriction, alternative bridge locations that require property acquisitions will carry more risk.

Raw scores for this category will be lower for pathway alignments that require more property acquisitions and Canal easements. This category was assigned a weight of 4.

Canal/Creek Impacts

This category accounts for crossings that impact the canal or creek they cross. Most canals are registered as historic artifacts and would require significant mitigation for any direct impacts to the canal's infrastructure. Irrigation companies generally require that adjacent irrigation maintenance pathways are not restricted and that any new public pathway has a physical barrier separating the canal and public pathway. The North Indian Creek, on the other hand, requires a greater concern with environmental permitting. The scoring for this category is quantitative based on the pathway's impacts to the canal or creek they cross.

Raw scores for this category will be lower for pathway alignments that include more impacts on the canal or creek. This category was assigned a weight of 4.

Construction Staging

This category accounts for the space available to stage construction and pick/place the steel truss bridge. The preferred method of bridge placement is to pick the fully constructed bridge with cranes and place it on its new abutments. Sites that are too constrained to do this will have added cost and complexity.

Raw scores for this category will be lower for locations that have minimal site access and/or require extensive temporary easements for construction. This category was assigned a weight of 2.

Span Utilization

This category accounts for how much the existing bridge length is being utilized to span the canal. In locations that do not utilize the full length of the bridge, there is potential that a cheaper, shorter bridge can alternatively be used at this location. Longer bridges not only have more structure to maintain but also have larger foundations which directly impacts the cost of the crossing compared to other bridge options, such as a shorter prefabricated pedestrian bridge.

Raw scores for this category will be lower for locations that use less of the existing bridges length to span the crossing. This category was assigned a weight of 5.

Regional Connections

This category accounts for how much regional connectivity this bridge provides. The alternative crossings may be high-stress and ideal for pedestrian crossings.

Raw scores for this category will be lower for locations that have adequate low stress alternative crossings in the area or provide little connectivity to desired locations. This category was assigned a weight of 5.

SCORING DEFINITION CATEGORIES

Each of the categories presented were given a score between 0 to 5, based on **Table 2** definitions:

Table 2: Scoring Definition

Category Evaluation	Score
Great	5
Good	4
Neutral	3
Poor	2
Bad	1
Fail	0

RESULTS

The Alternative Analysis Matrix shown in **Table 3** summarizes the scoring and factors for each pathway alignment. The scores presented represent the average evaluations from three independent evaluators: Dale Kuperus (ACHD), Elie Kawmy (ACHD), and Joel Parks (KPFF).

Table 3: Alternative Analysis Matrix

Alternative	ROW Feasibility	Canal/Creek Impacts	Construction Staging	Span Utilization	Regional Connections	Total Score	Rank
Weight	**4**	**4**	**2**	**5**	**5**		
North Indian Creek	**3.0**	**4.0**	**5.0**	**5.0**	**3.7**	**81.3**	**1**
New York Canal	**3.0**	**2.3**	**5.0**	**5.0**	**4.3**	**78.0**	**2**
Settlers Canal	5.0	3.0	3.3	1.0	3.7	62.0	4
Ridenbaugh Canal	4.0	5.0	3.0	2.0	3.0	67.0	3

The reasoning behind the scores for each of the alternatives is elaborated below.

North Indian Creek

The North Indian Creek alternative received overall positive scores for the Creek Impacts, Construction Staging, and Span Utilization categories. The main challenges with this alternative are expected to be coordination with the private property owner on the south side of the creek to acquire right-of-way and the environmental permitting required to cross this body of water. This alternative features high span utilization, allowing the truss bridge to efficiently span the creek, which has an approximate bank-to-bank width of 90 feet. It also provides a safe pedestrian crossing across the creek, connecting a park and public parking area to a popular float put-in location. Additionally, it creates a non-motorized connection from a public park to potential future new development on the south side of the creek.

The relatively low score for the ROW Feasibility category for this alternative was based on the attempted discussion with Leonard William Flynn, owner of the property west of South Stroebel Road, south of North Indian Creek. It is understood that the property owner is not currently willing to coordinate a right-of-way acquisition with ACHD. This is discussed further in the Focused Analysis: *North Indian Creek Crossing* section of this report under the *Key Stakeholders and Initial Outreach* subsection.

New York Canal

Although the New York Canal alternative received relatively low scores for the ROW Feasibility and Canal Impacts categories, it had the highest scores among all alternatives in the remaining three categories. This alternative features a high span utilization, allowing the 111-foot span bridge to efficiently span the approximately 90-foot-wide canal. Also, it provides connectivity between Amity Avenue to either side of the New York Canal, where this road currently dead ends, and offers a feasible location for bridge mobilization, placement, and assembly.

The ROW Feasibility complications of this alternative primarily stem from the need to coordinate with the New York Landing HOA, which owns the playground park on the west side of the crossing. Acquiring part of their land for the development of the walking path leading to the bridge may require relocating their playground within their lot. Additional complications from this alternative include acquiring the right-of-way on the east side of the crossing and coordinating with the Boise Project Board of Control and the New York Irrigation District to create a new pedestrian crossing over their canal and develop a pathway within part of their canal maintenance corridor. Based on the coordination with Boise Project Board of Control, they are currently not supportive of the pedestrian crossing over the New York Canal, as outlined in the *Focused Analysis: New York Canal Crossing* section of this report under *Key Stakeholders and Initial Outreach* subsection.

Settlers Canal

The Settlers Canal alternative is complicated primarily by the low span utilization of the bridge. The 111-foot span bridge would cross a channel with width of only 8 feet. The low score in the Span Utilization category indicates that relocating the truss bridge to this location is not the most effective crossing solution. Instead, new prefabricated pedestrian bridges may offer a more cost-effective way to cross the Settlers Canal, requiring smaller abutment structures and causing less impacts to adjacent properties compared to the longer truss bridge relocation solution.

A relatively low score for the Canal Impacts category was based on the conversation with Mack Meyers of the Settlers Irrigation District on July 18, 2025, which revealed that a similar crossing proposal at that location was presented to their board about two years ago and was denied. Based on that discussion, the district did not appear open to further consideration of the project due to concerns about adding obstructions and increasing pedestrian activity in the area.

Ridenbaugh Canal

Similarly to the Settlers Canal, the Ridenbaugh Canal alternative is complicated primarily by the low span utilization of the bridge. The 111-foot span bridge would span a channel with width of only 20 feet. The low score in the Span Utilization category indicates that relocating the truss bridge to this location is also not the most effective crossing solution for this location. Instead, new prefabricated pedestrian bridges may offer a more cost-effective way to cross the Ridenbaugh Canal, requiring smaller abutment structures and causing less impacts to adjacent properties compared to the longer truss bridge relocation solution.

Regarding the Canal Impacts category, the Ridenbaugh Canal crossing received a positive score based on a meeting conducted on August 7, 2025, with David Duvall and Greg Curtis of the Nampa and Meridian Irrigation District (NMID), which controls the canal. During the meeting, NMID expressed openness to presenting the project to their board of directors at a later stage, assuming certain requirements are met. These requirements include adding a new access ramp, as the proposed location south of the canal on Hilton Street is one of the few existing access points for canal maintenance and debris removal in the area. Additionally, the crossing must maintain a minimum clearance of 14 feet between the bottom of the canal and the bottom of the structure to accommodate NMID’s maintenance equipment. NMID also requires the pedestrian crossing to be fully enclosed and a license agreement with ACHD.

Summary of Results

Based on the final scores, the North Indian Creek and New York Canal alignments emerged as the most favorable crossing alternatives and are further explored under the Focused Analysis sections of this report. In contrast, the Ridenbaugh Canal and Settlers Canal options were determined to be less suitable and are not recommended for further consideration.

6. FOCUSED ANALYSIS: NORTH INDIAN CREEK CROSSING

Based on the alternative analysis scoring, the North Indian Creek crossing was selected for further consideration and a more in-depth analysis. This analysis included a pedestrian crossing consideration, an environmental scan, right-of-way assessment, cost estimation, project scheduling, and identification of key stakeholders with initial outreach efforts.

The planning-level cost estimate for the project is approximately **$1,162,000**, with an anticipated timeline of **19 months** for completion once funding is secured. Initial stakeholder engagement revealed strong support from the City of Kuna. However, one of the property owners on the south side of the creek, Leonard William Flynn, is currently unwilling to coordinate a right-of-way acquisition with ACHD. The project is expected to require environmental permitting due to the creek crossing as discussed on the *Environmental Scan*.

Based on the alternative analysis scoring and the results of the focused evaluation, the North Indian Creek crossing was selected as the Preferred Alternative for the relocation site of the Black Cat Road Truss Bridge.

PEDESTRIAN CROSSING CONSIDERATION

As previously discussed in this report, this alternative aims to provide safe pedestrian access from the City of Kuna public park to the North Indian Creek float put-in, as illustrated in **Figure 6**. This connection involves two key crossings: one over North Indian Creek and another across South Stroebel Road.

South Stroebel Road has a posted speed limit of 50 mph at this location. However, based on discussions involving the City of Kuna, ACHD, and local residents, it is understood that actual vehicle traffic speeds at the location often are observed to exceed this limit. Given these conditions, a pedestrian safety treatment, such as a crosswalk with rapid flashing beacon or HAWK beacon, is needed.

Both rapid flashing beacon and HAWK beacon treatments would provide a safer pedestrian crossing by improving pedestrian visibility, but these options differ in cost and level of traffic control. A selection of the preferred crossing treatment option may be considered at a later stage of this project, during design. For the purpose of this concept analysis, it is assumed that a rapid flashing beacon would be provided. As seen in the *Cost Estimate* subsection for this alternative, this system would cost **$75,000**. On the other hand, a HAWK beacon signal would have an increased cost, which is estimated to be around **$400,000**.

The concept layout shown in **Figure 6** also includes landing ramps on both sides of the crossing to ensure ADA accessibility. Additionally, future design phase discussions may explore the potential for reducing the posted speed limit on South Stroebel Road to further improve pedestrian safety.

ENVIRONMENTAL SCAN

The environmental scan consisted of a desktop review of multiple online, publicly available resources, as well as a field visit on August 5, 2025, for the North Indian Creek Crossing Alternative. The environmental scan included a review of the natural and built environment around the project area. It revealed the following information:

- The Indian Creek was the sole drainage identified. No other surface water is present within the study area.
- The Flood Insurance Rate Map (FIRM) for the project shows this project is located in a Zone A Floodplain. This indicates the land area is susceptible to being inundated by flood waters.
- One riverine wetland polygon was identified within the study area.
- One species (Monarch Butterfly) is listed as threatened and one species (Suckley's Cuckoo Bumble Bee) is listed as endangered.

Hydrology

Surface Waters

Topographic Maps, aerial imagery, and Department of Environmental Quality (DEQ) stream layer geographic data were reviewed for the location of natural streams and rivers, as well as irrigation related canals, ditches, and laterals along the study area. The only natural waterway in the study area is Indian Creek.

Review of Idaho Department of Water Resources (IDWR) GIS data for irrigation companies in Idaho revealed no Irrigation Districts along the study area.

Any future project that may impact Indian Creek would need to be coordinated with the U.S. Army Corps of Engineers (USACE) and other agencies, as applicable, to determine hydrological connectivity to Waters of the United States (WOTUS). In addition, a joint application for impacts would be required and potential mitigation for any unavoidable impacts.

Flood Plains

The Federal Emergency Management Agency (FEMA) FIRM for Ada County was reviewed for the project, which includes FIRM 16001C0400J, dated 10/2/2003. The FIRM for the project identified this project as being in a Zone A Floodplain. This indicates that the area is susceptible to flooding, but detailed elevations and hydrologic calculations are not available. The Ada County Zoning Ordinance requires the will require base flood elevation data for the site to be provided, prepared by a professional engineer licensed in the state of Idaho, with the submittal of a floodplain development application. See **Appendix C** for the FIRM Map.

Wetlands

USFWS National Wetlands Inventory (NWI) mapping data was reviewed for the project corridor. NWI maps revealed one riverine and one Freshwater Forested/shrub wetland polygon within the study area. This was confirmed on our site visit. See **Appendix C** for the locations of the waters identified.

An aquatic resource delineation survey and report may need to be conducted for the project, as well as associated permitting and mitigation with the USACE.

Groundwater/Sole Source Aquifer

A Sole Source Aquifer (SSA) is defined as an aquifer that supplies 50% of the drinking water for the area overlying the aquifer and no other source of water is available. Projects for federal assistance within the project review area of a designated SSA which have potential to contaminate the aquifer are subject to Environmental Protection Agency (EPA) review and approval. There are no designated SSAs located within the study area.

Biological Resources

Biological Resources include federally listed threatened and endangered species. Data presented on the occurrence or potential occurrence of federally listed species come from the USFWS.

Threatened and Endangered Species

An unofficial species list was obtained from the USFWS Information for Planning and Consultation (IPAC) tool for the project on August 6, 2025. The IPAC list identified one threatened and one candidate species protected under the Endangered Species Act that may occur or be affected by the project.

See **Appendix C** and **Table 4**. No species protected under the National Oceanic and Atmospheric Administration (NOAA) were listed within the study area.

Table 4: ESA Species Listed for Project Area (New York Canal Alternative)

Species Name	Scientific Name	Federal Status
Monarch Butterfly	Danaus plexippus	Threatened
Suckley's Cuckoo Bumble Bee	Bombus suckleyi	Endangered

In addition, the IPAC resource list identified several migratory birds that may nest or forage in the study area. These birds are protected by the Migratory Bird Treaty Act and/or the Bald and Golden Eagle Protection Act. See **Appendix C**.

Human Environment

Hazardous Materials

Hazardous materials are defined as any material that poses harmful risks to human health and/or the environment. It includes any hazardous or toxic substance, waste, pollutant, or chemical regulated under the Clean Air Act, Clean Water Act, Toxic Substance Control Act, and/or the Resource Conservation and Recovery Act (RCRA). Hazardous material sites are managed through the Idaho DEQ Waste Management and Remediation Program, as well as the EPA's Envirofacts Program.

There are no hazardous materials sites designated within the proposed project area.

Environmental Scan Conclusion

The environmental scan report identified existing conditions for the project based on a desktop review of available information and reconnaissance survey of the project. This does not serve as the environmental document for any proposed future design phases; it should be used as a guide to identify potential resources of concern within the area.

The following technical studies may require completion and approval prior to any construction activity, if federal funds are utilized.

- The anticipated class of action under NEPA is a Categorical Exclusion.
- Archaeological and Historic Survey Report, in accordance with Section 106 of the National Historic Preservation Act.
- Waters of the United States and Wetland Delineation Report in accordance with Section 404 of the Clean Water Act.

The following approvals may be necessary, given the resources on or in proximity to the project. This list is not meant to be all inclusive, as additional approval and permits may be necessary based on project specifics.

- Joint Permit Application (to place fill in or dredge waters of the U.S., including wetlands).
- Ada County floodplain development application.

RIGHT-OF-WAY ASSESSMENT

The concept alignment for the North Indian Creek crossing alternative is anticipated to require right-of-way acquisition and/or easements from two parcels located near the canal. **Table 5** provides a summary of the potentially impacted parcels and estimated areas of impact. These impacts are seen in **Figure 6**.

Table 5: Summary of Potentially Impacted Parcels (North Indian Creek Alternative)

Parcel	Owner	Estimated Area of Impact, SF (Length x Width)
R7472360440	City of Kuna	400 (20’ x 20’)
R0615251000	Leonard William Flynn	4000 (200’ x 20’)

As of the date of this report, no existing easement agreements have been identified for the proposed pathway on any of the listed parcels. Engagement with the respective property owners has been conducted, and a summary of this outreach is included in the *Project Stakeholders* section of this report, under the *Initial Community and Property Owner Feedback* subsection.

COST ESTIMATE

This section describes the planning level opinion of probable cost for the North Indian Creek crossing alternative. Unit costs were estimated using experience from recent relevant projects, ITD historic unit cost data, and other engineering resources. Additionally, a 30% design contingency was added to the final estimated cost.

The planning level opinion of probable cost for the project is estimated to be approximately **$1,162,000**. A detailed cost estimate is provided in **Appendix D**, and a cost summary is provided in **Table 6**.

Table 6: Cost Summary (North Indian Creek Alternative)

Estimate Items	Estimate
Pathway Paving	$20,000
Pathway Fencing	$31,680
Crossing Landings	$10,000
Rapid Flashing Beacon	$75,000
Concrete Abutments and Wingwalls	$90,000
Bridge Disassembly, Relocation, and Reassembly	$250,000
Bridge Painting (In Shop)	$48,060
Bridge Repairs	$50,000
Bridge Railing/Fencing	$33,375
Bridge Decking	$30,000
Item Subtotal	$639,000
Mobilization	$64,000
Design Contingency	$211,000
Design and Permitting	$110,000
Construction Engineering and Inspection	$138,000
Right-of-Way	TBD
Total	**$1,162,000**

PROJECT SCHEDULE

The anticipated project schedule is illustrated in **Figure 27**. As shown, the project is expected to take approximately **19 months** to be completed once funding is secured.

