

**STA 009A-021  
STATE HIGHWAY 9  
FRISCO TO BRECKENRIDGE**

**FINAL ENVIRONMENTAL IMPACT STATEMENT  
& Final Section 4(f) Evaluation**

Submitted Pursuant to  
42 USC 4332 (2) (c), 23 USC 128 (a) and 49 USC 303

By the  
US DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
and  
COLORADO DEPARTMENT OF TRANSPORTATION

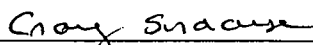
COOPERATING AGENCIES  
US Army Corps of Engineers  
US Forest Service

**Submitted by:**

  
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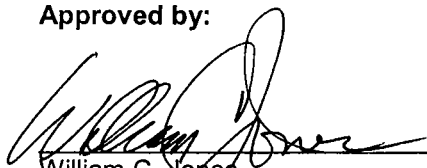
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**Abstract:**

This document is an abbreviated FEIS and was prepared in accordance with CEQ Regulation 40 CFR 1503.4(c) and Section VI.C. Abbreviated Version of Final EIS of FHWA Technical Advisory T 6640.8A, "Guidance for Preparing and Processing Environmental and Section 4(f) Documents," October 30, 1987. This document, consisting of two volumes, combined with Volume 1 and Volume 2 of the May 2002 Draft Environmental Impact Statement (DEIS), shall constitute the FEIS. Because public and agency comments did not substantially modify any of the alternatives or the environmental analysis in the DEIS, the full text of the draft has not been reprinted. Rather, the attached material along with the DEIS comprises the complete FEIS.

This document identifies and describes the components and mitigation measures for the Preferred Alternative for State Highway 9 between Frisco and Breckenridge: a four-lane reduced median roadway (Alternative 3 in the DEIS). It also includes:

- ▶ A section describing the selection process, the public and agency involvement process, and a detailed description of the components of the Preferred Alternative (Chapter 1.0)
- ▶ A summary of floodplain encroachment (Chapter 2.0)
- ▶ A summary of the *Wetland Finding* (Chapter 2.0 and Appendix E for the complete Wetland Finding)
- ▶ A rewrite of the entire Water Quality and Water Resources sections for existing conditions and for impacts in Chapters 3.0 and 4.0 of the DEIS (Chapter 2.0)
- ▶ Mitigation Measures for the Preferred Alternative (Chapter 3.0)
- ▶ The final Section 4(f) Evaluation prepared based on comments from the Department of Interior (DOI) (Chapter 4.0)
- ▶ Copies of comments received on the DEIS and response to those comments (Appendix A)

Comments on this FEIS are due by April 19, 2004 and should be sent to Ms. Jill Schlaefer, Project Manager, Colorado Department of Transportation Region 1, 18500 East Colfax Avenue, Aurora, CO 80011.

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# State Highway 9 (Frisco to Breckenridge)

## Final Environmental Impact Statement and Final Section 4(f) Evaluation

Prepared for:

Federal Highway Administration  
Colorado Department of Transportation

Prepared by:

**CarterBurgess**

<b>CONVERSION FACTORS</b>		
1 meter	=	3.281 feet
1 kilometer	=	0.622 miles
1 hectare	=	2.471 acres
1 kilogram	=	2.205 pounds
1 foot	=	0.305 meters
1 mile	=	1.609 kilometers
1 acre	=	0.405 hectares
1 pound	=	0.454 kilograms

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## SH 9 Final Environmental Impact Statement

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Only this abbreviated FEIS is being provided to those who received a copy of the DEIS. Both the FEIS and the DEIS can be found on the project Web site at [www.hwy9friscotobreck.com](http://www.hwy9friscotobreck.com). Copies of the DEIS, abbreviated FEIS and engineering plan sheets are available in hard copy format for public inspection at the following locations and/or by request from CDOT Region 1:

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## List of Acronyms

AASHTO	American Association of State Highway and Transportation Officials	LOS	Level of Service
ACHP	Advisory Council on Historic Preservation	MIS	Management Indicator Species
BMPs	Best Management Practices	MSE	Mechanically Stabilized Earth
☪	Centerline	MUTCD	Manual on Uniform Traffic Control Devices
CAG	Citizens Advisory Group	NAAQS	National Ambient Air Quality Standards
CDOT	Colorado Department of Transportation	NEPA	National Environmental Policy Act
CDOW	Colorado Division of Wildlife	NFS	National Forest System
CDPHE	Colorado Department of Public Health and Environment	NHPA	National Historic Preservation Act
CEQ	Council on Environmental Quality	NPDES	National Pollutant Discharge Elimination System
CR	County Road	NRHP	National Register of Historic Places
dBA	A-weighted Decibels	RECAT	Regional Erosion Control Advisory Team
DEIS	Draft Environmental Impact Statement	ROD	Record of Decision
DOT	United States Department of Transportation	SAMP	Special area management plan
DRRec	Dillon Reservoir Recreational Management Area	SH	State Highway
DSP&P	Denver, South Park and Pacific Railroad	SHPO	State Historic Preservation Officer
EIS	Environmental Impact Statement	SWMP	Stormwater Management Plan
EO	Executive Order	TDM	Transportation Demand Management
EPA	Environmental Protection Agency	TMO	Transportation Management Organization
FEIS	Final Environmental Impact Statement	TWG	Technical Working Group
FEMA	Federal Emergency Management Agency	USACE	United States Army Corps of Engineers
FHWA	Federal Highway Administration	USFS	United States Forest Service
FK-BR	Frisco-Farmer's Korner-Blue River	USFWS	United States Fish and Wildlife Service
FOR	Final Office Review	WQCD	Water Quality Control Division
HOV	High Occupancy Vehicle		
IGA	Inter Governmental Agreement		





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## EXECUTIVE SUMMARY

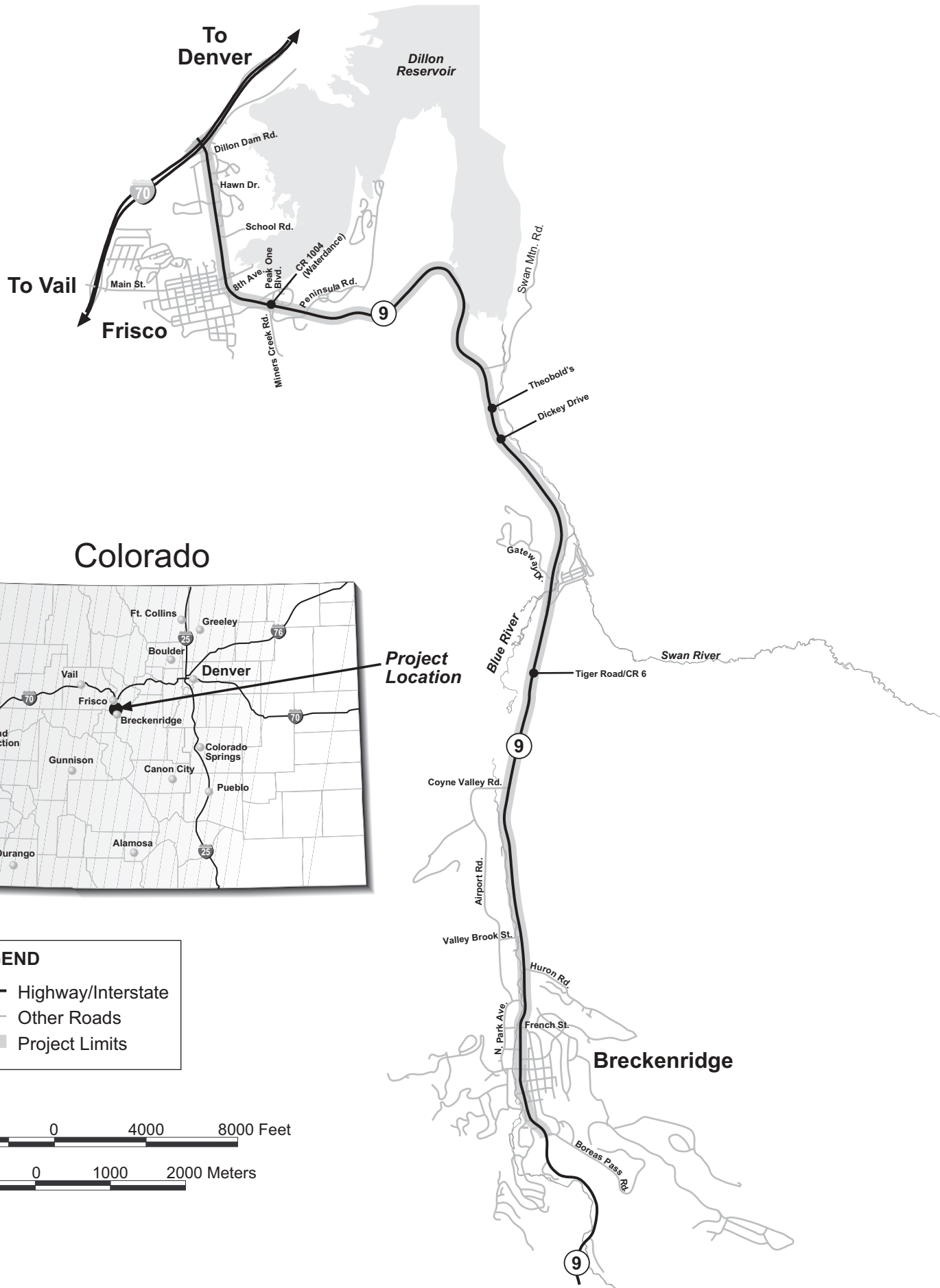
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### ES 1.0 INTRODUCTION

The Federal Highway Administration (FHWA), in cooperation with the Colorado Department of Transportation (CDOT), has identified a Preferred Alternative for improvements to a 14.5-kilometer (9-mile) stretch of State Highway (SH) 9 between the northern limits of the Town of Frisco and the southern limits of the Town of Breckenridge in Summit County, Colorado (see **Figure ES-1**). The improvements include adding two through lanes, installing a divided median, improving intersections and adding shoulders. The current T intersection at North Park Avenue and Main Street in Breckenridge will be replaced with a roundabout. In addition, SH 9 will be redesignated to Park Avenue through Breckenridge. The improvements are needed to address existing congestion problems, increase safety, maintain future mobility, and to accommodate existing and projected development and transportation needs along SH 9 for the study design year of 2020.

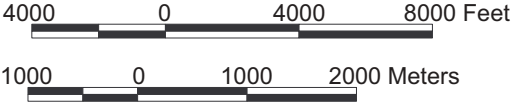
The National Environmental Policy Act (NEPA) of 1969 requires the preparation of an Environmental Impact Statement (EIS) when there are significant impacts on the human environment caused by a Federal project or action. In an effort to streamline the process, reduce paperwork, make it easier for the public to read, and save on cost, an abbreviated final EIS format was selected for this documentation of a Preferred Alternative. This format was most appropriate given the minimal controversy regarding this project at the time the draft EIS (DEIS) was published, the minor comments received during the review period, and the completeness of the DEIS. Use of this format is in compliance with Council of Environmental Quality (CEQ) Regulation 40 CFR 1503.4(c) and Section VI.C Abbreviated Version of Final EIS of FHWA Technical Advisory T 6640.8A, "Guidance for Preparing and Processing Environmental and Section 4(f) Documents," October 30, 1987. This document and the DEIS constitutes the complete final EIS.

In May 2002 the DEIS was made available to the public for a 75-day public comment period, concluding on August 15, 2002. A public hearing for the DEIS was held on June 19, 2002, at Summit High School with 51 people attending. Based on comments received on the DEIS and input from the Citizens Advisory Group (CAG) and Technical Working Group (TWG), FHWA and CDOT identified Alternative 3 from the DEIS as the Preferred Alternative (see Section 1.4 for a detailed description). The abbreviated final EIS was then prepared addressing all comments received on the DEIS,



**LEGEND**

- Highway/Interstate
- Other Roads
- Project Limits



documenting the identification of the Preferred Alternative, and identifying mitigation of impacts associated with the Preferred Alternative. The publication of the abbreviated final EIS will be followed by a 30-day public comment period concluding on April 19, 2004 and will include a public hearing. Notification of the public hearing will be made at least 15 days prior to the date of the public hearing. A Record of Decision (ROD) will document the FHWA's selection of the Preferred Alternative, summarize the environmental impacts and list both possible mitigation measures and those agreed to.

FHWA and CDOT contacted the Environmental Protection Agency (EPA), US Fish and Wildlife Service (USFWS), US Forest Service (USFS) and US Army Corps of Engineers (USACE) for concurrence on using an abbreviated format for the final EIS. All agencies concurred with the preparation of an abbreviated final EIS. In addition to this document, the DEIS is available for detailed disclosure of all alternatives under consideration.

The most significant difference since the DEIS was published in May 2002 is the design for the North Park Avenue and Main Street intersection. This intersection will be a roundabout and the design is fully described in Section 1.4.2.2. The impacts of the roundabout are less than the previous intersection design described in the DEIS.

Other primary differences between the draft and the final EIS include:

- Rewrite of the Water Quality and Water Resource sections of Chapters 3.0 and 4.0 of the DEIS (see Chapter 2.0): these sections of the DEIS were rewritten to more accurately detail the existing conditions, impacts, and mitigation of water quality and water resources in the SH 9 study area.
- Mitigation Measures (Chapter 3.0): mitigation for impacts associated with the Preferred Alternative is discussed in more detail for resources in the study area.

## **ES 2.0 PURPOSE AND NEED**

The purpose of this project is to improve transportation along SH 9 by decreasing travel time, improving safety, and supporting the transportation needs of local and regional travelers while minimizing impacts to the surrounding environment and communities (see Chapter 1.0 of the DEIS for a full discussion of the Purpose and Need).

In general, the need for this project can be categorized into four major areas: roadway capacity and mobility; safety; growth; and transit. Some of the major points associated with each of these categories are:

- The existing two-lane roadway is currently operating at capacity, with year 2020 traffic volumes expected to increase by 50%.
- The accident rate for the study area exceeds the statewide average – inconsistent lane and shoulder widths contribute to this high accident rate. (For accident data see **Figure 1-7** on page 1-16 of the DEIS.)
- Population growth in Summit County has historically been greater than the statewide and national averages – this trend is expected to continue (see **Figure 1-9**, page 1-21 of the DEIS for population comparison).
- Although transit service in the study area is currently good without changes to transportation capacity, service will decline as congestion increases with traffic volumes.

### ES 3.0 ALTERNATIVES

Chapter 2.0 of the DEIS describes the process used to identify the range of reasonable alternatives fully assessed (see Chapter 2.0 of the DEIS for a complete analysis of all alternatives assessed). Reasonable alternatives which were fully evaluated in the DEIS included:

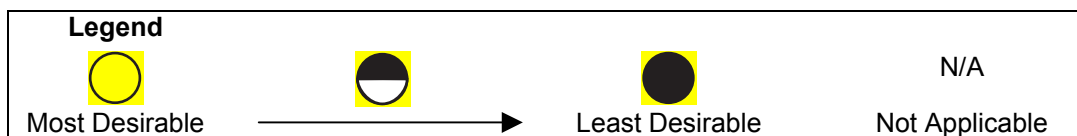
- **No-Action Alternative.** This alternative assumed completion only of those transportation projects that were committed or programmed by CDOT, or the Towns of Frisco and Breckenridge, Summit County or Summit Stage. This alternative was fully assessed as an alternative and for use as a “baseline” against which other alternatives were evaluated.
- **Alternative 1 – Four-Lane Full-Width Median.** This alternative included four through-lanes and either a depressed rural median, a raised median or a barrier-protected median, shoulder improvements, and intersection improvements. The goal of Alternative 1 was to improve safety and mobility. This alternative did not preclude future transportation options beyond the scope of this study.
- **Alternative 2 – Four-Lane Full-Width Median Bus/HOV.** This alternative was identical to Alternative 1 in its physical characteristics with a designated bus and/or High Occupancy Vehicle (HOV) lane. During peak periods, possibly on weekdays only, the use of the outside lane would be limited to buses and carpools with two or more people in a vehicle. By encouraging diverse travel modes, the goals of this alternative were to improve safety and mobility and to provide enhanced operations for HOVs during peak periods.

- **Alternative 3 – Four-Lane Reduced Section.** Alternative 3, identified as the Preferred Alternative, is identical to Alternative 1 in the number and use of through lanes. It varies from Alternative 1 in that the width of the median and shoulders are reduced. The reduced median results in a reduced total section width. The goal of this alternative is to improve safety and mobility while minimizing corridor physical impacts.
- **Alternative 4 – Enhanced Two-Lane.** Alternative 4 was similar to the No-Action Alternative. The two through lanes would be similar to existing conditions. In addition, a median (raised or depressed) would be added for safety purposes. Some additional acceleration and deceleration lanes also were included. The goals of the alternative were to improve safety and to minimize corridor physical impacts. Alternative 4 was fully evaluated in the draft EIS based on community input. Although Alternative 4 does not meet the purpose and need for the project, the Breckenridge Town Council and the Upper Blue Planning Commission felt strongly that it should be carried forward in the DEIS. The Breckenridge Town Council and the Upper Blue Planning Commission argued convincingly that as the only roadway alternative to widening SH 9 to four lanes, the general public would want to see a full and complete evaluation on the Enhanced Two-Lane Alternative.

The Preferred Alternative was determined by comparing the findings of all the social, economic, and environmental impacts of the alternatives, and public comments received on the DEIS. **Table ES-1** presents the results of the alternatives decision process.

**Table ES-1:  
Preferred Alternative Decision Matrix**

Criteria	No-Action Alternative	Alternative 1 Four-lane full-width median	Alternatives Alternative 2 Four-lane full-width median bus/HOV	Preferred Alternative Four-lane, reduced section	Alternative 4 Enhanced two-lane*
Identify the alternatives that best meet the project purpose and need	●	○	◐	○	●
Identify the Least Environmentally Damaging Practicable Alternative in accordance with Section 404 of the Clean Water Act (b)(1) Guidelines	◐	●	●	◐	●
Identify the Environmentally Preferred Alternative in accordance with CEQ	●	◐	◐	○	◐
Identify the alternatives that are feasible to build	N/A	◐	◐	◐	○
Identify the alternatives that are affordable or can be financed over an acceptable period	N/A	●	●	◐	◐
Identify the alternatives that meet the needs or objectives of social, economic and environmental concerns	●	◐	◐	○	●
Identify the alternatives with the most public acceptance	●	◐	◐	○	●
Identify the alternatives that best fits the long-term vision	●	○	○	◐	●
Identify the alternatives that best avoids, minimizes, and mitigates impacts to Section 4(f) properties	◑	◑	◑	◑	◑



\* Does not meet purpose and need for the project

### **ES 3.1 PREFERRED ALTERNATIVE**

The Preferred Alternative identified in this abbreviated final EIS is Alternative 3 – four-lane reduced section from the DEIS. The Preferred Alternative includes Transportation Demand Management (TDM) elements, such as special traffic signals to give priority to buses, bus stop amenities, and partial funding of a Transportation Management Organization (TMO) and its programs. In addition, it includes the redesignation of SH 9 from Main Street to Park Avenue, and includes a roundabout at the North Park Avenue and Main Street intersection in Breckenridge. Components of the Preferred Alternative are thoroughly described in Section 1.4.

