Pre-Concept Report

for

JUNE 2026

COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

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This pre-concept report is intended to develop a planning-level understanding of the Swan Falls Road Bridge project. Design considerations such as intersection operational treatments, configurations, bridge design elements, roadway improvements, or right-of-way needs have not been determined and will be evaluated during the design and engineering phase of this project. Ada County Highway District and the City of Kuna have not selected a preferred alternative for the design of Swan Falls Road Bridge or any intersection operational treatments at the time of this report's publication.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

Project Summary

The Swan Falls Road Rail Crossing Elimination project is a planning-level effort to improve safety, mobility, emergency access, infrastructure condition, and multimodal connectivity along Swan Falls Road between East Stagecoach Way and East Avalon Street in the City of Kuna. The corridor includes the existing at-grade Union Pacific Railroad (UPRR) crossing, which carries three active tracks, the Swan Falls Road Bridge over Indian Creek, adjacent intersections, and nearby local access points that together influence north-south connectivity within Kuna and the surrounding area. Swan Falls Road is one of only four north-south connections serving the community, making this corridor important for local access, downtown connectivity, freight and agricultural movement, and emergency response.

The project need is driven by documented transportation deficiencies in the corridor. The existing at-grade railroad crossing creates recurring delays, safety conflicts, and unreliable travel times for motorists, pedestrians, bicyclists, freight, and emergency responders. Field observations summarized in the Kuna Crossing Feasibility and Implementation Plan found average delays of about 2 minutes 29 seconds and average queues of about 8 vehicles on both sides of the crossing, with longer queues observed during some train events. The same plan identified the Swan Falls Road/Avalon Street intersection as operating at LOS F during the weekday p.m. peak hour, and crash history in the corridor shows a concentration of intersection-related crashes. The existing Swan Falls Road Bridge over Indian Creek is also over 80 years old, has substandard geometry, and does not meet current design expectations. In addition, the corridor lacks dedicated pedestrian and bicycle facilities despite existing nonmotorized activity.

Based on the planning-level evaluation documented in this report, the recommended concept includes a new grade-separated crossing spanning both the UPRR and Indian Creek, replacement of the existing Swan Falls Road Bridge, widening Swan Falls Road from a two-lane roadway to a four-lane divided facility with curb and gutter, ADA-compliant crossings, and multi-use pathways on both sides of the roadway. Intersection improvements include a roundabout at Swan Falls Road and East Stagecoach Way and a realigned roundabout at East Avalon Street west of North Linder Avenue. The concept also includes closure of Morris Court and modification of West Shortline Street to a cul-de-sac to accommodate the roadway profile needed to meet railroad clearance requirements.

The planning-level cost estimate for the recommended concept is approximately $39.5 million in 2026 dollars, excluding right-of-way, easement acquisition, and long-term operations and maintenance costs. Based on the schedule assumptions in this report, construction of the preferred alternative could begin in 2032 and continue into 2033, depending on funding availability, environmental clearance, right-of-way activities, utility coordination, and Union Pacific Railroad coordination. The project is intended to support ACHD, COMPASS, the City of Kuna, and partner agencies in advancing the corridor into future design, environmental review, coordination, and competitive state and federal funding efforts. In summary, the project would replace the existing at-grade UPRR crossing and aging Swan Falls Road Bridge with a grade-separated corridor improvement intended to improve safety, reduce delay, strengthen emergency access, and provide more reliable multimodal, freight, and community connectivity across this key north-south route in Kuna.

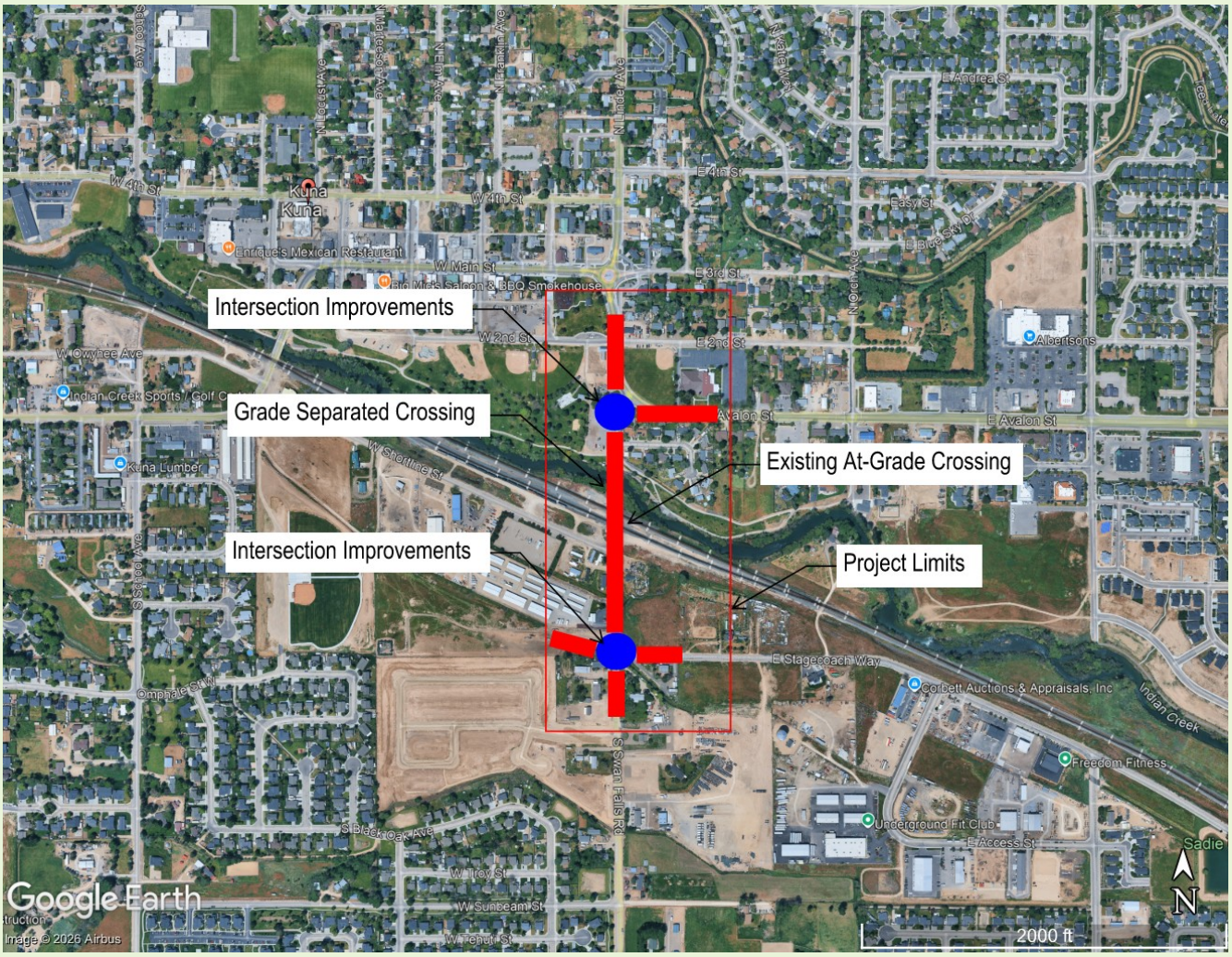


Figure 1 – Project Area Map

Figure 2 – Proposed Bridge Cross Section

1. Project Description

The Swan Falls Road Rail Crossing Elimination Pre-Concept Report documents the planning-level evaluation of transportation improvements along Swan Falls Road between East Stagecoach Way and East Avalon Street in the City of Kuna. The study area includes the existing at-grade Union Pacific Railroad (UPRR) crossing, the Swan Falls Road Bridge over Indian Creek, adjacent intersections, and nearby local access points that together influence corridor safety, mobility, emergency access, and multimodal connectivity.

The planning-level evaluation considered improvements needed to address the existing transportation deficiencies in the corridor, including train-related conflicts and delay at the at-grade crossing, aging bridge infrastructure, limited emergency route reliability, and the absence of dedicated pedestrian and bicycle facilities. Based on this evaluation, the recommended concept includes a new grade-separated crossing spanning both the UPRR and Indian Creek, replacement of the existing bridge, widening Swan Falls Road from a two-lane roadway to a four-lane divided facility with a center median, installation of curb and gutter, and the addition of multimodal facilities including multi-use pathways on both sides of the roadway and ADA-compliant crossings.

Intersection improvements are also included as part of the recommended concept because corridor operations and crash history indicate a need to improve traffic flow and reduce conflict potential at key locations. A roundabout is proposed at Swan Falls Road and East Stagecoach Way, and the East Avalon Street intersection would be realigned and reconstructed as a roundabout west of North Linder Avenue.

Modifications to local access within the corridor are needed to accommodate the roadway profile required to achieve minimum vertical clearance over the UPRR. UPRR requires a minimum vertical clearance of 23 feet 4 inches above the top of the highest rail for overhead structures. To meet this requirement, the recommended concept includes closure of Morris Court, with access rerouted to East Avalon Street, and modification of West Shortline Street to a cul-de-sac configuration. These changes are driven by the vertical alignment needed for the proposed grade separation.

This report summarizes existing conditions, identifies key corridor constraints, evaluates planning-level alternatives, and outlines the recommended concept for addressing the documented transportation deficiencies along Swan Falls Road. The intent of this effort is to provide Ada County Highway District (ACHD), COMPASS, and partner agencies with information to support future project development, environmental review, stakeholder coordination, and funding efforts.

1.1. Study Methodology

This pre-concept report was developed using a planning-level methodology that included review of prior corridor planning documents, available technical information, and conceptual engineering evaluation. Information reviewed for this effort included bridge inspection information, crash history, traffic and operations information from prior studies, local and regional planning documents, railroad design criteria, preliminary right-of-way considerations, and desktop environmental resources.

These inputs were used to summarize existing conditions, identify key corridor constraints, and develop and compare conceptual alternatives for eliminating the at-grade railroad crossing and replacing the existing bridge over Indian Creek. The resulting preferred concept, along with the

planning-level cost estimate, environmental scan, right-of-way assessment, stakeholder considerations, and implementation strategy, is intended to support future project development and funding efforts.

1.2. Purpose and Need

The Swan Falls Road corridor has documented transportation deficiencies related to safety, mobility, infrastructure condition, multimodal access, emergency response reliability, and community connectivity. Swan Falls Road functions as one of only four north-south connections within Kuna and the surrounding area, providing access between residential neighborhoods, downtown Kuna, agricultural lands, businesses, and the broader roadway network. These deficiencies are driven by the existing at-grade railroad crossing at the Union Pacific Railroad (UPRR), which includes three active tracks; the condition of the existing Swan Falls Road Bridge over Indian Creek; and the lack of dedicated pedestrian and bicycle facilities within the corridor. Available information in this report, including crash history, train delay observations, bridge inspection information, multimodal observations, traffic operations findings, and prior planning documents, indicates that these deficiencies affect corridor users today and are expected to become more pronounced as growth continues in the Kuna area. The existing at-grade crossing also creates recurring blockage and delays that can affect emergency response, local access, downtown connectivity, freight and agricultural movements, and overall network reliability.