ID	Task Name	Duration
0	**Black Cat Bridge Relocation (North Indian Creek Alternative)**	**19 months**
1	Funds Become Available	0 days
2	Consultant Selection/Contract Negotiation	2 months
3	Notice to Proceed (NTP)	0 days
4	Preliminary Design	3 months
5	Survey	1 month
6	Geotechnical Investigation	1 month
7	Environmental Document	1 month
8	Type, Size, and Location (TS&L)	2 months
9	Final Design	2 months
10	Plans, Specifications, and Estimates (PS&E)	1 month
11	Permitting	4 months
12	Bidding and Contractor Selection	2 months
13	Construction	6 months

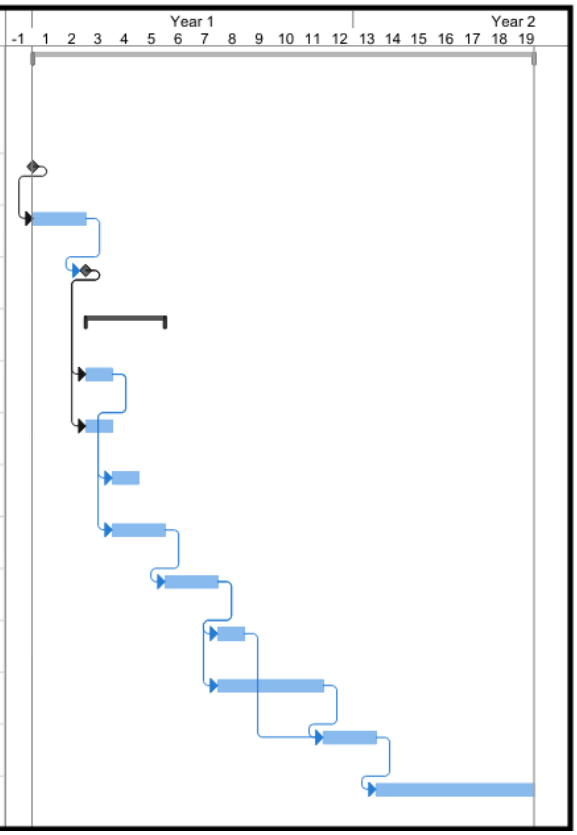


Figure 27: Anticipated Project Schedule (North Indian Creek Alternative)

KEY STAKEHOLDERS AND INITIAL OUTREACH

The following is a list of anticipated stakeholders identified for the North Indian Creek alternative:

- Ada County Highway District (ACHD)
- Ada County
- Adjacent property owners
- City of Kuna
- Community Planning Association of Southwest Idaho (COMPASS)
- Idaho Department of Parks & Recreation (IDPR)
- Idaho Power
- Law enforcement
- Local business owners
- U.S. Army Corps of Engineers (USACE)

Initial Community and Property Owner Feedback

On August 7, 2025, a virtual meeting was held with a representative of the City of Kuna, who owns the parcel north of the creek used as a city public parking and park as seen in **Figure 6**. Representatives from ACHD,

COMPASS, and KPFF presented the conceptual layout to Doug Hanson, the designated representative for the City of Kuna. The feedback received was positive. The representative expressed support for the proposed improvements and stated that this crossing would be beneficial in terms of pedestrian safety and overall regional network connection.

Discussions with local residents have emphasized the need for improved pedestrian safety along South Stroebel Road. Concerns center around high vehicular speeds and the risks pedestrians face when crossing the existing bridge.

On September 2, 2025, representatives from the City of Kuna (Doug Hanson), ACHD (Elie Kawmy), and KPFF (Joel Parks and Lucas Coutinho) conducted a site walk to review the proposed concept layout. During this visit, the team attempted to present the concept to Leonard William Flynn, owner of the property west of South Stroebel Road, south of North Indian Creek. Mr. Flynn declined to engage in discussion and is currently unwilling to coordinate a right-of-way acquisition with ACHD.

At this stage, outreach to Arthur Sidney Anderson, owner of the property east of South Stroebel Road, south of North Indian Creek has not been initiated. It is recommended that the concept is presented to him to gather feedback and address concerns.

7. FOCUSED ANALYSIS: NEW YORK CANAL CROSSING

Based on alternative analysis scoring, the New York Canal crossing alternative was selected for further consideration and a more in-depth analysis. This analysis included an environmental scan, right-of-way assessment, cost estimation, project scheduling, and identification of key stakeholders with initial outreach efforts.

The planning-level cost estimate for the project is approximately **$1,342,000**, with an anticipated timeline of **19 months** for completion once funding is secured. Initial stakeholder engagement revealed strong community support, including endorsements from the City of Boise Parks and Recreation, adjacent property owners, and the local homeowners' association. However, the Boise Project Board of Control, which oversees the New York Canal under the New Irrigation District, currently is not on board with the project due to its established policy against pedestrian crossings over the canal. Due to this challenge and overall alternative analysis scoring, which also reflect this complication, this alternative was not selected as the Preferred Alternative over the North Indian Creek crossing option. While the project is technically feasible and would be very beneficial for the community, its implementation depends on a change in the Board's policy. Alternatively, ACHD may pursue further coordination with the Board to discuss project specifics and seek their support.

ENVIRONMENTAL SCAN

The environmental scan consisted of a desktop review of multiple online, publicly available resources, as well as a field visit on May 29, 2025, for the New York Canal Alternative. The environmental scan included a review of the natural and built environment around the project area. It revealed the following information:

- The New York Canal was the sole irrigation related drainage identified. No other surface water is present within the study area.
- The Flood Insurance Rate Map (FIRM) for the project did not identify any mapped floodplains. The project is in a minimal flood hazard zone.

- One riverine wetland polygon was identified within the study area.
- One species (Monarch Butterfly) is listed as threatened and one species (Suckley's Cuckoo Bumble Bee) is listed as endangered.

Hydrology

Surface Waters

Topographic Maps, aerial imagery, and Department of Environmental Quality (DEQ) stream layer geographic data were reviewed for the location of natural streams and rivers, as well as irrigation related canals, ditches, and laterals along the study area. No natural waterways or drainages were identified in the study area.

Review of Idaho Department of Water Resources (IDWR) GIS data for irrigation companies in Idaho revealed the New York Irrigation District along the corridor. The New York Canal was the sole drainage identified within the study area. The New York Canal is a partially concrete-lined irrigation canal that flows North to South through the study area.

Any future project that may impact New York Canal would need to be coordinated with the U.S. Army Corps of Engineers (USACE) and other agencies, as applicable, to determine hydrological connectivity to Waters of the United States (WOTUS). In addition, a joint application for impacts would be required and potential mitigation for any unavoidable impacts.

Flood Plains

The Federal Emergency Management Agency (FEMA) FIRM for Ada County was reviewed for the project, which includes FIRM 16001C0270H, dated 2/19/2003. The FIRM for the project did not identify floodplains within the project area. The project is in a minimal flood hazard zone. See **Appendix C** for the FIRM Map.

Wetlands

USFWS National Wetlands Inventory (NWI) mapping data was reviewed for the project corridor. NWI maps revealed one riverine polygon within the study area. This was confirmed on our site visit. See **Appendix C** for the locations of the waters identified.

An aquatic resource delineation survey and report may need to be conducted for the project, as well as associated permitting and mitigation with the USACE.

Groundwater/Sole Source Aquifer

A Sole Source Aquifer (SSA) is defined as an aquifer that supplies 50% of the drinking water for the area overlying the aquifer and no other source of water is available. Projects for federal assistance within the project review area of a designated SSA which have potential to contaminate the aquifer are subject to Environmental Protection Agency (EPA) review and approval. There are no designated SSAs located within the study area.

Biological Resources

Biological Resources include federally listed threatened and endangered species. Data presented on the occurrence or potential occurrence of federally listed species come from the USFWS.

Threatened and Endangered Species

An unofficial species list was obtained from the USFWS Information for Planning and Consultation (IPAC) tool for the project on July 15, 2025. The IPAC list identified one threatened and one candidate species protected under the Endangered Species Act that may occur or be affected by the project. See **Appendix C** and **Table 7**. No species protected under the National Oceanic and Atmospheric Administration (NOAA) were listed within the study area.

Table 7: ESA Species Listed for Project Area (New York Canal Alternative)

Species Name	Scientific Name	Federal Status
Monarch Butterfly	Danaus plexippus	Threatened
Suckley's Cuckoo Bumble Bee	Bombus suckleyi	Endangered

In addition, the IPAC resource list identified several migratory birds that may nest or forage in the study area. These birds are protected by the Migratory Bird Treaty Act and/or the Bald and Golden Eagle Protection Act. See **Appendix C**.

Human Environment

Hazardous Materials

Hazardous materials are defined as any material that poses harmful risks to human health and/or the environment. It includes any hazardous or toxic substance, waste, pollutant, or chemical regulated under the Clean Air Act, Clean Water Act, Toxic Substance Control Act, and/or the Resource Conservation and Recovery Act (RCRA). Hazardous material sites are managed through the Idaho DEQ Waste Management and Remediation Program, as well as the EPA's Envirofacts Program.

There are no hazardous materials sites designated within the proposed project area.

Environmental Scan Conclusion

The environmental scan report identified existing conditions for the project based on a desktop review of available information and reconnaissance survey of the project. This does not serve as the environmental document for any proposed future design phases; it should be used as a guide to identify potential resources of concern within the area.

The following technical studies may require completion and approval prior to any construction activity, if federal funds are utilized.

- The anticipated class of action under NEPA is a Categorical Exclusion.
- Archaeological and Historic Survey Report, in accordance with Section 106 of the National Historic Preservation Act.
- Waters of the United States and Wetland Delineation Report in accordance with Section 404 of the Clean Water Act.

The following approvals may be necessary, given the resources on or in proximity to the project. This list is not meant to be all inclusive, as additional approval and permits may be necessary based on project specifics.

- Joint Permit Application (to place fill in or dredge waters of the U.S., including wetlands).

RIGHT-OF-WAY ASSESSMENT

The concept alignment for the New York Canal crossing alternative is anticipated to require right-of-way acquisition and/or easements from four parcels located near the canal. **Table 8** provides a summary of the potentially impacted parcels and estimated areas of impact. These impacts are seen in **Figure 11**.

Table 8: Summary of Potentially Impacted Parcels (New York Canal Alternative)

Parcel	Owner	Estimated Area of Impact, SF (Length x Width)
R6052960390	New York Landing HOA	2,400 (120’ x 20’)
R6052960590	City of Boise (Boise Parks & Recreation)	4,000 (200’ x 20’)
R8222940130		2,000 (100’ x 20’)
R8222940140	Landsing Development Group LLC	5,400 (270’ x 20’)

As of the date of this report, no existing easement agreements have been identified for the proposed pathway on any of the listed parcels. Engagement with the respective property owners has been conducted, and a summary of this outreach is included in the *Project Stakeholders* section of this report, under the *Initial Community and Property Owner Feedback* subsection.

COST ESTIMATE

This section describes the planning level opinion of probable cost for the New York Canal crossing alternative. Unit costs were estimated using experience from recent relevant projects, ITD historic unit cost data, and other engineering resources. Additionally, a 30% design contingency was added to the final estimated cost.

The planning level opinion of probable cost for the project is estimated to be approximately **$1,342,000**. A detailed cost estimate is provided in **Appendix D**, and a cost summary is provided in **Table 9**.

Table 9: Cost Summary (New York Canal Alternative)

Estimate Items	Estimate
Pathway Grading and Paving	$187,248
Pathway Fencing	$75,920
Concrete Abutments and Wingwalls	$75,000
Bridge Disassembly, Relocation, and Reassembly	$250,000
Bridge Painting (In Shop)	$48,060
Bridge Repairs	$50,000
Bridge Railing/Fencing	$33,375
Bridge Decking	$30,000
Item Subtotal	$750,000
Mobilization	$75,000
Design Contingency	$248,000
Design and Permitting	$108,000
Construction Engineering and Inspection	$161,000
Right-of-Way	TBD
Total	**$1,342,000**

PROJECT SCHEDULE

The anticipated project schedule is illustrated in **Figure 28**. As shown, the project is expected to take approximately **19 months** to be completed once funding is secured.

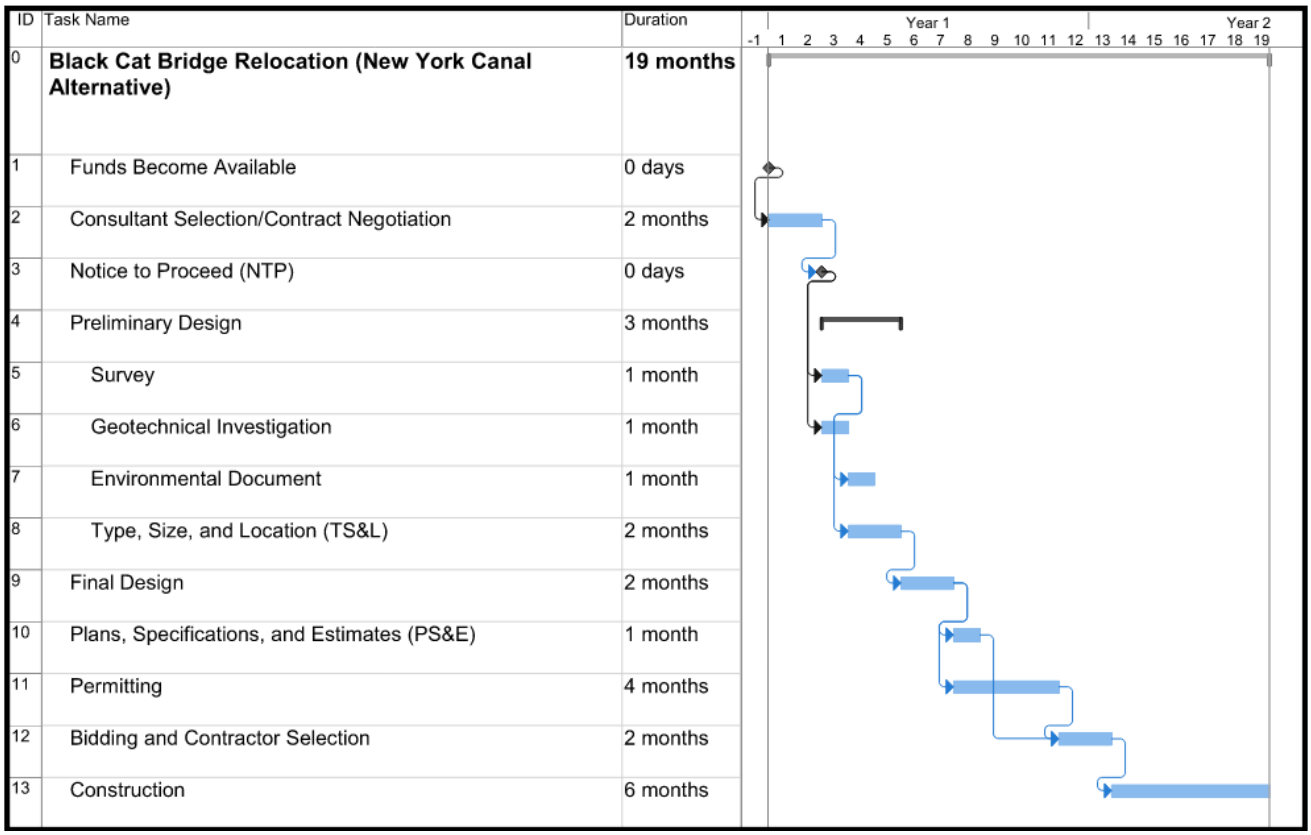


Figure 28: Anticipated Project Schedule (New York Canal Alternative)

KEY STAKEHOLDERS AND INITIAL OUTREACH

The following is a list of anticipated stakeholders identified for the New York Canal alternative:

- Ada County Highway District (ACHD)
- Ada County
- Adjacent property owners
- Boise Project Board of Control
- City of Boise
- City of Boise Parks & Recreation
- Community Planning Association of Southwest Idaho (COMPASS)
- Idaho Department of Parks & Recreation (IDPR)
- Idaho Power
- Law enforcement
- Landsing Development Group LLC
- Local business owners
- New York Irrigation District
- New York Landing HOA

Irrigation District Policies and Requirements

Per initial discussions on July 10, 2025, with the Boise Project Board of Control (Boise Project) – which is responsible for the New York Irrigation District and, consequently, the New York Canal – it was stated that their board of control will not approve a pedestrian-only crossing at the proposed location, in accordance with their established policy. According to the Boise Project's *Operating Rules* (dated January 1, 2025, Item 10):

> "The Board of Control does not approve gates or pedestrian bridges across its canal easements, as it hinders our ability to perform our duties. All pedestrian crossings must be included on vehicular road crossing bridges. Any requests from landowners for gates will be considered on a case-by-case basis and must be permitted through the Bureau and the Project. Any fencing or pathways must be constructed outside of the Project's easements".

The Boise Project also expressed specific concerns regarding pedestrian safety due to the operation of heavy equipment within their easements. As a result, they do not encourage increased pedestrian activity on or near their facilities. However, they indicated no objection to a vehicular bridge that includes a pedestrian crossing at the proposed location.

Following this discussion, it was observed that pedestrian bridges with similar span currently exist across the New York Canal at several locations within the City of Boise and Ada County, including:

- Within the Hillcrest Country Club golf course (near South Roosevelt Street and West Hillcrest Drive)
- North of the East Amity Road and South Holcomb Road intersection
- Near Barber Park (close to East Boise Avenue and East Amity Road)

The existence of these pedestrian crossings suggests that ACHD may pursue further coordination with the Boise Project and its Board to discuss the specifics of this project. It is recommended that the benefits of the proposed crossing to the adjacent neighborhoods and overall community be clearly emphasized during future discussions.

Additionally, during a field observation conducted on May 29, 2025, it was noted that pedestrians currently use the maintenance pathway along the sides of the canal and cross the New York Canal via a weir access catwalk located just north of the proposed crossing location. The proposed bridge and pathway would significantly improve safety and accessibility for these users.

Initial Community and Property Owner Feedback

On July 14, 2025, a virtual meeting was held with the New York Landing Homeowners Association (HOA), which owns and manages the HOA playground park located on the west side of the proposed canal crossing. Representatives from ACHD and KPFF presented the conceptual layout (**Figure 11**) to John Russ, the designated representative for the subdivision's HOA. The feedback received was positive. The HOA representative expressed support for the proposed improvements, emphasizing the benefits of enhanced connectivity, particularly improved access to nearby restaurants, schools, and businesses located across the canal.

On July 21, 2025, a virtual meeting was held with a representative of the City of Boise Parks and Recreation, who owns the parcels at and adjacent to the New York Canal as seen in **Figure 11**. Representatives from ACHD and KPFF presented the conceptual layout to Trevor Kesler, the designated representative for the City of Boise Parks and Recreation. The feedback received was positive. The representative expressed support for the proposed improvements and stated that this crossing would be beneficial to and in alignment with the City of Boise Pathway Master Plan. Additionally, a letter of support dated July 23, 2025, signed by Doug Holloway, director of the City of Boise Parks and Recreation, was provided to help move this alternative forward.

On July 24, 2025, a virtual meeting was held with Bruce Hessing, the property owner of the "Landsing Development Group LLC" parcel on the east side of the New York Canal. Representatives from ACHD and KPFF presented the conceptual layout (**Figure 11**) to Bruce and the feedback received was positive. Bruce expressed support for the proposed improvements, emphasizing the benefits of enhanced connectivity, to businesses and recreation options located across the canal, including the connection to a future City of Boise pathway in their master plan. Bruce noted that he prefers a connection to Amity Road on the east side of the canal and would like to maintain the new pathway on City of Boise Parks and Recreation's parcel as much as possible.

8. PUBLIC INVOLVEMENT PLAN

A Public Involvement Plan (PIP) has been developed to guide ACHD in engaging stakeholders throughout the project lifecycle; both prior to securing funding and during implementation phases. The PIP provides general strategies for informing and involving the stakeholders at key stages of the project. Recommended activities include conducting a situational assessment, forming a project committee, issuing press releases, hosting public open houses, and maintaining ongoing communication with stakeholders, including existing committees and elected or appointed officials. Each activity is briefly described within this section of the report.