### **ES 4.0 Environmental Impacts**

The existing social, economic, and environmental conditions within the study area are described in Chapter 3.0 of the DEIS. Chapter 4.0 of the DEIS presents a thorough discussion of environmental consequences, both adverse and beneficial, that are likely to result from the alternatives considered, including the Preferred Alternative (Alternative 3 in the DEIS). The abbreviated final EIS focuses on the Preferred Alternative.

The environmental impacts associated with the Preferred Alternative are:

- Acquisition of 14.6 hectares (36 acres) of land for right-of-way. This includes one single-family home and three businesses.
- Noise levels at 35 receptors approach or exceed the CDOT Noise Abatement Criteria.
- Increase in impervious surface area of approximately 15 hectares (38 acres).
- Longitudinal direct impacts to the Blue River and Dillon Reservoir floodplains of approximately 1.6 hectares (4.01 acres).
- Impacts to 9 Section 4(f) properties totaling 5.4 hectares (13.2 acres).
- A total of 0.396 hectare (0.979 acre) of permanent wetland impacts and 0.287 hectare (0.706 acre) of temporary wetland impacts.

Benefits associated with the Preferred Alternative include:

- A reduction in accident per kilometer of approximately 40% to 60%.
- Redesignation of SH 9 to Park Avenue moves through traffic away from the Breckenridge Historic District.
- The roundabout intersection in Breckenridge has fewer impacts to wetlands than the previous intersection design in the DEIS.
- The narrower width results in fewer environmental impacts than the wider width alternatives.
- Improved conditions for pedestrians and bicyclist with the provision of median, shoulders, and improvements to the existing bikeway.
- Realignment of the bikeway at Leslie's Curve results in improved pedestrian and bicyclist safety.

## ES 5.0 Mitigation

Mitigation for impacts as a result of construction of the Preferred Alternative is described in detail in Chapter 3.0 of this abbreviated final EIS and summarized below:

- Right-of-way acquisition will comply with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* (Public Law 91-646), as amended and the *Uniform Relocation Act Amendments of 1987* (Public Law 100-17) (see Section 3.4).
- Six noise barriers are recommended for inclusion with the Preferred Alternative and will be reanalyzed during final design to determine their final feasibility and reasonableness (see Section 3.9). Affected property owners and jurisdictions will be consulted about the possibilities regarding noise mitigation.
- Impacts to water resources, water quality and floodplains will be mitigated with appropriate best management practices (BMPs) as discussed in Section 3.10 and Section 3.13.
- Impacts to Section 4(f) properties will be mitigated appropriately as listed in **Table 4-3**, including bikeway relocation.
- Directly impacted wetlands, estimated to be 0.396 hectare (0.979 acre), will be replaced at a series of mitigation sites located within the study area and within the Blue River watershed on at least a 1:1 basis. The replacement wetlands will have functions and values similar to the impacted wetlands (see Section 2.2 and Appendix E).



- CDOT will follow measures outlined in the *Aesthetic Study and Design Guidelines* (see Appendix G on how to obtain a copy) prepared for the project and continue coordination with local jurisdictions.

## ES 6.0 Section 4(f) Evaluation

Based on comments on the DEIS from the Department of Interior (DOI), the final Section 4(f) Evaluation was prepared in greater detail (see Chapter 4.0). Fifty resources, consisting of historic, park, and recreation properties, were identified in the study area. Forty-one of these properties, although located in the highway corridor, are not impacted with the Preferred Alternative (see **Table 4-1**) and were dismissed from further evaluation. The remaining 9- Section 4(f) properties have minor impacts as a result of the Preferred Alternative (see **Table 4-2**). Evaluation of these impacts and opportunities for avoidance and all possible planning measures to minimize harm are discussed in Chapter 4.0 of this abbreviated final EIS.

## ES 7.0 Other Major Governmental Actions

Other federal actions required include:

- Approval of Section 404 permit for impacts to waters of the US from USACE.
- Granting of an easement from the USFS to CDOT for transportation purposes.
- Coordination and implementation of Section 4(f) mitigation, described in Chapter 4.0, with appropriate agencies.
- Approval of land transfer from Summit County and the Town of Breckenridge for the roundabout construction.

## ES 8.0 Major Unresolved Issues

### Tolling of SH 9

CDOT Colorado Tolling Enterprise (CTE) has initiated a statewide study of highway corridors, which are planned for future widening, to evaluate the feasibility of converting to a toll-road system. Although SH 9 between Frisco and Breckenridge has been noted as a candidate for further tolling study by the CTE, the SH 9 Frisco to Breckenridge DEIS has eliminated tolling or HOT (high occupancy/toll) lane alternatives from further consideration due to several reasons cited in Chapter 2,

Section 2.5.1.3 pages 2-11 and 2-12 of the DEIS (May 2002). If tolling of SH 9 is determined to be a viable alternative, a re-evaluation of this Final EIS will be needed.

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## CHAPTER 1.0: PREFERRED ALTERNATIVE

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This chapter discusses the process followed for identification of the Preferred Alternative and provides a detailed description of the major components included with the Preferred Alternative.

The identification of a Preferred Alternative included input from various resource agencies, project advisory groups, and the general public. Five alternatives, including the No-Action Alternative, were analyzed in the DEIS and presented to the public in May and June 2002. Based on comments received and input from the project advisory groups and resource agencies, FHWA and CDOT identified Alternative 3 of the DEIS as the alternative that best met the SH 9 Purpose and Need (see Chapter 1.0 of the DEIS), project goals (see Chapter 2.0 of the DEIS), community needs and that minimized environmental impacts.

In an effort to streamline the process, reduce paperwork, make it easier for the public to read, and save on cost, an abbreviated final EIS format was selected for this documentation of a Preferred Alternative. This format was most appropriate given the minimal controversy regarding this project at the time the DEIS was published, the minor comments received during the review period, and the completeness of the DEIS. Comments received did not substantially modify any of the alternatives or the environmental analysis in the DEIS. Use of this format is in compliance with CEQ Regulation 40 CFR 1503.4(c) and Section VI.C Abbreviated Version of Final EIS of FHWA Technical Advisory T 6640.8A, "Guidance for Preparing and Processing Environmental and Section 4(f) Documents," October 30, 1987. This document along with the DEIS constitutes the complete final EIS.

### 1.1 IDENTIFICATION OF THE PREFERRED ALTERNATIVE

Alternative 3 from the SH 9 DEIS (May 2002) was identified as the Preferred Alternative and is discussed in detail in this abbreviated FEIS. Section 1.2 describes the Evaluation Criteria, Section 1.3 describes the Coordination and Public Involvement Process and Section 1.4 details the components comprising the Preferred Alternative. The Preferred Alternative was determined by comparing the findings of all the social, economic and environmental impacts of the alternatives (see **Table ES-1**) and through input from the public and resource agencies. The Preferred Alternative was identified for the following reasons:

- It is the least environmentally damaging alternative, which fully meets the Purpose and Need for roadway capacity and mobility; safety; growth; and transit for the design year of 2020. While Alternative 4 has less environmental impacts it does not meet purpose and need for the project. The purpose of the SH 9 project is to improve transportation along SH 9 by decreasing travel time, improving safety, and supporting the transportation needs of local and regional travelers while minimizing impacts to the surrounding environment and communities (see Chapter 1.0 of the DEIS for a complete discussion).
- Compared with the two build alternatives presented in the DEIS that meet purpose and need, this alternative best achieves the top five essential factors of the community as expressed in the public opinion survey results. These factors include minimize impacts on water quality, improve traffic safety, maintain or improve air quality, minimize impacts on wildlife and decrease traffic congestion. Alternative 4 has less impacts on water quality and wildlife but does not meet purpose and need.
- It has broad public and agency support.
- Of the two build alternatives that meet purpose and need, the Preferred Alternative has the least environmental impacts and property takes, maintains water quality, maintains air quality, limits impacts to wetlands and wildlife, is affordable, and can be constructed in an acceptable timeframe. Alternative 4 has less property takes, better maintains water quality, has less impacts to wetlands and wildlife, is more affordable and can be constructed in a shorter timeframe, however, it does not meet purpose and need.
- It improves safety to an acceptable level (compared to Alternatives 1, 2 and 4).
- It is compatible with transit needs with the inclusion of TDM elements described in Section 1.4.4 and Section 1.4.5 of this document.
- Of the build alternatives that meet purpose and need, it has the least impacts to Section 4(f) properties. While Alternative 4 has fewer impacts to Section 4(f) properties it does not meet purpose and need for the project.

The No-Action Alternative and other three build alternatives were dismissed for the following reasons:

- The No-Action Alternative did not meet Purpose and Need.
- Alternatives 1 and 2 had greater levels of environmental impacts.
- The bus/ HOV lane component of Alternative 2 had more impacts than benefits because mobility in the non-HOV lane would be greatly impeded (see below).

- Alternative 4 did not meet the Purpose and Need.

The community expressed support throughout the process for inclusion of a transit component to improvements to SH 9. Therefore, an analysis was conducted of the bus/HOV lane, as identified in Alternative 2, to determine the extent of benefits versus impacts. The bus/HOV lane analyzed has the following characteristics:

- Usage: Buses and vehicles with two or more occupants would be allowed to use the bus/HOV lane.
- Flow: Bus/HOV facility would be one lane in each direction.
- Alignment: Out-side lane location. This is more compatible with roadways that have frequent accesses, such as SH 9.
- Separation: Non-barrier separation with use of striping. This is more compatible with an outside lane location and with snow removal and road icing impacts. It also accommodates the corridor characteristics (rural setting and frequent access).
- Access: Continuous access is required on SH 9 to accommodate use of the outside lane for right-turning vehicles, as well as allow flexible use for HOV vehicles to enter and exit the HOV lane.

Several issues identified during the analysis could create unsafe conditions and would be counter to the purpose and need objectives to improve safety and mobility. The analysis determined the following:

- There would be no passing ability for single occupant vehicles in the general purpose lane. This could encourage illegal passing in the bus/HOV lane.
- Average speeds in the bus/HOV lane are likely to be 3 to 5 miles per hour faster than the general purpose lane, creating a greater speed differential with turning vehicles to and from connecting roads. There would be no physical separation between the two lanes with disparate speeds.
- Trucks and slow moving vehicles could cause significant delays in the general purpose due to the inability for other vehicles to pass.
- Turn movements at intersections may reduce the efficiency of the bus/HOV lane for through trips because the bus/HOV lane would be in the outside lane. If a separate turn lane is added, the overall intersection template would increase.
- Public comments were not in favor of the bus/HOV alternative.

- The bus/HOV lane would be located only between the Towns of Frisco and Breckenridge, not within the Towns.

## 1.2 EVALUATION CRITERIA

In the DEIS the project team measured the effectiveness of the alternatives through data collection and analysis. The CAG and TWG then provided advice and input relative to weighing and prioritizing the alternatives. The evaluation criteria and measures of effectiveness were applied to the DEIS alternatives as described in Chapter 2.0 of the DEIS, and as shown in **Figure 1-1** for identification of the Preferred Alternative.

In the DEIS, a process was described in which the CAG and TWG weighed and prioritized criteria. The ranking of criteria used for the initial range of alternatives remained the same for evaluating the four build and no-action alternatives. As shown on **Figure 1-1**, the criteria are listed in ranked order, and are specific, measurable, and reflect the community's needs. For purposes of this evaluation, any alternative that received one or more "least desirable" was dismissed. This resulted in the identification of Alternative 3 as the Preferred Alternative.

## 1.3 COORDINATION AND PUBLIC INVOLVEMENT PROCESS

The public and agency involvement process on the identification of the Preferred Alternative included the DEIS public hearing; one meeting with the project advisory groups; one bus/HOV subcommittee meeting; and meetings with county and towns, state and federal agencies, emergency service providers, and the general public (see DEIS, Volume 2). These meetings were held to discuss the evaluation of alternatives, the Preferred Alternative, mitigation measures, and issues such as right-of-way impacts and cost.

In May 2002 the DEIS was made available to the public for a 75-day public comment period concluding on August 15, 2002. A public hearing was held on June 19, 2002, at the Summit High School with 51 people attending. Overall, the public and the reviewing agencies supported Alternative 3 as the Preferred Alternative to be identified in the FEIS. However, there was some support, though minimal, for other alternatives. Based on comments received from the Department of Interior the Final Section 4(f) Evaluation was prepared in greater detail and is presented in Chapter 4.0 of the abbreviated FEIS. At the request of EPA the water resources and water quality sections of Chapters 3.0 and 4.0 of the DEIS were modified and are presented in Chapters 2.0 and 3.0 of the FEIS. Other public concerns included traffic flow and safety, right-of-way

Evaluation Criteria (In Ranked Order)	Alternative 1 4-Lane Full Width	Alternative 2 4-Lane Full Width with Bus/HOV	Alternative 3 4-Lane Reduced Median	Alternative 4 2-Lane Enhanced*	No Action
1. Does the alternative address the following environmental issues: maintain or improve water quality, maintain or improve air quality, limit impacts to wetlands and wildlife?					
1a. Does the alternative have the least environmental impacts, property takes and most minimization of harm?					
2. Does the alternative meet the project's purpose and need for roadway capacity/mobility?					
3. Does the alternative meet transportation needs of community (residents and visitors) access/availability of transit, future transit options?					
4. Does the alternative have the potential to improve safety (reduction in accidents, as well as other issues such as access, shoulders medians, curves, etc...)?					
5. Does the alternative meet the top five essential factors of the community as expressed in the public opinion survey (minimal impact on water quality, improve traffic safety, maintain or improve air quality, minimal impact on wildlife and decrease traffic congestion)?					
6. Public and agency support.					
7. Is the alternative affordable? Time frame for implementation?					

August 15, 2002



\* Does not meet purpose and need for the project

requirements, opposition to a bus/HOV lane, access concerns, bikeway, noise, and problems associated with snow/snow plowing. Of the comments received, none required a reanalysis of impacts or redesign of the alternatives. Appendix A includes all of the comments received during the public review period and at the public hearing. Responses to those comments are provided as well.

### 1.3.1 PROJECT ADVISORY GROUPS

The primary role of both project advisory groups, the CAG and TWG, was to provide advice to FHWA and CDOT throughout the NEPA process. Prior to the issuance of the DEIS, these groups met over 10 times separately and jointly.

- The CAG provided input on community issues and monitored the progress of the project relative to the overall public input and the agency decision-making process. Members of this committee were appointed to represent different groups along SH 9, including an environmental group, Summit Stage, Breckenridge Ski Area, Premier Resorts, local elected officials, Upper Blue River Planning Commission, Ten Mile Planning Commission, Frisco Town Council, Breckenridge Town Council, Summit County Commissioners, Gold Hill Neighborhood, Silver Sheckel Homeowners Association, Tiger Run RV Resort, and Stan Miller, Inc. This committee met 13 times prior to issuance of the FEIS.
- The TWG focused on planning, engineering, and environmental issues and assisted in the development and refinement of alternatives. Members of this committee were staff from the towns and jurisdictions within the study area who had a technical background. Also included were individuals from state and federal agencies. This committee met 11 times prior to issuance of the FEIS.

On July 15, 2002 a subcommittee to the CAG/TWG was organized by CDOT to help determine the applicability of a bus/HOV option for the Preferred Alternative documented in the SH 9 abbreviated FEIS. Representatives from Summit County, the Town of Breckenridge, the Town of Frisco and Summit Stage participated. During this meeting, committee members suggested that the FEIS recommendation should consider other transit-related treatments (see Section 1.4.4 and 1.4.5), in addition to a bus/HOV lane. Based on careful analysis, discussions at this meeting, and the subsequent CAG/TWG meeting (discussed below), FHWA and CDOT decided that a bus/HOV lane would not be included as part of the Preferred Alternative.

Following the public hearing for the DEIS (June 19, 2002), the CAG and the TWG held a joint meeting on August 21, 2002. The purpose of this meeting was to obtain input from



members regarding the Preferred Alternative. Comments received at the Public Hearing and during the 75-day public comment period were presented to the group, as well as results from the public opinion survey conducted in October 2001 by a consultant on behalf of CDOT. Evaluation criteria applied to the alternatives were presented and discussed by the group (see **Figure 1-1**). During the meeting, group members had an opportunity to ask project staff questions, and each member was given the opportunity to state their preferred alternative. Based on the feedback obtained from the meeting and given the consensus of the group, and the minor nature of the comments received regarding the DEIS and cooperating agencies (see Appendix A), FHWA and CDOT identified Alternative 3 as the Preferred Alternative to be carried forward in this abbreviated FEIS.

### 1.3.2 GENERAL PUBLIC OUTREACH

- **Public Hearing on DEIS** – A public hearing for the DEIS was held on June 19, 2002, at Summit High School. Fifty-one people attended. Displays were located around the room as well as copies of the DEIS and plan sheets. Project staff were available to answer questions from the public. A transcriber was present to record comments from the attendees. Comments received and responses to the comments are included in Volume 2, Appendix A of the FEIS.
- **Special Meetings** – Special meetings were held with Town and County Staff, Town Councils and County Commissioners, Planning Commissioners, Developers, Landowners, and the Breckenridge Ski Resort concerning the alignment, right-of-way needs, Section 4(f), aesthetic treatments, and development of a wildlife crossing.
- **Project Postcard** – A postcard was prepared providing notification of the Public Hearing date and location. This postcard was sent in the spring of 2002 to a mailing list of over 2,500 people.

A final postcard will be sent to announce the publication and availability of the FEIS and will include an invitation to a Public Hearing.