The purpose of the project is to improve safety by reducing or eliminating exposure to conflicts at the existing at-grade railroad crossing; improve travel time reliability and north-south connectivity for residents, businesses, downtown access, freight, and agricultural movements; support more reliable emergency access across one of Kuna's limited north-south connections; address aging and substandard corridor infrastructure; improve pedestrian and bicycle accommodation and ADA accessibility; and strengthen community connectivity, quality of life, and long-term economic function in a corridor affected by rail-related delay and limited crossing opportunities. The project is also intended to support more efficient goods movement, reduce unnecessary vehicle idling and associated emissions, and improve access for corridor users and nearby neighborhoods, including users who may be disproportionately affected by limited route options and unreliable travel times. This purpose also establishes the basis for identifying and screening reasonable alternatives in future phases, as alternatives that do not address these documented transportation deficiencies would not meet the project purpose and need. A clearly defined purpose and need will also support future environmental review and permitting, including consideration of Section 4(f), the Clean Water Act, and related regulatory requirements.

1.2.1. Safety

The existing at-grade railroad crossing creates a safety hazard by exposing motorists, pedestrians, bicyclists, and other corridor users to conflicts with train operations at a crossing that includes three active UPRR tracks. Field observations summarized in the Kuna Crossing Feasibility and Implementation Plan found that vehicles waited an average of about 2 minutes 29 seconds, with average queues of about 8 vehicles on both sides of the crossing; in several cases, queues exceeded 10 vehicles and spilled back to adjacent streets. The corridor also has a documented crash history between 2018 and 2025, including serious injury, minor injury, possible injury, and property damage crashes. Forty reported crashes in the corridor are intersection-related, with contributing factors including failure to yield, failure to obey traffic control, and speeds too fast for conditions. These conditions indicate an ongoing need to reduce exposure to train-related conflicts, reduce queuing and related driver decision conflicts, and improve overall corridor safety. Eliminating the at-grade crossing through a grade-separated alternative would directly address one of the corridor's primary safety risks while also reducing the potential for rail-related blockage and driver conflict near the crossing.

1.2.2. Mobility and Travel Time Reliability

Swan Falls Road serves as a key north-south connection within the City of Kuna and the surrounding area and is one of only four north-south connections serving the community. The corridor provides access between residential areas, downtown Kuna, agricultural lands, local businesses, and the broader roadway network. However, the at-grade railroad crossing introduces recurring delays and unreliable travel times for local traffic, freight, and agricultural movements. Field observations summarized in the Kuna Crossing Feasibility and Implementation Plan found average delays of about 2 minutes 29 seconds and average queues of about 8 vehicles on both sides of the crossing, with longer queues observed during some train events. The same plan identified the Swan Falls Road/Avalon Street intersection as operating at LOS F during the existing weekday p.m. peak hour, with continued operational challenges anticipated under future conditions. Because nearby rail crossings can also be occupied at the same time, train activity can reduce overall network reliability and limit the efficiency of people and goods movement across multiple routes. These conditions affect daily travel, local deliveries, agricultural hauling, downtown access, and broader supply-chain connectivity. As traffic volumes increase with continued growth in the Kuna area, these mobility and efficiency challenges are expected to become more significant. The corridor also lacks facilities that safely integrate pedestrians and bicyclists with the roadway network, which limits multimodal connectivity through this part of Kuna.

1.2.3. Emergency Access

The combination of frequent train activity and limited north-south crossings can restrict reliable emergency response between the northern and southern portions of Kuna. Because Swan Falls Road is one of only four north-south connections in the community, blockage or delay at this crossing can have broader implications for police, fire, emergency medical services, school transportation, and other critical community services. When trains occupy multiple crossings, access may be temporarily blocked or delayed across more than one route at the same time. These conditions create a documented need to improve route reliability, reduce the risk that rail operations will interfere with emergency access, and strengthen corridor resilience during emergency response and other time-sensitive events.

1.2.4. Infrastructure Condition

The existing Swan Falls Road Bridge over Indian Creek is nearing the end of its service life and has been identified as having substandard roadway geometry. It was originally constructed in 1940 and is over 80 years old. While the structure is currently rated in fair condition, it was designed for lower traffic volumes and does not meet current design standards. Bridge inspection information indicates that the deck geometry is substandard and supports a high priority for replacement, and some structural elements show minor deterioration. These conditions limit corridor functionality and contribute to the need for a long-term replacement solution.

1.2.5. Multimodal Access

The corridor currently lacks dedicated pedestrian and bicycle facilities. There are no existing sidewalks or bicycle lanes along Swan Falls Road, shoulder widths are limited in some areas, and ADA-accessible facilities are not provided through the rail crossing and bridge area. These conditions make non-motorized travel challenging and reduce accessibility for users of all ages and abilities. Field observations summarized in the Kuna Crossing Feasibility and Implementation Plan found that approximately 50 pedestrians and bicyclists crossed the railroad tracks during an 11-hour observation period, indicating that non-motorized users are already present despite the absence of dedicated facilities. These conditions establish a need to improve multimodal integration, accessibility, and safer travel choices for people who walk, bike, or use mobility

devices, while also improving connections between neighborhoods and community destinations on both sides of the rail corridor.

1.2.6. Growth and Connectivity

The City of Kuna continues to experience population and development growth, increasing demand on a transportation network with limited north-south crossing opportunities. Swan Falls Road serves as an important connection between residential areas, downtown Kuna, agricultural lands, businesses, and community destinations, and the rail corridor affects how people and goods move between different parts of the community. Because Swan Falls Road is one of only four north-south connections and the crossing includes three active UPRR tracks, recurring train blockages and related vehicle queuing can divide neighborhoods, reduce the reliability of local access, contribute to unnecessary vehicle idling and emissions, and affect quality of life for nearby residents and corridor users. These conditions also affect access to jobs, services, businesses, and agricultural areas and can be especially burdensome for users and households with fewer route options or limited transportation flexibility. Without improvements, the corridor will continue to experience increasing pressure on operations, safety, community connectivity, and long-term economic function as growth occurs.

1.3. Existing Conditions

This section summarizes the existing corridor conditions that establish the basis for the project purpose and need, including transportation operations, safety, infrastructure condition, multimodal access, and broader community connectivity considerations.

1.3.1. Land Use

Land use surrounding Swan Falls Road consists of a mix of agricultural, residential, and industrial uses. The corridor includes rural and suburban development patterns, with agricultural lands transitioning to higher density uses as growth occurs in the Kuna area. Several local access points connect directly to Swan Falls Road, including Morris Court and West Shortline Street, which provide access to adjacent properties. Modifications to these adjacent streets will include closure of Morris Court and conversion of Shortline Street to a cul-de-sac to accommodate the roadway profile needed to meet railroad clearance requirements.

1.3.2. Transportation Network

Swan Falls Road functions as a north-south connection within the City of Kuna and connects Linder Road to the north. The corridor provides access to residential areas, agricultural lands, and downtown Kuna. Traffic delays are observed during peak periods, particularly near intersections and access points. Sight distance limitations are present in some areas, particularly for vehicles accessing the roadway from driveways.

There are currently no dedicated pedestrian or bicycle facilities along Swan Falls Road. The corridor lacks sidewalks and striped bicycle lanes, and shoulder widths are limited in some locations. These conditions reduce accessibility for non-motorized users.

The Kuna Crossing Feasibility and Implementation Plan identifies Swan Falls Road as part of the broader study area roadway network and documents both existing and future traffic conditions along the corridor. Existing average daily traffic volumes were presented for 2013 conditions, and future roadway volumes were forecast for year 2035 using the regional travel demand model. The plan also identified the Swan Falls Road/Avalon Street intersection as operating at LOS F during the existing weekday p.m. peak hour, with continued operational challenges anticipated under future conditions.

1.3.3. Safety and Crash History

Crash data for Swan Falls Road between Linder Road and East Stagecoach Way indicates that there have been no reported crash fatalities within the project limits. However, crashes resulting in serious injuries and property damage have occurred.

Forty of these crashes are intersection-related, including contributing factors such as failure to yield, failure to obey traffic control, and speeds too fast for conditions. Recurring locations with reported crashes include Swan Falls Road and East Avalon Street, Swan Falls Road and West Shortline Street, and Linder Avenue and Main Street.

Intersection-related crashes represent a common contributing factor within the corridor, with most reported incidents resulting in minor injuries or property damage. **Table 1** summarizes the reported crash types and severity within the project limits from 2018 through 2025.

Crash data was provided by the City of Kuna Police Department and reflects reported incidents within the project corridor.

Table 1 – Crash Data in Project Area along Swan Falls Road

	Serious Injuries	Minor Injuries	Possible Injuries	Property Damage
Crash Count	2	9	7	42

1.3.4. Railroad Operations

The UPRR crosses Swan Falls Road at an at-grade crossing. Field observations summarized in Table 3 of the Kuna Crossing Feasibility and Implementation Plan found that vehicles waited an average of about 2 minutes 29 seconds, with average queues of about 8 vehicles on both sides of the crossing; in several cases, queues exceeded 10 vehicles and spilled back to adjacent streets. A nearby crossing at North Bridge Avenue is located approximately one-quarter mile to the west, and simultaneous train activity can restrict access across multiple routes.

1.3.5. Swan Falls Road Bridge

The Swan Falls Road Bridge over Indian Creek was originally constructed in 1940 and reconstructed in 1974. The existing structure is a six-span prestressed concrete girder bridge with a concrete deck and asphalt wearing surface. Based on the most recent inspection report (Appendix D), the bridge is rated in fair condition; however, the deck geometry is considered substandard and does not meet current design standards. The structure was designed for lower traffic volumes than are currently experienced.

1.3.6. Utilities and Irrigation

Utilities within the corridor include overhead Idaho Power and communication lines, as well as underground infrastructure. Indian Creek runs through the corridor and serves as a major irrigation feature within the Kuna area, with flows typically occurring between March and October.