STAKEHOLDER COORDINATION

It is recommended that ACHD maintain consistent and proactive communication with stakeholders through in-person meetings, phone calls, and/or email to address questions and ensure ongoing coordination. Additionally, establishing and maintaining a stakeholder database is advised to track outreach activities, document concerns, and share project updates.

SITUATIONAL ASSESSMENT/KEY STAKEHOLDER INTERVIEWS

Conducting an early situational assessment would enable ACHD to identify key stakeholders and gain an understanding of their concerns, priorities, and perceptions regarding the proposed crossing. Initiating stakeholder engagement at an early stage would also help inform the community about the project's objectives and the anticipated project schedule. Following initial stakeholder outreach, insights should be documented to inform decision-makers of public interest and to guide future public involvement strategies.

PROJECT COMMITTEE

It is recommended that ACHD establish a project committee composed of key stakeholders following the selection of a Preferred Alternative through this Bridge Relocation Study Report. This committee would serve as a platform for ongoing dialogue as funding is secured and partnerships are formed. Regular meetings should be held to share project updates, gather diverse input, and build public support. Once funding is in place, the committee should meet at least three times: at project initiation to review plans and gather feedback; prior to finalizing designs to confirm alignment and support; and near project completion to address any remaining challenges and/or new opportunities. Additional meetings may be scheduled based on the level of public interest and engagement.

NEWS RELEASES

It is recommended that ACHD issue news releases at key project milestones to share information about the project's purpose, funding status, and schedule. These updates should be distributed to local media outlets at significant points, such as the start of the development phase and as the project nears completion. To ensure consistent and accurate messaging, a designated point of contact should be assigned to handle all media inquiries.

PUBLIC OPEN HOUSES

It is recommended that at least two public open houses be held to give the community opportunities to provide input, share concerns, and offer suggestions, once at the beginning of the project and again before finalizing design plans. Public notices and/or advertisements should be issued in advance to inform residents of the meeting time and location. A summary of public comments should also be compiled to support future decision-making and engagement efforts.

PUBLIC OFFICIAL COORDINATION

Providing regular updates to elected and appointed public officials is recommended to ensure alignment on funding strategies, communicate community feedback, and obtain input as the project advances.

9. POTENTIAL FUNDING SOURCES

There are several funding possibilities for this project: federal, state/local, or private. **Table 10** outlines potential funding sources for the New York Canal and North Indian Creek alternatives, including design, easement/right of way acquisition, and pathway and canal/creek crossing construction. The list provided is meant to serve as a general guide. It does not constitute all funding opportunities available, nor does it guarantee eligibility for a particular program. It is likely that the project will need a combination of multiple funding sources in order to be fully funded. Other potential local opportunities include the ACHD Community

Programs, local government funds, fund-raising and donations, local bonds, and public-private partnership (P3).

Most federal funding sources require a minimum local match and most successful applications for federal funding tend to have matching percentages that exceed 20%. Programs that are not state/locally administered or distributed will require the project to compete for funding nationally.

Table 10: Potential Funding Sources

Eligibility Legend:

- Strong Candidate
- Likely Eligible
- Unlikely Eligible

IC North Indian Creek Canal Crossing Alternative

NY New York Canal Crossing Alternative

Program	Description	Overview	Eligibility
Transportation Alternatives Program (TAP) *Federal, State/Locally Administered*	Provides funds for projects that advance non-motorized transportation facilities. It aims to support projects that enhance mobility, safety, and economic opportunity through alternative transportation solutions.	TAP grant applications are typically done through ITD and LHTAC. Application period for funding in 2025, 2026, and 2027 is closed as of January 2024. Directions for next application period have not yet been released. https://lhtac.org/programs/tap/	IC NY
Active Transportation Infrastructure Investment Program (ATIIP) *Federal*	Provides funds to construct projects to provide safe and connected active transportation facilities in active transportation networks or active transportation spines.	ATIIP awards two types of grants: Planning and Design grants and Construction grants. Projects seeking Planning and Design grants must have planning and design costs of at least $100,000 to be eligible, while projects seeking Construction grants must have total costs of at least $15 million to be eligible. Neither alternative is likely to qualify for the Construction grant; however, both may be eligible for Planning and Design grants. Application period closed in July 2024. Directions for next application period have not yet been released. https://www.transportation.gov/rural/grant-toolkit/active-transportation-infrastructure-investment-program-atiip	IC NY

Better Utilizing Investments to Leverage Development (BUILD) *Federal*	As of January 2025, the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program was renamed BUILD, which was first known as Transportation Investment Generating Economic Recovery (TIGER). The program is administered by the U.S. Department of Transportation and provides grants for surface transportation infrastructure projects with significant local or regional impact.	For capital projects located in urban areas, the minimum award is $5 million, while for projects located in rural areas, the minimum award is $1 million. Planning projects do not have a minimum award size. The maximum grant award is $25 million. New York Canal and North Indian Creek alternatives will likely not qualify for capital but may qualify for planning. Application period for FY 2025 was closed in January 2025. Directions for next application period have not yet been released. https://www.transportation.gov/BUILDgrants https://www.transportation.gov/BUILDgrants/apply	
Congestion Mitigation and Air Quality Improvement Program (CMAQ) *Federal, State Administered*	Provides a funding source for State and local governments to fund transportation projects and programs to help meet the requirements of the Clean Air Act (CAA). Funds support state- and locally selected transportation projects that reduce mobile source emissions in both current and former areas designated by the U.S. Environmental Protection Agency (EPA) to be in nonattainment or maintenance of the national ambient air quality standards for ozone, carbon monoxide, and/or particulate matter.	Many types of projects are eligible under the CMAQ program including transit improvements, and bicycle and pedestrian facilities. In addition to improving air quality and reducing congestion, CMAQ projects can improve safety. ITD administers and distributes CMAQ funds. However, projects located within Ada County are, currently, generally not eligible for CMAQ.	
Surface Transportation Block Grant (STBG) *Federal, State/Locally Administered*	Provides federal funds to states and local agencies to support a broad range of surface transportation projects. It is designed to give maximum flexibility to address local and regional transportation needs.	In the Boise Urbanized Area, STBG funds are administered by COMPASS under the STBG-TMA (Transportation Management Area) designation. https://compassidaho.org/wp-content/uploads/FY2027-2033_COMPASSFundingApplicationGuide.pdf	

Safe Streets and Roads for All (SS4A) *Federal*	The program funds regional, local, and Tribal initiatives through grants to prevent roadway fatalities and serious injuries.	This program provides funding for two main types of grants: Planning and Demonstration Grants, and Implementation Grants. Funding for FY 2025 closed on June 2025. Directions for next application period have not yet been released. https://www.transportation.gov/grants/SS4A	
Safe Routes to School (SR2S) *Federal, State/Locally Administered*	The program encourages students and families to choose active transportation - walking, biking, scootering, or rolling - and from school. These promote healthy habits, improve safety, and reduce congestion around the school campuses.	SR2S funding is often done through the TAP. The New York Canal alternative scope is a strong candidate for SR2S program eligibility as it connects neighborhoods to schools across the canal through a non-motorized pathway. https://www.achdidaho.org/my-commute/pedestrian-resources/safe-routes-to-school	
PeopleForBikes *Federal*	The program provides funding for bicycle paths, trails, and bridges. The program supports bicycle infrastructure projects and targeted initiatives that make it easier and safer for people of all ages and abilities to bike.	Grants should support the material costs of infrastructure construction or non-material costs directly related and necessary to getting infrastructure built. The latest round of funding applications were awarded in January 2025. Directions for next application period have not yet been released. https://www.peopleforbikes.org/grant-guidelines	
Bloomberg Philanthropies *Private*	Releases specialized grant opportunities related to transportation, safety, and public health.	Grants should be monitored through the main website (https://www.bloomberg.org/).	

10. NEXT STEPS

To ensure continued project progress and stakeholder engagement, the following steps are recommended for the North Indian Creek alternative (Preferred Alternative), which would also apply for the New York Canal alternative:

- **Stakeholder Database.** As outlined in the *Public Involvement Plan*, develop and maintain a stakeholder database to track outreach activities, document concerns, and distribute project updates. This tool will support transparent communication and informed decision-making throughout the project lifecycle.
- **Project Committee.** Establish a Project Committee based on the list of potential representatives identified in the *Public Involvement Plan*. Present the proposed committee members to the Mayor and City Council for approval. Initial committee discussions should focus on key topics such as funding opportunities, project scheduling, public outreach strategies, and other planning elements.
- **Funding Strategy and Coordination.** Monitor grant timelines and actively prepare and submit funding applications. Invite funding agency representatives to participate in Project Committee meetings and site visits as appropriate. Continue coordination with local and state agencies, including COMPASS and ITD, to align funding efforts with broader transportation and infrastructure goals.
- **Ongoing Public Involvement and Project Awareness.** Maintain consistent communication with local residents, businesses, HOAs, and non-motorized transportation advocacy groups. Provide regular updates on the project's progress, including committee activities, funding status, and key milestones. Early, meaningful, and sustained outreach will help build community support and generate letters of endorsement for funding applications.

Appendix A

Bridge Inspection Report

MEMO

Date:	July 15, 2025
To:	Elie Kawmy, Ada County Highway District
From:	Brandon Kotulka, PE, SE; Joel Parks, PE; James Starke
Subject:	Black Cat Bridge Study Field Visit Inspection

BACKGROUND

KPFF's bridge inspectors/engineers performed a field visit inspection of the Black Cat Bridge near Kuna, Idaho. Black Cat Bridge is closed to traffic and is being evaluated to be used for a potential pedestrian bridge at a new location. The bridge would need to be disassembled to be transported to its new location. The goal of the inspection was to evaluate the existing condition of the steel truss and develop repair recommendations. To accomplish this objective, KPFF reviewed existing bridge data and performed an inspection for all of the steel truss members. The Black Cat Bridge is a 111-foot-long structure running parallel to South Black Cat Street and spanning over Indian Creek. The bridge consists of a riveted steel truss, steel floor beams, timber stringers, and timber deck with an asphalt overlay.

Photo 1: Black Cat Bridge Looking East

Black Cat Bridge Study Field Visit Inspection

Photo 2: Black Cat Bridge Looking South

INSPECTION

KPFF inspected the bridge on May 28th, 2025. A visual inspection was performed via rope access over the length of the bridge. The upper chord members and portal bracing were inspected at panel points by climbing the vertical truss members. Inspectors also walked the full length of the bottom chord and rappelled at each panel point to inspect the ends of the floor beams and bottom side of the bottom chord. Locations of defects were marked on the bridge member and documented. The deck, stringers, and abutments were not inspected since these elements would not be utilized in the bridge's new location.

INSPECTION FINDINGS

The steel truss is in generally fair condition, with widespread minor defects and isolated moderate defects. Minor defects include surface corrosion, drilled holes, failing paint, incorrectly sized spacer plates, fabrications defects, and bent secondary members. Moderate defects include pack rust, surface pitting, minor section loss, cracked welds, missing/undersized bolts, and bent primary and secondary members. The following sections go into more detail for each inspected element. Truss member labels are defined by their two connecting panel points. See Figure 1 below for element labels. Additional photos are included in Appendix A.

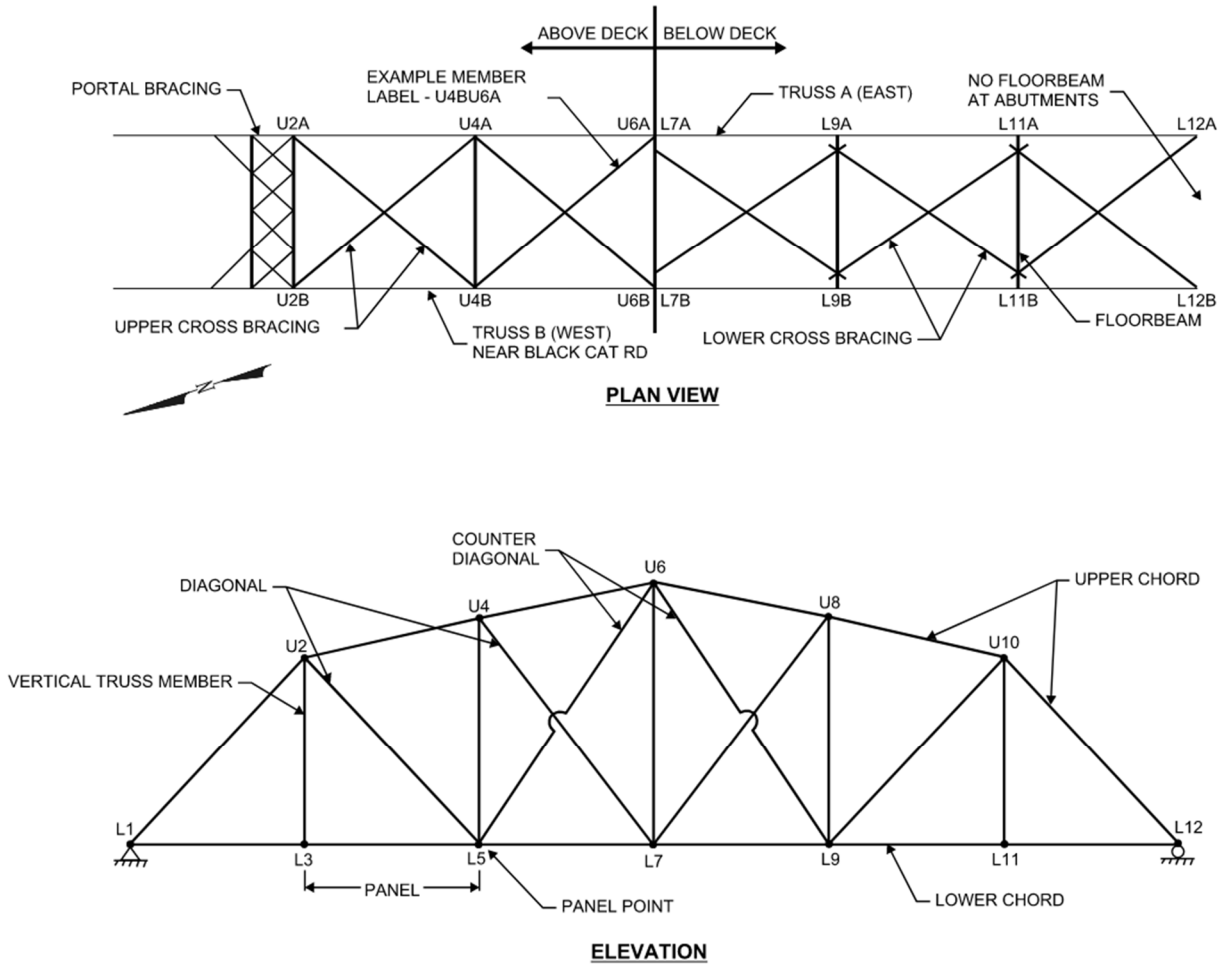


Figure 1: Bridge Labeling and Orientation

Upper Chord

The upper chord is built up by two steel riveted channels with a top plate and a lower lattice and is in good condition.

The pin at U8A has no paint covering the connection leading to surface corrosion and minor pitting. See Repair (1) and Photo (4).

The inside channel of the upper chord has a 7/8-inch hole drilled in the side at L1B and L12B.

Lower Chord

The lower chord consists of two steel eyebars and are in fair condition, with mostly minor surface defects, one moderate surface defect on L11AL12A, and isolated laminar corrosion. Most surface defects on the eyebars appear to be from fabrication or construction. See Repair (10) and Photo (6).

The eyebars are connected via steel pins at panel points. Pack rust has started to form between the eyebars and the vertical truss members but is typically less than 1/16-inch thick. See Repair (3) and Photo (7). Up to ½-inch of pack rust has formed between the pin and the pin cover/eyebar spacer causing the cover to pry open up to 1.5-inches. This has also caused surface pitting to form on the pin. See Repair's (3) and (12) and Photo (8).

On both trusses at panel points L5 and L9, the eyebar spacers are undersized, allowing some transverse movement in the connection. See Repair (4) and Photo (9).

Vertical Truss Members

The vertical truss members are built up steel channels connected via a riveted steel lattice and are in good condition, with some connections in poor condition. The vertical members tie into the upper and lower chord via riveted plates that connect to the pins. Some lattice members have minor impact damage. There is minor section loss (<1/16-inch) in several rivet heads due to early pack rust formation, see Repair (9) and Photo (3).

The plates on both trusses at panel point L5 that connect the two channel members and the plates that tie into the pin are welded via a ½-inch weld rather than riveted. Up to 1/2"-inch of pack rust has formed between the plates and the channels causing the outside weld to crack at L5A and the channel to bow outward at L5B. See Repair's (3), (5) and (11) and Photo's (10), (11) and (12).

Vertical Members U4AL5A and U4BL5B each have (14) ¾-inch holes drilled into the inside channel. An additional (4) 7/8-inch holes are drilled through the base of the inside channel on all vertical members. See Photo (13). Repairing these holes is not immediately necessary.

Diagonals

The primary diagonals consist of two steel eyebars at Panel's 2-5. The counter-diagonals consist of two steel tie rods tensioned with a turnbuckle at panels 3 & 4 at the center of the bridge. All diagonal members are in fair condition with some minor surface defects, distortions and impact damage at some locations. See Photo (14).

The tie rods and eyebars were slender and tended to move easily when agitated by hand.

Portal Bracing and Cross Bracing

The upper and lower cross bracing consists of steel tie rods designed to only transfer tension forces. The portal bracing is built up from angled members.

All bracing members are in fair condition with some minor surface defects, distortions and impact damage at some locations. Approximately half of the upper and lower cross bracings sagged 1-inch. The lower cross brace connecting L1AL3B is not fully threaded at L3B. See Repair (9) and Photo (15).

The portal bracing is in fair condition, with some members at both ends of the bridge in poor condition due to impact damage. Members have been bent up to 1.5-inch out of alignment. A bolt has sheared off in the connection at the top of U6A. At both U6A and U6B, (4) rivets have been replaced with (4) 5/8-inch bolts. The bolts are undersized, allowing some movement in the connection. At the same locations, the top two angles from the portal bracing tie into the upper chord and have pried apart up to 1-inch on the outside end. See Repair's (2) and (6) and Photo's (5) and (16).