- **Newsletters** – In May 2002 Newsletter #4 was mailed to those on the project mailing list containing information on the status of the EIS, notice of availability of the DEIS for public review and the viewing locations, and the date of the public hearing. Newsletter #5 will be mailed upon availability of the FEIS for public review, and will include the viewing locations and the date of the public hearing.
- **Public Information and Press Releases** – Press releases, newspaper ads and public service announcements were sent to print and radio media prior to the DEIS public hearing and will be sent prior to the FEIS public hearing

- **One-on-One Meetings with Individual Property Owners** – CDOT staff have met with property owners in the study area throughout the EIS process to discuss the alignment, right-of-way, and wildlife crossing needs.
- **Web Site** – An internet Web site was designed to provide real-time access to project progress and enable visitors to provide comments on the project. The DEIS and FEIS are available on the Web site. The Web site address is [www.hw9friscotobreck.com](http://www.hw9friscotobreck.com). The SH 9 Web site will remain active for several months following the publication of the ROD at which time CDOT will assume responsibility.

### **1.3.3 AGENCY INVOLVEMENT**

- **Local and Resource Agency Meetings** – These meetings were held with the local, state and federal agencies that have a regulatory responsibility for various resources, such as wetlands, wildlife crossing, aesthetic treatments, Section 4(f) mitigation, endangered species or water resources, in the study area. A wildlife crossing meeting was held on August 30, 2002, to discuss crossing locations and designs. Agencies attending included USFS, USFWS, CDOW and Summit County. Meetings with the EPA to discuss comments on the DEIS were held on September 4, 2002, and November 8, 2002.
- On January 23, 2003 a meeting was held with the USACE to discuss the preparation of the *Wetland Finding* for the FEIS. A second meeting was held on June 19, 2003, to review the final *Wetland Finding* with the USACE. A draft 404 permit has been submitted to the USACE for review and comment.
- Meetings regarding the North Park Avenue and Main Street roundabout were held with Summit County, Summit Justice officials, and the Town of Breckenridge.
- A public Open House regarding the roundabout was held on May 7, 2003.

### **1.4 PREFERRED ALTERNATIVE**

The Preferred Alternative identified for transportation improvements to SH 9 is the four-lane reduced section roadway (Alternative 3 in the DEIS). The goals are to improve safety and mobility and to minimize corridor physical impacts. Four continuous through lanes as well as necessary turn lanes and acceleration/deceleration lanes, curb and gutter, medians, shoulders, and intersection improvements are provided between Frisco and Breckenridge. Also included is a roundabout at the North Park Avenue and Main Street intersection and the redesignation of SH 9 from Main Street to Park Avenue in Breckenridge. Other components of the Preferred Alternative include transit improvements, TDM elements, improved pedestrian and bicycle facilities, drainage

improvements, retaining walls, lighting, and landscaping. All of these elements are discussed in detail in this section.

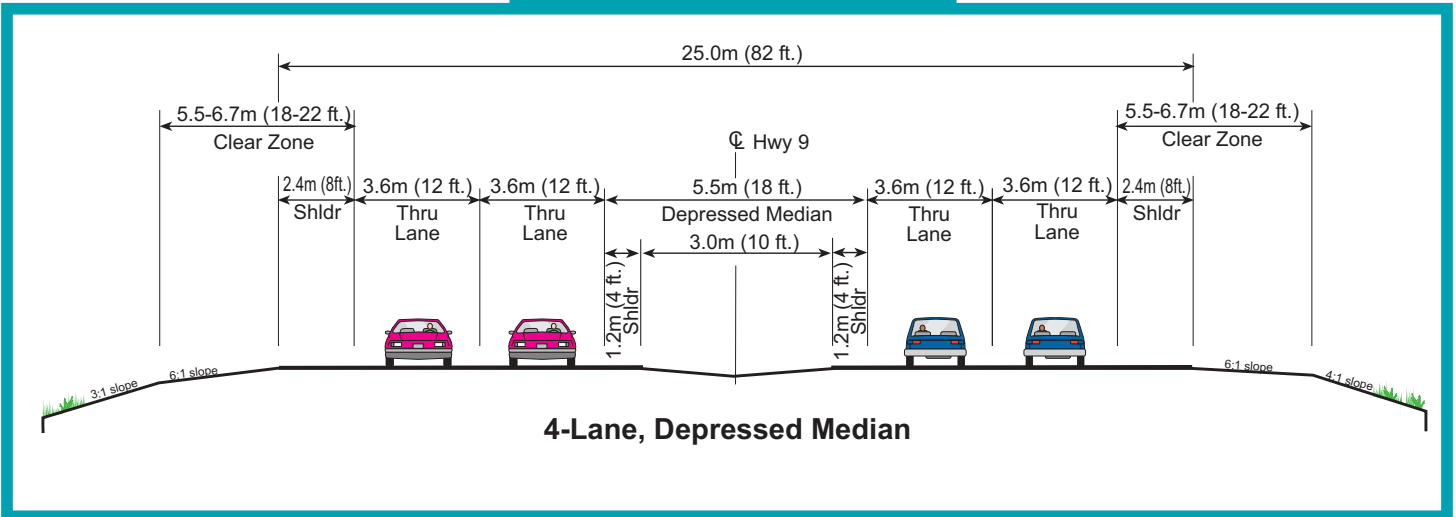
**Figure 1-2** and **Figure 1-3** illustrate the different sections and layout for improvements along SH 9. As shown in these figures, the three basic sections for this alternative include four 3.6-meter (12-foot) travel lanes, a 3- to 5.5-meter (10- to 18-foot) median (depressed, raised, barrier-protected), 2.4- to 3-meter (8- to 10-foot) outside shoulders and 1.2-meter (4-foot) inside shoulders except in urban sections (see Typical Section B). In the urban sections (Typical Section B), the outside shoulder may vary if replaced with curb and gutter. With the depressed median (see Typical Section A), the outside shoulders are 2.4 meters (8 feet).

At its widest, the median is 5.5 meters (18 feet). At different locations along the alignment, medians are a depressed rural median, a raised median or a barrier-protected median. The depressed rural median is 3 meters (10 feet). Depressed medians are generally located away from intersections. The depressed median is proposed north of Leslie's Curve, and between Swan Mountain Road and Coyne Valley Road (Typical Section A). The transition to raised medians generally occurs near intersections to define turn lanes and separate opposing traffic flow. The raised median is 5.5 meters (18 feet) and is proposed north of Swan Mountain Road, and between Coyne Valley Road and North Park Avenue (Typical Section B). Several existing raised medians are located between just north of County Road (CR) 1004 and Lusher Court/Dam Road in Frisco.

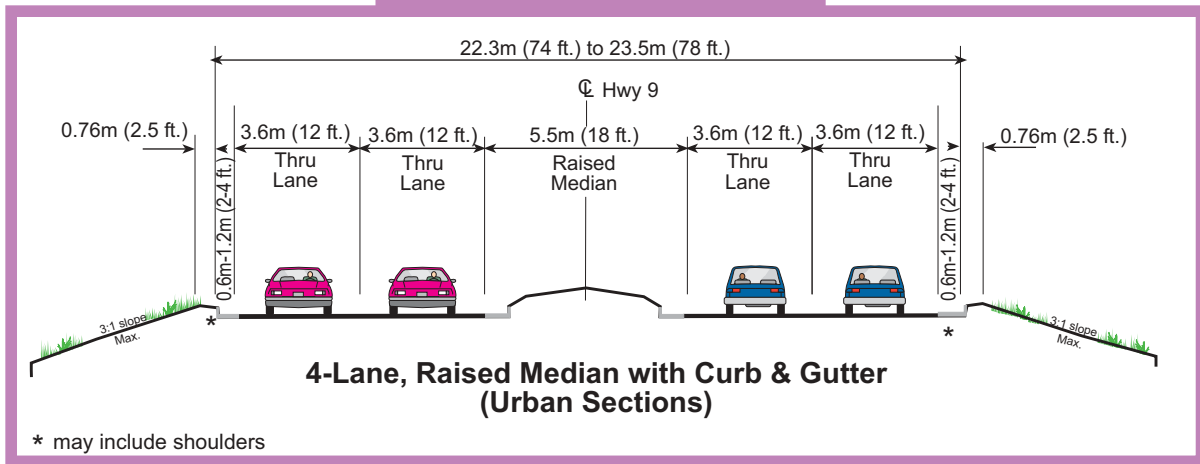
At the entrance to downtown Breckenridge, curb and gutter is introduced in order to reduce impacts to the Blue River, bikeway, riparian areas and associated wetlands in compliance with 404 (b)(1) Guidelines. The raised median here also is designed to provide for improved access control. This is consistent with Breckenridge's desire to limit impacts to the Blue River. Retaining walls also may be used to further reduce impacts. The barrier-protected median is 3 meters (10 feet) wide and is proposed around Leslie's Curve (Typical Section C) for safety purposes.

Existing speed limits vary throughout the SH 9 study area transitioning from highway-like conditions (posted speed of 89 kph/55 mph) to town-like conditions (posted speed of 40 kph/25 mph) within approximately 0.8 kilometer (0.5 mile). For the majority of the corridor the design speed will be 81 kph (50 mph) with a posted speed limit of 72 kph (45 mph) with the Preferred Alternative. There are two locations where the design speed for the Preferred Alternative will be reduced from the current 81 kph (50 mph) to 72 kph (45 mph) for safety and access reasons. The first location is around the signal at Swan Mountain Road and the second location is between Coyne Valley Road and

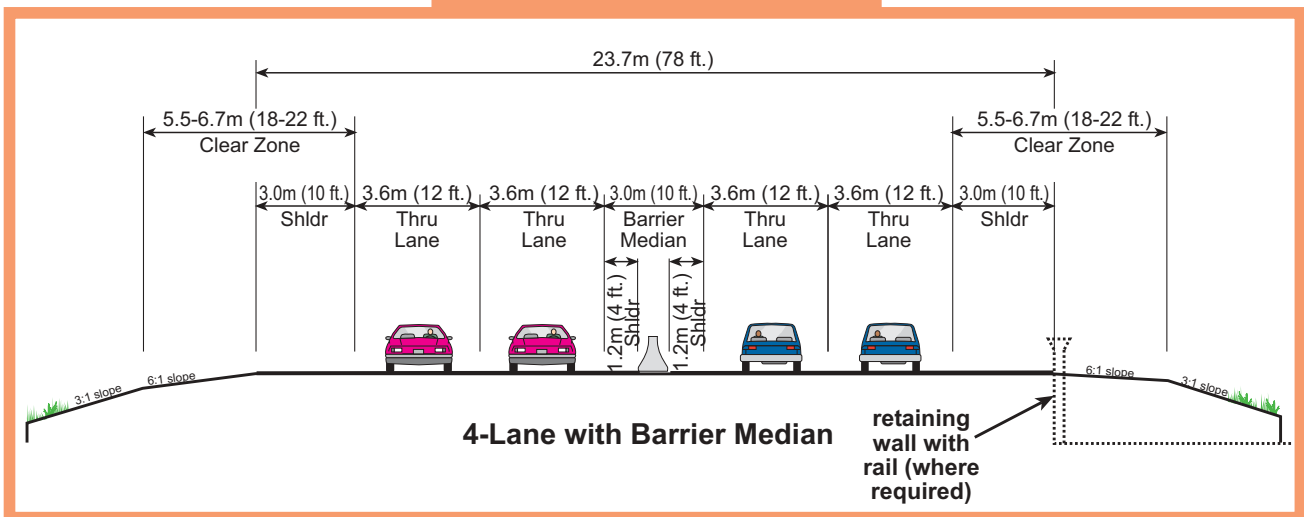
## Typical Section A

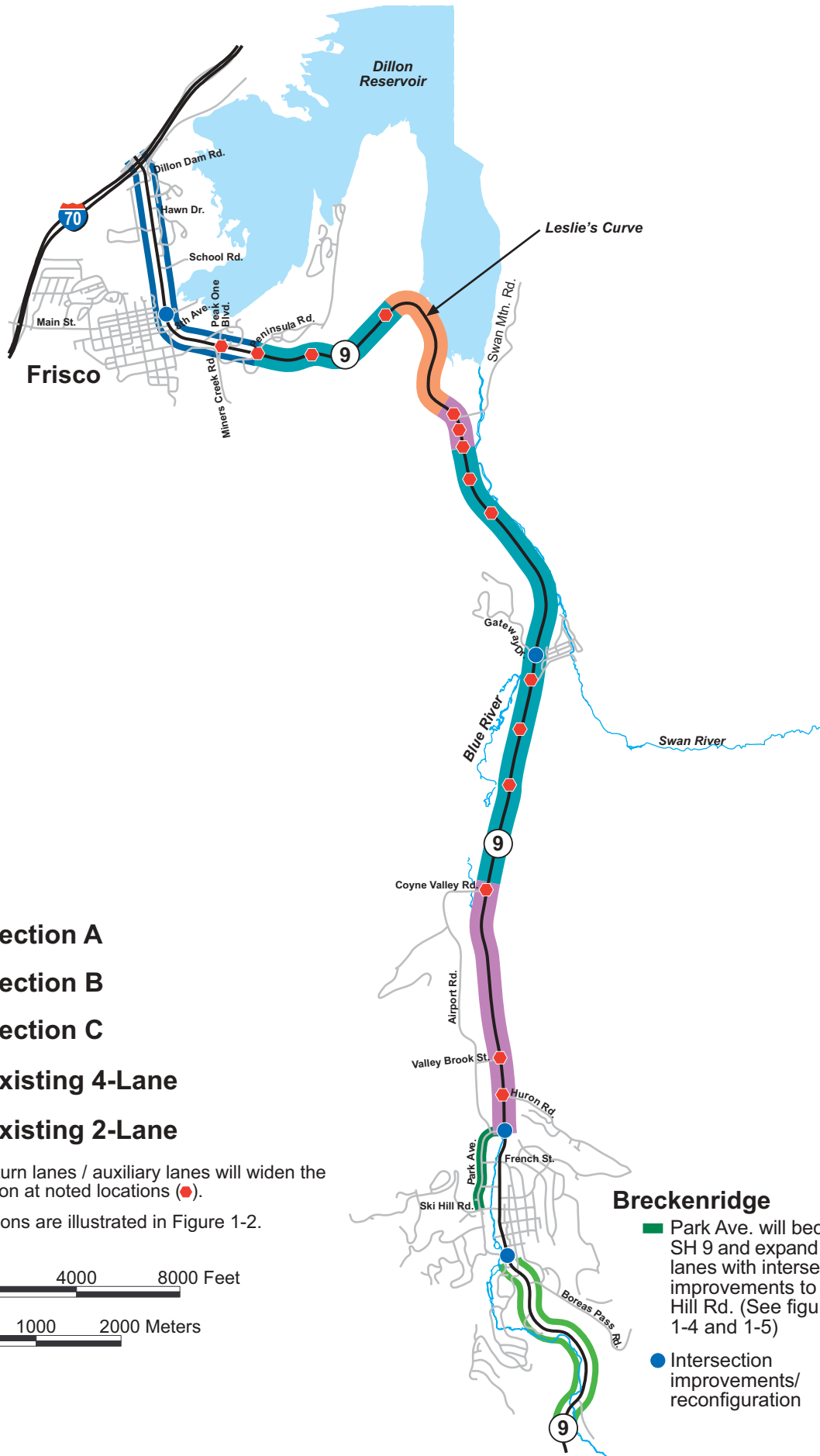


## Typical Section B



## Typical Section C

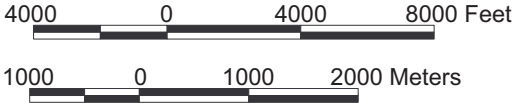




- Section A
- Section B
- Section C
- Existing 4-Lane
- Existing 2-Lane

**Note:** Necessary turn lanes / auxiliary lanes will widen the typical section at noted locations (●).

**Note:** These Sections are illustrated in Figure 1-2.



- Breckenridge**
- Park Ave. will become SH 9 and expand to 4-lanes with intersection improvements to Ski Hill Rd. (See figures 1-4 and 1-5)
  - Intersection improvements/reconfiguration

Valley Brook Street. Posted speed limits will be determined during final design.

In Breckenridge, SH 9 will be redesignated to be along Park Avenue. The section will be four lanes with a center lane to accommodate left turns. This section runs from North Park Avenue to Ski Hill Road (see **Figure 1-4** and **Figure 1-5**). This alternative includes an entrance to a parking facility along Watson Avenue that will be the site of a future intermodal center proposed by the Town of Breckenridge and Breckenridge Ski Resort. Due to the heavy volume of traffic which would be entering and exiting this parking facility during peak hours, the access to and from the parking lot may impact the operations along North Park Avenue and reduce the mobility/capacity of the roadway. It is anticipated that the parking facility/future intermodal center at Watson Avenue would reduce the need to add capacity to Park Avenue south of Ski Hill Road. No improvements are assumed south of Ski Hill Road, except at the South Park Avenue and Main Street intersection.

The approximate capital cost for the Preferred Alternative in year 2000 dollars is \$54 million. This cost includes 14.5 kilometers (9 miles) of widening SH 9, median, retaining walls, right-of-way, bikeway relocations, and extensive cut at Dillon Reservoir and other areas. The cost per mile is approximately \$6 million.

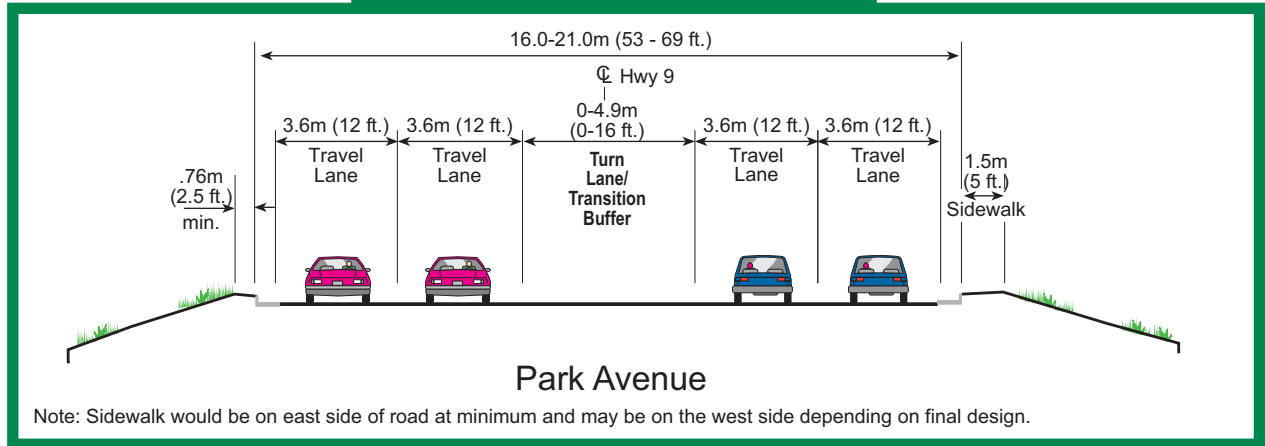
#### **1.4.1 ALIGNMENT**

The Preferred Alternative is located basically along the current SH 9 alignment, except in Breckenridge. In Breckenridge, SH 9 would be moved from Main Street to Park Avenue (see **Figure 1-4** and **Figure 1-5**). Park Avenue is already designated as a truck route. Main Street would become a local street under the Town of Breckenridge's jurisdiction. The Colorado Transportation Commission approved the redesignation in May 2003. CDOT and the Town of Breckenridge will finalize an Inter Governmental Agreement (IGA) for the redesignation.