1.3.7. Community Goals and Planning Context

The Swan Falls Road corridor has been identified in previous planning efforts as a priority location for improving connectivity across the UPRR and Indian Creek. The Community Planning

Association of Southwest Idaho's (COMPASS) long-range transportation plan, Communities in Motion 2050 (CIM 2050), identifies regional priorities related to safety, mobility, and connectivity. In addition, the City of Kuna Comprehensive Plan emphasizes improving transportation connections, supporting emergency access, and expanding multimodal infrastructure. These planning efforts establish the importance of improving connectivity and reliability within the Swan Falls Road corridor and summarized in **Table 2.**

Table 2 – CIM 2050 Goals and Project Relevance

Goal Area	Goal	Project Relevance
Safety	Provide a safe transportation system for all users.	Eliminates conflicts at the at-grade railroad crossing, reducing exposure to train-related incidents and improving safety for motorists, pedestrians, and bicyclists.
Economic Vitality	Provide for a reliable transportation system to ensure all users can count on consistent travel times all modes.	Reduces travel delays caused by train events, improving reliability for both general traffic and freight movement.
	Promote freight accessibility and mobility.	Improves freight movement by eliminating train-related delays and providing more reliable travel times along a key north-south corridor.
Convenience	Develop a regional transportation system that provides access and mobility for all users via safe, efficient, and convenient transportation options.	Enhances connectivity between northern and southern Kuna by providing a grade-separated crossing and improving corridor operations.
Quality of Life	Provide equitable access to safe, affordable, and reliable transportation options.	Adds multi-use pathways and ADA-compliant facilities, improving accessibility for non-motorized users and supporting a more inclusive transportation network.

1.4. Regional and Network Connections

Swan Falls Road serves as one of only four north-south connections within the City of Kuna and the surrounding region, providing access between residential areas, agricultural lands, and key transportation routes. The Kuna Crossing Feasibility and Implementation Plan identifies agricultural resources as an important consideration in the study area, noting that over 50 percent of the area is classified as prime farmland if irrigated and that farmlands are among the environmental resources that could be negatively affected by transportation improvements. The UPRR main line, a Strategic Rail Network (STRACNET) is a designated rail line in Kuna. This critical rail line sees over eighty freight trains per day, creating significant challenges for local and regional traffic flow. In this context, disruptions in network connectivity caused by train events can affect access between agricultural lands and the broader roadway system, reducing travel reliability for farm-related traffic, local freight movement, and connections between rural areas and downtown Kuna. Field observations summarized in Table 3 of the Kuna Crossing Feasibility and Implementation Plan found that vehicles waited an average of about 2 minutes 29 seconds, with average queues of about 8 vehicles on both sides of the crossings; in several cases, queues exceeded 10 vehicles and spilled back to adjacent streets. With nearby railroad crossings less than 1 mile apart, train activity can restrict access across multiple routes simultaneously, further impacting mobility within the community.

Figure 3 – Existing Conditions at Rail Crossing

Figure 4 – Existing Condition over Swan Falls Bridge

- The UPRR crossing consists of three active tracks, increasing crossing time, and potential delay during train events.
- The roadway transitions directly from the railroad crossing to the Swan Falls Road Bridge over Indian Creek, limiting available space for vertical and horizontal alignment improvements.
- No dedicated pedestrian or bicycle facilities are present through the crossing or bridge area.
- Shoulders are narrow and substandard, limiting space for vehicle recovery and non-motorized users.
- Overhead utility lines and poles are located immediately adjacent to the roadway, creating potential constraints for roadway widening and bridge approaches.
- The corridor presents an opportunity to improve connectivity to the regional greenbelt/trail system located near Indian Creek.

Overall, the Swan Falls Road corridor currently experiences safety concerns, operational delays, and limited multimodal accessibility. These challenges, combined with anticipated growth in the Kuna area, indicate that the existing transportation infrastructure is not sufficient to meet future needs.

2. Project Constraints

2.1. Swan Falls Road

The feasibility and design of improvements along the Swan Falls Road corridor are influenced by several key physical, regulatory, and environmental constraints. These constraints limit available design options and directly affect the location, configuration, and cost of a proposed grade-separated crossing. The following sections summarize the primary factors considered in advancing this project.

Swan Falls Road is a key corridor in the City of Kuna. It connects major highways and facilitates freight movement, making it an important route for local businesses and industries that depend on timely deliveries and shipments. It is one of only four north-south connections between northern and southern Kuna and serves as a primary route for many travelers in the area. Because of its role as a primary north-south connection and one of four crossings in the area, maintaining traffic during construction and minimizing long-term disruptions will be critical considerations during planning and construction of the grade-separated crossing.

2.2 Indian Creek

Indian Creek Canal runs east-west between East Avalon Street and East Stagecoach Way and has a 100-foot-wide easement measured from the center of flow. The existing bridge will be removed and replaced with an overpass that extends over the railroad. The presence of Indian Creek and its associated easement limits where bridge substructure elements can be placed and requires consideration of hydraulic capacity, floodplain effects, potential waters and wetlands impacts, and environmental permitting. These factors constrain bridge alignment, span configuration, and future project development requirements.

2.3 Union Pacific Railroad

Railroad crossing (RRX) 819337V creates a barrier for users traveling north-south along Swan Falls Road, a key corridor connecting rural Kuna to the city's downtown district. This critical route supports a high volume of daily vehicle traffic, as well as freight transportation for the agricultural industry throughout the Treasure Valley. The existing at-grade intersection of Swan Falls Road and the UPRR tracks create multiple safety conflicts, exacerbates congestion, and affects the mobility of all corridor users. These conditions are expected to worsen as growth continues throughout the region.

Railroad requirements significantly constrain bridge design, including minimum vertical clearance requirements and restrictions on placing piers or abutments within railroad right-of-way. These limitations directly influence span length, structural depth, and overall project cost.

2.4 Swan Falls Bridge

The Swan Falls Road Bridge over Indian Creek has been identified for replacement as part of the ACHD Bridge Maintenance Program. The project will replace the existing six-span bridge over Indian Creek with a new multi-span bridge that spans both Indian Creek and the UPRR tracks. The span over Indian Creek will also include a pedestrian undercrossing. The existing bridge is approximately 120 feet long, carries two lanes, and has an approximate width of 32 feet.

2.4.1 Design Constraints

The primary design constraints for the bridge are UPRR requirements. The minimum vertical clearance is 23 feet 4 inches, measured from the top of the highest rail to the lowest obstruction

beneath the structure. For horizontal clearance, UPRR requires that abutments and piers be constructed outside of railroad right-of-way unless a variance is approved. Mechanically stabilized earth (MSE) walls are not allowed within 15 feet of railroad right-of-way or within 50 feet of the centerline of an existing or future track. Construction constraints will also need to be considered.

Design constraints related to Indian Creek include clearance to the design flood elevation, hydraulic performance, and potential impacts associated with work near or within the creek, adjacent waters, wetlands, and floodplain areas. Minimum freeboard requirements will need to be met; however, because the roadway profile required to meet railroad vertical clearances is likely to control, freeboard requirements may not govern the design. Impacts to the creek and associated regulated resources could be reduced by locating piers and abutments outside the creek banks and refining the footprint to avoid or minimize effects where practicable.

The roadway profile is also a key design constraint. Superstructure depth depends on span length, so longer spans require a higher roadway profile. The roadway approaches are constrained by Linder Avenue/Avalon Street to the north and Stagecoach Way to the south. Steep grades will likely be required to achieve the minimum vertical clearances within the relatively short approach distances. The vertical profile, pier placement, and number of piers will need to be optimized to avoid excessive haunch thickness in the bridge. Bridge design will also need to account for the effects of the vertical profile, as girders on steep grades can influence load distribution to the substructure.

Right-of-way restrictions on the east and west sides of Swan Falls Road will influence the amount of retaining wall needed for this project. Constructing embankments would require additional right-of-way acquisition.

2.4.2 Considerations of Proposed Bridge

Several span configurations were considered based on the ability to place piers relative to the railroad and Indian Creek. The proposed bridge cross section includes two combination barriers, two 10-foot multi-use paths, two 5-foot buffers, two 2-foot curbs, four 11-foot travel lanes, and a 4-foot median, for a total width of approximately 84.33 feet. The bridge would need to be approximately 500 feet long overall to span the pedestrian trail, Indian Creek, and the UPRR right-of-way. The most efficient bridge type will depend on the final location of abutments and piers. If substructure elements must remain outside UPRR right-of-way, a maximum span of approximately 325 feet may be required. At that span length, steel girders appear to be the most practical option. Steel girders can accommodate longer spans and are commonly used in Idaho. Typical prestressed precast concrete girders would not be suitable at this span length, although post-tensioned spliced prestressed precast concrete girders may be feasible. However, that bridge type is less common in Idaho and would likely require temporary falsework and custom formwork. All superstructure options considered would use a cast-in-place concrete deck. Post-tensioned cast-in-place concrete box girders would also require falsework, and the depth of falsework needed to span the railroad would likely make that option less efficient than steel girders.

The final span arrangement will depend on whether piers can be placed within UPRR right-of-way. If a two-span bridge is used to cross the UPRR tracks and Indian Creek, spans of approximately 325 feet and 175 feet may be needed. At that length, steel girders would likely be recommended. Uneven span lengths are less desirable because they complicate design and can create ride quality concerns if a continuous superstructure is used. Designing the bridge as simple spans would add an expansion joint over the pier and increase the structure depth to approximately 13 feet. That structure depth may make it difficult to develop a roadway profile that still meets minimum railroad clearance requirements within the constrained approach distances.

The ability to place piers within or outside of railroad right-of-way represents the primary driver of bridge span length, structural depth, and overall cost. Longer spans required to avoid railroad impacts result in deeper superstructures and more complex design considerations, while shorter spans may reduce cost but require additional coordination and potential impacts within railroad right-of-way.

2.4.3 Bridge Cost Estimate

Bridge costs are primarily driven by span length, structural type, and the need for retaining walls to accommodate the required roadway profile. The cost estimate provided assumed that a steel superstructure would be used and cast-in-place concrete retaining walls would be provided. Steel was assumed due to the cost being higher and the need to stay out of UPRR right-of-way.

2.4.4 Maintenance and Inspection

Bridge maintenance will depend on the type of steel protection used. Weathering steel requires less maintenance than painted steel. Concrete girders and weathering steel girders are relatively maintenance free. Standard bridge inspection is required for all bridge types.

2.5 Private Land Holdings

Right-of-way constraints along both sides of Swan Falls Road will influence the extent of retaining walls and potential property acquisition. Early identification of affected parcels will be critical to project development and cost refinement. There are about twelve anticipated affected parcels highlighted in **Table 3** below. Right-of-way will need to be acquired, dedicated, or allowed via easement through negotiations with property owners along the corridor.

If bridge design requires a pier within UPRR right-of-way, additional railroad right-of-way acquisition or agreement would likely be needed. This requirement would increase coordination complexity and could affect project cost and schedule.

2.6 City of Kuna 2019 Comprehensive Plan

The City of Kuna adopted the Envision Kuna Comprehensive Plan on July 16, 2019. The plan presents a vision for the future, with both short-term and long-term goals for all activities that affect the community.

Objective 2.F.1. of the plan states “Provide safety and emergency services that meet the needs of all Kuna residents. One of the policies listed was to prepare to accommodate service demands without unnecessary delays by coordinating the design and delivery of services with the rate and type of population growth. Another policy was to plan for future growth and ensure funding and resources are available to increase emergency response staff and construct capital projects.

This proposed project is in line with many of the other objectives of this comprehensive plan and will accomplish many of the goals Kuna has planned. Some of these goals are to move people and provide connectivity, minimize conflicts, improve access and response times for emergency vehicles, and support local economic development opportunities and access to businesses.