Steel Floor Beams

The steel floor beams tie into the bottom chord via a riveted and bolted built up connection that hangs from the bottom chord pin. At panel points L3A, L3B, L5A, L5B, and L7B, the plates were also welded together. All floor beams have a 5-inch by 5-inch square hole cut into each end of the web for the lower cross bracing connections. The bracing runs through the hole and is connected to the floor beam on the opposite side via an additional rounded plate that is riveted to the web. The floor beams are generally in fair condition, with the connections to the pin in poor condition.

Floor Beam 3 (FB 3) was the same size as the other floor beams, though it had a different outside finish, at least (20) 1-inch holes drilled in the web, at least (20) 1-inch holes drilled in the flanges, and the plates connecting the bottom cross bracing were welded to the web rather than riveted. See Photo (17).

The connections between the pin and the floor beams were often transversely out of alignment with the bottom chord. This deformation measured approximately ¼-inch to the west at FB 2, ¼-inch to the east at FB 3, and 1/8" to the west at FB 4. See Repair (7) and Photo (18). The connections typically had 1/8-inch-wide pack rust along the full length of the connection between the riveted or welded members. There were isolated areas of severe pack rust, up to 3/8-inch-wide by 4-inch long, causing the plates to pry apart, see Repair (3) and Photo (19). Where the plates were welded together, cracks have begun to form at the end, typically less than 1-inch long. See Repair's (5) and (11) and Photo (20).

Near the ¾ span of FB 2, there was an approximately 4-inch-long by 1.5-inch-wide section missing. See Photo (21).

Bearings

The bearings were partially buried due to erosion of the approach fill and were therefore not fully inspected. The bearings at Abutment 1 (north) appeared to be moveable bearings, and fixed bearings at Abutment 2. The bearings were generally in fair condition, with the lower buried elements in poor condition due to moderate surface pitting with measurable section loss in some of the rivets and bolts. See Repair (8) and Photo's (22) and (23).

Paint System

The paint system has begun to fail with peeling paint and exposed steel substrate. The loss of the protective coating and surface corrosion does not have an immediate negative effect on the structural capacity of the bridge, but over time the steel members will degrade more rapidly, and this will reduce the lifespan of the structure. See Repair (1).

REPAIR RECOMMENDATIONS

Based on the observations from the inspection, we have the following repair recommendations:

1. Repaint all steel members in a shop once the bridge has been disassembled to extend the life of the bridge. See Photo (4).
2. Replace the missing bolt on upper chord at U6A, and the undersized bolts at U6A and U6B. See Photo (5)
3. Repair all pack rust to prevent it from spreading. See Photo's (7), (8), (10), (19), and (20).
4. Replace the bottom chord pin spacer plates with a correctly size plate at L5A, L5B, L9A, and L9B. See Photo (9).
5. Repair connection welds. See Photo's (10), (11), (12), (17), and (20).
6. Replace bent portal bracing members. See Photo's (5) and (16).
7. Replace the lower chord to floor beam connection plates on FB 2, 3, & 4 where the connection has transversely deflected. See Photo (18).
8. Replace bearings with a design meeting modern standards. See Photo's (22) and (23).
9. Fully thread the lower cross brace connecting L1AL3B at L3B. See Photo (15).

The following defects do not require repairs but should be monitored in future inspections:

10. Monitor pack rust around rivet heads. See Photo (3).
11. Monitor the diagonals and bottom chords with surface defects. Consider repairing or replacing members where required for strength. See Photo (6).
12. Monitor welded connections for new cracks.
13. Monitor pack rust and surface pitting on the bottom chord pins. When de-constructing the bridge for transport, measure the section loss on the pins. See Photo's (7) and (8).

Black Cat Bridge Study Field Visit Inspection

LOAD RATING RECOMMENDATIONS

Following guidance from AASHTO Manual for Bridge Evaluation 3rd Edition, we recommend using the following condition states when load rating the bridge.

- Top Chord – $\varphi_c = 1.0$
- Bottom Chord – $\varphi_c = 0.95$
  Member L11AL12A Only – $\varphi_c = 0.85$
- Vertical Truss Members – $\varphi_c = 1.0$
- Diagonals – $\varphi_c = 0.95$
- Portal Bracing – $\varphi_c = 0.85$
- Cross Bracing – $\varphi_c = 0.95$
- Floor Beam – $\varphi_c = 0.85$
- Bearings – $\varphi_c = 0.95$
- Connections (if applicable) –
  - Top Chord Connections – $\varphi_c = 0.95$
  - Bottom Chord Connections – $\varphi_c = 0.95$
  - Vertical Truss Member & Top Chord Connections – $\varphi_c = 1.0$
  - Vertical Truss Member & Bottom Chord Connections – $\varphi_c = 0.85$
  - Diagonal & Top Chord Connections – $\varphi_c = 1.0$
  - Diagonal & Bottom Chord Connections – $\varphi_c = 0.95$
  - Portal Bracing Connections – $\varphi_c = 0.85$
  - Cross Bracing Connections – $\varphi_c = 0.95$
  - Floor Beam Connections – $\varphi_c = 0.85$

LIMITATIONS OF THIS ASSESSMENT

- The inspection was performed using visual and hands on methods as explicitly stated in this report.
- The inspection was performed on the portions of the bridge that were accessible from rope access. Center span of the floor beams could not be reached. The foundations and bearings were partially buried and not inspected. The deck and stringers were not inspected.

ENCLOSURES

The following enclosures have been included with this letter:

- Appendix A – Inspection Photos

Sincerely

Brandon Kotulka, PE, SE

Black Cat Bridge Study Field Visit Inspection

APPENDIX A

INSPECTION PHOTOS

Photo 3: Pack Rust Forming Under Rivet Head

Photo 4: Surface Corrosion at U8A

Photo 5: Connection at U6A

Photo 6: Surface Defects on Lower Chord Eyebar (L11AL12A Left, L5AL7A Right)

Photo 7: Pack Rust between Lower Chord Eyebar and Vertical Member

Photo 8: Pack Rust and Surface Pitting at the Lower Chord Pin

Photo 9: Undersized Eyebar Spacer at L5 and L9

Photo 10: ½" Pack Rust between Vertical Truss Member and Welded Connection Plate at L5A

Photo 11: Cracked weld on the Outside of the Connection at L5A

Photo 12: Welded Connection at L5B

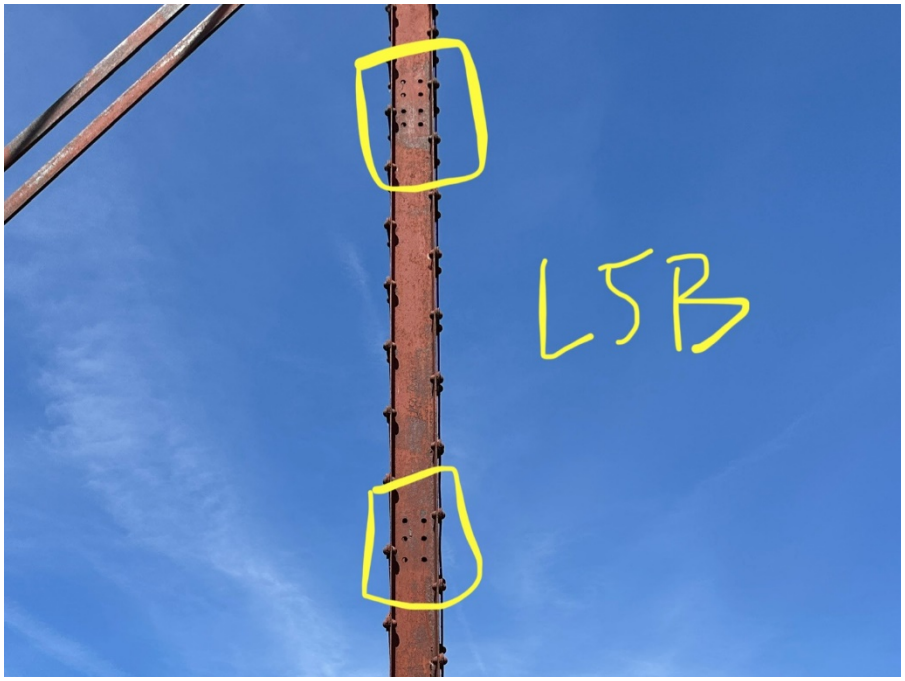


Photo 13: Holes in the Side of U4BL5B

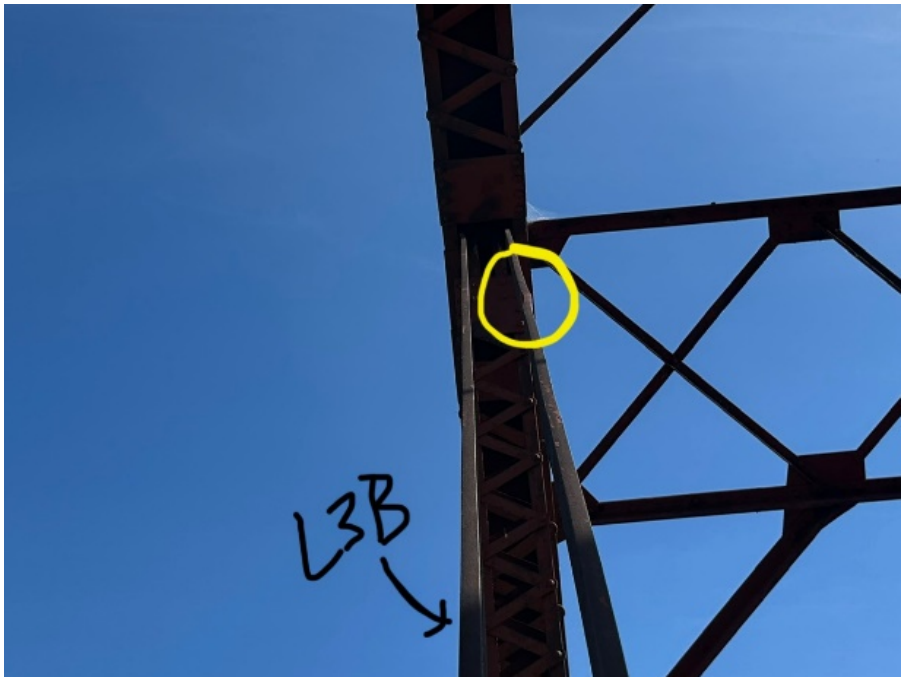


Photo 14: Bent Diagonal U2BL5B

Photo 15: Lower Cross Bracing through FB 1

Photo 16: Bent Portal Bracing

Photo 17: FB 3 – Holes and Different Cross Bracing Connection

Photo 18: Out of Alignment Floor Beam Connection at L5B and FB 2

Photo 19: Typical Pack Rust Prying at Floor Beam to Vertical Connection

Photo 20: Cracked Weld Due to Pack Rust in Floor Beam to Vertical Connection at L5B

Photo 21: Missing Section from FB 2

Photo 22: Moveable Bearing at Abutment 1

Photo 23: Fixed Bearing at Abutment 2

Appendix B

Bridge Load Rating

BLACK CAT RD TRUSS BRIDGE RELOCATION LOAD RATING

Structural Calculations

COMPASS / ACHD

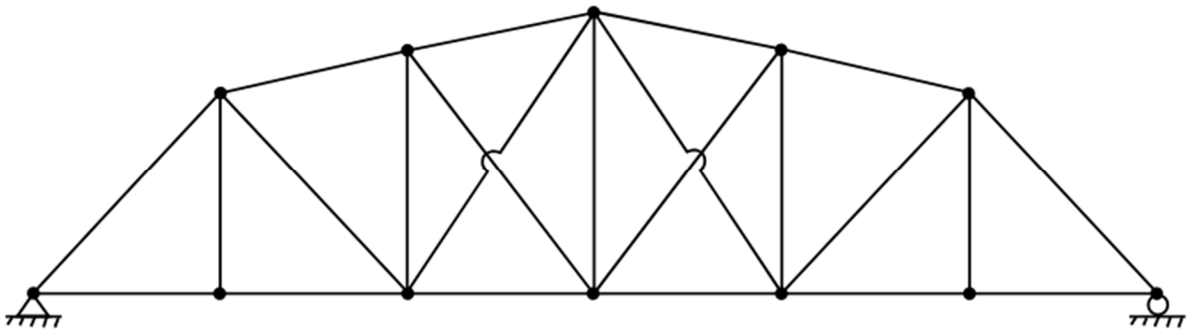
Ada County, ID

June 27, 2025

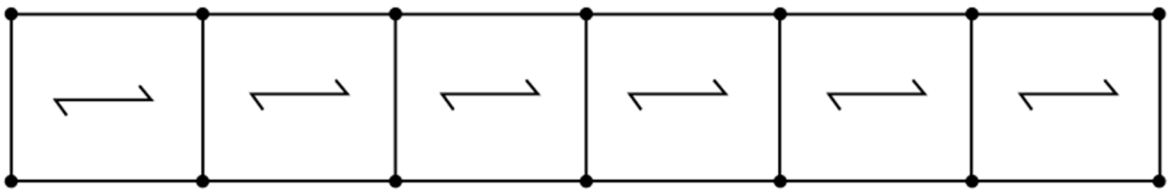
412 E. Parkcenter Blvd, Suite 200
Boise, ID 83706

BRIDGE DESCRIPTION

- *Date of Construction*: 1942 and rehabilitated in 1964.
- *Use*: Pedestrian
- *Bridge Span*: 111’-3”, single span.
- *Bridge Width*: 16’-0” width.
- *Bridge Skew*: No skew.
- *Supports*: Simply supported at each end.
- *Deck*: New deck is assumed to be installed after bridge relocation. The new deck is assumed to match existing deck conditions, which is 4” thick planks over (8) 5 ½” x 13 ½” wood stringers with blocking, spanning between 15Ix42.9 steel floor beams.
- *Barrier/Railing*: New railing is assumed to be installed after relocation.
- *Utilities*: Weight is assumed to be negligible.



Bridge Elevation



Bridge Plan

412 E. Parkcenter Blvd, Suite 200
Boise, ID 83706

BRIDGE MEMBERS INCLUDED IN LOAD RATING ANALYSIS

The following member capacities have been evaluated in this load rating analysis:

- Truss chords, verticals, and diagonals
- Floor beams

LOAD RATING DATA AND ASSUMPTIONS

The load rating analysis was performed following the AASHTO Manual for Bridge Evaluation (MBE) supplemented by the Idaho Manual for Bridge Evaluation (IMBE). The following general expression was used in determining the rating factor (RF) used to determine the load rating of each component subjected to an applicable single force effect.

$$RF = \frac{C - (\gamma_{DC})(DC) - (\gamma_{DW})(DW) \pm (\gamma_P)(P)}{(\gamma_{LL})(LL + IM)}$$ (AASHTO MBE Eq. 6A.4.2.1-1)

For strength limit states, $C = \phi_c \phi_s \phi_n R_n$, where $\phi_c \phi_s \geq 0.85$, per AASHTO MBE Eq. 6A.4.2.1-2 and Eq. 6A.4.2.1-3.

Strength Limit Resistance Factors on Capacity

Rated Member	Load Rating Check	ϕ_n, Material [1]	ϕ_c, Condition [2]	ϕ_s, System [3]
Truss Top Chord Members	Compression	0.90	1.00	0.90
Truss Bottom Chord	Tension	0.95	0.95 [4]	0.90
Truss Verticals	Compression	0.90	1.00	0.90
	Tension	0.95		
Truss Diagonals	Tension	0.95	0.95	0.90
Floor Beams	Flexure	1.00	0.85	0.85
	Shear	1.00	0.85	1.00

[1] ϕ_n, Material per AASHTO LRFD 6.5.4.2 and MBE 6A.6.3.
[2] ϕ_c, Condition per Inspection Report based on AASHTO MBE 6A.4.2.3.
[3] ϕ_s, System per AASHTO MBE 6A.4.2.4-1.
[4] With the exception of one member, which has $\phi_c = 0.85$.

Dead and Live Load Factors (LRFR)

Load Type	Strength I
DC: γ_{DC}	1.25
LL: γ_{LL}	1.35

Materials

Steel properties are assumed as follows:

- Steel members: F_y = 33 ksi, F_u = 66 ksi per AASHTO MBE Table 6A.6.2.1-1 for year of construction of 1942.

Analysis Method

- Load rating was performed using the LRFR Method.
- Truss loading was determined through hand calculations. Those loads include dead loads (railing, stringers, deck) and a pedestrian operating uniform live load of 90 psf.
- A truss model was created using SAP2000 to generate demands for the load rating.
- The truss member capacities and rating factors were calculated using an Excel spreadsheet.
- Hand calculations were performed for the load rating of the steel floor beams.
- It is assumed that the existing wood deck and stringers will be replaced with elements with similar weight to existing ones. Existing weight is assumed to be 30 psf for the decking system (deck and stringers).
- It is assumed that a new railing with a maximum weight of 50 lb/ft will be provided at the final bridge condition.