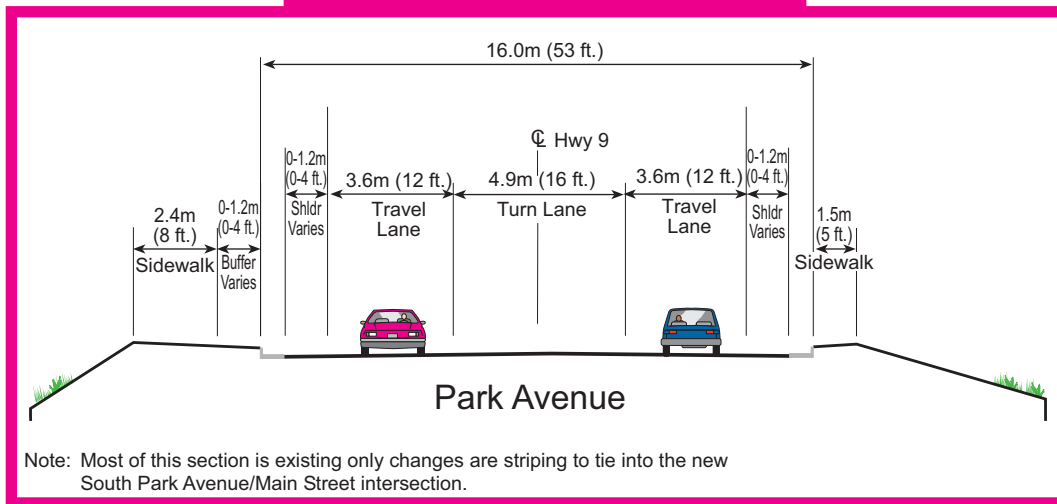
Some minor horizontal shifts in the current alignment were made to accommodate design criteria, safety concerns and fit with topographic constraints. During final design, alignment shifts may be further modified and variances may be considered to optimize available funding and minimize impacts. The location of the horizontal shifts and the reasons for the shifts are as follows (see **Figure 1-6**):

- Approximately 275 meters (900 feet) south of Valley Brook north to Coyne Valley Road – roadway alignment shifts west by 4.6 to 15.3 meters (15 to 50 feet) to avoid impacting the steep hillside and the properties on the east side of SH 9.







## Typical Section North End



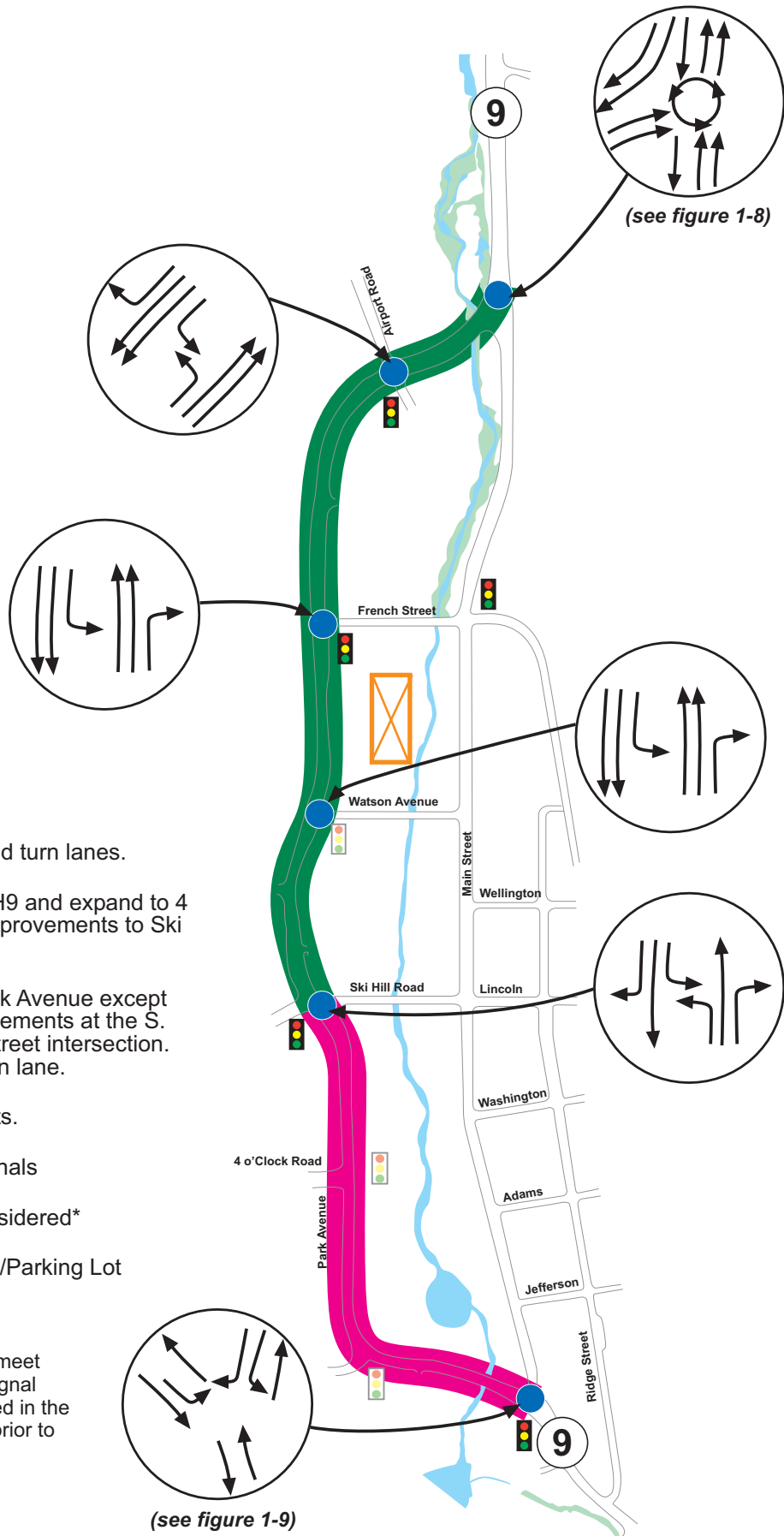
## Typical Section South End



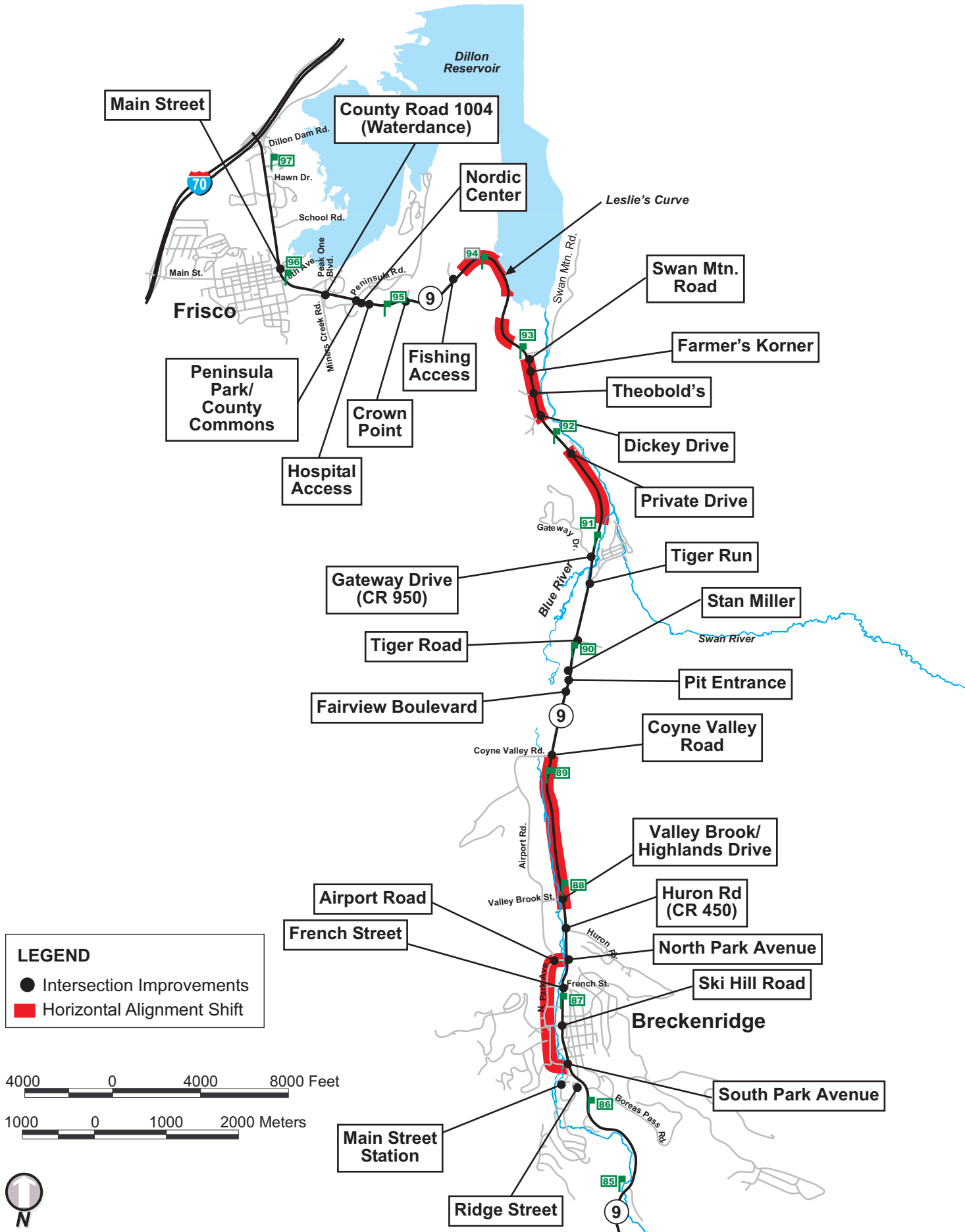
### Breckenridge Key:

-  Intersection thru lanes and turn lanes.
-  Park Ave. will become SH9 and expand to 4 lanes with intersection improvements to Ski Hill Rd.
-  No changes to South Park Avenue except minor intersection improvements at the S. Park Avenue and Main Street intersection. Two lanes with center turn lane.
-  Intersection improvements.
-  Existing (and Future) Signals
-  Future Signals to be Considered\*
-  Future Intermodal Center/Parking Lot

\* Future traffic signal locations must meet MUTCD traffic signal warrants and signal progression requirements documented in the CDOT State Highway Access Code prior to approval by CDOT.







# Alignment Shifts and Intersection Improvements

Figure 1-6

- Approximately 610 meters (2,000 feet) north of Gateway drive to approximately 183 meters (600 feet) south of milepost 92 – roadway alignment shifts east by approximately 15.3 meters (50 feet) to avoid the steep hillside and impacting the retaining wall along the base of the bikeway on the west side of SH 9.
- Dickey Drive – roadway alignment shifts east 15.3 meters (50 feet) to maintain the frontage road that ties into Swan Mountain Road and to tie into the geometrically constrained area around Swan Mountain Road, the fen areas, and Leslie’s Curve.
- Theobold’s – roadway alignment shifts west 15.3 meters (50 feet) to maintain the frontage road that ties into Swan Mountain Road and to tie into the geometrically constrained area around Swan Mountain Road, the fen areas, and Leslie’s Curve.
- Along fen (north of milepost 93) – roadway alignment shifts east 23 meters (75 feet) to avoid impacting the larger fen (on the west side of SH 9) and to flatten out the curve.
- Leslie’s Curve (milepost 94) – roadway alignment shifts west 6.1 to 21.2 meters (20 to 70 feet) to avoid impacting Dillon Reservoir and improve safe driving speed around the curve.

#### 1.4.2 INTERSECTIONS

Intersection design and driveway access considerations will need to be further developed during the final design process. Intersection improvements may warrant additional signals. Installation of signalization is based upon traffic volume meeting *Manual on Uniform Traffic Control Devices* (MUTCD) warrants and will be determined by CDOT Region 1.

Most intersections along SH 9 will be reconfigured to add turn lanes and acceleration and deceleration lanes, and will be updated with signage, signals and lighting per CDOT design standards (see **Figure 1-6**). Turn lanes with acceleration/deceleration lanes are provided at intersections to allow traffic to enter and exit SH 9 more safely. **At full-movement intersections, seven lanes of pavement will be designed to accommodate acceleration and deceleration lanes on both sides and left-turn lanes in the center.** **Table 1-1** provides detail about turn-lane, acceleration/deceleration lanes and signal improvements planned at specific intersections from north to south. All required turn lanes at intersections will be improved to meet current roadway design standards per the CDOT *Standard Specifications for Road and Bridge Construction*.

**Table 1-1  
Intersection Improvements for the Preferred Alternative**

Location	Left-Turn & Deceleration Lane		Right-Turn & Deceleration Lane		Right-Turn & Acceleration Lane		Signal
	NB	SB	NB	SB	NB	SB	
SH 9/Main Street (Frisco)	Yes	Yes	Yes	No	No	No	Existing
SH 9/8 <sup>th</sup> Avenue (Frisco)	TBD	TBD	TBD	TBD	TBD	TBD	TBD
SH 9/CR 1004	Yes	Yes	No	No	No	No	Existing
SH 9/Peninsula Park entrance	No	Yes	Yes	Yes	Yes	Yes	No
SH 9/Crown Point Access	No	Yes	Yes	No	No	No	No <sup>(1)</sup>
SH 9 at trail access	No	Yes	Yes	No	No	No	No
SH 9/Swan Mountain Road	Yes	Yes	Yes	Yes	Yes	Yes	Existing
SH 9/Farmer's Korner	No	No	Yes	Yes	Yes	Yes	No
SH 9 at Theobold's	Yes	No	No	Yes	No	Yes	No
SH 9/Dickey Drive (relocated)	Yes	Yes	No	Yes	No	No	Proposed
SH 9/Gateway Drive (relocated)	Yes	Yes	No	Yes	No	No	No
SH 9/Tiger Run	No	Yes	Yes	No	Yes	No	No
SH 9/Tiger Road (CR 6)	Yes	Yes	Yes	Yes	Yes	Yes	Existing
SH 9/Fairview Boulevard	Existing	Existing	Existing	Revised	No	No	Proposed
SH 9/Coyne Valley Road	Yes	No	No	Yes	No	No	Potential
SH 9/Valley Brook	Yes	Yes	Yes	Yes	Yes	Yes	Existing
SH 9/Huron Road (CR 450)	Existing	Existing	Existing	Existing	Yes	N/A	Existing
SH 9/Main/N. Park Ave. Roundabout	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SH 9 (Park Ave.)/Airport	Existing	Existing	No	Yes	No	No	Proposed
SH 9 (Park Ave.)/French	Existing	Existing	Yes	Yes	No	No	Proposed <sup>(2)</sup>
SH 9 (Park Ave.)/Watson	Existing	Existing	Yes	Yes	No	No	Potential
SH 9 (Park Ave.)/Ski Hill Road	Existing	Existing	Yes	Yes	No	No	Existing
SH 9/Main/S. Park Ave.	Yes	Yes	Yes	Yes	No	No	Existing
SH 9/Main Street Station	No	No	No	Yes	No	No	No
SH 9/Ridge	Yes	Yes	Existing	Existing	No	No	No
Main Street/French Street	Existing	Existing	Existing	Existing	Existing	Existing	Yes

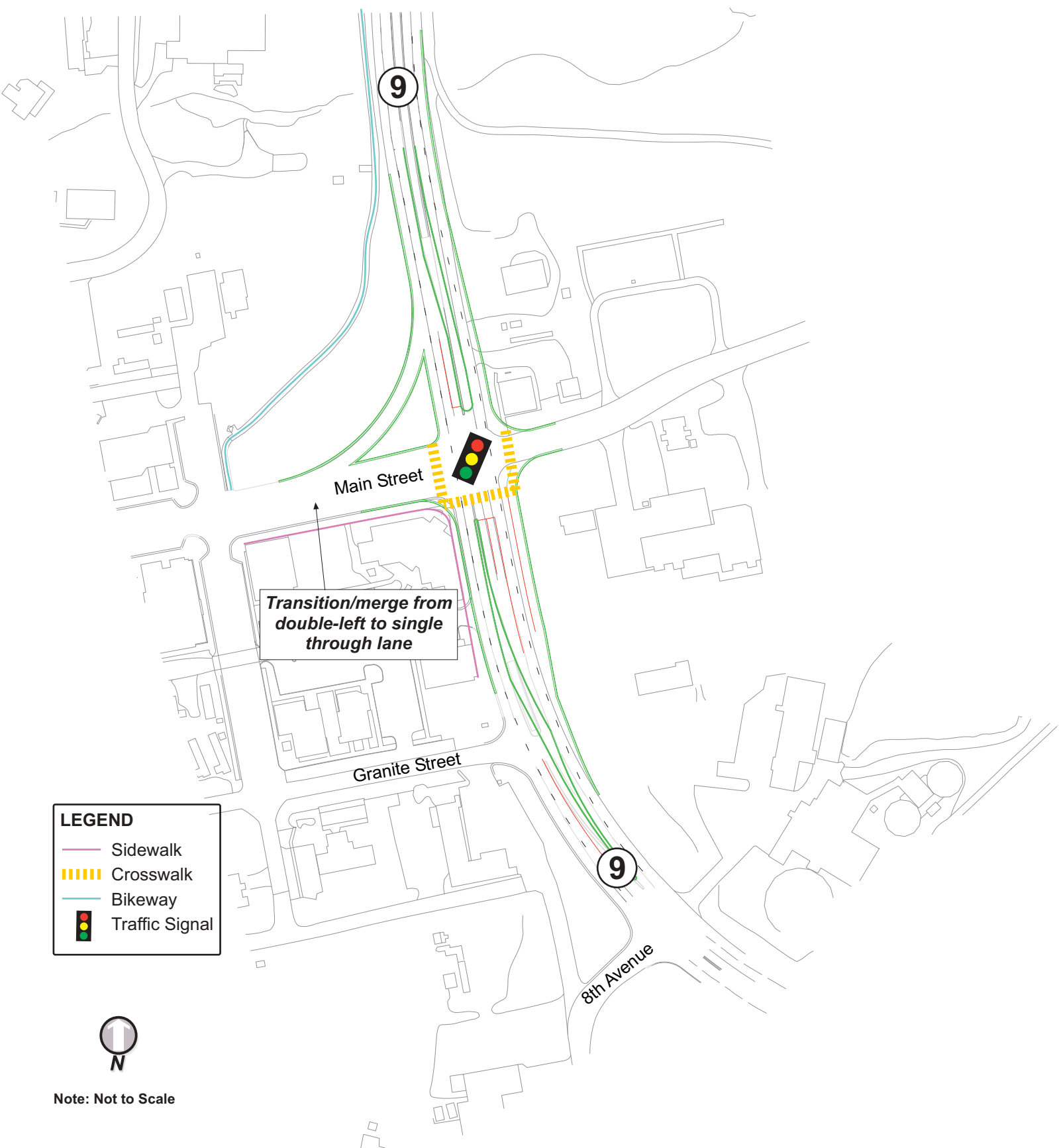
(1) May be location of hospital access

(2) To be added by Town of Breckenridge





Special intersection treatments are planned in three locations:

#### 1.4.2.1 SH 9 AND MAIN STREET IN FRISCO

In Frisco at Main Street, the current intersection will be expanded to include dual left-turn lanes from northbound SH 9 to westbound Main Street (see **Figure 1-7**). In its final configuration, the intersection will include two through lanes in each direction, the left-turn lanes from northbound SH 9 to westbound Main Street, and a right-turn deceleration lane from northbound SH 9 to eastbound Main Street. Under this scenario, improvements to Main Street will be required to taper the two turn lanes into a single lane. In lieu of this option, a single left-turn lane to Main Street would be extended



**LEGEND**

-  Sidewalk
-  Crosswalk
-  Bikeway
-  Traffic Signal



Note: Not to Scale

south, back to 8th Avenue. This would not allow for the proper anticipated capacity required for the future volumes, but may facilitate a safer condition. Options at this location will be coordinated with the Town of Frisco and further explored during design, weighing the operational and safety impacts.