The proposed project supports multiple goals of the City of Kuna Comprehensive Plan, particularly those related to transportation safety, emergency response, and accommodating future growth.

3. Project Alternatives

3.1. Evaluation of Criteria

The alternatives were evaluated based on their ability to address the documented transportation deficiencies identified in the project purpose and need. Key considerations included whether an alternative would reduce or eliminate conflicts at the existing at-grade railroad crossing, improve safety, reduce delay and improve travel time reliability, support emergency access, address aging bridge infrastructure, improve multimodal accommodation, and strengthen north-south connectivity within the corridor. Alternatives were also considered based on their consistency with community goals and their ability to be implemented within the physical, regulatory, and environmental constraints identified in this report.

Because this is a pre-concept level evaluation, the comparison is intended to support planning-level decision making rather than final design. Additional engineering, traffic analysis, environmental documentation, and right-of-way evaluation will be needed during future phases to refine the preferred concept and confirm project feasibility.

The alternatives analysis considered one No Build alternative and two Build alternatives to address the safety, mobility, and connectivity needs identified for the Swan Falls Road corridor. Each alternative was evaluated based on its ability to eliminate the at-grade railroad crossing, improve corridor operations, support emergency access, accommodate multimodal travel, and remain feasible within the physical and regulatory constraints associated with the Union Pacific Railroad, Indian Creek, and adjacent development.

No Build Alternative. Under the No Build Alternative, the existing at-grade railroad crossing, Swan Falls Road Bridge, and intersection configurations at East Stagecoach Way and East Avalon Street would remain in place. Routine maintenance and minor repairs would continue as needed, but no major safety, capacity, or multimodal improvements would be constructed. This alternative would avoid near-term capital expenditures and right-of-way impacts; however, it would not address exposure to train-related conflicts, recurring delay and unreliable travel times, emergency access concerns, the aging bridge, limited pedestrian and bicycle accommodations, or the need for stronger north-south connectivity through Kuna. Because it does not address the documented transportation deficiencies established in the project purpose and need, the No Build Alternative was not carried forward.

Build Alternative 1 – Grade Separation with Signalized Intersections. This alternative would construct a new grade-separated crossing over the UPRR and Indian Creek, replace the existing Swan Falls Road Bridge, widen Swan Falls Road to a four-lane facility, add curb and gutter, provide ADA-compliant crossings, and install multi-use pathways on both sides of the roadway. East Stagecoach Way and the realigned East Avalon Street intersection west of North Linder Avenue would be controlled with traffic signals. This alternative would address the primary purpose of the project by eliminating the at-grade railroad crossing and improving multimodal accommodations. However, signalized intersections would continue to introduce stop-and-go operations, create additional delay during peak periods, and retain more vehicle-to-vehicle conflict points, particularly for left-turn movements.

Build Alternative 2 – Grade Separation with Roundabouts. This alternative includes the same core corridor improvements as Build Alternative 1, including a new grade-separated crossing over the UPRR and Indian Creek, replacement of the Swan Falls Road Bridge, roadway widening, multimodal improvements, and local access modifications. Under this alternative, roundabouts would be constructed at East Stagecoach Way and at the realigned East Avalon Street

intersection west of North Linder Avenue. The roundabout alternative best aligns with corridor needs because it supports continuous traffic flow, reduces delays associated with stop-controlled or signalized intersection operations, and lowers the potential for severe intersection crashes by reducing left-turn and angle conflict points. These benefits are especially important in a corridor where recurring train-related delays, limited north-south connectivity, and emergency response reliability are already major concerns.

4. Right-of-Way Assessment

While property acquisition was avoided to the extent possible during development of the concept, the recommended design will require right-of-way acquisition and easements including eight parcels along Swan Falls Road, two parcels along Morris Court, and two parcels along Linder Rd (see Table 3). Appendix B shows the affected parcels along with the concept of the roundabouts.

Table 3 – Potentially Affected Parcels

Ada County Tax Parcel ID	Estimated Impacted Area (AC)
R0615001220	0.77
R5070000105	0.27
R4221160005	0.17
R4221160030	0.20
R4221160035	0.22
R4221160085	0.24
R0615002455	0.64
R0615002405	2.47
S1325233780	0.72
S1325233700	0.91
S1326141810	0.17
S1326110070	9.24

Any future determination of relocation costs must reflect the actual, reasonable, and necessary expenses required under the Uniform Relocation Act. Depending on the nature of the property impacts, this may include residential moving and related expenses; replacement housing payments; non-residential moving expenses for businesses, farms, or nonprofit organizations; business re-establishment costs; advisory services and relocation planning; and utility relocation costs, including adjustments for salvage value or increased facility value where applicable.

5. Environmental Scan Summary

The environmental scan completed for this pre-concept report did not identify a fatal flaw; however, several environmental considerations should be addressed early as the project advances. Key topics include Indian Creek and potential jurisdictional wetlands, floodplain review, soil and geotechnical considerations, biological resources, cultural and recreational resource review, and hazardous materials due diligence. These topics may affect design, permitting, schedule, mitigation needs, construction timing, and future funding documentation. Detailed supporting information is provided in Appendix F.

Key action steps for future project development include:

- ✓ Complete wetland delineation and Waters of the U.S. review for Indian Creek and adjacent resources.
- ✓ Initiate early coordination with USACE, IDWR, IDEQ, FEMA-related reviewers, USFWS, SHPO, and other applicable agencies.
- ✓ Prepare hydraulic and floodplain analysis to confirm design requirements and potential permit needs.
- ✓ Complete biological resource review and confirm any seasonal work restrictions, survey needs, or mitigation requirements.
- ✓ Conduct geotechnical investigation and use findings to refine bridge, retaining wall, drainage, and construction recommendations.
- ✓ Confirm whether Section 106, Section 4(f), or additional environmental documentation is required if federal funding is pursued.
- ✓ Continue hazardous materials due diligence as right-of-way, utility, and construction details are refined.

6. Project Stakeholders and Interviews

Project involvement for the Swan Falls Road Rail Crossing Elimination project should include the specific agencies, jurisdictions, utilities, property interests, and corridor users already identified through this pre-concept effort, as well as the general public. Based on the report, key stakeholders include Ada County Highway District, COMPASS, the City of Kuna, Idaho Transportation Department, Union Pacific Railroad, emergency service providers, property owners along Swan Falls Road and Morris Court, utility providers such as Idaho Power and communications companies, Indian Creek and irrigation interests, environmental and permitting agencies, and residents, businesses, and corridor users who may be affected by design decisions and construction impacts. These stakeholders should be identified early, engaged throughout design, and re-engaged before and during construction as project details, access needs, and temporary impacts become more defined.

Table 4 – Project Stakeholders

Stakeholder Group	Primary Interest	Recommended Engagement During Design and Construction
Lead agencies and project sponsors Ada County Highway District, COMPASS, City of Kuna, and Idaho Transportation Department	Project development, funding strategy, design direction, jurisdictional coordination, and long-term delivery responsibilities.	Hold regular coordination meetings during design to confirm scope, schedule, cost, grant strategy, permitting, and decision points. During construction, continue coordination on traffic control, schedule updates, issue resolution, and public communications.
Railroad stakeholder Union Pacific Railroad	Railroad clearance requirements, right-of-way access, bridge span configuration, construction sequencing, and railroad safety and operations.	Coordinate early in design on vertical and horizontal clearances, structure requirements, right-of-way limitations, review milestones, and agreement needs. During construction, maintain detailed coordination on work windows, flagging, submittals, safety protocols, and railroad access restrictions.
Emergency and public service providers Police, fire, EMS, school transportation, and related service providers	Reliable emergency access, route continuity, detour feasibility, and maintenance of response times during design and construction.	Engage during design to review access changes, closures, detour concepts, and staging options. During construction, provide advance notice of traffic shifts and establish clear agency contacts for urgent field coordination.

Property owners and adjacent access stakeholders Owners and tenants along Swan Falls Road and Morris Court, including parcels identified for right-of-way needs or access changes	Right-of-way acquisition, easements, driveway access, property impacts, buyouts, and changes to local circulation such as Morris Court and Shortline Street.	Use targeted one-on-one outreach during design to discuss parcel-specific impacts, acquisitions, easements, and access modifications. During construction, provide direct notification about driveway changes, temporary access restrictions, noise, and construction timing.
Utilities and corridor infrastructure stakeholders Idaho Power, communications providers, and other utility owners	Utility conflicts, overhead and underground relocations, service continuity, and coordination with roadway and bridge improvements.	Coordinate in design to identify conflicts, establish relocation responsibilities, and integrate utility needs into plans and schedule. During construction, continue coordination on cutovers, protection measures, service interruptions, and field conflict resolution.
Indian Creek, irrigation, and environmental permitting stakeholders Indian Creek interests, USACE, IDEQ, IDWR, USFWS, SHPO, FEMA-related coordination, and other permitting agencies	Creek and floodplain impacts, wetlands, biological resources, permitting requirements, cultural resource review, and environmental compliance commitments.	Initiate coordination during design to confirm permit pathways, environmental study needs, seasonal constraints, and agency review milestones. During construction, maintain communication on permit compliance, inspections, in-water or near-water work restrictions, and resource protection measures.
General public and corridor users Residents, businesses, pedestrians, bicyclists, freight operators, commuters, and trail users	Understanding project purpose, expected benefits, travel impacts, local access changes, multimodal improvements, and construction timing.	During design, provide accessible public involvement through open houses, online materials, project updates, and comment opportunities. During construction, maintain frequent public communication on traffic changes, detours, milestones, and expected impacts using multiple channels.

7. Cost Estimate

This section presents the planning-level cost estimate for the preferred alternative. Unit costs were developed using professional judgment informed by recent transportation and bridge projects in Ada and Canyon Counties and recent bid information. The estimate includes construction, mobilization, traffic control, landscaping, design engineering, construction administration, and a 30 percent contingency. The estimate does not include right-of-way or easement acquisition, relocation costs, utility relocation costs, or long-term operations and maintenance.

The planning-level cost estimate for the proposed alternative is approximately $39,484,746 in 2026 dollars. A detailed breakdown of the estimate is provided in Appendix E. Because the project includes a grade-separated railroad crossing, bridge replacement, roadway widening, retaining walls, multimodal improvements, and intersection reconstruction, future cost refinement should focus on right-of-way assumptions, utility impacts, railroad coordination requirements, environmental mitigation, and phasing.

Table 5 – Projected Future Inflation Project Costs

Preferred Alternative	[1]Inflation Rate	[2]Cost Estimate
2026 Cost		$39,871,768
2029 Cost	1.6% - 2.25%	$40,509,716 - $40,768,883
2034 Cost	1.6% - 2.25%	$41,157,871 - $41,686,183

[1] Inflation rate range informed by planning assumptions and a target annual inflation rate of approximately 2 percent as of February 2026.