References

- AASHTO LRFD Bridge Design Specification, 9th Edition (2020)
- AASHTO Manual of Bridge Evaluation, 3rd Edition (2018)
- Idaho Manual of Bridge Evaluation (2025)

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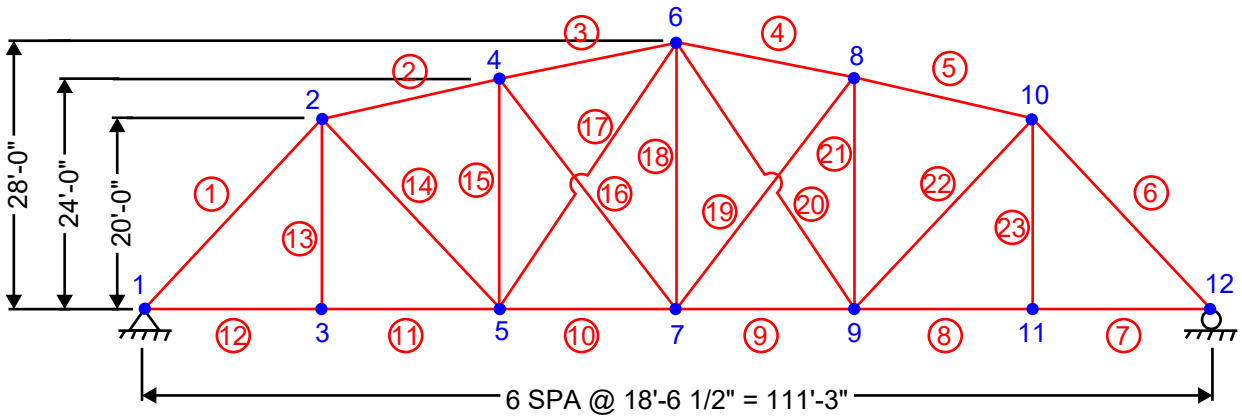
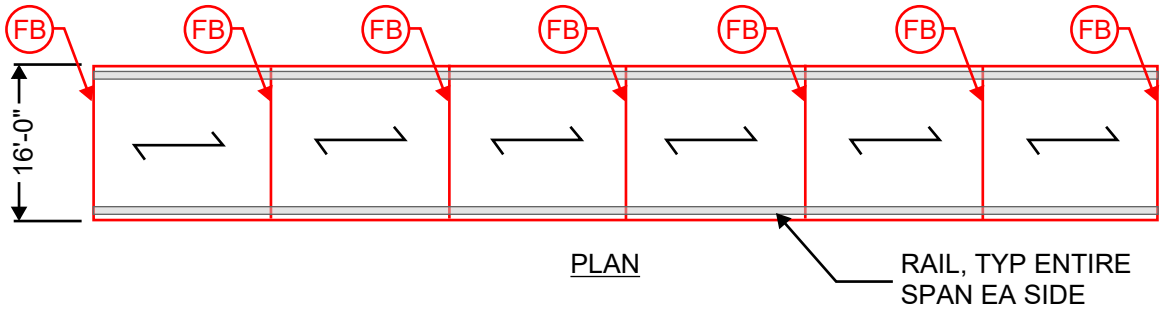
project	Black Cat Rd Bridge Relocation Study	by LC	sheet no.
location	Ada County, ID	date 04-17-25	
client	Compass/ACHD	job no. 10212500054	
	Truss Bridge Load Rating		

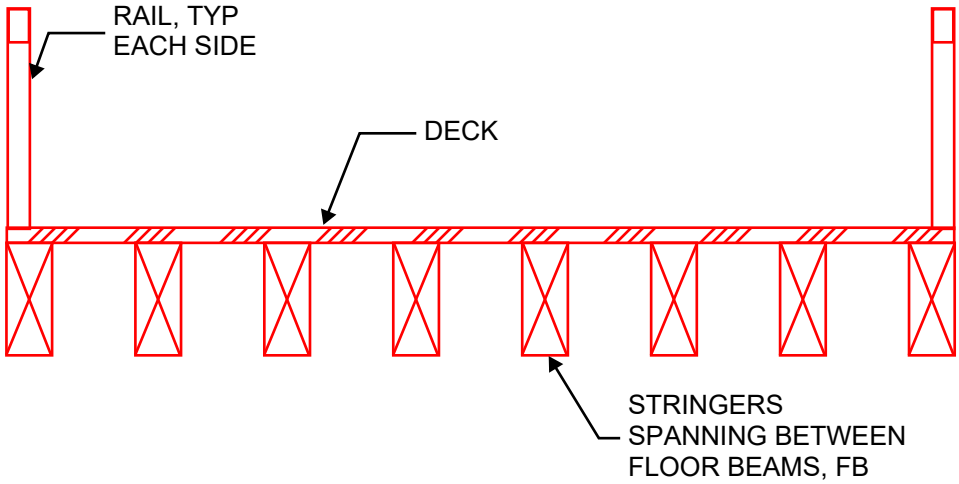
BRIDGE GEOMETRY



ELEVATION



PLAN



SECTION

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project	Black Cat Rd Bridge Relocation Study	by LC	sheet no.
location	Ada County, ID	date 06-27-25	
client	Compass/ACHD	job no. 10212500054	
	Truss Bridge Load Rating		

$W_{truss} := 16\ ft$ width of truss

$L_{bay\_truss} := 18\ ft + 6.5\ in = 18.5417\ ft$ span of each truss bay

$L_{truss} := 6 \cdot L_{bay\_truss} = 111.25\ ft$ total bridge span

$h1 := 20\ ft$

$h_2 := 24\ ft$

$h_3 := 28\ ft$

NODAL LOAD CALCULATIONS

DEAD LOAD CALCULATION

-- Handrail --

$DL_{rail} := 50\ \frac{lbf}{ft}$ linear dead load due to rail. one rail at each side of truss

$P_{DL\_rail} := DL_{rail} \cdot L_{bay\_truss}$ $P_{DL\_rail} = 0.9271\ kip$ point load in interior nodes due to rail weight

-- Stringers --

Existing stringers spanning between floor beams FB are assumed to be (8) 5.5" x 13.5" DF 24FV4.

$\gamma_{wood} := 50\ \frac{lbf}{ft^3}$ per ITD BDM 6A.2.2.1 and AASHTO LRFD Table 3.5.1.1, this is the unit weight for softwood

per bay area $A_{bay} := L_{bay\_truss} \cdot W_{truss} = 296.6667\ ft^2$ and $n_{stringer} := 8$

$W_{stringer} := L_{bay\_truss} \cdot n_{stringer} \cdot 5.5\ in \cdot 13.5\ in \cdot \gamma_{wood} = 3.8242\ kip$ total weight of stringers per bay

$DL_{stringer} := \frac{W_{stringer}}{A_{bay}} = 12.8906\ psf$ uniform dead load area load due to stringers

$P_{DL\_stringer} := DL_{stringer} \cdot L_{bay\_truss} \cdot \frac{W_{truss}}{2}$ $P_{DL\_stringer} = 1.9121\ kip$ point load in interior nodes due to stringer weight

-- Deck --

Existing deck over stringers are assumed to be 4" deck plank. $t := 4\ in$

$\gamma_{wood} = 50\ \frac{lbf}{ft^3}$

$DL_{deck} := \gamma_{wood} \cdot t = 16.6667\ psf$ uniform dead load area for wood deck

$P_{DL\_deck} := DL_{deck} \cdot L_{bay\_truss} \cdot \frac{W_{truss}}{2}$ $P_{DL\_deck} = 2.4722\ kip$ point load in interior nodes due to deck weight

-- Floor Beam --

Floor beams are assumed to be 15Ix42.9.

$L_{FB} := 17.21\ ft$ length of floor beam per study dated 1999

$W_{FB} := 42.9\ \frac{lbf}{ft} \cdot L_{FB} = 0.7383\ kip$

$P_{DL\_FB} := \frac{W_{FB}}{2}$ $P_{DL\_FB} = 0.3692\ kip$ point load due to floor beam weight

LIVE LOAD CALCULATION

$LL := 90\ psf$ live uniform area load

$P_{LL} := LL \cdot L_{bay\_truss} \cdot \frac{W_{truss}}{2}$ $P_{LL} = 13.35\ kip$ point load in interior nodes due to live load

LOAD SUMMARY PER NODE

-- Nodes 1 and 12 --

$P_{DL\_1\_12} := \frac{P_{DL\_rail}}{2} + \frac{P_{DL\_stringer}}{2} + \frac{P_{DL\_deck}}{2}$

$P_{DL\_1\_12} = 2.66\ kip$ dead load in nodes 1 and 12

$P_{LL\_1\_12} := \frac{P_{LL}}{2}$

$P_{LL\_1\_12} = 6.68\ kip$ live load in nodes 1 and 12

-- Nodes 3, 5, 7, 9, 11 --

$P_{DL\_typ} := P_{DL\_rail} + P_{DL\_stringer} + P_{DL\_deck} + P_{DL\_FB}$

$P_{DL\_typ} = 5.68\ kip$ dead load in typ nodes (3, 5, 7, 9, and 11)

$P_{LL\_typ} := P_{LL}$

$P_{LL\_typ} = 13.35\ kip$ live load in typ nodes (3, 5, 7, 9, and 11)

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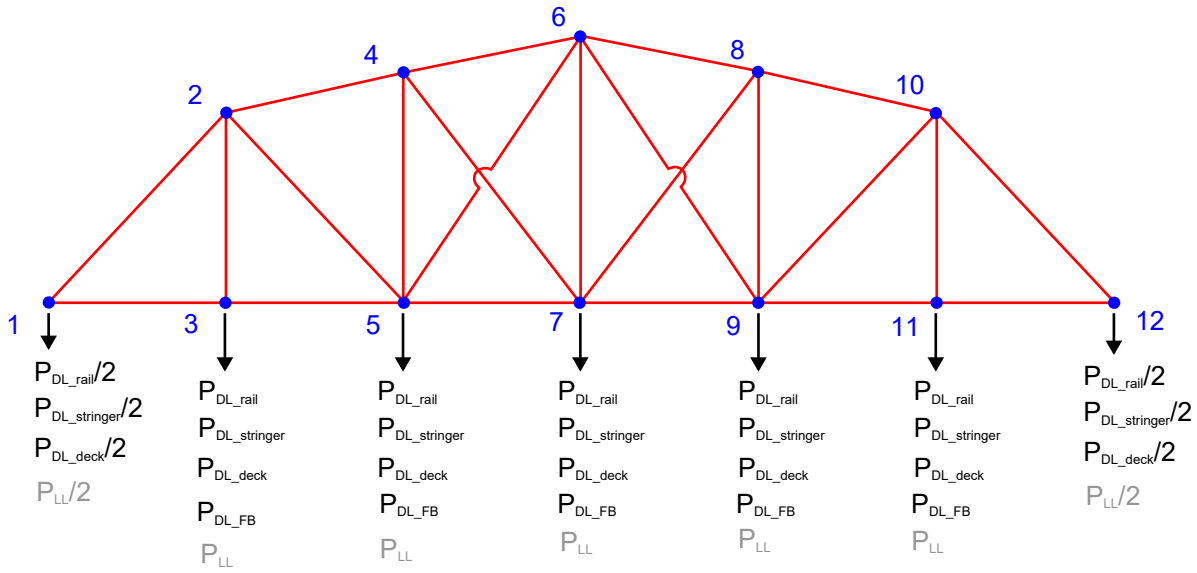
Truss Bridge Load Rating			



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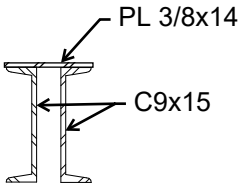
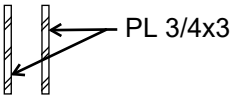
MEMBER PROPERTIES

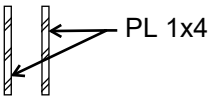
-- TOP CHORD MEMBERS (MEMBERS 1-6) --



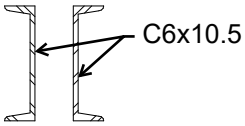
-- BOTTOM CHORD MEMBERS TYPE 1 (MEMBERS 7, 12) --



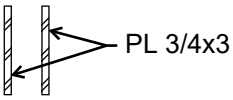
-- BOTTOM CHORD MEMBERS TYPE 2 (MEMBERS 8-11) --



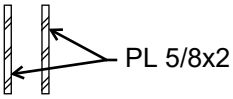
-- VERTICAL MEMBERS (MEMBERS 13, 15, 18, 21, 23) --



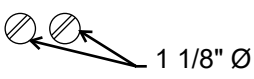
-- DIAGONAL MEMBERS TYPE 1 (MEMBERS 14, 22) --



-- DIAGONAL MEMBERS TYPE 2 (MEMBERS 16, 19) --



-- TENSION RODS (MEMBERS 17, 20) --



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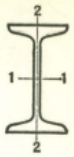
FLOOR BEAM CALCULATIONS

PER RELOCATION STUDY PERFORMED IN 1999, FLOOR BEAMS ARE 15Ix42.9. PER 1940 UNITED STATES STEEL (FOR 1942 TRUSS BRIDGE ORIGINAL CONSTRUCTION), THE PROPERTIES OF THIS SECTION ARE LISTED BELOW.

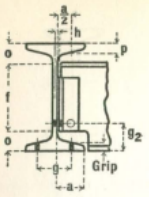
I PROPERTIES

BEAMS 1940
AMERICAN STANDARD
PROPERTIES OF SECTIONS



District Rolled	Section Index and Nominal Size	Depth of Beam	Weight per Foot	Area of Section	Width of Flange	Web Thickness	Axis 1-1			Axis 2-2		
							I	S	r	I	S	r
		In.	Lbs.	In.²	In.	In.	In.⁴	In.³	In.	In.⁴	In.³	In.
P.C.	24″ I B 18 24 x 77⅛ R=.60	24	120.0 115.0 110.0 105.9	35.13 33.67 32.18 30.98	8.048 7.987 7.925 7.875	.798 .737 .675 .625	3010.8 2940.5 2869.1 2811.5	250.9 245.0 239.1 234.3	9.26 9.35 9.44 9.53	84.9 82.8 80.6 78.9	21.1 20.7 20.3 20.0	1.56 1.57 1.58 1.60
P.C.	24″ I B 1 24 x 7 R=.60	24	100.0 95.0 90.0 85.0 79.9	29.25 27.79 26.30 24.84 23.33	7.247 7.186 7.124 7.063 7.000	.747 .686 .624 .563 .500	2371.8 2301.5 2230.1 2159.8 2087.2	197.6 191.8 185.8 180.0 173.9	9.05 9.08 9.21 9.33 9.46	48.4 47.0 45.5 44.2 42.9	13.4 13.0 12.8 12.5 12.2	1.29 1.30 1.32 1.33 1.36
P.C.	20″ I B 2 20 x 7 R=.70	20	100.0 95.0 90.0 85.0 81.4	29.20 27.74 26.26 24.80 23.74	7.273 7.200 7.126 7.053 7.000	.873 .800 .726 .653 .600	1648.3 1599.7 1550.3 1501.7 1466.3	164.8 160.0 155.0 150.2 146.6	7.51 7.59 7.68 7.78 7.86	52.4 50.5 48.7 47.0 45.8	14.4 14.0 13.7 13.3 13.1	1.34 1.35 1.36 1.38 1.39
P.C.	20″ I B 3 20 x 6¼ R=.60	20	75.0 70.0 65.4	21.90 20.42 19.08	6.391 6.317 6.250	.641 .567 .500	1263.5 1214.2 1169.5	126.3 121.4 116.9	7.60 7.71 7.83	30.1 28.9 27.9	9.4 9.2 8.9	1.17 1.19 1.21
P.C.B.	18″ I B 4 18 x 6 R=.56	18	70.0 65.0 60.0 54.7	20.46 18.98 17.50 15.94	6.251 6.169 6.087 6.000	.711 .629 .547 .460	917.5 877.7 837.8 795.5	101.9 97.5 93.1 88.4	6.70 6.80 6.92 7.07	24.5 23.4 22.3 21.2	7.8 7.6 7.3 7.1	1.09 1.11 1.13 1.15
P.C.	15″ I B 6 15 x 6 R=.69	15	75.0 70.0 65.0 60.8	21.85 20.38 18.91 17.68	6.278 6.180 6.082 6.000	.868 .770 .672 .590	687.2 659.6 632.1 609.0	91.6 87.9 84.3 81.2	5.61 5.69 5.78 5.87	30.6 28.8 27.2 26.0	9.8 9.3 8.9 8.7	1.18 1.19 1.20 1.21
P.C.B.	15″ I B 7 15 x 5½ R=.51	15	55.0 50.0 45.0 42.9	16.06 14.59 13.12 12.49	5.738 5.640 5.542 5.500	.648 .550 .452 .410	508.7 481.1 453.6 441.8	67.8 64.2 60.5 58.9	5.63 5.74 5.88 5.95	17.0 16.0 15.0 14.6	5.9 5.7 5.4 5.3	1.03 1.05 1.07 1.08

For key to symbols in first column, refer to page 3.



BEAMS
AMERICAN STANDARD
DIMENSIONS OF SECTIONS FOR DETAILING

I DIMENSIONS

Section Index and Depth	Weight per Foot	Flange		Web		Distance							Max. Flange Rivet
		Width	Thickness, P	Thickness	Half Thickness	a	f	o	Min. g₂	Clear. h	Gage g	Grip	
	Lbs.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
24″ I B 18 R=.60	120.0 115.0 110.0 105.9	8 8 8 7⅞	1⅜ 1⅜ 1⅜ 1⅜	15/16 ¾ 11/16 ⅝	5/16 ⅜ ⅜ 5/16	3⅝ 3⅝ 3⅝ 3⅝	20⅛ 20⅛ 20⅛ 20⅛	1 15/16 1 15/16 1 15/16 1 15/16	3¼ 3¼ 3¼ 3¼	½ 7/16 7/16 ⅜	4 4 4 4	1⅛ 1⅛ 1⅛ 1⅛	1 1 1 1
24″ I B 1 R=.60	100.0 95.0 90.0 85.0 79.9	7¼ 7⅛ 7⅛ 7⅛ 7	⅜ ⅜ ⅜ ⅜ ⅜	¾ 11/16 ⅝ 9/16 ½	⅜ ⅜ 5/16 5/16 ¼	3¼ 3¼ 3¼ 3¼ 3¼	20¾ 20¾ 20¾ 20¾ 20¾	1⅝ 1⅝ 1⅝ 1⅝ 1⅝	3 3 3 3 3	7/16 7/16 ⅜ ⅜ 5/16	4 4 4 4 4	⅞ ⅞ ⅞ ⅞ ⅞	1 1 1 1 1
20″ I B 2 R=.70	100.0 95.0 90.0 85.0 81.4	7¼ 7¼ 7⅛ 7 7	15/16 15/16 15/16 15/16 15/16	⅞ 13/16 ¾ 11/16 ⅝	7/16 7/16 ⅜ 5/16 5/16	3¼ 3¼ 3¼ 3¼ 3¼	16½ 16½ 16½ 16½ 16½	1¾ 1¾ 1¾ 1¾ 1¾	3¼ 3¼ 3¼ 3¼ 3¼	½ ½ 7/16 ⅜ ⅜	4 4 4 4 4	15/16 15/16 15/16 ⅞ ⅞	1 1 1 1 1
20″ I B 3 R=.60	75.0 70.0 65.4	6⅜ 6⅜ 6¼	15/16 15/16 15/16	⅝ 9/16 ½	5/16 5/16 ¼	2⅞ 2⅞ 2⅞	16⅞ 16⅞ 16⅞	1 15/16 1 15/16 1 15/16	3 3 3	⅜ ⅜ ⅜	3½ 3½ 3½	13/16 13/16 ¾	⅞ ⅞ ⅞
18″ I B 4 R=.56	70.0 65.0 60.0 54.7	6¼ 6⅛ 6⅛ 6	11/16 11/16 11/16 11/16	¾ ⅝ 9/16 ½	⅜ 5/16 5/16 ¼	2¾ 2¾ 2¾ 2¾	15¼ 15¼ 15¼ 15¼	1⅜ 1⅜ 1⅜ 1⅜	2¾ 2¾ 2¾ 2¾	7/16 ⅜ ⅜ 5/16	3½ 3½ 3½ 3½	11/16 11/16 11/16 11/16	⅞ ⅞ ⅞ ⅞
15″ I B 6 R=.69	75.0 70.0 65.0 60.8	6¼ 6⅛ 6⅛ 6	13/16 13/16 13/16 13/16	⅞ ⅝ 9/16 ½	7/16 ⅜ ⅜ 5/16	2¾ 2¾ 2¾ 2¾	11¾ 11¾ 11¾ 11¾	1⅝ 1⅝ 1⅝ 1⅝	3 3 3 3	½ 7/16 7/16 ⅜	3½ 3½ 3½ 3½	13/16 13/16 13/16 13/16	⅞ ⅞ ⅞ ⅞
15″ I B 7 R=.51	55.0 50.0 45.0 42.9	5¾ 5⅝ 5⅝ 5½	⅝ ⅝ ⅝ ⅝	11/16 9/16 7/16 ⅜	5/16 5/16 ¼ ¼	2½ 2½ 2½ 2½	12½ 12½ 12½ 12½	1¼ 1¼ 1¼ 1¼	2¾ 2¾ 2¾ 2¾	⅜ ⅜ ⅜ 5/16	3½ 3½ 3½ 3½	⅝ 9/16 9/16 9/16	¾ ¾ ¾ ¾

Gages g₂ are based on 1¼″ edge distance (⅞″ maximum rivet).