*1.4.2.2 NORTH PARK AVENUE AND MAIN STREET ROUNDABOUT IN BRECKENRIDGE*

In Breckenridge, at the existing North Park Avenue and Main Street intersection, a roundabout design is proposed to replace the current signalized T-intersection. This roundabout design was not presented in the DEIS (May 2002), but was analyzed under a separate study prepared for CDOT (*Main Street/Park Avenue Intersection Analysis, Town of Breckenridge Final Report, PBS&J, January 28, 2003*). This study was based on projected Level of Service (LOS) for the 2020 design year.

Originally, a roundabout was dismissed as an option for the intersection, however, the proposed roundabout was modified from that presented in the DEIS and resulted in fewer impacts, thus making it a viable intersection option to be analyzed. Upon further evaluation, the North Park Avenue and Main Street intersection design presented in the DEIS was eliminated due to safety concerns. Based on criteria developed by CDOT and the Town of Breckenridge the roundabout was chosen as the preferred alternative for this intersection.

Impacts to right-of-way, Section 4(f) and permanent wetland impacts are less with the roundabout than the intersection design proposed in the DEIS (see **Table 1-2**). The roundabout was more desirable from the standpoint of safety, aesthetics, SH 9 continuity, conformance with the Town’s Transportation Plan and special event handling.

**Table 1-2  
Roundabout Intersection Impacts**

<b>Design</b>	<b>ROW Impacts (hectares/acres)</b>	<b>Section 4(f) Impacts (hectares/acres)</b>	<b>Permanent Wetland Impacts (hectares/acres)</b>	<b>Temporary Wetland Impacts (hectares/acres)</b>
Roundabout	0.154/0.381	0.064/0.159	0.074/0.183	0.120/0.297
DEIS Intersection	0.227/0.562	0.095/0.235	0.185/0.458	0.084/0.207

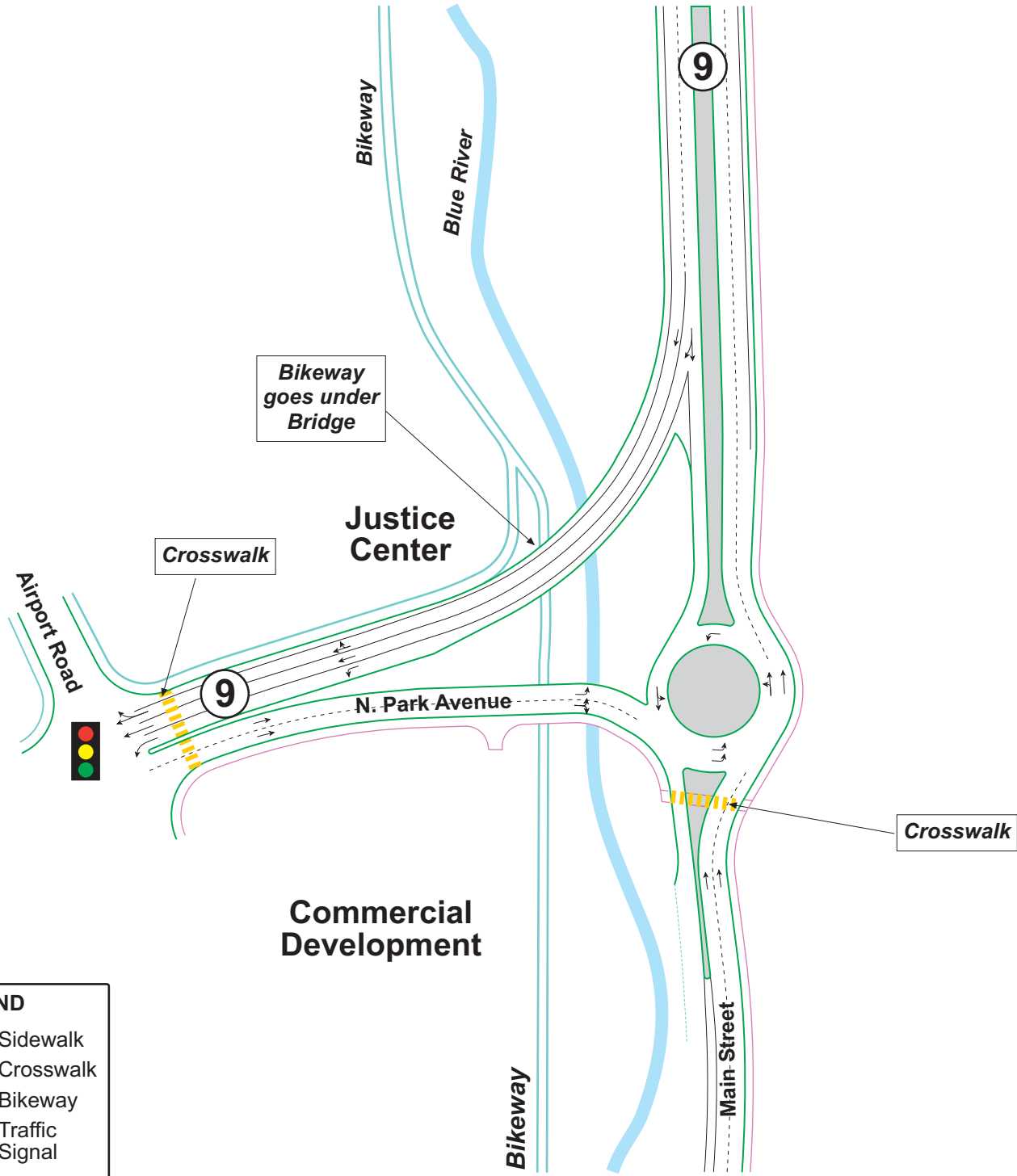
The newly configured roundabout intersection includes a two-lane southbound bridge allowing the southbound traffic to avoid the intersection entirely and move freely to Park Avenue, parking facilities, and the Ski Area (this matches with the redesignation

of SH 9 from Main Street to Park Avenue through Breckenridge and the goal of continuity for the motorist). The roundabout was designed to accommodate truck movement through the intersection. This intersection design does not allow the northbound Main Street traffic to turn left (westbound) onto Park Avenue. Travelers from northbound Main Street desiring to access Park Avenue will be directed to utilize French Street. However, the benefit realized from removing this movement is less conflict (higher capacity) with traffic northbound on Park Avenue to northbound SH 9. The intersection's functionality and capacity (in comparison with a standard full-movement roundabout) was studied by PBS&J in a report titled *SH-9/Park Avenue Roundabout Analysis* dated August 16, 2002.




The roundabout will require several retaining walls, a new bridge over the Blue River and a traffic signal at the intersection of Park Avenue and Airport Road. The roundabout will utilize the existing bridge and will require a cut into the hillside east of the existing intersection (see **Figure 1-8**). This cut-wall will vary in height from 1.5 meters to 9 meters (5 feet to 30 feet) and will be a soil-nail with quarried stone facing. The new 12.2 meter (40 foot) wide bridge over the Blue River for the southbound bypass lane to Park Avenue will span approximately 30.5 meters (100 feet) and will be designed for a 30 mph speed and two lanes. Clearance over the Blue River is approximately 4 meters (10 feet) and over the existing bikeway is 2.6 meters (8.5 feet). The bridge will be a single span with no piers placed in the river. The bridge will be striped for one lane until Park Avenue can accommodate two through lanes southbound to Ski Hill Road. The Airport Road intersection will need a signal installed at some time in the near future, and will serve to meter flows into the roundabout from eastbound Park Avenue. The need for metering traffic will not be apparent for several years (except at high peak flows, possibly five days per year), but the intersection meets other signal warrants at this time.

On May 7, 2003 at the Thunder Mountain Lodge (105 North Park Avenue in Breckenridge), CDOT, the Town of Breckenridge, and FHWA sponsored a Public Open House. Thirty-six people attended the meeting. The Open House was held to afford the public an opportunity to view and comment on the roundabout alternative. In addition, the Town of Breckenridge displayed information on the swap of SH 9 from Main Street to Park Avenue, information about future transportation improvements, pedestrian improvements, and the transit center. Support for the roundabout was expressed. Concerns with pedestrian safety also were raised. Also, information on the South Park Avenue and Main Street intersection was presented. The material presented, comments received, and responses to those comments are included in Appendix B.

↑ To C.R. 450



**LEGEND**

-  Sidewalk
-  Crosswalk
-  Bikeway
-  Traffic Signal



Note: Not to Scale

↓ To signalized intersection at French Street

#### 1.4.2.3 SOUTH PARK AVENUE AND MAIN STREET INTERSECTION IN BRECKENRIDGE

In Breckenridge at South Park Avenue and Main Street, improvements would include reconfiguration of the intersection that moves the northbound “through” traffic onto Park Avenue (SH 9) instead of Main Street. SH 9/Park Avenue consists of one through lane in each direction and center turn lane to Ski Hill Road. From Ski Hill Road to the North Park Avenue and Main Street roundabout there will be four lanes. The new configuration will require northbound SH 9 traffic to make a conscious decision to turn right onto Main Street. A SH 9/Park Avenue southbound access to northbound Main Street is provided by a left turn lane as shown on **Figure 1-9**.

The layout will make the pedestrian movements more obvious to drivers and pedestrians, as there will be only three painted pedestrian crossings (instead of the current four), a pedestrian phased signal, and sidewalk ramps (see **Figure 1-9**).

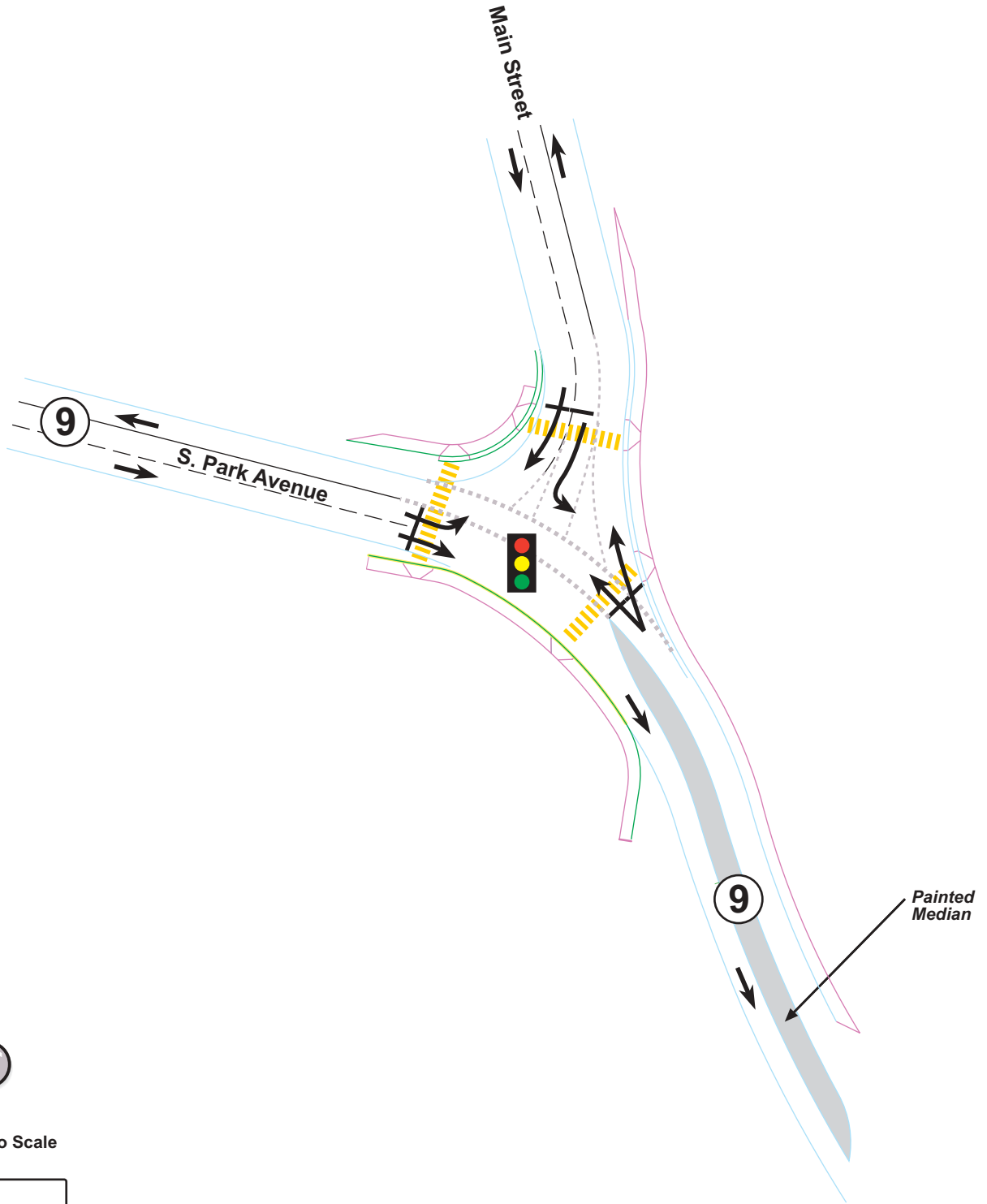
#### 1.4.3 ACCESS MANAGEMENT

All state highways in Colorado are limited access highways. Per CRS 43-2-147, CDOT is authorized to regulate vehicular access to or from any state highway under its jurisdiction to or from any property adjoining that highway to protect the public health, safety, and welfare, to maintain smooth traffic flow, to maintain highway right-of-way drainage, and to protect the functional level of the highway. All requests for a new access on SH 9 would require an Access Permit Approval from CDOT Region 1.

During implementation of the Preferred Alternative except along Park Avenue, CDOT will combine, eliminate, reconstruct, reconfigure, and/or relocate existing accesses to bring them into conformance with the current *CDOT State Highway Access Code* and ensure they meet the necessary spacing criteria for the assigned category. The design of the Preferred Alternative involves a four-lane highway with a depressed, raised, or barrier-protected median (see **Figure 1-2** and **Figure 1-3**). With this future improvement, the existing access to SH 9 will be limited in many areas to a right in/right out to and from an adjoining property. As appropriate, CDOT will create periodic breaks in the median to allow for safe “U”-turns for drivers to change travel directions. According to safety, engineering design, and the *CDOT State Highway Access Code* design standards, CDOT will attempt to space these breaks approximately 0.8 kilometer (0.5 mile) apart on SH 9 so that out-of-direction vehicular travel is limited.

Access control may warrant additional signals. Installation of signalization is based upon traffic volume meeting MUTCD warrants and will be determined by CDOT





Note: Not to Scale

**LEGEND**

- Sidewalk
- Crosswalk
- Traffic Signal

Region 1. Exact location of additional signals will be determined during final design and based on traffic volume levels at that time.

In addition, ongoing development in the study area may result in requests for new access points or modifications of existing access points that are different than shown in this document. For example, a new hospital development is being considered that would access SH 9 near milepost 95 (Crown Point). This and all future access requests will be processed through CDOT Region 1 in the process outlined in the *State Highway Access Code*.

Simultaneous to the completion of the FEIS, CDOT will work with the local governmental agencies of Frisco, Breckenridge and Summit County, and with property owners to create an effective and safe Access Management Plan for the SH 9 corridor.