[2] Future inflated costs were rounded to the nearest dollar for presentation.

**Current value will have to be adjusted for future inflation depending on year funding is requested.*

8. Potential Funding Sources

Table 6 outlines potential funding sources that could support future environmental review, preliminary engineering and design, right-of-way and easement activities, bridge and roadway construction, and other eligible project development needs associated with the recommended concept.

Table 6 – Potential Funding Sources

Funding	Overview	Comments
IIJA / Federal		
Federal Railway Administration (FRA) Railroad Crossing Elimination Grant Program Funding for highway-rail or pathway-rail grade crossing improvements that focus on improving the safety and mobility of people and goods.	The RCE Program funds highway-rail or pathway-rail grade crossing improvements that improve the safety and mobility of people and goods.	This program is a strong fit for the recommended concept because the project would eliminate the existing at-grade crossing through grade separation while improving corridor safety, mobility, and reliability. Future applications would need to document project readiness, benefits, and the required non-federal match.
Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program CRISI supports projects that improve the safety, efficiency, and reliability of intercity passenger and freight rail, including eligible highway-rail crossing improvements and related multimodal connections.	This program may be relevant if the project is advanced in coordination with rail-related safety, operational, or corridor improvement objectives.	Potential uses may include rail-related crossing improvements, multimodal connection improvements, corridor planning, and environmental analysis where eligible under the program.
Bridge Investment Program The Bridge Investment Program supports planning and capital improvements for eligible bridge projects that improve safety, mobility, freight reliability, and overall bridge condition.	This program may be relevant because the recommended concept includes replacement of the existing Swan Falls Road Bridge as part of a larger corridor improvement.	Eligible applicants include states, metropolitan planning organizations serving urbanized areas and units of local government. Future application strategy should confirm sponsor eligibility and whether the bridge component can be positioned competitively within the larger corridor project.

Better Utilizing Investments to Leverage Development (BUILD) Grant Program This program seeks fund projects that will have a significant local or regional impact and improve transportation infrastructure. BUILD grants will be awarded on a competitive basis, per statute, for planning or constructing surface transportation infrastructure projects that will improve safety; environmental sustainability; quality of life; mobility and community connectivity; economic competitiveness and opportunity including tourism; state of good repair; partnership and collaboration; and innovation.	The goals of the BUILD program are eliminating transportation barriers, expanding mobility options, and improving connections to economic and educational opportunities in Ada County.	The project is broadly consistent with BUILD evaluation criteria related to safety, mobility, community connectivity, and state of good repair.
Federal-Aid Bridge The Bridge Program provides funds for the replacement or rehabilitation of bridges. This program requires a local match of 7.34% of the total project cost.	Eligibility is having a sufficiency rating less than 50 for replacement, between 50 and 75 for rehabilitation, and being structurally deficient and functionally obsolete.	A bridge is defined as being at least 20 feet long and carrying a public road. Swan Falls Bridge meets these criteria.

8.1. RCE Merit Criteria Findings

Based on the planning-level findings documented in this report, the recommended concept appears to align well with the core merit criteria of the FRA Railroad Crossing Elimination program. **Project Benefits:** The preferred alternative would eliminate the existing at-grade UPRR crossing by replacing it with a grade-separated facility spanning three active railroad tracks and Indian Creek, directly addressing one of the corridor's primary safety hazards. The report documents recurring train-related delays, crash history within the corridor, and emergency access concerns along one of only four north-south connections in Kuna. The concept would also reduce delays and improve travel time reliability for residents, businesses, freight, agricultural movements, and emergency responders; improve multimodal access through ADA-compliant crossings and multi-use pathways; and support community connectivity by reducing rail-related division of neighborhoods, unnecessary vehicle idling, and associated emissions. These benefits may be especially meaningful for corridor users and households with limited route options or transportation flexibility.

Technical Merit: The recommended concept is supported by a documented planning-level purpose and need, alternatives evaluation, conceptual engineering assessment, preliminary right-of-way review, environmental scan, cost estimate, and implementation considerations. The concept includes a grade-separated crossing, bridge replacement, roadway widening, multimodal improvements, and roundabouts at key intersections to address the corridor's documented safety and operational deficiencies. The report also identifies major design constraints and delivery considerations, including UPRR clearance requirements, Indian Creek and floodplain constraints, utility conflicts, right-of-way impacts, and phasing needs. While additional engineering, environmental, and cost refinement will be required in future phases, the project appears technically feasible at a planning level. The report also identifies likely public-sector delivery partners, and future applications would need to document applicant capacity, prior delivery experience, and the required non-federal match consistent with program requirements.

Project Readiness: The project is currently at a pre-concept stage and is not yet environmentally cleared; however, this report documents the primary environmental issues likely to influence delivery and identifies the next steps needed to advance the project into design and permitting. The report also identifies the need for early coordination and future agreements with UPRR, affected property owners, utility providers, and permitting agencies. A pre-concept schedule is included to illustrate a path toward design, environmental review, right-of-way activities, funding, and construction, but future grant competitiveness will depend on advancing those tasks and documenting committed funding, including the required non-federal match. In this context, the project appears to have a credible path toward readiness, but additional coordination, environmental documentation, funding commitments, and design development will be necessary before the project could be considered fully implementation ready.

Key themes reflected in recent RCE selections that should be emphasized in future applications for this project include:

- ✓ Clear elimination of one or more at-grade crossings through grade separation, crossing closure, or corridor-wide crossing consolidation.
- ✓ Strong safety narrative supported by documented blocked crossing conditions, crash or incident history, and reduced conflict exposure for motorists, pedestrians, and bicyclists.
- ✓ Demonstrated emergency response benefits, especially where blocked crossings affect first responders, schools, hospitals, or other essential services.
- ✓ Improved mobility of both people and goods, including reduced delays, more reliable travel times, and stronger freight, agricultural, or supply chain connectivity.
- ✓ Multimodal benefits through improved pedestrian, bicycle, ADA-accessible, and, where applicable, transit connectivity across the rail corridor.
- ✓ Community benefit framing that explains how the rail line divides neighborhoods, affects quality of life, reduces access to jobs and services, or burdens users with limited route options.
- ✓ Environmental benefit framing tied to reduced vehicle idling, lower emissions, and improved system efficiency.
- ✓ Corridor or network importance, particularly where the crossing is located on a limited north-south connection, regional freight route, rural access route, or link to downtown, employment, or community destinations.
- ✓ Credible project readiness supported by planning, alternatives analysis, conceptual engineering, environmental review strategy, railroad coordination, and a realistic path to implementation.
- ✓ Documented non-federal match and partner support, often including contributions or coordination commitments from local governments, state agencies, MPOs, or railroads.

9. Project Schedule and Future Phases

The project schedule and future phases presented in this report are planning-level estimates based on current assumptions related to funding availability, agency coordination, environmental review, right-of-way needs, utility coordination, and railroad coordination. Because the project will require future sponsor decisions, grant applications, environmental documentation, and agreements with multiple agencies and property interests, the timing of subsequent phases may change as the project advances. The schedule outline provided below is intended to illustrate a reasonable path forward for design, environmental documentation, funding, and construction of the preferred alternative. The schedule assumes that partner agencies will pursue a combination of local, state, and federal funding to advance design, environmental review, right-of-way activities, and construction, and that funding awards may occur through multiple application cycles.

Assumptions:

Key project partners are expected to include Ada County Highway District, COMPASS, the City of Kuna, Idaho Transportation Department, Union Pacific Railroad, utility providers, permitting agencies, and other affected stakeholders identified in this report.

Table 7 – Project Schedule Outline

Action	Begin Date	End Date
Sponsor Receives Design Funding	August 2026	
Sponsor Procures Design Consultant	September 2026	November 2026
Project Design	November 2026	August 2029
Sponsor Applies for Construction Funding	March 2028	December 2028

9.1. Implementation Risks and Considerations

While the recommended concept appears feasible at a planning level, several factors will influence future project development, schedule, cost, and coordination requirements.

Coordination with Union Pacific Railroad will be a major consideration during future phases. UPRR clearance requirements, restrictions on placing structures within railroad right-of-way, and review and approval requirements will affect bridge configuration, profile, schedule, and cost. If future design requires improvements within railroad right-of-way, additional agreements and coordination will likely be needed.

Environmental permitting and resource coordination will also be important. Because the project crosses Indian Creek and may affect adjacent waters, wetlands, floodplain areas, and biological resources, future phases will require additional environmental study, agency coordination, and permitting. These requirements may affect project schedule, design development, and

construction timing, particularly if seasonal constraints or impact-avoidance measures are needed.

Right-of-way acquisition and access changes will also need to be addressed. The recommended concept will require property impacts along Swan Falls Road and Morris Court, as well as changes to local access. These impacts will need to be refined during design and coordinated with affected property owners and agencies.

Utility coordination will be another key consideration. Existing overhead and underground utilities within the corridor may require relocation or protection, which could affect project cost, phasing, and construction sequencing.

Finally, project cost and funding availability will influence implementation timing. Because the project includes bridge replacement, railroad grade separation, roadway widening, multimodal improvements, and right-of-way needs, implementation will likely depend on multiple funding sources and phased advancement through design, environmental clearance, right-of-way, and construction.

9.2. Next Steps for Design Phase

Advancement of determining the preferred alternative into design will require additional technical evaluation, agency coordination, and project development activities beyond the planning-level work documented in this report. Priority next steps include the following:

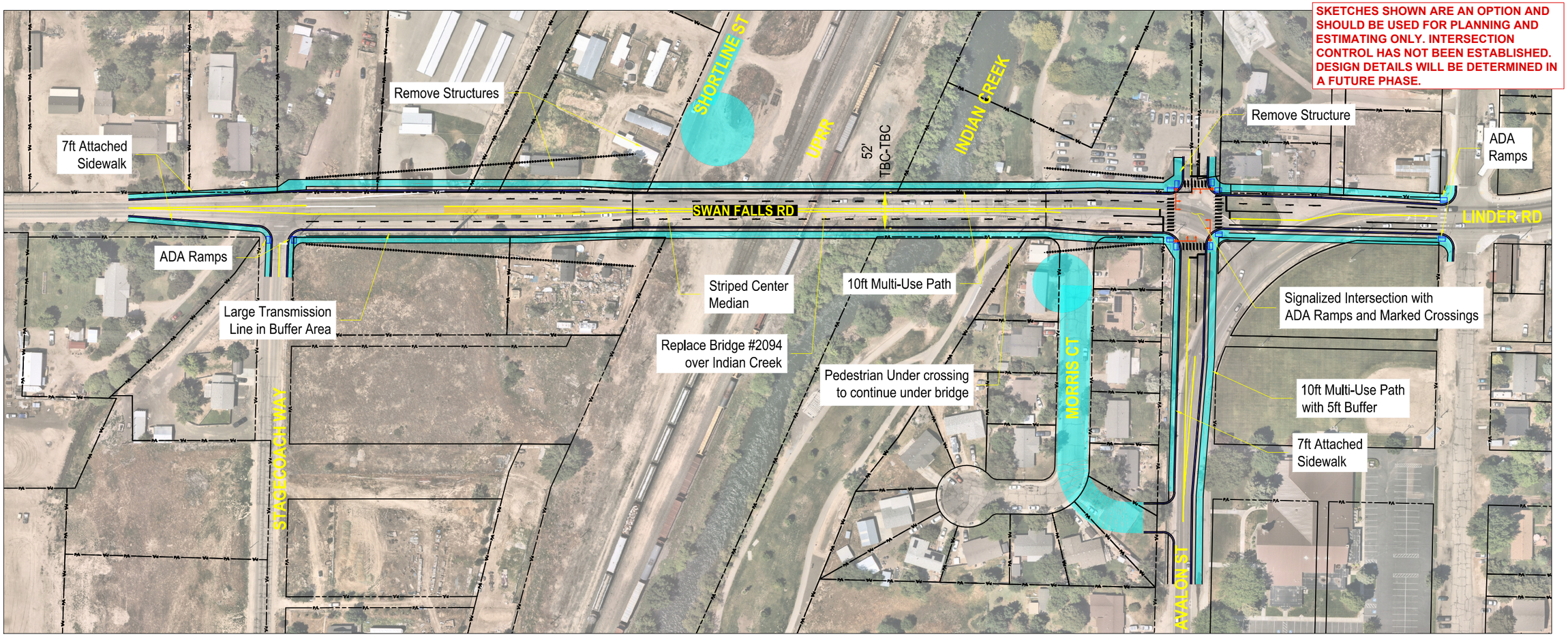
1. Update traffic, train delay, and emergency access information to better document operations, roundabout performance, crossing blockage effects, and route reliability benefits.
2. Begin environmental and permitting work early, including wetland delineation, hydraulic analysis, floodplain coordination, biological review, and agency consultation related to Indian Creek and other regulated resources.
3. Undertake geotechnical investigation, utility coordination, and right-of-way refinement to better define design constraints, parcel impacts, easement needs, relocation risk, cost drivers, and implementation sequencing.
4. Continue coordination with UPRR, ACHD, COMPASS, the City of Kuna, and partner agencies to refine delivery strategy, grant readiness, and future project packaging.

Environmental and permitting tasks should be initiated early in the design phase to reduce schedule risk. These efforts are expected to include wetland delineation, floodplain coordination, agency consultation related to Indian Creek and Waters of the U.S., biological resource review, and confirmation of any additional documentation required under state and federal permitting processes. Geotechnical investigations and hydraulic analysis will also be needed to support bridge foundation design, retaining wall design, and drainage considerations. Because the project may require impacts near Indian Creek and within railroad influence areas, early coordination with permitting agencies and UPRR will be important to confirm design criteria, access requirements, and construction constraints.

Future design should also include right-of-way mapping and acquisition planning, utility coordination, stakeholder outreach, and refinement of the project cost estimate and implementation strategy. This work should confirm parcel impacts, identify needed easements, coordinate potential utility relocations, and further define construction phasing and traffic control approaches needed to maintain mobility during implementation. As design advances, ACHD, COMPASS, and partner agencies should continue to coordinate grant strategy, project packaging, and delivery timing so the preferred alternative can be positioned competitively for future funding opportunities.

APPENDIX A

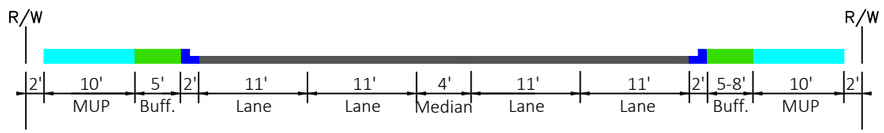
SKETCHES SHOWN ARE AN OPTION AND SHOULD BE USED FOR PLANNING AND ESTIMATING ONLY. INTERSECTION CONTROL HAS NOT BEEN ESTABLISHED. DESIGN DETAILS WILL BE DETERMINED IN A FUTURE PHASE.



Plan View

OPTION 1 - SIGNALIZED INTERSECTION
SWAN FALLS RD BRIDGE # 2094, 500' S/O AVALON ST

Swan Falls Rd to Four Lanes Including Multi-Use Paths Both Sides and ADA Ramps. Replace Bridge #2094 over Indian Creek with Overpass Structure that Includes Railroad Tracks.



Notes: Pre-Concept Estimates	
1.	Project Length ~1,950LF Swan Falls Rd
2.	Project Length ~650LF Avalon St
3.	~200,000SF Right of Way Required
4.	~4,500TN of Asphalt
5.	~5,800LF of Curb & Gutter
6.	~6,200SY of Sidewalk

TLIP Designation

Swan Falls Rd = Towncenter Arterial
Level 2 Bike Facility

DATE: July 23, 2026 FILE: SWANFALLSB4

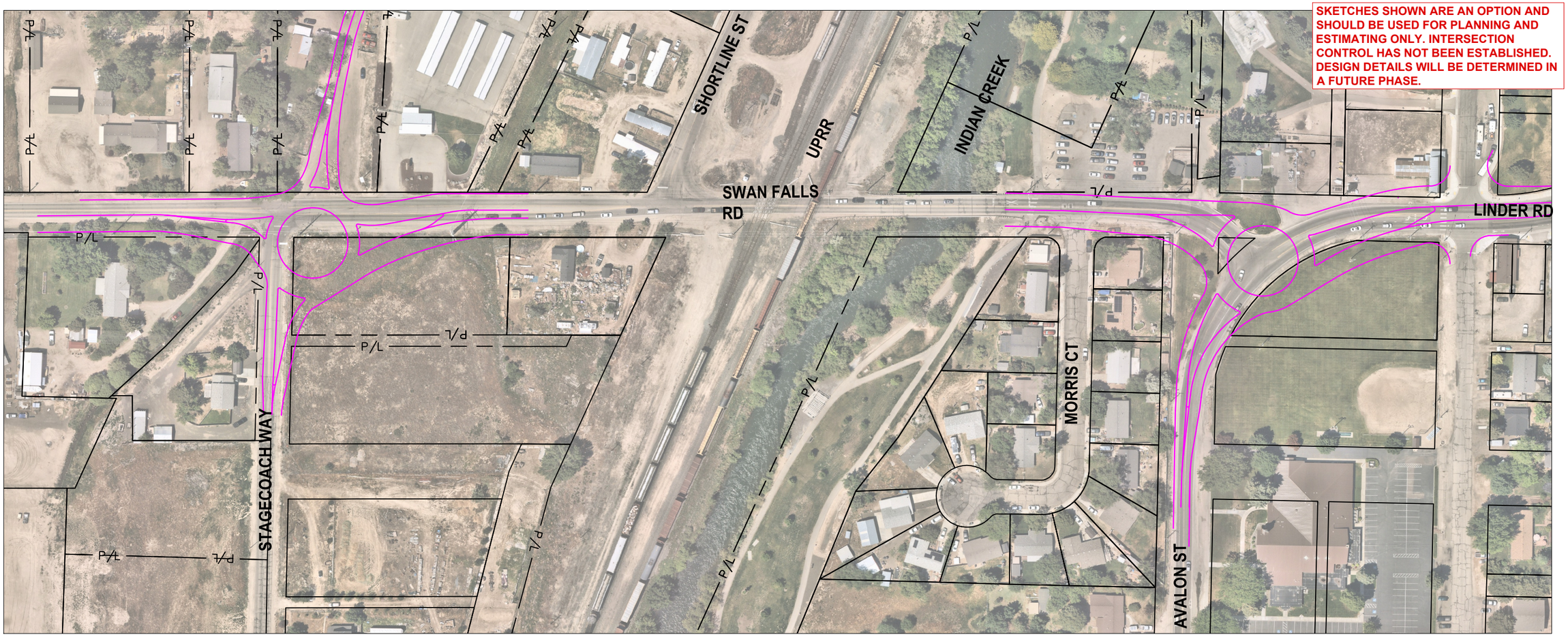
0 150
SCALE IN FEET

Scoping Sketch

GIS NO. 200013

APPENDIX B

SKETCHES SHOWN ARE AN OPTION AND SHOULD BE USED FOR PLANNING AND ESTIMATING ONLY. INTERSECTION CONTROL HAS NOT BEEN ESTABLISHED. DESIGN DETAILS WILL BE DETERMINED IN A FUTURE PHASE.



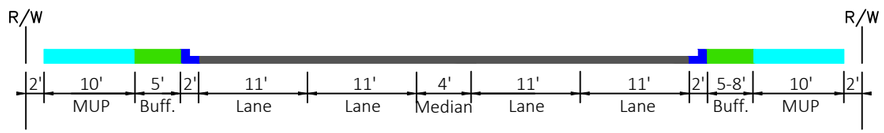
Notes: Pre-Concept Estimates

1.	Project Length ~1,950LF Swan Falls Rd
2.	Project Length ~650LF Avalon St
3.	~200,000SF Right of Way Required
4.	~4,500TN of Asphalt
5.	~5,800LF of Curb & Gutter
6.	~6,200SY of Sidewalk

Plan View

OPTION 2 - ROUNDABOUTS
SWAN FALLS RD BRIDGE # 2094, 500' S/O AVALON ST

Swan Falls Rd to Four Lanes Including Multi-Use Paths Both Sides and ADA Ramps. Replace Bridge #2094 over Indian Creek with Overpass Structure that Includes Railroad Tracks.