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FLOOR BEAM CALCULATIONS

Material Properties

$F_y := 33\ ksi$ $E := 29000\ ksi$

Beam Properties

$L_{FB} = 17.21\ ft$ beam span

Section Properties

$A := 12.49\ in^2$ $S_x := 58.9\ in^3$

Demand Calculations

$L_{bay\_truss} = 18.5417\ ft$

$DL_{stringer} = 12.8906\ psf$

$DL_{deck} = 16.6667\ psf$

$w_{FB} := 42.9\ \frac{lbf}{ft}$ beam weight by foot

$w_{deck} := DL_{deck} \cdot L_{bay\_truss} = 0.309\ \frac{kip}{ft}$

$w_{stringer} := DL_{stringer} \cdot L_{bay\_truss} = 0.239\ \frac{kip}{ft}$

$w_{DL} := w_{FB} + w_{deck} + w_{stringer} = 0.5909\ \frac{kip}{ft}$ uniform distributed dead load on floor beam

$w_{LL} := LL \cdot L_{bay\_truss} = 1.6687\ \frac{kip}{ft}$ uniform distributed live load on floor beam

$M_{u\_DL} := \frac{w_{DL} \cdot L_{FB}^2}{8} = 21.8784\ kip\ ft$ $M_{u\_LL} := \frac{w_{LL} \cdot L_{FB}^2}{8} = 61.7822\ kip\ ft$

$V_{u\_DL} := \frac{w_{DL} \cdot L_{FB}}{2} + P_{DL\_rail} = 6.0121\ kip$ $V_{u\_LL} := \frac{w_{LL} \cdot L_{FB}}{2} = 14.3596\ kip$

Capacity Calculations

Flexure

$M_n := F_y \cdot S_x = 161.975\ kip\ ft$

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Shear

$D := 15\ \text{in} - 2 \cdot \frac{5}{8}\ \text{in} = 13.75\ \text{in}$

$t_w := \frac{7}{16}\ \text{in}$

$k := 5$

$\frac{D}{t_w} = 31.4286$ $\qquad 1.12 \cdot \sqrt{\frac{E \cdot k}{F_y}} = 74.2412$

Therefore $C := 1$

$V_n := C \cdot \left(0.58 \cdot F_y \cdot D \cdot t_w\right) = 115.1391\ \text{kip}$

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EXAMPLE HAND CALCULATIONS (SEE SPREADSHEET FOR COMPLETE RESULTS

$F_y := 33\ ksi$

$F_u := 66\ ksi$

$E := 29000\ ksi$

AXIAL TENSION

Member 8

$\phi_c := 0.95$ condition per ASSHTO MBE 6A.4.2.3

$\phi_n := 0.95$ for tension yielding per AASHTO LRFD 6.5.4.2

$\phi_s := 0.90$ system per ASSHTO MBE 6A.4.2.4-1

$A_g := 8\ in^2$ gross area of section

$\phi P_{ny} := \phi_n \cdot F_y \cdot A_g = 250.8\ kip$ capacity based on yielding of gross area

$\phi s \phi c := \max\left(\begin{bmatrix} \phi_c \cdot \phi_s \\ 0.85 \end{bmatrix}\right) = 0.855$

$capacity_{RF} := \phi s \phi c \cdot \phi P_{ny} = 214.434\ kip$ member capacity with LRFR factors

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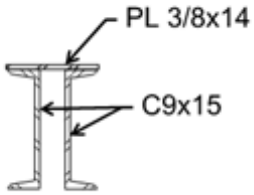
AXIAL COMPRESSION

Member 1



$\phi_n := 0.90$ for compression per AASHTO LRFD 6.5.4.2

$\phi_c := 1.00$ condition per ASSHTO MBE 6A.4.2.3

$\phi_s := 0.90$ system per ASSHTO MBE 6A.4.2.4-1

$K := 1.00$

$A_g := 14.02\ in^2$ section area

$I_y := 174.13\ in^4$

$I_x := 302.44\ in^4$

$r_y := \sqrt{\frac{I_y}{A_g}} = 3.5242\ in$

$L := 327.3\ in = 27.275\ ft$

Per AASHTO LRFD 6.9.4.1.1, applicable buckling modes for singly symmetric members are flexural buckling and lateral torsional buckling. The nominal compressive resistance, Pn, shall be taken as the smallest value based on the applicable modes.

FLEXURAL BUCKLING PER AASHTO LRFD 6.9.4.1.2

$$P_e := \frac{\pi^2 \cdot E}{\left(\frac{K \cdot L}{r_y}\right)^2} \cdot A_g = 465.2424\ kip$$

$P_o := F_y \cdot A_g = 462.66\ kip$

$$P_{n\_FB} := \text{if } \frac{P_o}{P_e} \le 2.25 \quad = 305.1384\ kip$$
$$\left(0.658^{\left(\frac{P_o}{P_e}\right)}\right) \cdot P_o$$
$$\text{else}$$
$$0.877 \cdot P_e$$

LATERAL TORSIONAL BUCKLING PER AASHTO LRFD 6.9.4.1.3

$y_o := 2\ in$

$$ro2 := y_o^2 + \frac{I_x + I_y}{A_g} = 37.9922\ in^2$$

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$$H := 1 - \frac{y_o^2}{ro2} = 0.8947$$

$$P_{ey} := \frac{\pi^2 \cdot E}{\left(\frac{K \cdot L}{r_y}\right)^2} \cdot A_g = 465.2424\ kip$$

$J := 0.5887\ in^4$ calculated by SAP2000

$C_w := 0\ in^6$ taken as zero per AASHTO LRFD C6.9.4.1.3

$G := 0.385 \cdot E = 11165\ ksi$ shear modulus of elasticity of steel

$$P_{ez} := \left(\frac{\pi^2 \cdot E \cdot C_w}{(K \cdot L)^2} + G \cdot J\right) \cdot \frac{1}{ro2} = 173.0051\ kip$$

$$P_e := \left(\frac{P_{ey} + P_{ez}}{2 \cdot H}\right) \cdot \left(1 - \sqrt{1 - \frac{4 \cdot P_{ey} \cdot P_{ez} \cdot H}{(P_{ey} + P_{ez})^2}}\right) = 163.6551\ kip$$

for open section singly symmetric members where y is the axis of symmetry per AASHTO LRFD 6.9.4.1.3-2

$P_o := F_y \cdot A_g = 462.66\ kip$

$$P_{n\_LTB} := \text{if } \frac{P_o}{P_e} \le 2.25 \quad = 143.5255\ kip$$
$$\left(0.658^{\left(\frac{P_o}{P_e}\right)}\right) \cdot P_o$$
$$\text{else}$$
$$0.877 \cdot P_e$$

$$P_n := \min\left(\begin{bmatrix} P_{n\_FB} \\ P_{n\_LTB} \end{bmatrix}\right) = 143.5255\ kip$$

$\phi P_n := \phi_n \cdot P_n = 129.1729\ kip$

$$\phi s \phi c := \max\left(\begin{bmatrix} \phi_o \cdot \phi_s \\ 0.85 \end{bmatrix}\right) = 0.9$$

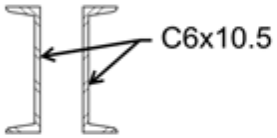
$capacity_{RF} := \phi s \phi c \cdot \phi P_n = 116.2557\ kip$ member capacity with LRFR factors

kpff
412 E. Park Center Blvd, Suite 200
Boise, ID 83706
O:208.336.6985
www.kpff.com

project	Black Cat Rd Bridge Relocation Study	by LC	sheet no.
location	Ada County, ID	date 06-27-25	
client	Compass/ACHD	job no. 10212500054	
	Truss Bridge Load Rating		

AXIAL COMPRESSION

Member: 15



$\phi_n := 0.90$ for compression per AASHTO LRFD 6.5.4.2

$\phi_c := 1.00$ condition per ASSHTO MBE 6A.4.2.3

$\phi_s := 0.90$ system per ASSHTO MBE 6A.4.2.4-1

$K := 1.00$

$A_g := 6.14\ in^2$ section area

$I_y := 30.1629\ in^4$

$I_x := 41.3619\ in^4$

$r_y := \sqrt{\frac{I_y}{A_g}} = 2.2164\ in$

$L := 288\ in = 24\ ft$

Per AASHTO LRFD 6.9.4.1.1, the applicable buckling mode for doubly symmetric members is flexural buckling.

FLEXURAL BUCKLING PER AASHTO LRFD 6.9.4.1.2

$$P_e := \frac{\pi^2 \cdot E}{\left(\frac{K \cdot L}{r_y}\right)^2} \cdot A_g = 104.0845\ kip$$

$P_o := F_y \cdot A_g = 202.62\ kip$

$$P_{n\_FB} := \text{if } \frac{P_o}{P_e} \le 2.25 \quad = 89.7067\ kip$$
$$\left(0.658^{\left(\frac{P_o}{P_e}\right)}\right) \cdot P_o$$
$$\text{else}$$
$$0.877 \cdot P_e$$

$\frac{P_e}{P_o} = 0.5137$

$P_n := P_{n\_FB} = 89.7067\ kip$

$\frac{P_o}{P_e} = 1.9467$

$\phi P_n := \phi_n \cdot P_n = 80.736\ kip$

$$\phi s \phi c := \max\left(\begin{bmatrix} \phi_c \cdot \phi_s \\ 0.85 \end{bmatrix}\right) = 0.9$$

$capacity_{RF} := \phi s \phi c \cdot \phi P_n = 72.6624\ kip$ member capacity with LRFR factors

kpff
412 E. Parkcenter Blvd, Suite 200
Boise, ID 83706
(208) 336-6985

project	Black Cat Rd Bridge Relocation Study	by	LC
location	Ada County, ID	date	6/27/25
client	Compass/ACHD	job no.	10212500054
	Truss Bridge Load Rating		

sheet no.

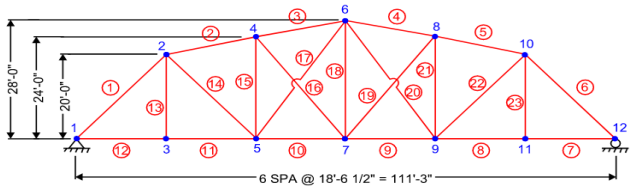
Summary of Truss Member Forces

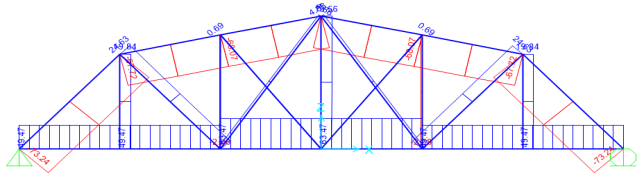
Member Location	Member	DL		LL		DL + LL	
		Axial (kip)	T or C?	Axial (kip)	T or C?	Axial (kip)	T or C?
Top Chord	1	-27.7	C	-45.5	C	-73.2	C
	2	-25.5	C	-42.2	C	-67.7	C
	3	-25.6	C	-42.5	C	-68.1	C
	4	-25.6	C	-42.5	C	-68.1	C
	5	-25.5	C	-42.2	C	-67.7	C
	6	-27.7	C	-45.5	C	-73.2	C
Bottom Chord	7	18.5	T	30.9	T	49.5	T
	8	18.5	T	30.9	T	49.5	T
	9	24.0	T	39.5	T	63.5	T
	10	24.0	T	39.5	T	63.5	T
	11	18.5	T	30.9	T	49.5	T
	12	18.5	T	30.9	T	49.5	T
Verticals	13	6.5	T	13.4	T	19.8	T
	15	-1.7	C	-0.4	C	-2.1	C
	18	6.9	T	12.6	T	19.6	T
	21	-1.7	C	-0.4	C	-2.1	C
	23	6.5	T	13.4	T	19.8	T
Diagonals	14	9.5	T	15.2	T	24.6	T
	16	0.2	T	0.5	T	0.7	T
	19	0.2	T	0.5	T	0.7	T
	22	9.5	T	15.2	T	24.6	T
T Rods	17	1.7	T	3.2	T	4.9	T
	20	1.7	T	3.2	T	4.9	T

Sectional Properties

Section	A_g (in^2)	$I_{1\,g}$ (in^4)	$I_{2\,g}$ (in^4)	r1 $_g$ (in)	y_o (in)	J (in^4)
Top Chord	14.02	174.13	302.44	3.52	2.00	0.589
Bot Chord Type 1	4.50	3.38	--	0.87	--	--
Bot Chord Type 2	8.00	10.67	--	1.15	--	--
Verticals	6.14	30.20	41.36	2.22	0.00	0.217
Diagonal Type 1	4.50	3.38	--	0.87	--	--
Diagonal Type 2	3.13	0.10	--	0.18	--	--
Tension Rods	1.99	0.16	--	0.28	--	--

Note: cells in blue were output from SAP2000.





TRUSS MEMBER CHECKS

Steel Properties

Material: See AASHTO MBE Table 6A.6.2.1-1 (for yr 1942)

Fy = 33 ksi

Fu = 66 ksi

E = 29000 ksi

Table 6A.6.2.1-1—Minimum Mechanical Properties of Structural Steel by Year of Construction

Year of Construction	Minimum Yield Point or Minimum Yield Strength, F_y, ksi	Minimum Tensile Strength, F_u, ksi
Prior to 1905	26	52
1905 to 1936	30	60
1936 to 1963	33	66
After 1963	36	66

ϕ_n, Material (AASHTO LRFD 6.5.4.2)

ϕ (t,u) = 0.80 Net Section Fracture

ϕ (t,y) = 0.95 Gross Section Yielding

ϕ (c) = 0.90 Compression for built-up members per AASHTO MBE 6A.6.3

ϕ_s, System (AASHTO MBE 6A.4.2.4-1)

ϕ_s = 0.90 for all truss members

Truss Member Axial Capacity Calculations

Member Location	Member	Section	T or C?	ϕ_c [1]	$\phi_c \phi_s \geq 0.85$	A_g (in^2)	Tension		Compression								Capacity (kip)
							P_{ny} (kip)	ϕP_{ny} (kip)	K	L (in)	I (in^4)	r (in)	P_{nFB} (kip)	P_{nLTB} (kip)	P_n (kip)	ϕP_n (kip)	
Top Chord	1	Top Chord	C	1.00	0.90	14.02	-	-	1.00	327.3	174.13	3.52	305.2	143.5	143.5	116.3	116.3
	2	Top Chord	C	1.00	0.90	14.02	-	-	1.00	363.9	174.13	3.52	276.6	140.7	140.7	114.0	114.0
	3	Top Chord	C	1.00	0.90	14.02	-	-	1.00	240.0	174.13	3.52	369.9	148.0	148.0	119.9	119.9
	4	Top Chord	C	1.00	0.90	14.02	-	-	1.00	240.0	174.13	3.52	369.9	148.0	148.0	119.9	119.9
	5	Top Chord	C	1.00	0.90	14.02	-	-	1.00	240.0	174.13	3.52	369.9	148.0	148.0	119.9	119.9
	6	Top Chord	C	1.00	0.90	14.02	-	-	1.00	240.0	174.13	3.52	369.9	148.0	148.0	119.9	119.9
Bottom Chord	7	Bot Chord Type 1	T	0.85	0.85	4.50	148.5	119.9	1.00	-	-	-	-	-	--	-	119.9
	8	Bot Chord Type 2	T	0.95	0.86	8.00	264.0	214.4	1.00	-	-	-	-	-	--	-	214.4
	9	Bot Chord Type 2	T	0.95	0.86	8.00	264.0	214.4	1.00	-	-	-	-	-	--	-	214.4
	10	Bot Chord Type 2	T	0.95	0.86	8.00	264.0	214.4	1.00	-	-	-	-	-	--	-	214.4
	11	Bot Chord Type 2	T	0.95	0.86	8.00	264.0	214.4	1.00	-	-	-	-	-	--	-	214.4
	12	Bot Chord Type 1	T	0.95	0.86	4.50	148.5	120.6	1.00	-	-	-	-	-	--	-	120.6
Verticals	13	Verticals	T	1.00	0.90	6.14	202.6	173.2	1.00	-	-	-	-	-	--	-	173.2
	15	Verticals	C	1.00	0.90	6.14	-	-	1.00	288.0	30.20	2.22	89.8	89.8	89.8	72.7	72.7
	18	Verticals	T	1.00	0.90	6.14	202.6	173.2	1.00	-	-	-	-	-	--	-	173.2
	21	Verticals	C	1.00	0.90	6.14	-	-	1.00	288.0	30.20	2.22	89.8	89.8	89.8	72.7	72.7
	23	Verticals	T	1.00	0.90	6.14	202.6	173.2	1.00	-	-	-	-	-	--	-	173.2
Diagonals	14	Diagonal Type 1	T	0.95	0.86	4.50	148.5	120.6	1.00	-	-	-	-	-	--	-	120.6
	16	Diagonal Type 2	T	0.95	0.86	3.13	103.1	83.8	1.00	-	-	-	-	-	--	-	83.8
	19	Diagonal Type 2	T	0.95	0.86	3.13	103.1	83.8	1.00	-	-	-	-	-	--	-	83.8
	22	Diagonal Type 1	T	0.95	0.86	4.50	148.5	120.6	1.00	-	-	-	-	-	--	-	120.6
T Rods	17	Tension Rods	T	0.95	0.86	1.99	65.6	53.3	1.00	-	-	-	-	-	--	-	53.3
	20	Tension Rods	T	0.95	0.86	1.99	65.6	53.3	1.00	-	-	-	-	-	--	-	53.3

[1] Condition factor per Inspection Report based on AASHTO MBE 6A.4.2.3.