#### 1.4.3.1 ACCESS POINTS TO BE CLOSED

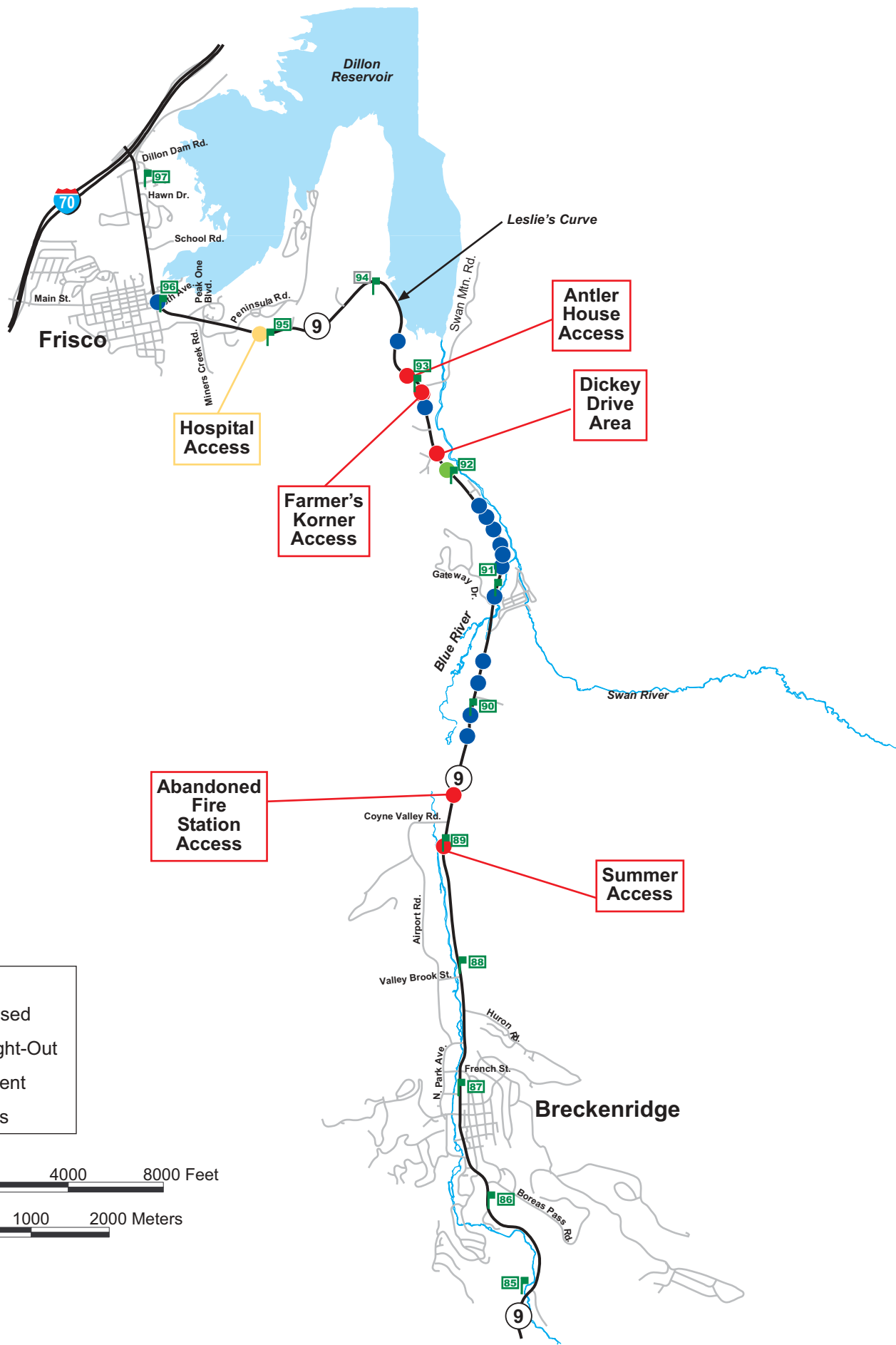
With the Preferred Alternative, the following access points have been identified to be closed at this preliminary stage of design (see **Figure 1-10**):

- Summer access south of Coyne Valley Road at approximately milepost 89 (east side of SH 9)
- Abandoned fire station access north of milepost 89 between Coyne Valley Road and Fairview Boulevard (west side of SH 9)
- East leg of Dickey Drive (east side of SH 9), the west side is proposed to be relocated
- One Farmer's Korner access at approximately milepost 93 (west side of SH 9)
- Antler House north of milepost 93 (east side of SH 9)

#### 1.4.3.2 RIGHT IN/RIGHT OUT ACCESS POINTS

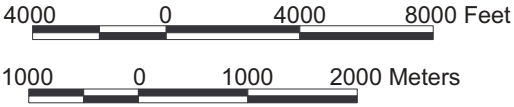
With the Preferred Alternative, the following access points have been identified to be modified to right in/right out (at this preliminary stage of design), thus restricting left turn-out movements onto SH 9 (see **Figure 1-10**). As described above, drivers will be able to make U-turns at periodic breaks in the median. This will enhance the safety and flow of traffic on the highway:

- Pit entrance access south of milepost 90 (west side of SH 9) – a frontage road between Tiger Road and Fairview Boulevard may be constructed in the future, thereby eliminating this access.



**LEGEND**

- Access Closed
- Right-in/Right-Out
- 3/4 Movement
- New Access



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- Stan Miller access north of milepost 90 (west side of SH 9)
- Private access north of milepost 90 near Tiger Road (west side of SH 9)
- Private access south of milepost 91 and Tiger Run (west side of SH 9)
- Field access at approximately milepost 91 north of Gateway Drive (east side of SH 9)
- Six private access points between milepost 91 and milepost 92 north of Gateway Drive to south of Dickey Drive (five on east side of SH 9 and one on west side of SH 9)
- Farmer's Korner access south of milepost 93 (west side of SH 9)
- National Forest Fire Access at Iron Spring Road near milepost 94 (west side of SH 9)
- Granite Street near milepost 96 (west side of SH 9)

#### 1.4.3.3 *THREE-QUARTER MOVEMENT ACCESS POINTS*

With the Preferred Alternative, the following access point would be modified to three-quarters movement, right in/right out/left in (no left out), in order to enhance the safety and flow of traffic on the highway (at this preliminary stage of design) (see **Figure 1-10**):

- Residential/Church access at approximately milepost 92 south of Dickey Drive (east side of SH 9)

Another access change includes closing a short frontage road just north of Fairview Boulevard between Fairview Boulevard and the gravel pit entrance road. Traffic currently using this frontage road would be able to use an existing alternate location just west of the current frontage road to exit the gravel pit at Fairview Boulevard. A signal is proposed at Fairview Boulevard.

Gateway Drive access will be relocated approximately 30.5 meters (100 feet) north of its existing location to accommodate a 90-degree intersection. The existing parking lot, used for the USFS Gold Hill trail head, will be reconstructed since part of the parking lot will be removed. Access to the parking lot will be changed with the relocation of Gateway Drive and the parking lot could be expanded to accommodate more vehicles and include a rear access through coordination with the USFS.

## 1.4.4 TRANSIT IMPROVEMENTS

One of the goals of the following transit improvements is to assist in changing driver behavior toward more transit usage. By making transit easier to use and more efficient, it is hoped that more people will use transit for a portion of their trips within the SH 9 corridor. The result of more transit usage would be less vehicle usage of the corridor.

### 1.4.4.1 TRANSIT STOPS

Transit stops are signed locations on the side of the highway for passenger boarding and alighting. Transit stops are located on both sides of the roadway to serve the northbound and southbound directions. In general, the operation of transit stops would be similar to the current procedures. Upon demand, the bus would stop in the far right lane of traffic. At transit stop locations with shoulders, the shoulder would be widened to 3.6 meters (12 feet) as a pullout to allow stopping away from the traffic stream, if the driver chooses. Concurrent to the improvements to widen SH 9 to four lanes, the design of individual transit stop configurations will be coordinated with Summit Stage.

Typical features of a transit stop can include the following items. The need for these improvements will be evaluated in the design process.

- Wide shoulder for optional bus pullout (at locations with shoulders)
- Concrete instead of asphalt road surface at high usage transit stops – this helps minimize longer-term maintenance
- Pad for shelter
- Shelter
- Bench, posted schedules and route information, and trash receptacles
- Striped crosswalk with median crossover
- Pedestrian-activated walk signals at locations with traffic signals
- Pedestrian crossing signs
- Bicycle rack

Existing transit stops have some or all of these features. It is recommended that all the stops be upgraded to include these types of amenities. Three stops (6th and Main in Frisco, Farmer's Korner, and Breckenridge Recreation Center) have been identified as having the greatest demand and should be prioritized for needed improvements. North

– and southbound transit stops located on Park Avenue near City Market will be modified to best accommodate bus and automobile travel movements at the future signalized Airport Road and the roundabout facilities.

During periods of heavy traffic flow it could be challenging for buses to safely exit and enter travel lanes. The Colorado state statutes currently do not include a yield-to-transit requirement as part of motor vehicle laws. Therefore, it is recommended that Summit County and local jurisdictions consider policies that promote the action of drivers yielding right-of-way to buses as they serve transit stops along the roadway system. One option is bus priority signals, discussed in Section 1.4.5.

In addition, CDOT has provided funding to Summit County under a separate project for park-and-ride improvements. These have and will take place in Silverthorne, Frisco and Breckenridge. These park-and-ride projects are designed to assist in the development and attractiveness of transit.

#### **1.4.5 TRANSPORTATION DEMAND MANAGEMENT (TDM) ELEMENTS**

TDM strategies are designed to make the most efficient use of existing transportation facilities by reducing the actual “demand” placed on these facilities. By using strategies that promote alternative modes, increase vehicle occupancy, shorten travel distances and lessen peak-hour congestion, TDM efforts can extend the useful life of transportation facilities and enhance mobility options by maximizing the transportation usage of facilities. TDM strategies associated with the Preferred Alternative include bus priority signals, transit stop amenities, and Transportation Management Organization (TMO) funding and programs.

- Bus priority signals allow buses to minimize the amount of time spent waiting for a traffic light to change. They allow buses to “jump ahead” of a queue or line of cars at signalized intersections. This application would operate by having buses share the right-turn lane with right-turning vehicles. Before a red light turns green for general traffic, a special signal would allow the bus to cross the intersection in advance. This concept might be particularly effective on SH 9 since many intersections are T-shaped and right-turning vehicles move through very quickly. Furthermore, much of the current and projected congestion on SH 9 occurs at the intersections. Priority queue jumps for buses would improve travel time for transit service on SH 9 and make transit a more competitive transportation mode. The following candidate intersection locations for bus priority signals (based on relative forecast delay) are: SH 9/CR 1004 (Waterdance); SH 9/Swan Mountain Road; SH 9/Tiger Road; SH

9/Valley Brook Drive; and SH 9/Huron (CR 450). This concept is summarized in the Technical Memorandum titled, *Bus Priority Signal Applications*, February 21, 2001.

- Transit stop amenities included with the Preferred Alternative are information kiosks, signs and bicycle racks. Other types of enhancements at transit stops are discussed in Section 1.4.4.
- If a plan is supported by the local jurisdictions, CDOT will participate in funding a TMO with state funds, as a partner with the Town of Frisco, the Town of Breckenridge, Summit County, and private industry. Funding will be available for two years and will be programmed as improvements are designed and constructed on the corridor. The timing for funding will be programmed as part of SH 9 corridor funding in cooperation with the local Transportation Planning Region.

Upon completion of the SH 9 Record of Decision, CDOT will hold a design charette with Summit County, the Summit Stage, the Town of Frisco and the Town of Breckenridge to discuss future locations of transit stops, bus queue jumping locations and to develop cost sharing arrangements for transit stop amenities. If changes are requested, those locations would be evaluated for access issues, safety, highway design compatibility, and for cost, as the associated highway project is scheduled for construction. A queue jumping pilot project will be examined and implemented with either the first or second construction project on the corridor in order to determine its effectiveness. Other locations will be examined following study of its operational success.

## **1.4.6 PEDESTRIAN AND BICYCLE FACILITIES**

### *1.4.6.1 PEDESTRIAN FACILITIES*

In Breckenridge, Park Avenue has a good existing sidewalk system that provides a safe haven for pedestrians from South Park Avenue and Main Street to North Park Avenue and Main Street. The primary issue with pedestrian facilities is at pedestrian crossings. Given the high vehicular traffic volumes during the peak hours, it can be difficult for pedestrians to cross Main Street and Park Avenue. There are three pedestrian crossing problem areas which the Town and Breckenridge Ski Resort intend to address. These areas are at the Watson/Sawmill parking lots, Four O'clock Ski Run and across from the parking lot at the F lot (see Section 3.7 for mitigation).

#### 1.4.6.2 BICYCLE FACILITIES AND ALIGNMENT

A continuous bicycle and pedestrian path, the Frisco-Farmer's Korner-Blue River (FK-BR) bikeway extends from Frisco to Watson Avenue in Breckenridge. This bikeway will be maintained in order to accommodate pedestrian and bicycle traffic within the SH 9 study area.

From north to south, the FK-BR bikeway leaves west Frisco angling southeast along the old Denver, South Park and Pacific (DSP&P) Railroad grade (also see Section 4.2.1). The bikeway continues on the railroad grade through White River National Forest skirting the north flank of the Iron Spring Hill-Ophir Mountain area until it intersects SH 9 at Leslie's Curve (milepost 93.54). The bikeway turns southward and parallels the west side of SH 9 for the remaining 13 kilometers (8 miles) where it terminates at Watson Avenue in Breckenridge.

Roadway realignments and safety issues may require relocation of portions of the existing bikeway and will be determined during final. The bikeway relocation at Leslie's Curve will alleviate space and safety concerns by moving the bikeway away from the active highway onto a new alignment across Iron Spring Hill. At north Breckenridge, segments of the FK-BR bikeway adjoining Coyne Valley Road and Valley Brook Road may be shifted onto a safer and more scenic alignment along open space property to the west of the active roadway (see Chapter 4.0 for a more detailed discussion). The bikeway will be aligned under the new bridge at the North Park Avenue roundabout. The bikeway will continue south under the second older bridge into Breckenridge. Additionally, a new spur of the bikeway will be installed following the north side of North Park Avenue until Airport Road. Here, users can cross North Park Avenue and head back east to the existing bikeway. This will create a safer at-grade, signalized crossing in the event that the bikeway beneath the bridge is unusable due to flooding.

#### 1.4.7 DRAINAGE IMPROVEMENTS

Existing drainage paths along and adjacent to SH 9 generally will be maintained. The existing minor cross culverts will be increased in size to meet current design standards. For example, minimum size 46-centimeter (18-inch) culverts may need to be upgraded to 61 centimeters (24 inches) or 91 centimeters (36 inches). Drainage improvements will be detailed during final design. A hydraulic study was conducted in order to determine appropriate culvert sizing during final design (see Chapter 2.0 for floodplain encroachment and Appendix F for the Hydraulic Study). Two major crossings have been identified for improvements:



- The existing crossing of French Gulch, located approximately 30.5 meters (100 feet) south of the intersection with Huron Road (CR 450). The culvert replacement, repair and sizing options will be evaluated during final design.
- At the crossing of the Blue River near Tiger Run (milepost 90.8). A series of three steel arch pipes will be replaced with a bridge. The bridge will be designed to accommodate peak flows and determined during final design.

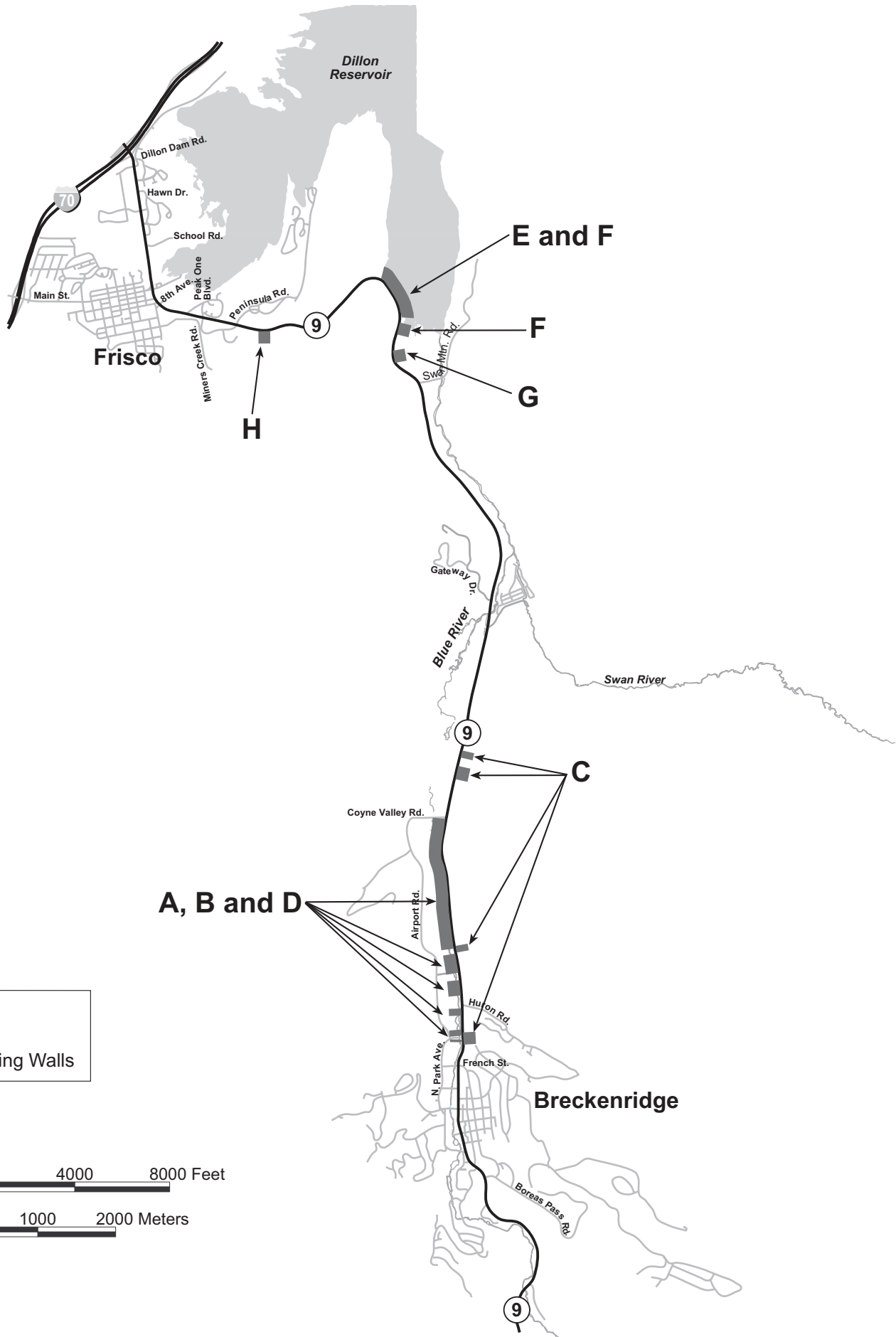
In two urban locations along SH 9 the outside shoulder will be replaced with curb and gutter. The curb and gutter will be for the collection of stormwater runoff, and containing traffic in the travel lane which provides protection for pedestrians and bicyclists using the sidewalks. The two locations are between Coyne Valley Road and North Park Avenue and Main Street and near Swan Mountain Road (see **Figure 1-3**, Typical Section B).

In addition, special treatment for curb and gutter is planned at the entrance to Breckenridge. Because of the close proximity of the Blue River and the concentration of the flows in the curbed section, a storm sewer system is required to convey the roadway runoff and to better manage the discharged flows at point locations. This treatment is planned to include:

- The drainage at the roundabout which will be a typical intersection drainage design with curb inlets at the low points. The runoff will be directed to existing discharge points, where it will run down grass swales before entering the stream.
- Drop inlets to trap sediment.
- An adjacent outfall ditch will be located in a narrow area between the river and the toe-of-slope of the highway or the retaining walls, and will be designed for access to maintain it.