TLIP Designation

Swan Falls Rd = Towncenter Arterial
Level 2 Bike Facility

DATE: July 23, 2026 FILE: SWANFALLS_ROUNDABOUTS_JMN

N

0 150
SCALE IN FEET

Scoping Sketch

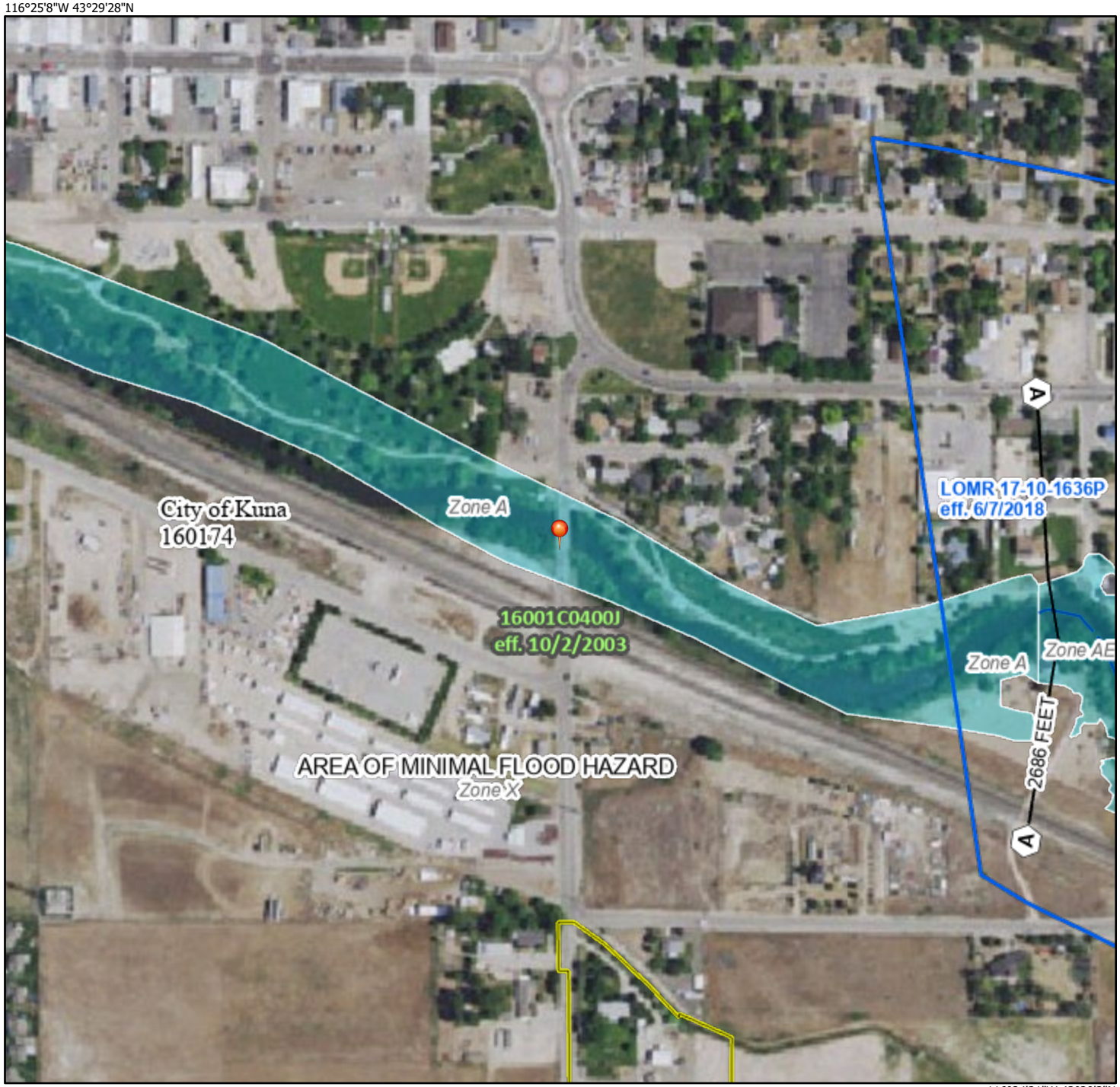
GIS NO. 200013

APPENDIX C

National Flood Hazard Layer FIRMette

FEMA

116°25'8"W 43°29'28"N



116°24'31"W 43°29'2"N

Feet

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

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
- 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 1/29/2026 at 11:17 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.

APPENDIX D

Search

Idaho

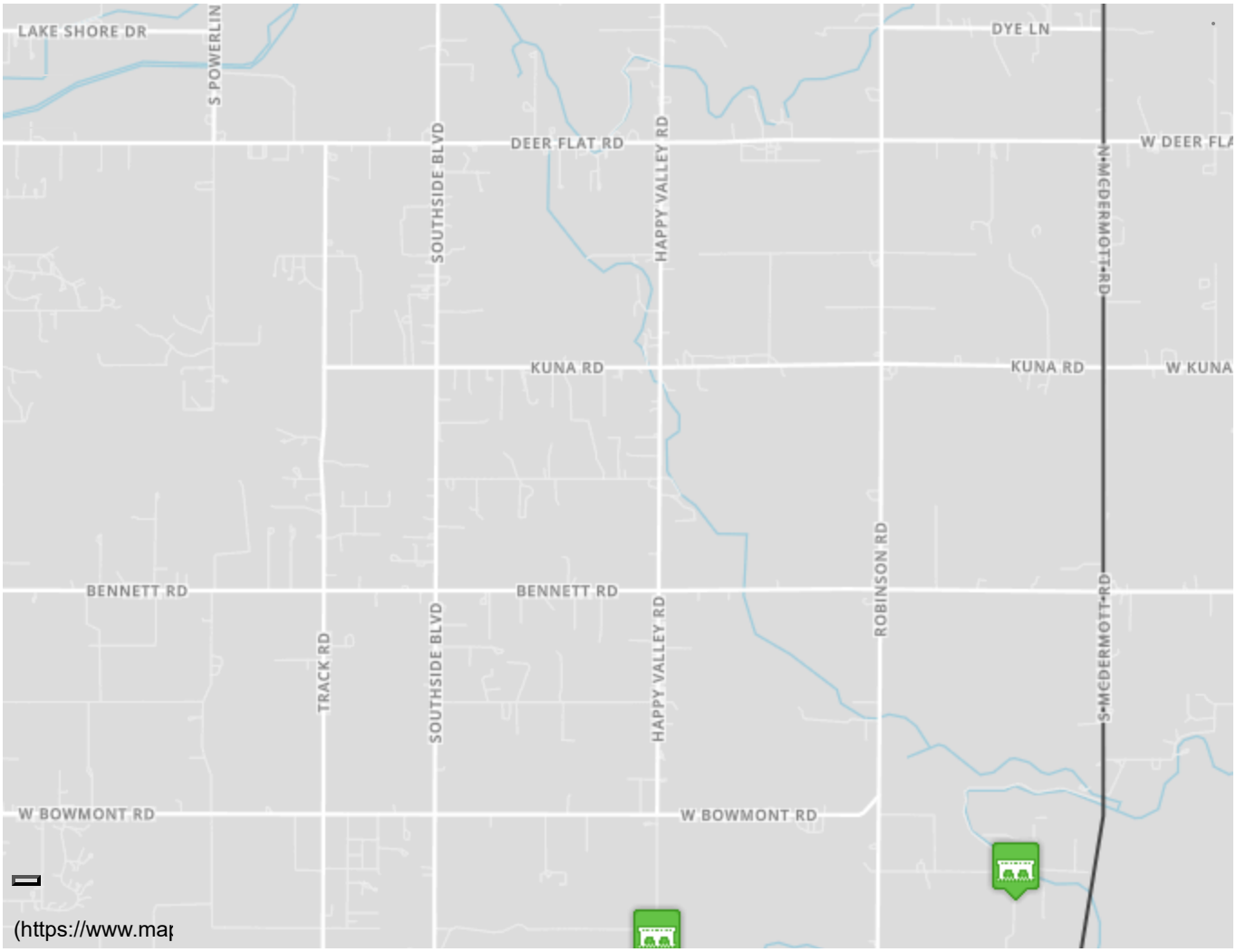
Ada County

View

Bridge Inspections

STC3787;SWAN FALLS over INDIAN CREEK

Map



Good condition Meets minimum tolerable limits Needs repair or corrective action Closed

Report not available

Basic Information

County, State:	**Ada County, Idaho**	Structure Number:	**000000000026250**
Maintenance Responsibility:	**County Highway Agency**	Ownership:	**County Highway Agency**
Facility Carried By Structure:	**STC3787;SWAN FALLS**	Features Intersected (Location):	**INDIAN CREEK (IN KUNA)**
Year Built:	**1940**	Year Reconstructed:	**1974**
Average Daily Traffic (Year):	**8,900 (2019)**	Future Average Daily Traffic (Year):	**13,350 (2039)**

NBI Report

NBI Bridge Condition	**Fair**
Inspection Date (Inspection Frequency):	**Oct. 2023 (Every 24 Months)**
Structural Evaluation:	**5: Somewhat better than minimum adequacy to tolerate being left in place as is**
Deck Geometry	**2: Basically intolerable requiring high priority of replacement**
Underclear/Vertical and Horizontal:	**N: Not applicable**
Deck	**6: SATISFACTORY CONDITION - structural elements show some minor deterioration.**
Superstructure	**6: SATISFACTORY CONDITION - structural elements show some minor deterioration.**
Substructure	**5: FAIR CONDITION - all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.**

Channel/Channel Protection	**7: Bank protection is in need of minor repairs. River control devices and embankment protection have a little minor damage. Banks and/or channel have minor amounts of drift.**
Culverts	**N: Not applicable. Use if structure is not a culvert.**
Waterway Adequacy:	**9: Bridge deck and roadway approaches above flood water elevations (high water). Chance of overtopping is remote.**
Approach Roadway Alignment:	**8: Equal to present desirable criteria**
Bridge Posting	**No posting required: Equal to or above legal loads**
Scour Critical Bridges:	**4: Bridge foundations determined to be stable for calculated scour conditions; field review indicates action is required to protect exposed foundations from effects of additional erosion and corrosion.**
Bridge Railings:	**1: Inspected feature meets currently acceptable standards.**
Transitions:	**1: Inspected feature meets currently acceptable standards.**
Approach Guardrail:	**1: Inspected feature meets currently acceptable standards.**
Approach Guardrail Ends:	**1: Inspected feature meets currently acceptable standards.**
Historical significance:	**4: Historical significance is not determinable at this time.**
Type of Work Proposed:	**Replacement of bridge or other structure because of substandard load carrying capacity or substandard bridge roadway geometry.**
Work Done By:	**Work to be done by contract**
Length of Structure Improvement:	**46.60 meters**
Bridge Improvement Cost	**$1,565,000**
Roadway Improvement Cost	**$157,000**
Total Project Cost	**$2,348,000**
Year of Improvement Cost Estimate:	**2019**

More Information

Designated Level of Service	**Mainline**
Route Number:	**03787**
Kilometerpoint:	**32.099**
Bypass/Detour Length:	**1.00 kilometers**
Toll:	**On free road. The structure is toll-free and carries a toll-free highway.**
Functional Class Of Inventory Route:	**Urban: Minor Arterial**
Lanes On Structure:	**2**
Lanes Under Structure:	**0**
Design Load:	**MS 18 or HS 20**
Approach Roadway Width:	**10.40 meters**
Bridge Median:	**No median**
Skew:	**0**
Structure Flared:	**No flare**
Navigation Control:	**No navigation control on waterway (bridge permit not required).**
Navigation Vertical Clearance:	**0.00 meters**
Navigation Horizontal Clearance:	**0.00 meters**
Structure Open/Posted/Closed:	**Open, no restriction**
Type of Service On Bridge:	**Highway**
Type of Service Under Bridge:	**Waterway**
Kind of Material/Design:	**Prestressed concrete ***
Type of Design/Construction:	**Tee Beam**
Kind of Material/Design:	**Other**