FLOOR BEAM CHECKS

ϕ_c = 0.85
$\phi_{s\_flexure}$ = 0.85
ϕ_{s_shear} = 1.00
ϕ_n = 1.00 for both flexure and shear

Floor Beam Capacity Calculations							
Flexure				Shear			
$\phi_c \phi_s \geq 0.85$	M_n (kip-ft)	ϕM_n (kip-ft)	Flexural Cap (kip-ft)	$\phi_c \phi_s \geq 0.85$	V_n (kip)	ϕV_n (kip)	Shear Cap (kip)
0.85	162.0	137.7	137.7	0.85	115.1	97.9	97.9

γ_{DL} = 1.25
γ_{LL} = 1.35

RATING FACTOR CALCULATIONS

Truss Member Axial Rating Factor Calculations						
Member Location	Member	T or C?	C (kip)	DL (kip)	LL (kip)	RF
Top Chord	1	C	116.3	27.7	45.5	1.33
	2	C	114.0	25.5	42.2	1.44
	3	C	119.9	25.6	42.5	1.53
	4	C	119.9	25.6	42.5	1.53
	5	C	119.9	25.5	42.2	1.54
	6	C	119.9	27.7	45.5	1.39
Bottom Chord	7	T	119.9	18.5	30.9	2.32
	8	T	214.4	18.5	30.9	4.58
	9	T	214.4	24.0	39.5	3.46
	10	T	214.4	24.0	39.5	3.46
	11	T	214.4	18.5	30.9	4.58
	12	T	120.6	18.5	30.9	2.33
Verticals	13	T	173.2	6.5	13.4	9.16
	15	C	72.7	1.7	0.4	124.03
	18	T	173.2	6.9	12.6	9.65
	21	C	72.7	1.7	0.4	124.03
	23	T	173.2	6.5	13.4	9.16
Diagonals	14	T	120.6	9.5	15.2	5.31
	16	T	83.8	0.2	0.5	135.31
	19	T	83.8	0.2	0.5	135.31
	22	T	120.6	9.5	15.2	5.31
T Rods	17	T	53.3	1.7	3.2	11.93
	20	T	53.3	1.7	3.2	11.93

Floor Beam Rating Factor Calculations				
Check	C (kip, ft)	DL (kip, ft)	LL (kip, ft)	RF
Flexure	137.7	21.9	61.8	1.32
Shear	97.9	6.0	14.4	4.66

Appendix C

Environmental Scan Documents

ENVIRONMENTAL SCAN

NORTH INDIAN CREEK ALTERNATIVE

U.S. Fish and Wildlife Service
National Wetlands Inventory

USFW NWI Mapped Wetlands

August 6, 2025

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Flood Hazard Layer FIRMette

FEMA

116°23'22"W 43°29'18"N

116°22'45"W 43°28'52"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/6/2025 at 8:12 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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.

---

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 There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Suckley's Cuckoo Bumble Bee Bombus suckleyi No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10885	Proposed Endangered

Flowering Plants

NAME	STATUS
Slickspot Peppergrass Lepidium papilliferum There is **final** 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.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate

regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
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. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Golden Eagle Aquila chrysaetos 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. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "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.

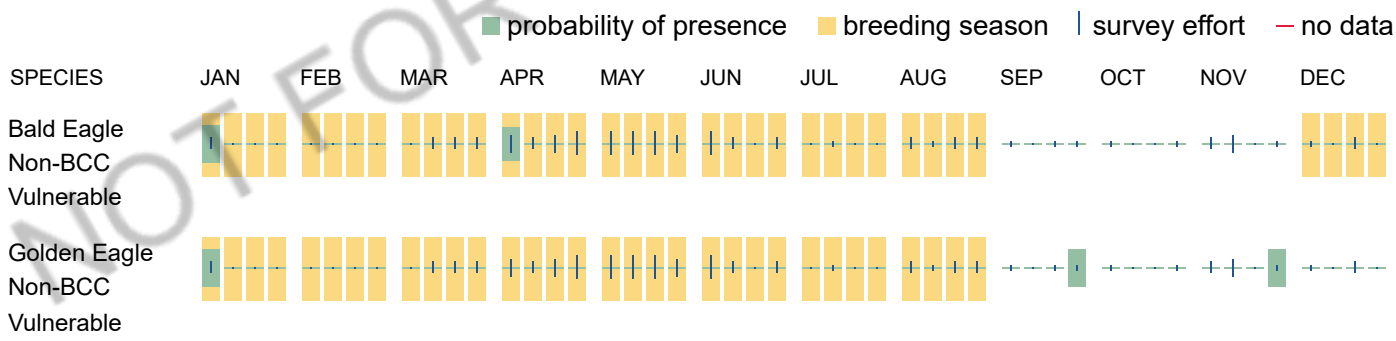
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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.



Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence 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 an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). 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 line or no data line (red horizontal) 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 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 and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are 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 resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), 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.

Interpreting the Probability of Presence Graphs

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 taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

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

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.

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.

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.

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.

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

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:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
American Avocet Recurvirostra americana This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 21 to Aug 10
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. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black Tern Chlidonias niger surinamenisis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
California Gull Larus californicus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
Cassin's Finch Haemorhous cassinii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15
Clark's Grebe Aechmophorus clarkii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Evening Grosbeak Coccothraustes vespertinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10

Forster's Tern Sterna forsteri — Breeds Mar 1 to Aug 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

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.

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

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.
https://ecos.fws.gov/ecp/species/1680

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

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

Northern Harrier Circus hudsonius — Breeds Apr 1 to Sep 15

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/8350

Pectoral Sandpiper Calidris melanotos — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

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

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

Willet Tringa semipalmata — Breeds Apr 20 to Aug 5

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "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 (■)

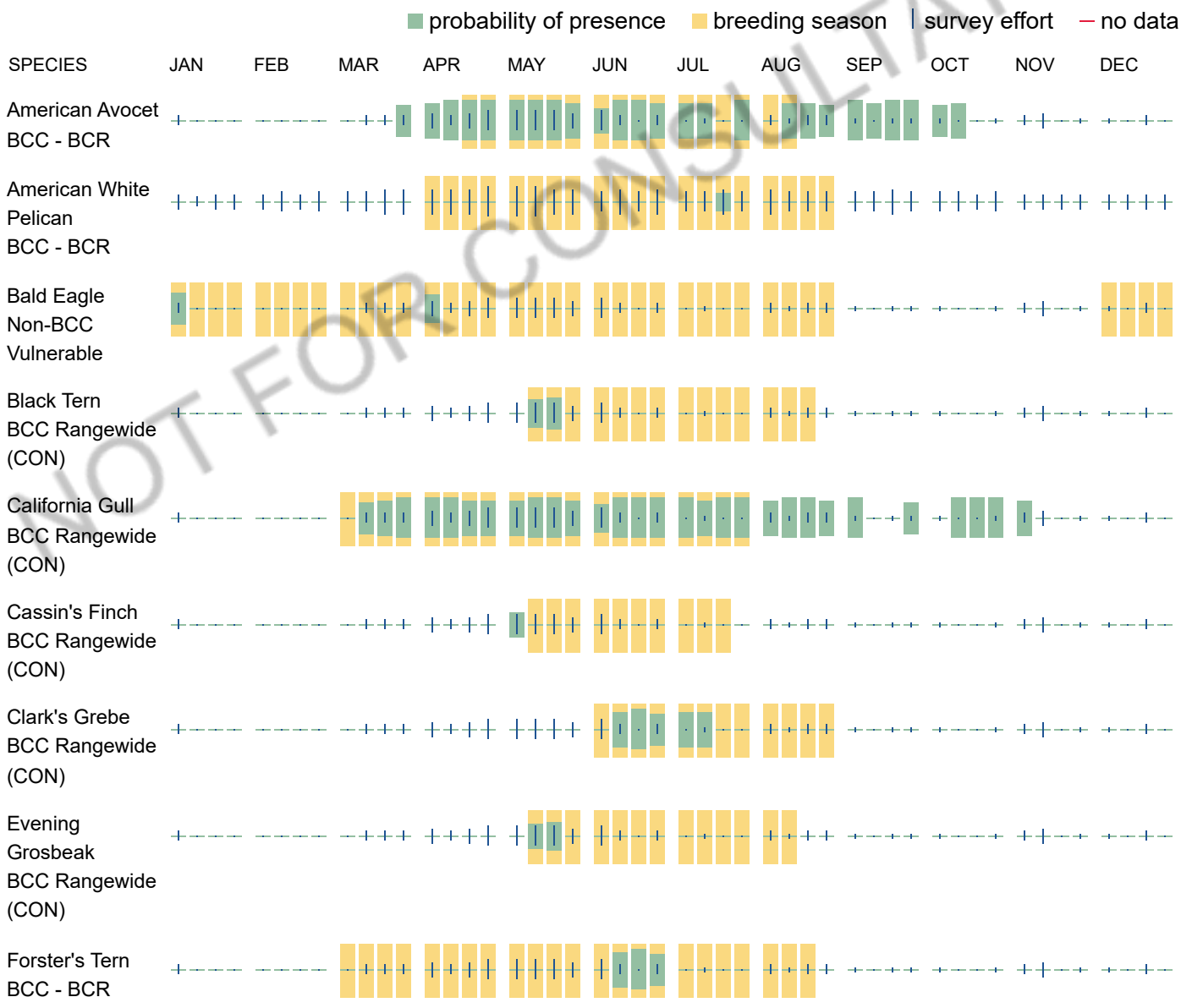
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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.



Migratory Bird FAQs

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

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed 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 Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as “Vulnerable”. See the FAQ “What are the levels of concern for migratory birds?” for more information on the levels of concern covered in the IPaC migratory bird species list.

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) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection 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, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

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 to 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 resident), you may query your location using the RAIL Tool and view 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 IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), 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 Bald and Golden Eagle Protection 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 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 BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ “Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds”.

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.

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 look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). 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 does not represent all birds present in your project area. 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 and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs

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 taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

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

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.

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.

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.

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.

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.

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.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE
R3UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

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.

ENVIRONMENTAL SCAN

NEW YORK CANAL CROSSING ALTERNATIVE

U.S. Fish and Wildlife Service
National Wetlands Inventory

USFW NWI Mapped Wetlands

July 15, 2025

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

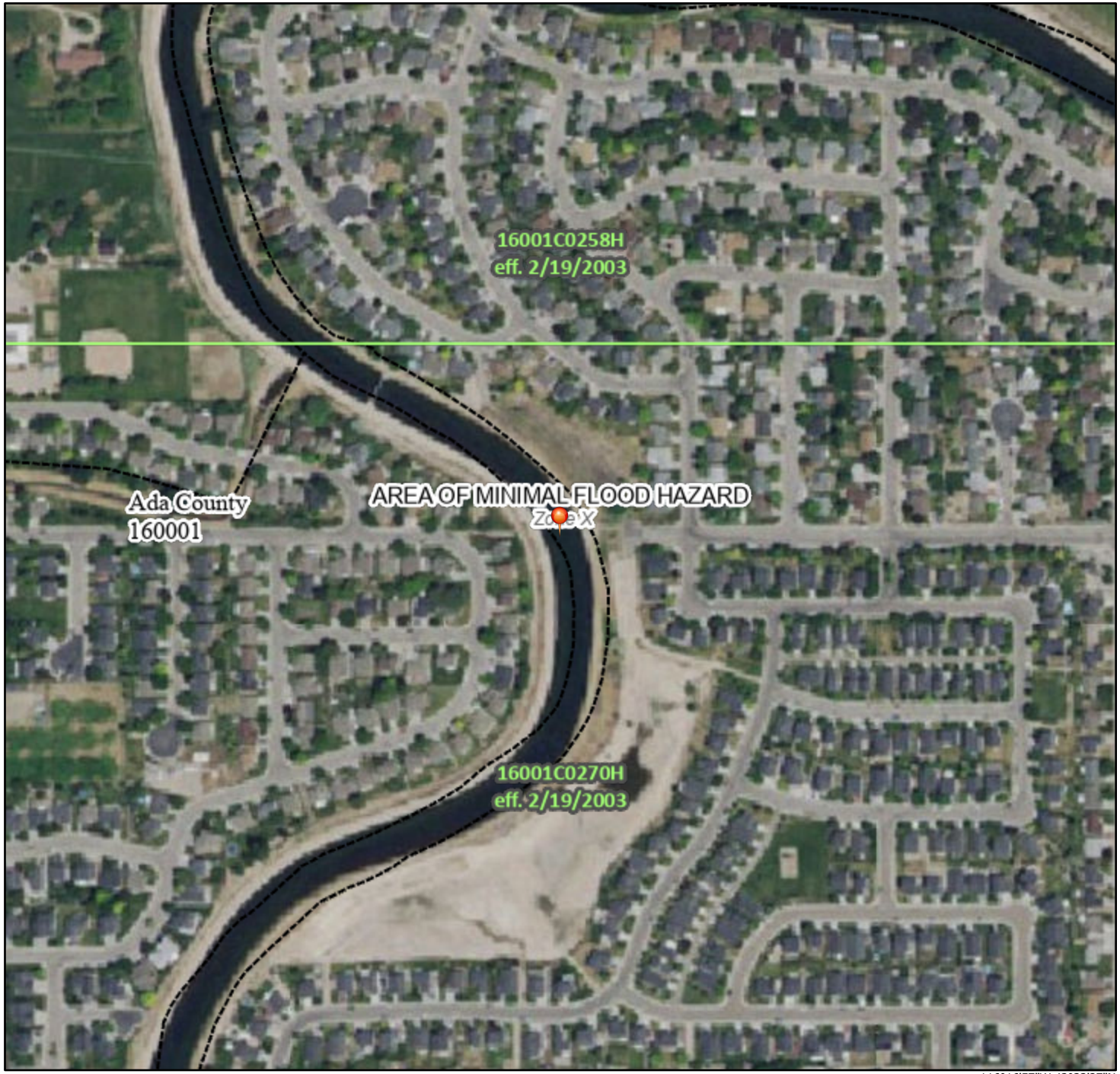
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

National Flood Hazard Layer FIRMette

FEMA

116°17'35"W 43°33'53"N



116°16'57"W 43°33'27"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/15/2025 at 7:33 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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 There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Suckley's Cuckoo Bumble Bee Bombus suckleyi No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10885	Proposed Endangered

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.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds

- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs
The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON

Bald Eagle Haliaeetus leucocephalus — Breeds Dec 1 to Aug 31

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.
https://ecos.fws.gov/ecp/species/1626

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

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.
https://ecos.fws.gov/ecp/species/1680

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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "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.

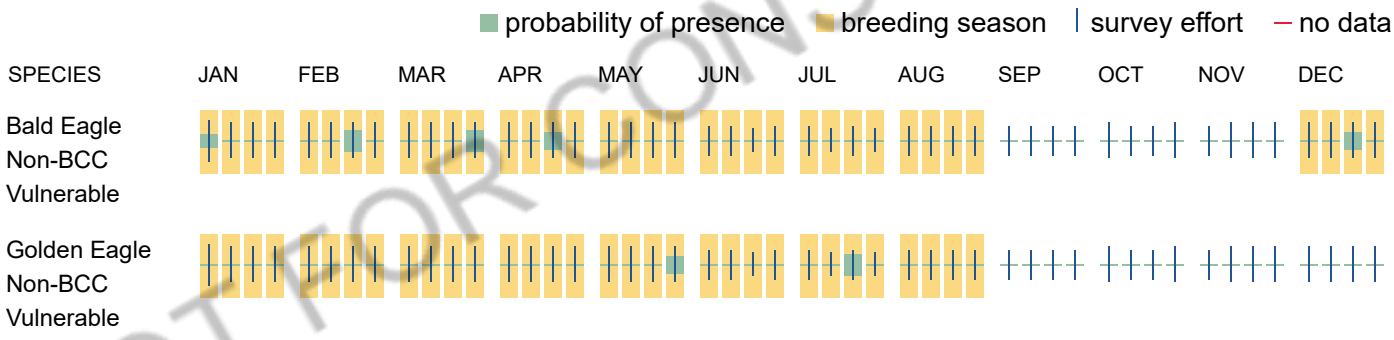
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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.



Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence 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 an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report
On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). 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 line or no data line (red horizontal) 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 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 and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are 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 resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), 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.

Interpreting the Probability of Presence Graphs

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 taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

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

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.

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.

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.

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.

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

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:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON

American White Pelican pelecanus erythrorhynchos — Breeds Apr 1 to Aug 31

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

Bald Eagle Haliaeetus leucocephalus — Breeds Dec 1 to Aug 31

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.
https://ecos.fws.gov/ecp/species/1626

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.

Calliope Hummingbird Selasphorus calliope — Breeds May 1 to Aug 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9526

Cassin's Finch Haemorhous 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

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.

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

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.
https://ecos.fws.gov/ecp/species/1680

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Northern Harrier Circus hudsonius — Breeds Apr 1 to Sep 15
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/8350

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

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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "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.