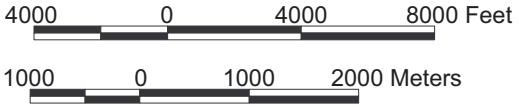
#### 1.4.8 RETAINING WALLS

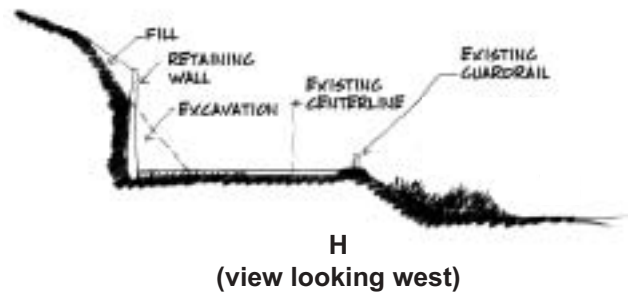
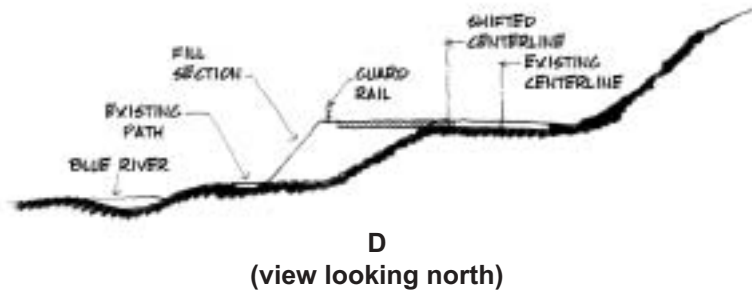
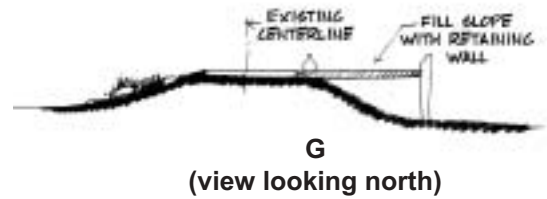
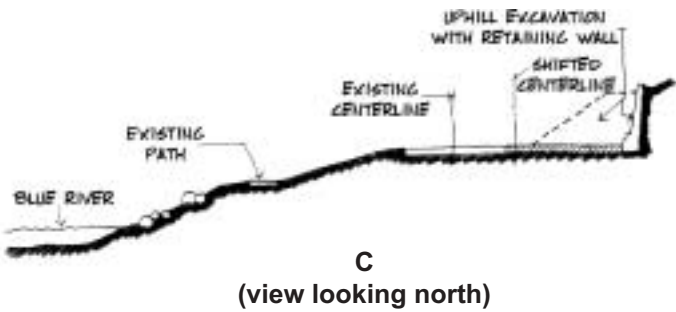
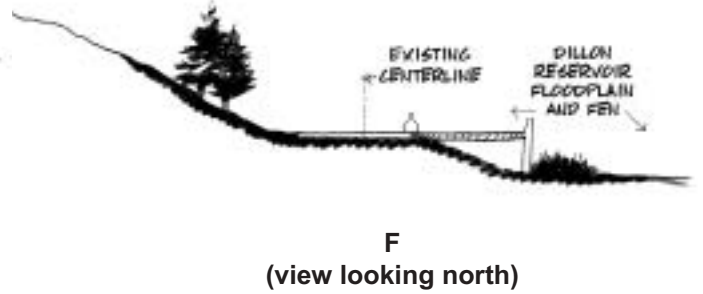
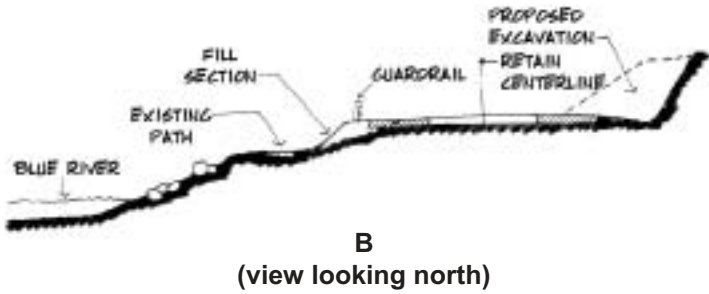
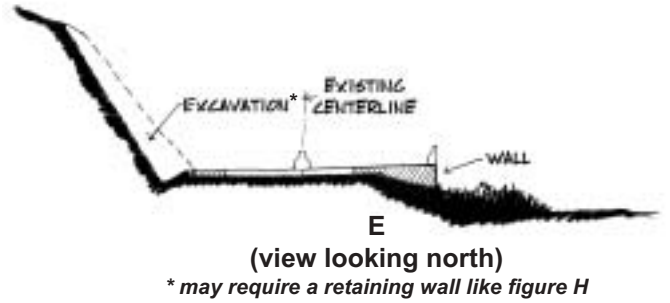
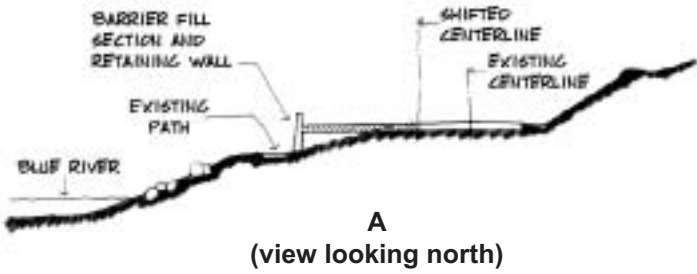
**Figure 1-11** points out the locations of the retaining walls in the study area. **Figure 1-12** provides sketches for these retaining walls, showing their general location. Design of retaining walls, including exact locations and dimensions, will be completed during final design.



**LEGEND**

 Retaining Walls





Note: Not to Scale

#### 1.4.8.1 DOWNSLOPE WALLS

Downslope walls are planned throughout the entrance to Breckenridge from the North Park Avenue/Main Street roundabout to Coyne Valley Road (A, B and D on the figures). The purpose for these retaining walls is to minimize impact to the existing bikeway and to minimize encroachment into the Blue River. These retaining walls have an average height of approximately 3 to 4.5 meters (10 to 15 feet), but short sections would be as high as 9 meters (30 feet).

In addition, downslope walls are required at Leslie's Curve (E, F and G on the figures) to minimize right-of-way impacts to Dillon Reservoir and to the fen south of the reservoir. They average 2.4 meters (8 feet) high and in a short segment are as high as 4.5 meters (15 feet).

The retaining walls will be aesthetically consistent, within the limits of cost-effectiveness, with the rural, mountainous character of the study area. Specifics related to aesthetic treatment of retaining walls will be determined during the final design process through guidelines established in the *Aesthetic Study and Design Guidelines* (see Appendix G on how to obtain a copy) and with involvement of the local community.

#### 1.4.8.2 UPSLOPE WALLS

The first location for upslope walls is from Coyne Valley Road to Fairview Boulevard (C on the figures). A series of upslope walls is required to minimize impacts to the steep slope and to residential areas on top of the slope to the east. These retaining walls will average 1.5 meters (5 feet) in height. There also is an upslope wall at the roundabout (C on the figures). The Town of Breckenridge desires the use of Cañon City quarry rock for the fascia treatment and will pay for the additional cost for this treatment.

At Leslie's Curve, adjacent to the downslope wall, upslope walls will be required to stabilize the slope (E and H on the figures).

### 1.4.9 LIGHTING

Currently, SH 9 from Frisco to Breckenridge has no formal lighting, except as follows:

- Within the Town of Breckenridge
- In the vicinity of Valley Brook/Highlands Drive
- In the vicinity of Coyne Valley Road

- In the vicinity of Fairview Boulevard
- At the Tiger Road (CR 6) intersection
- From south of Tiger Run to Gateway Drive
- Within the Town of Frisco

These existing lighting situations are anticipated to remain. Lighting within the urbanized portions of Frisco and Breckenridge is controlled by the local agencies in conjunction with their standards, which meet the general guidelines set forth by the American Association of State Highway and Transportation Officials (AASHTO).

In accordance with CDOT standard lighting specifications, lighting will be placed to illuminate each new signalized intersection.

#### **1.4.10 LANDSCAPING**

Landscaping provided by CDOT throughout the SH 9 study area will be low maintenance native grasses (seed mix) and low shrubs. Any additional plant material (trees and large shrubs) will be considered in certain locations if the local communities are willing to assume responsibility and cost for design, installation and maintenance, including water supply for irrigation. The raised median provides an opportunity for Summit County, the Town of Frisco, and/or the Town of Breckenridge to landscape. CDOT can seed the raised and depressed medians, however, the community will be responsible for any flowers, trees, or shrubs, their maintenance, and their irrigation. Any trees planted on the sideslopes (clear-zone areas) and in the median must have mature diameters less than 0.15 meter (0.5 feet) for safety purposes. Also, no plant material may be placed in areas where the plants could block required sight distance or cause other safety or maintenance issues.

#### **1.4.11 AESTHETICS**

A SH 9 aesthetics study, titled *Aesthetics Study and Design Guidelines*, was undertaken by CDOT, in cooperation with Summit County, the Towns of Frisco and Breckenridge for the purpose of formulating visual appearance themes for future projects within the SH 9 corridor. The purpose of this study is to provide aesthetic elements which are consistent with the surrounding terrain and community context while maintaining a cost-effective and structurally-integrated roadway design. General aesthetic policy guidance for CDOT Region 1 is incorporated into the study.

The study identifies a preferred color palette for structural features to be constructed along the highway corridor. The Aesthetic Committee, consisting of town, county and CDOT representatives, has selected a series of four terrain-matching colors ranging from lighter beige to darker browns. All fencing and lighting fixtures, poles, etc. will be flat black in color. The Aesthetics Study recognizes the unique community styles inherent within the corridor and has provided flexibility within the guidelines for local agencies to augment CDOT standard aesthetic design features.

The study discusses treatment of various highway elements planned as a result of the SH 9 Frisco to Breckenridge FEIS recommendations, such as lighting of the retaining wall associated with the North Park Avenue/Main Street roundabout and new bridge located in north Breckenridge. The Town of Breckenridge has indicated a preference to utilize specialty Cañon City quarry rock at their Town Gateway (roundabout) as a substitution for a more standard treatment of masonry block retaining walls. The differential cost will be borne by the Town. The local agencies have preferences for noise wall surface treatments; however, these features will require more public input prior to design and construction. It was agreed that specialty lighting kits and fixtures could be included with CDOT standard lighting as long as the incremental costs do not exceed 10%.

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## CHAPTER 2.0: FLOODPLAIN ENCROACHMENT, SUMMARY OF WETLAND FINDING, AND REWRITE OF WATER QUALITY/WATER RESOURCES FROM THE DEIS

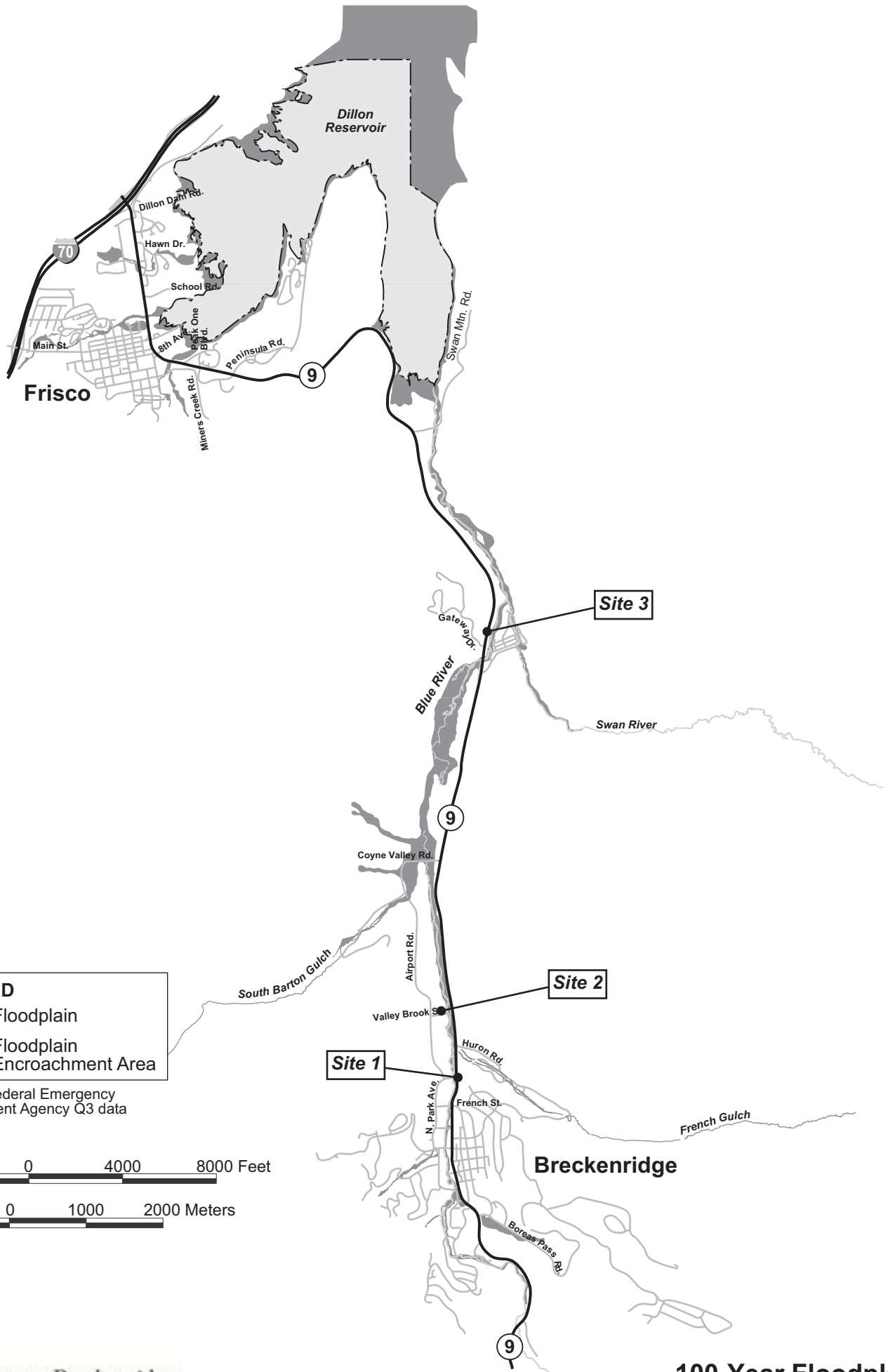
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### 2.1 FLOODPLAIN ENCROACHMENT


Executive Order 11988 (Floodplain Management, 1977) requires federal agencies to avoid, to the extent possible, long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development, wherever there is a practicable alternative. In accomplishing this objective, “each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities.” In addition, FHWA provides regulations regarding avoidance and minimization of floodplain encroachment and restoration and preservation of the natural and beneficial floodplain values (23 CFR 650 Subpart A). The Preferred Alternative does not include significant encroachment to area floodplains and minimizes impacts as discussed below.

The proposed widening of SH 9 between Frisco and Breckenridge will impinge on the 100-year floodplain in three locations. The encroachments identified from the preliminary roadway plans are very minor from a hydraulic nature, and will likely raise the flood levels by amounts less than 0.06 meter (0.2 feet) (see Appendix G for the Hydraulic Study). The Federal Emergency Management Agency’s floodplain regulations limit such increases to no more than one foot, so the encroachments planned appear to be well within this requirement. The 100-year floodplain and encroachment locations are shown on **Figure 2-1**.

The first encroachment site is just downstream from the proposed North Park Avenue Bridge (see Site 1 on **Figure 2-1**). Grading of the roadway approach will encroach several feet horizontally into the overflow channel on the east side of the stream. The Flood Insurance Rate Map for Breckenridge, dated June 20, 2001, identifies this overflow channel as a Floodway, which would indicate that the easterly channel is the main channel of the river. From site visits, this appears to be incorrect, as the main flow of the river now flows in the westerly channel. The roadway encroachment will most likely raise the flood elevation by an amount less than 0.06 meter (0.2 feet).



**LEGEND**

-  Floodplain
- Site #** Floodplain Encroachment Area

Source: Federal Emergency Management Agency Q3 data

4000 0 4000 8000 Feet

1000 0 1000 2000 Meters





The second encroachment area is near Valley Brook Street, from approximately station 124+00 to 128+00 and 134+00 to 136+00 (see Site 2 on **Figure 2-1**). These encroachments are very minor from a hydraulic perspective, and are anticipated to raise the flood elevation by an amount less than 0.06 meter (0.2 feet).

The final encroachment area is located near Gateway Drive at approximately station 294+00 (see Site 3 on **Figure 2-1**). This is the most minor of the three, and is expected to raise the flood elevation by an amount less than 0.06 meter (0.2 feet).

The three bridges planned to cross the Blue River (South Park Avenue, North Park Avenue, and Station 284+00) could have an impact on the flood elevation of the river. However, it is CDOT policy to size bridges such that they do not increase flood elevation if the jurisdictional floodplain contains established Base Flood Elevations. The Blue River in Breckenridge has established Base Flood Elevations, so these bridges must be designed to maintain these existing flood elevations.