Type of Design/Construction:	**Other**
Number Of Spans In Main Unit:	**6**
Number Of Approach Spans:	**0**
Inventory Route Total Horizontal Clearance:	**8.90 meters**
Length Of Maximum Span:	**6.10 meters**
Structure Length:	**36.30 meters**
Left Curb/Sidewalk Width:	**0.00 meters**
Right Curb/Sidewalk Width:	**0.00 meters**
Bridge Roadway Width Curb-To-Curb:	**8.90 meters**
Deck Width/Out-To-Out:	**9.80 meters**
Operating Rating (Method):	**34.50 metric tons(0)**
Inventory Rating (Methon):	**20.90 metric tons (0)**
STRAHNET Highway Designation:	**The inventory route is not a STRAHNET route.**
Parallel Structure Designation:	**No parallel structure exists.**
Direction Of Traffic:	**2-way traffic**
Highway System Of Inventory Route:	**Inventory Route is not on the NHS**
Federal Lands Highways:	**Not applicable**
Deck Structure Type:	**Concrete Cast-in-Place**
Type of Wearing Surface:	**Bituminous**
Type of Membrane:	**None**
Deck Protection:	**None**
Designated National Network:	**The inventory route is not part of the national network for trucks.**
NBIS Bridge Length:	**Yes**

Minimum Navigation Vertical:	**None meters**

APPENDIX E

Item #	Improvement Description	Quantity	Unit	Unit Price	Cost
	Swan Falls Roadway Improvements				
	Clearing & Grubbing	1	LS	$55,000.00	$55,000.00
	Excavation	9,173	CY	$50.00	$458,633.33
	Borrow	21,077	CY	$40.00	$843,093.33
	Granular Subbase	5,190	TON	$40.00	$207,608.40
	3/4" Minus Crushed Aggregate, Type 1	2,537	TON	$40.00	$101,497.44
	Plant Mix Pavement Superpave SP-3, PG 64-28	3,172	TON	$150.00	$475,769.25
	Curb Ramp	6	EA	$5,000.00	$30,000.00
	Sidewalk	5,237	SY	$100.00	$523,655.56
				Subtotal	**$2,695,257.31**
	Swan Falls Bridge				
	Steel Bridge (84.33ftx500ft)	42,200	SF	$425.00	$17,935,000.00
	3/4" Minus Crushed Aggregate, Type 1	2,342	CY	$40.00	$93,677.04
	Compacting Backfill	2,342	CY	$90.00	$210,773.33
	Retaining Walls	15,000	SF	$120.00	$1,800,000.00
				Subtotal	**$20,039,450.37**
	Miscellaneous				
	Signing	1	LS	$30,000.00	$30,000.00
	Lighting	1	LS	$250,000.00	$250,000.00
	Utilties	1	LS	$500,000.00	$500,000.00
	Drainage	1	LS	$100,000.00	$100,000.00
	Construction Traffic Control	1	LS	$500,000.00	$500,000.00
	Landscape and Irrigation	1	LS	$50,000.00	$50,000.00
				Subtotal	**$1,430,000.00**
	Mobilization	1	LS	10.00%	$2,416,470.77
				Improvement Subtotal	**$26,581,178.45**
	Incidentals and Contingency (% of Subtotal)	1	LS	30.00%	$7,974,353.54
	Engineering Design and Const Admin (% of Subtotal)	1	LS	20.00%	$5,316,235.69
TOTAL					**$39,871,768**

Notes:

1. The Consultant has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitve bidding or market conditions. Opinions or probable costs provided herein are based on the information known to Consultant at this time and represent only the Consultant's judgement as a design professional familiar with the construction industry.

2. The scope of work for this estimate is based upon the listed items only. If the local jurisdiction requires additional elements to be completed with the construction of this access road, this estimate will be adjusted to reflect this increased cost.

APPENDIX F

Environmental Scan

The environmental scan involved a desktop review of various publicly available online resources, as detailed below. The information in this appendix is intended for preliminary planning purposes and reference only. A more thorough environmental study will be necessary before final design activities.

Indian Creek

Indian Creek is classified as a "Water of the US," therefore any construction activity around Indian Creek is, at a minimum, subject to sections 303(d), 305(b), and 404 of the Clean Water Act (CWA), as well as the Idaho Stream Channel Protection Act. A joint application for permits will likely need to be filed with USACE and IDWR.

If a bridge pier or other project element is placed within ordinary high water or along the creek embankments, future project development may require additional biological review. If listed species could be affected, future federal review may also require consultation under Section 7 of the Endangered Species Act, supported by species surveys, impact analysis, and any needed mitigation measures.

Clean Water Act

Clean Water Act Section 303(d) of Impaired Waters

The Idaho Department of Environmental Quality (IDEQ) enforces state environmental laws and delegated federal programs (like the Clean Air and Water Acts) to prevent pollution and ensure safe environments.

The project runs within the southeast portion of the Lower Boise River watershed (HUC 17050114). Per Idaho's 2024 Integrated Report, this portion of Indian Creek is listed per section 303(d) of the CWA as a Category 5.

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

Discharge of Dredged or Fill Material

Section 404 of the Clean Water Act establishes a program to regulate the discharge of dredged or fill material into waters of the United States, requiring a permit before such discharge. Discharges or fills into Indian Creek fall under these regulations which are enforced by the U.S. Army Corps of Engineers.

Idaho Stream Channel Protection Act

The Idaho Stream Channel Protection Act mandates the protection of the state's stream channels and their surrounding environments to preserve fish and wildlife habitats, aquatic life, recreation, aesthetic beauty, and water quality. To achieve these goals, IDWR oversees any activities conducted within the beds and banks of continuously flowing streams. The act covers alteration work that obstructs, diminishes, destroys, alters, modifies, relocates, or changes the natural shape or direction of water flow, including removal of material from the channel and placement of material or structures in or across the channel.

Wetlands

The USFWS Wetland Mapper indicates that the section of Indian Creek potentially impacted by the proposed project is classified as Riverine, Upper Perennial, Unconsolidated Bottom, and

Permanently Flooded. To confirm the extent of jurisdictional wetlands and accurately quantify impacts, a wetland delineation is necessary. The design should incorporate practical alternatives to avoid or minimize these impacts.

FEMA Floodplain

According to the FEMA Flood Insurance Rate Map Panel 16001C0400J (effective 10/2/2003), a portion of the proposed project is within Zone A. Since a detailed analysis was not performed for this area, no depths or base flood elevations were shown for this area. Appendix D shows the FEMA map for the project area.

Soils

The U.S. Department of Agriculture's Natural Resources Conservation Service offers a soils database and information through the National Cooperative Soil Survey, known as the Web Soil Survey. Table 1 below summarizes the on-site soils data from the Web Soil Survey. The information is intended for preliminary planning purposes and is meant to serve as a reference only. It is important for a licensed geotechnical engineer to conduct a comprehensive geotechnical report before finalizing the design. Their report will offer design recommendations based on the soil conditions at the site and will also include construction material testing and inspections.

Table 1– Web Soil Survey

Name	Percent of Site	Description
Colthorp silt loam, 0 to 2 percent slopes	45.2%	- Well drained - Depth to water table: more than 80 inches - HSG D
Colthorp silt loam, 2 to 4 percent slopes	13.2%	- Well drained - Depth to water table: more than 80 inches - HSG D
Elijah silt loam, bedrock substratum 0 to 2 percent slopes	4.4%	- Well drained - Depth to water table: more than 80 inches - HSG C
Feltham loamy sand, 0 to 3 percent slopes	16.1%	- Somewhat excessively drained - Depth to water table: more than 80 inches - HSG A
Feltham loamy sand, 3 to 12 percent slopes	2.7%	- Somewhat excessively drained

		- Depth to water table: more than 80 inches - HSG A
McCain silt loam 2 to 4 percent slopes	14.4%	- Well drained - Depth to water table: more than 80 inches - HSG C
Water	4.0%	Water

Biological Resources

The IPaC website, maintained by the USFWS, contains a list of endangered species and migratory birds.Table 2 below summarizes the endangered species that may be affected by the project, and Table 3 summarizes the protected migratory birds identified for the project area.

Table 2 – Endangered Species

Name	Status
Monarch Butterfly Danaus plexippus	Proposed Threatened
Suckley's Cuckoo Bumble Bee Bombus suckleyi	Proposed Endangered
Slickspot Peppergrass Lepidium papilliferum	Threatened

Table 3 - Protected Migratory Birds

Name	Level of Concern	Breeding Season
American Avocet Recurvirostra americana	BCC-BCR	April 21 to August 10
American White Pelican Pelecanus erythrorhynchos	BCC-BCR	Apr 1 to Aug 31
Bald Eagle Haliaeetus leucocephalus	Non-BCC Vulnerable	Dec 1 to Aug 31
Black Tern Chlidonias niger surinamenisis	BCC Rangewide	May 15 to Aug 20
California Gull Larus californicus	BCC Rangewide	Mar 1 to Jul 31

Cassin's Finch Carpodacus cassinii	BCC Rangewide	May 15 to Jul 15
Clark's Grebe Aechmophorus clarkii	BCC Rangewide	Jun 1 to Aug 31
Evening Grosbeak Coccothraustes vespertinus	BCC Rangewide	May 15 to Aug 10
Forster's Tern Sterna forsteri	BCC-BCR	Mar 1 to Aug 15
Franklin's Gull Leucophaeus pipixcan	BCC Rangewide	May 1 to Jul 31
Golden Eagle Aquila chrysaetos	Non-BCC Vulnerable	Jan 1 to Aug 31
Lesser Yellowlegs Tringa flavipes	BCC Rangewide	Breeds elsewhere
Marbled Godwit Limosa fedoa	BCC Rangewide	Breeds elsewhere
Northern Harrier Circus hudsonius	BCC-BCR	April 1 to Sept 15
Pectoral Sandpiper Calidris melanotos	BCC Rangewide	Breeds elsewhere
Rufous Hummingbird Selasphorus rufus	BCC Rangewide	Apr 15 to Jul 15
Western Grebe Aechmophorus occidentalis	BCC Rangewide	Jun 1 to Aug 31
Willet Tringa semipalmata	BCC Rangewide	Apr 20 to Aug 5

The IPaC report provides information on the likelihood of birds being present in ten-kilometer grid cells that overlap with the project area. However, the actual presence of migratory birds along the project corridor may vary. To ensure compliance with regulations, coordination with the USFWS is recommended during future planning and construction phases.

Cultural and Recreational Resources

Projects that receive federal funding are subject to the National Historic Preservation Act, Section 106 and Section 4(f) of the U.S. Department of Transportation Act of 1966.

Section 106 of the National Historic Preservation Act protects important historic buildings and archaeological sites. A review of the National Register of Historic Places from the Idaho State Historic Preservation Office indicated no listed cultural resources in the project area. Future coordination with SHPO will be necessary to verify status before project development.

Section 4(f) of the U.S. Department of Transportation Act of 1966 requires consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development. Further coordination and evaluation of the project site will likely be required.

Known Hazardous Materials

The EPA EnviroMapper web application was reviewed to identify known hazardous materials concerns in the project area. Based on that desktop review, no known facilities within the project area were flagged for hazardous materials, air quality concerns, or waste-related issues.