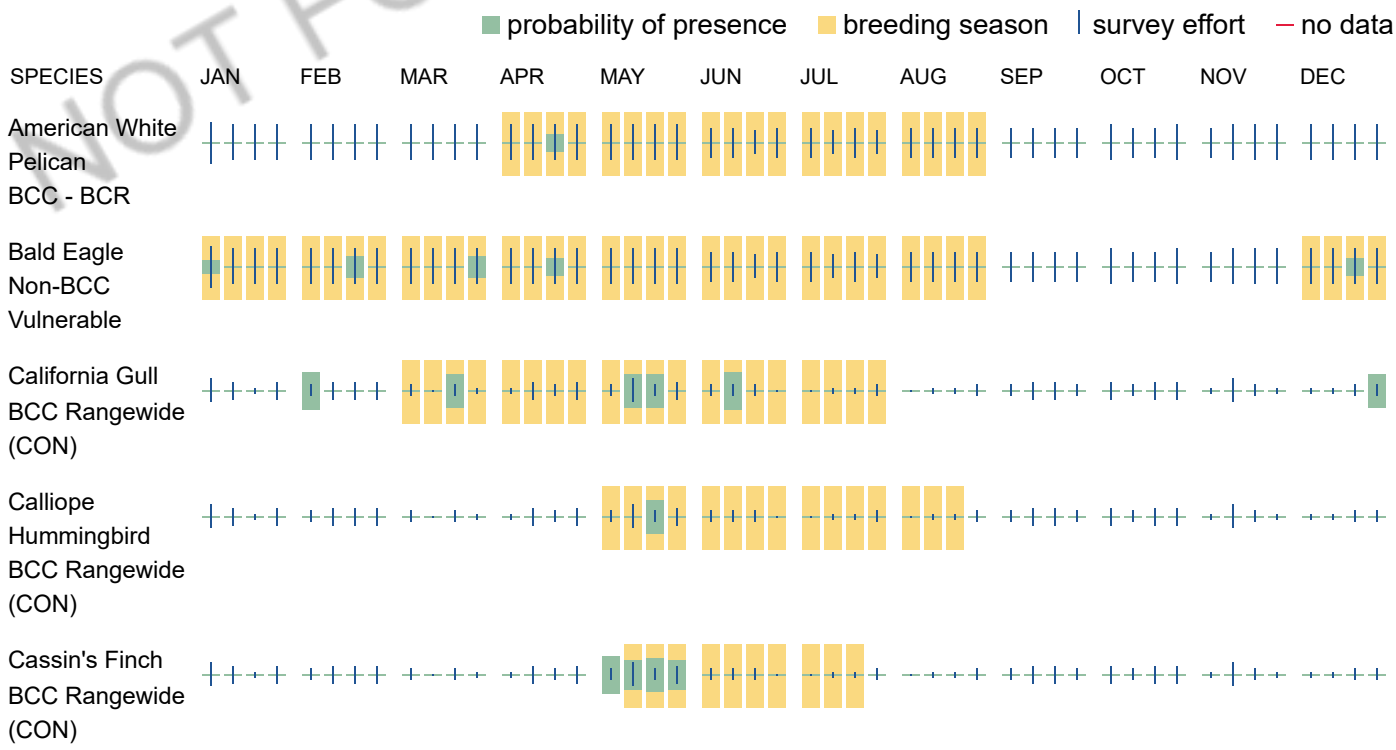
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

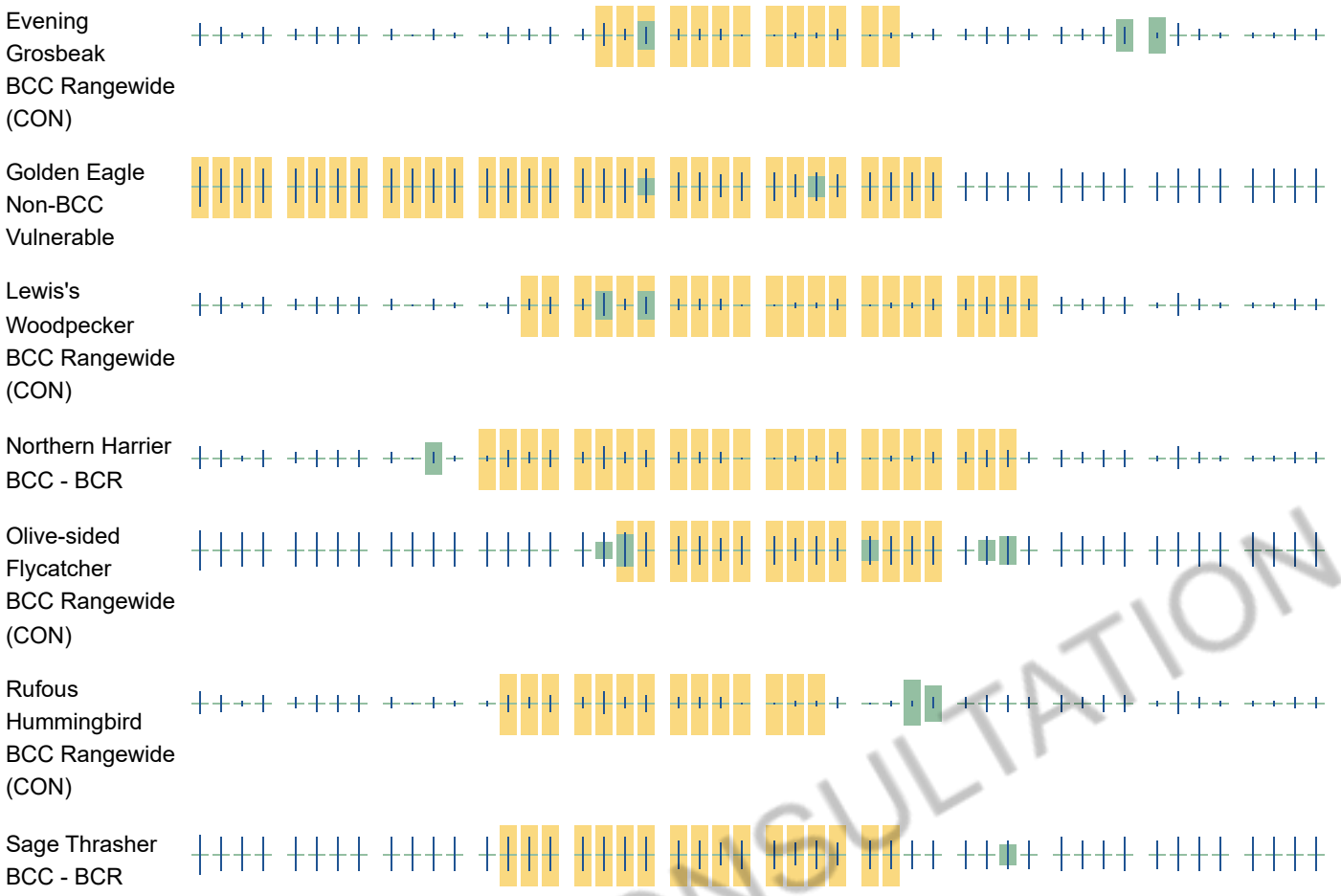
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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.





Migratory Bird FAQs

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

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed 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 Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as “Vulnerable”. See the FAQ “What are the levels of concern for migratory birds?” for more information on the levels of concern covered in the IPaC migratory bird species list.

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) with which your

project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection 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, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

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 to 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 resident), you may query your location using the RAIL Tool and view 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 IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), 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 Bald and Golden Eagle Protection 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 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 BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ “Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds”.

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.

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 look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). 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 does not represent all birds present in your project area. 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 and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs
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 taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

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

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.

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.

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.

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.

Facilities

Wildlife refuges and fish hatcheries

Refuge and fish hatchery information is not available at this time

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.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE
R2UBHx

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

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.

Appendix D

Planning Level Opinion of Probable Costs

Black Cat Truss Bridge Relocation - North Indian Creek Alternative
COMPASS / ACHD

Item	Description	Unit	Quantity	Unit Price	Est Amt
1	PATHWAY PAVING	LS	1.000	$ 20,000.00	$ 20,000.00
2	PATHWAY FENCING	FT	352.0	$ 90.00	$ 31,680.00
3	CROSSING LANDINGS	LS	1.000	$ 10,000.00	$ 10,000.00
4	RAPID FLASHING BEACON	LS	1.000	$ 75,000.00	$ 75,000.00
5	CONCRETE ABUTMENTS AND WINGWALLS	LS	1.000	$ 90,000.00	$ 90,000.00
6	BRIDGE DISASSEMBLY, RELOCATION, AND REASSEMBLY	LS	1.000	$ 250,000.00	$ 250,000.00
7	BRIDGE PAINTING (IN SHOP)	SF	3204.0	$ 15.00	$ 48,060.00
8	BRIDGE REPAIRS	LS	1.000	$ 50,000.00	$ 50,000.00
9	BRIDGE RAILING/FENCING	FT	222.5	$ 150.00	$ 33,375.00
10	BRIDGE DECKING	LS	1.000	$ 30,000.00	$ 30,000.00

Subtotal =	**$**	**639,000.00**
Mobilization (10%) =	$	64,000.00
Design Contingency (30%) =	$	211,000.00
Construction Subtotal =	**$**	**914,000.00**
Design and Permitting =	$	110,000.00
CE&I =	$	138,000.00
ROW =		TBD
Estimated Total Cost in 2025 Dollars =	**$**	**1,162,000.00**

(1) Costs in 2025 dollars.
(2) Costs do not include sales tax.

Black Cat Truss Bridge Relocation - New York Canal Alternative
COMPASS / ACHD

Item	Description	Unit	Quantity	Unit Price	Est Amt
1	PATHWAY GRADING AND PAVING	LS	1.000	$ 187,248.00	$ 187,248.00
2	PATHWAY FENCING	FT	949.0	$ 80.00	$ 75,920.00
3	CONCRETE ABUTMENTS AND WINGWALLS	LS	1.000	$ 75,000.00	$ 75,000.00
4	BRIDGE DISASSEMBLY, RELOCATION, AND REASSEMBLY	LS	1.000	$ 250,000.00	$ 250,000.00
5	BRIDGE PAINTING (IN SHOP)	SF	3204.0	$ 15.00	$ 48,060.00
6	BRIDGE REPAIRS	LS	1.000	$ 50,000.00	$ 50,000.00
7	BRIDGE RAILING/FENCING	FT	222.5	$ 150.00	$ 33,375.00
8	BRIDGE DECKING	LS	1.000	$ 30,000.00	$ 30,000.00

Subtotal =	**$**	**750,000.00**
Mobilization (10%) =	$	75,000.00
Design Contingency (30%) =	$	248,000.00
Construction Subtotal =	**$**	**1,073,000.00**
Design and Permitting =	$	108,000.00
CE&I =	$	161,000.00
ROW =		TBD
Estimated Total Cost in 2025 Dollars =	**$**	**1,342,000.00**

(1) Costs in 2025 dollars.
(2) Costs do not include sales tax.

Appendix E

Team Meeting Minutes

MEETING MINUTES:

PROJECT:	Project Name
MEETING PURPOSE:	Meeting Purpose

AUTHOR:	Joel Parks
MEETING DATE:	Date
TIME:	2:30 -3:30 PM
LOCATION:	MS Teams

ATTENDEES:

- Joel P. (KPFF)
- Matt C. (COMPASS)
- Rebecca P. (ACHD)

These meeting minutes represent the author's understanding of the conversations, discussions, and action items agreed upon during the Meeting. Revisions by attendees should be communicated to the author in writing.

AGENDA:

1. Introductions
    a. Joel (KPFF PM)
    b. Rebecca (ACHD POC)
    c. Matt (COMPASS POC)
2. Project Overview
    a. Review preliminary crossing sketches
        i. KPFF noted that changes to the study locations is possible provide they are decided by EOD 3/26/25 and result in no more than (3) total locations. If changes to site locations want to be made after this date a change to schedule and possibly a supplemental would be needed.
        ii. Settlers Canal Crossing
            1. We need to limit impacts to the community garden

2. Coordinate with city of Boise parks and recreation on how we can incorporate this into their garden.

iii. Teed Lateral Crossing

1. We need to verify the width of pathway will accommodate the bridge
2. This crossing is within the walking route of one elementary school.
3. Challenge is that this is on HOA property and would be heavily dependent on the HOA approving the crossing since it is not public domain.
4. Crossing would block canal access road.
5. Based on discussions and the fact the site does not look ideal for this size of bridge ACHD would like to replace this crossing location with the New York Canal Crossing at Amity.

iv. Ridenbaugh Canal Crossing

1. ACHD to confirm Monday 3/24/25 if they want to study this crossing ore replace it.

v. New York Canal Crossing

1. ACHD would like to study this crossing in lieu of the Teed Lateral Crossing as this location seems like a better fit for the structure.
2. Preliminary measurements on google earth indicate that this structure will fit here. (Bank to bank width = 95 ft)

b. Stake Holder Contact Information

i. See list in SOW

c. Concept Report Template or example reports?

3. Project Schedule

a. Setup Re-Occurring meetings

i. We did not discuss or setup a re-occurring meeting

ACTION ITEMS:

1. Rabecca to confirm by Monday 3/24/25 the 3 locations for the study.
2. Rebecca to begin collecting contact information for the stake holders listed in the scope of work
3. Joel to send sketches to Rebecca and Matt for the 3 site discussed today.
4. Joel to share project schedule with the team.

MEETING MINUTES:

PROJECT:	Black Cat Rd Truss Bridge Re-location
MEETING PURPOSE:	Check-in

AUTHOR:	Joel Parks
MEETING DATE:	4/18/25
TIME:	11:10 -12:00 AM
LOCATION:	MS Teams

ATTENDEES:

- Joel Parks (KPFF)
- Matt Carlson (Compass)
- Elie Kawmy (ACHD)
- Kristy Inselman (ACHD)

These meeting minutes represent the author's understanding of the conversations, discussions, and action items agreed upon during the Meeting. Revisions by attendees should be communicated to the author in writing.

AGENDA:

1. Project Schedule Update
    a. Team Check-in Meeting – Week of 5/12
    b. Bridge Inspection – 5/27/25
    c. 1st draft of pre-concept report – 6/17/25
    d. 1st draft review meeting – 7/1/25
    e. 2nd draft of pre-concept report – 7/15/25
    f. 2nd draft review meeting – 7/29/25
    g. Final report submittal – 8/12/25
2. Stakeholder Contacts
    a. Cazdor Home Owners Association only has a facebook page.
3. Pre-concept report

a. Discuss proposed report outline
    i. ACHD would like until the 4/24 to decide if they want to replace the Teed lateral crossing
    ii. Added public involvement plan to the outline
b. Discuss alternative selection criteria
    i. Team agreed on using a scoring methodology to help identify a preferred alternative. Joel to send out table with definitions of each criteria.
    ii. Discussed what should the assumed ground clearance be for each crossing.

4. Next Steps
    a. Meet with Stakeholders
    b. Select preferred bridge location
    c. 1st draft of pre-concept report

ACTION ITEMS:

- ACHD to confirm if teed lateral connection wants to be included. Deadline for decision is 4/24/25
- ACHD to Share what they have for stake holder contacts.
- Joel to share preliminary figures crossings with Kristy
- ACHD to determine what the ground clearance would be.
- Joel to Share alternatives scoring table and descriptions 4/21/25.
- Joel to send out dates for when preferred bridge location needs to be determined.

MEETING MINUTES:

PROJECT:	Black Cat Rd Truss Bridge Re-location
MEETING PURPOSE:	Check-in

AUTHOR:	Joel Parks
MEETING DATE:	5/15/25
TIME:	10:00 -11:00 AM
LOCATION:	MS Teams

ATTENDEES:

- Joel Parks (KPFF)
- Matt Carlson (Compass)
- Elie Kawmy (ACHD)
- Kristy Inselman (ACHD)

These meeting minutes represent the author's understanding of the conversations, discussions, and action items agreed upon during the Meeting. Revisions by attendees should be communicated to the author in writing.

AGENDA:

1. Project Schedule Update
    a. Team Check-in Meeting –
    b. Bridge Inspection – 5/28/25
    c. 1st draft of pre-concept report – 6/17/25
    d. 1st draft review meeting – 7/1/25
    e. 2nd draft of pre-concept report – 7/15/25
    f. 2nd draft review meeting – 7/29/25
    g. Final report submittal – 8/12/25
2. Stakeholder Coordination
    Meeting w/ Agencies between 5/21 & 5/29
3. Load Rating Update

4. Pre-concept report
    a. Progress Update
    b. Preferred alternative selection
        i. Preferred alternative selection by June 6th.
        ii. Discuss alternative selection criteria
5. Next Steps
    a. Meet with Stakeholders
    b. Select preferred bridge location
    c. Perform Bridge Inspection
    d. 1st draft of pre-concept report

ACTION ITEMS:

- Elie to provide NY Canal Crossing HOA contact info
- Joel to Share alternatives scoring table and descriptions 5/15/25.
- Joel to setup meetings with all stakeholders

MEETING MINUTES:

PROJECT:	Black Cat Rd Truss Bridge Re-location
MEETING PURPOSE:	Check-in

AUTHOR:	Joel Parks Lucas Coutinho
MEETING DATE:	7/21/25
TIME:	1:00 -2:00 PM
LOCATION:	MS Teams

ATTENDEES:

- Joel Parks (KPFF)
- Matt Carlson (COMPASS)
- Elie Kawmy (ACHD)
- Kristy Inselman (ACHD)
- Lucas Coutinho (KPFF)

These meeting minutes represent the author's understanding of the conversations, discussions, and action items agreed upon during the Meeting. Revisions by attendees should be communicated to the author in writing.

AGENDA:

1. Project Schedule Update
    a. Team Check-in Meeting –TBD
    b. Bridge Inspection – 5/28/25
    c. 1st draft of pre-concept report – 6/17/25
    d. 1st draft review meeting – 7/21/25
    e. 2nd draft of pre-concept report – ~~7/25/25~~ TBD
    f. 2nd draft review meeting – ~~8/8/25~~ TBD
    g. Final report submittal – ~~8/12/25~~ TBD (hard deadline from COMPASS is 9/30/25)
2. Stakeholder Coordination
    a. New York Canal – BPBOC declined to include the project discussion on their board agenda. Based on their policy, they do not support this pedestrian crossing. However,

it is worth noting that at least three other pedestrian bridges currently span the New York Canal.

City of Boise Parks & Rec support project and will be providing a support letter.

b. Settlers Canal – Initial discussions with Mack at the irrigation company is that a crossing is not supported here. This has been presented by ACHD in the past and was denied (about 2 years ago).

c. Ridenbaugh Canal – We have reached out to NMID and have not been able to speak with them. Waiting on call back from them.

3. Load Rating / Inspection Update
    a. Minor repairs needed to address pack rust in connections. Otherwise, all major structural members are in fair condition.
    b. Load rating shows that this bridge has the structural capacity to be a pedestrian bridge.
4. Pre-concept report
    a. Progress Update
5. Next Steps (see action items)
    ~~a. Update preconcept report~~
    ~~b. Review second draft~~

ACTION ITEMS:

1. Joel to share BPBOC coordination emails with Kristy (ACHD). Also, share locations of other pedestrian bridges that currently cross the New York Canal.
2. Kirsty (ACHD) will meet internally to discuss how to best reach out to New York Canal.
3. The team is waiting on City of Boise Parks & Rec letter of support.
4. Although KPFF has a next draft ready for ACHD/COMPASS review, a 2nd draft of the pre-concept report will be put on hold pending direction from COMPASS and ACHD regarding coordination with New York Canal. Per discussions, it may not be possible for the New York Canal to be selected as a Preferred Alternative if the irrigation district is not on board with the project. In that case, the pre-concept report would show that none of the alternatives are feasible or preferred. However, it is likely that as the project progresses, it will receive more support, and the irrigation district may be more open to discussing the project.
5. Matt (COMPASS) noted that the project hard deadline is September 30, 2025.