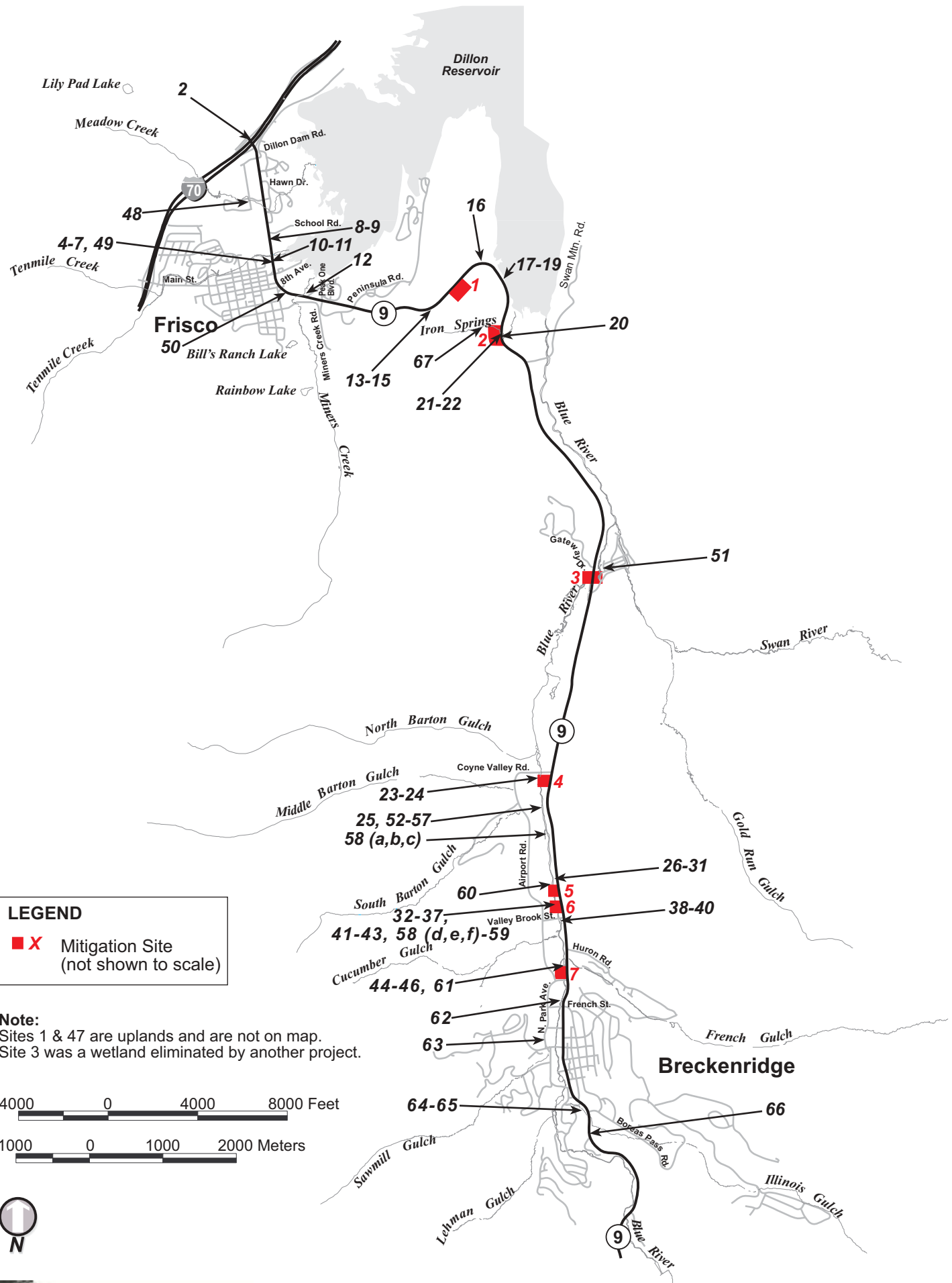
## 2.2 SUMMARY OF WETLAND FINDING

This is a summary of the *Wetland Finding, State Highway 9, Frisco to Breckenridge, Summit County, Colorado (Wetland Finding)* prepared in 2003. The *Wetland Finding* was prepared in compliance with Executive Order 11990 "Protection of Wetlands" and is in accordance with 23 CFR 771, 23 CFR 777. The complete *Wetland Finding* can be found in Appendix E. A 404 permit application is in progress and a draft permit has been submitted to the USACE.

### 2.2.1 WETLAND RESOURCES

Wetland delineations were conducted following the guidelines and criteria of the USACE's 1987 *Wetland Delineation Manual (Environmental Laboratory 1987)*. Wetlands are regulated under Section 404 of the Clean Water Act (33 USC 401, Section 10; 1413). Wetlands were surveyed in September 1998 and again in May and June of 1999. Sixty-six wetlands were identified within the study area. A wetland delineation combining the two surveys was submitted to and verified by the USACE in 2000. **Figure 2-2** provides the location for wetlands in the study area and location of the mitigation sites discussed in Section 2.2.5.

Soil samples were collected from fen areas and sent to Colorado State University and Colorado Analytical Lab for analysis. Total percent organic carbon and clay content were determined for each sample; the results are included in the *Wetland Finding* (see Appendix E).



**LEGEND**

■ X Mitigation Site (not shown to scale)

**Note:**  
 Sites 1 & 47 are uplands and are not on map.  
 Site 3 was a wetland eliminated by another project.



**Wetlands Located in Study Area**  
 Figure 2-2

Five types of wetlands were identified:

- Scrub-shrub
- Emergent
- Fen
- Forested
- Aquatic Bed, Rooted Vascular

Scrub-shrub and Emergent are the dominant types.

### **2.2.2 ALTERNATIVES**

Four build alternatives and a No-Action Alternative were considered. Alternatives varied from a full median width four-lane, full median width four-lane with bus/HOV lanes, reduced width four-lane, and an enhanced two-lane. The reduced width four-lane, Alternative 3 in the DEIS, was identified as the Preferred Alternative.

The Preferred Alternative meets the project's Purpose and Need for mobility and safety, and is the least environmentally damaging practicable alternative for wetlands and other waters of the US. The Preferred Alternative has been designed to be in accordance with the Clean Water Act – Section 404(b)(1) guidelines. The Preferred Alternative has fewer impacts to land, vegetation and wildlife habitat than alternatives 1 and 2. While, the No-Action and enhanced two-lane alternatives impacted fewer wetlands, they did not meet the project's Purpose and Need for mobility and safety for the projected design year of 2020. The two full-width, four-lane alternatives were not selected because they would have required larger right-of-way and resulted in greater impacts to land, vegetation, and wildlife habitat.

### **2.2.3 PREFERRED ALTERNATIVE AND MINIMIZATION**

The Preferred Alternative avoids and minimizes wetland impacts as follows:

- During final design, opportunities to further minimize impacts to the fen and wetlands will be explored by the design engineers.
- Retaining walls will be used wherever practicable.
- At the fen, median width was reduced to approximately 3 meters (10 feet) and replaced with a concrete barrier.
- The Leslie's Curve area was redesigned to minimize impacts to wetlands by reducing speed and, therefore, the turning radius.

- Highway widening occurred, where feasible, to the side away from the wetlands and the Blue River.
- A bridge will replace a culvert at Tiger Run.
- Bikeway re-alignments were chosen to minimize impacts to wetlands.
- The roundabout design has less impacts to wetlands at the North Park Avenue and Main Street intersection than the previous intersection design presented in the DEIS.

The widening of SH 9 will result in unavoidable impacts to wetlands at some locations because of the close proximity of these wetlands to the existing highway. Avoidance was not possible because similar or larger impacts to wetlands would occur or topographical constraints, such as steep mountain slopes, limit highway realignment alternatives. However, where practicable, wetland impacts will be avoided and minimized as each design phase is developed.

## 2.2.4 WETLAND IMPACTS

### 2.2.4.1 DIRECT IMPACTS

Improvements to SH 9 include the widening of the existing highway from two lanes to four lanes with a median. Originally in the DEIS, roadway fill would permanently impact approximately 0.588 hectare (1.46 acres) of wetlands. Due to avoidance and minimization efforts during final design of the North Park Avenue roundabout and revisions to the DEIS wetland mapping, direct impacts were reduced by 0.192 hectare (0.481 acre). The total impacts are 0.396 hectare (0.979 acre) due to the Preferred Alternative (see **Table 2-1** and the *Wetland Finding* for a detailed accounting of impacts to individual wetlands).

**Table 2-1  
Temporary and Permanent Wetland Impacts**

Site	Figure# *	Wetland Numbers	Type**	Temp. Impacts Ha. (Ac.)	Perm. Impacts Ha. (Ac.)
Drainage on the west side of Leslie's Curve	21	13-15	PE	0.011 (0.28)	0.187 (0.462)
South of Dillon Reservoir	22	20, 21, 22	PE	0.070 (0.173)	0.098 (0.242)
South of Dillon Reservoir	22	20	Fen	0.002 (0.005)	0.013 (0.032)
Blue River Crossing at Tiger Run (Fourmile Bridge)	23	51	SS	0.002 (0.006)	0.0004 (0.001)
Coyne Valley Road	24	23	SS	0.043 (0.107)	0.012 (0.030)
Forested wetlands east of SH9	25	31, 38-40	F	0.022 (0.054)	0.009 (0.021)

continued

**Table 2-1 (continued)  
Temporary and Permanent Wetland Impacts**

Site	Figure# *	Wetland Numbers	Type**	Temp. Impacts Ha. (Ac.)	Perm. Impacts Ha. (Ac.)
Wetlands along Blue River north of Highlands Drive	25	32, 43	SS	0.015 (0.037)	0.001 (0.003)
Wetlands along Blue River north of Highlands Drive	25	58,59	PE	0.002 (0.005)	0.002 (0.005)
North Park Avenue	26	44-46, 61	SS	0.120 (0.297)	0.074 (0.183)
<b>Total***</b>				<b>0.287 (0.706)</b>	<b>0.396 (0.979)</b>

\*Wetland Finding, State Highway 9 Frisco to Breckenridge, Summit County, Colorado, August 19, 2003 (see Appendix E).

\*\*F = Forested Wetland; PE = Palustrine Emergent Wetland; SS = Scrub Shrub Wetland

\*\*\*Total values may vary slightly from sum of individual impacts because of rounding and conversion between metric and English units.

It also was determined that 0.01 hectare (0.03 acre) of wetlands would be affected by shading from the new bridge at the North Park Avenue roundabout. Shading is identified as a permanent impact because the height of the approximately 12-meter- (40-foot-) wide bridge will be approximately 4 meters (10 feet). This width-to-height ratio will not allow enough light to support vegetation.

Also, possible alteration of surface and/or subsurface hydrology may result in the loss of a wetland or a change in wetland species. New construction at the North Park Avenue Bridge may negatively affect flood flows in an adjacent side channel and its associated wetlands. However, it should be noted that groundwater is the primary source of hydrology for these wetlands.

#### 2.2.4.2 INDIRECT IMPACTS

One indirect impact to wetlands is the decrease or elimination of vegetative buffers between SH 9 and wetlands along the Blue River from Park Avenue to Coyne Valley Road. Buffers along the Blue River, Dillon Reservoir, and other wetland locations have already been compromised by the existing highway alignment and previous disturbances.

Other possible indirect impacts to wetlands include increased storm water flows due to additional impervious surfaces from the transportation improvements, resulting in erosion and sediment deposition.

Wetland and adjacent upland areas disturbed by construction may allow for the introduction of noxious weeds (see Section 3.12.2 for noxious weed BMPs).

#### 2.2.4.3 TEMPORARY IMPACTS

Temporary wetland impacts will occur within specifically identified work areas. These areas are required for the construction of retaining walls, bikeway re-alignments and permanent fill placement associated with lane additions. These areas will be designated to approximately 6.1 meters (20 feet) beyond the proposed final toe of fill. It is estimated that a total of 0.287 hectare (0.706 acre) of temporary wetland impacts will occur as a result of the Preferred Alternative.

CDOT will minimize all temporary impacts to wetlands wherever possible during final design and construction. For example, temporarily impacted wetlands would have a geotextile fabric with several inches of straw followed by 0.61 meters (2 feet) of soil placed between the wetlands and any temporarily placed fill. After construction the mat and straw would be removed (see Section 2.2.6). In addition, all temporarily impacted wetlands will be restored to original elevations and re-vegetated with native species appropriate to the site.

### 2.2.5 MITIGATION

#### 2.2.5.1 WETLAND REPLACEMENT

CDOT commits to replacing 0.396 hectare (0.979 acre) of directly impacted wetlands at a series of mitigation sites located within the study area and within the Blue River watershed on at least a 1:1 basis (see **Table 2-2**). The replacement wetlands will have functions and values similar to the impacted wetlands. A detailed description of the conceptual mitigation measures can be found in the *Wetland Finding* (see Appendix E). As each project is constructed on the corridor, wetland mitigation design for each project's impacts will be submitted to the USACE for final approval.

**Table 2-2  
Wetland Mitigation**

Mitigation Site	Description	Figure # *	Mitigation Site Area Ha. (Ac.)
1	Drainage on the west side of Leslie's Curve	21	0.187 (0.462)
2a and 2b	South of Dillon Reservoir.	22	0.111 (0.274)
3	Blue River Crossing at Tiger Run	23	0.0004 (0.001)
4	South of Coyne Valley Road	24	0.012 (0.030)
5	North of Highlands Drive – Between Wetlands 41 and 42	25	0.009 (0.021)
6	North of Highlands Drive – Adjacent to Wetland 43	25	0.003 (0.008)
7	North Park Avenue	26	0.074 (0.183)
	<b>Total** =</b>		<b>0.396 (0.979)</b>

\*Wetland Finding, State Highway 9 Frisco to Breckenridge, Summit County, Colorado, April 28, 2003 (see Appendix E).

\*\*Total values may vary slightly from sum of individual impacts because of rounding and conversion between metric and English units.

#### Mitigation Site 1 – Drainage West of Leslie's Curve

The 0.187 hectare (0.462 acre) of impacts from the road widening will be replaced at a minimum of 1:1 ratio by constructing a new drainage with associated wetlands to the east of the impacted drainage and wetlands. An additional area has been identified down drainage approximately 275 meters (900 feet) from Wetland 14, just above the highway cross culvert (see **Figure 3-1** and **Figure 21** in the *Wetland Finding*, Appendix E).

In a June 2003 field review, a small area of wetland vegetation was noted by the USACE at this location that was not previously included in the wetland mapping. CDOT has committed to monitor the area for the next few years to determine if wetland hydrology is present during the spring. This site is shown to be located in a proposed fill area. It has been included in the impact total in the draft Section 404 permit application for this building segment.

#### Mitigation Site 2 – Wetlands South of Dillon Reservoir

The 0.098 hectare (0.242 acre) of palustrine emergent wetlands and 0.013 hectare (0.032 acre) of fen impacted will be mitigated in two areas adjacent to Wetland 22 (see **Figure 3-1** and **Figure 22** in the *Wetland Finding*, Appendix E). The fen will be restored within the mitigation site created by the removal of the fill from the existing roadway.

Impacted fen soils will be salvaged and placed within the excavated area. Plugs will be collected from adjacent wetlands for transplanting. No nursery stock or seed mix will be used in the restoration unless plugs are determined to not be practical. As with all the mitigation wetlands, they will be monitored by CDOT until determined by the USACE to be successful. If necessary, additional grading and/or planting can be done under subsequent construction phases to ensure success.

#### Mitigation Site 3 – Blue River Crossing at Tiger’s Run

The 0.0004 hectare (0.001 acre) of scrub-shrub wetlands (Wetland 51) impacted by bridge construction would be replaced by planting locally collected willows along the banks (see **Figure 3-1** and **Figure 23** in the *Wetland Finding*, Appendix E).

#### Mitigation Site 4 – South of Coyne Valley Road

This mitigation site will replace the 0.012 hectare (0.030 acre) of impacts to Wetland 23 south of Coyne Valley Road by expanding an existing scrub-shrub wetland (Wetland 24) (see **Figure 3-1** and **Figure 24** in the *Wetland Finding*, Appendix E). Existing willows in the area will not be disturbed. Locally collected willow cuttings will be planted on site and then the site would be seeded with appropriate native species.

#### Mitigation Site 5 – North of Highlands Drive Between Wetlands 41 and 42

The proposed mitigation site will connect and expand two existing emergent wetlands (Wetlands 41 and 42). Blue spruce (*Picea pungens*) and narrowleaf cottonwoods (*Populus angustifolia*) will be planted to replace the 0.009 hectare (0.021 acre) of forested wetlands (wetlands 31, 38, 39, and 40) (see **Figure 3-1** and **Figure 25** in the *Wetland Finding*, Appendix E).

#### Mitigation Site 6 – North of Highlands Drive Adjacent to Wetland 43

Existing Wetland 43 will be expanded to the north. To replace the 0.001 hectare (0.003 acre) of scrub-shrub (wetlands 32 and 43), locally collected willow cuttings would be planted over about half the site. The remainder of the mitigation site would be planted with an appropriate herbaceous wetland seed mix to replace the 0.002 hectare (0.005 acre) of permanently impacted palustrine emergent wetlands (wetlands 58 and 59) (see **Figure 3-1** and **Figure 25** in the *Wetland Finding*, Appendix E).

#### Mitigation Site 7 – North Park Avenue

The 0.074 hectare (0.183 acre) of scrub-shrub wetlands (Wetlands 44, 46 and 61) impacted by construction of the new portion of the North Park Avenue Bridge and the adjacent widening of SH 9 north of the intersection will be replaced by removing an existing gravel pile located just down stream of the bridge (see **Figure 3-1** and **Figure 26**



in the *Wetland Finding*, Appendix E). The site will be planted with willow cuttings, plugs and seeded with native wetland species. An overflow channel supporting wetlands may be secondarily impacted by the construction of the bridge. CDOT has committed to maintaining existing high water flow frequencies.

## **2.2.6 MITIGATION OF TEMPORARY WETLAND IMPACTS**

During final design every effort will be made to minimize temporary impacts to wetlands due to construction work zones.

In designated temporary work areas, and where appropriate, wetland trees and shrubs will be trimmed to ground line, not grubbed, then covered with a geo-textile fabric and an additional layer of straw. This will define existing topographical elevations and protect wetland rootstock and seed banks. Areas will then be covered with a minimum of 0.61 meter (2 feet) of clean fill. As soon as possible, all temporary fill will be removed to an upland location. If possible, temporary fill of wetlands will occur during periods when plants are dormant or toward the end of the growing season. If necessary, over-seeding with native wetland species and the transplanting of salvaged trees and shrubs will occur. Locally grown and/or collected nursery stock also may be used.

## **2.2.7 SECTION 404 PERMITTING**

CDOT is in the process of applying for an Individual Section 404 permit that will include the entire study area. The USACE has been consulted during this project's development. A draft Section 404 application was submitted to the USACE in June 2003. As each design phase is developed and specific impact and mitigation details become available, CDOT will prepare and submit a series of permit amendments to assure that the Section 404 permit accurately represents each construction project.

## **2.3 WATER RESOURCES AND WATER QUALITY EXISTING CONDITIONS (DEIS CHAPTER 3.0)**

The following text is a modification of Section 3.10 and 3.11 of the DEIS, at the request of EPA.

### **2.3.1 BACKGROUND**

Consideration of water resources includes basin hydrology, floodplains, groundwater, water quality, streams and stream hydraulics, wetlands, lakes, and the aquatic and terrestrial life that depend on healthy aquatic ecosystems. Because most of these

components are interrelated, their consideration is best accomplished from a watershed perspective.

A watershed is the land area drained by a stream or set of streams. The fundamental characteristics of a watershed arise from a combination of topography, climate, and geology. Topography and climate combine to influence the amount and distribution of precipitation and the timing of runoff through temperature, wind patterns, and storm tracks in all seasons. Geology influences the types of soils that form through the natural decomposition of the underlying bedrock. Topography, climate, and soils influence the amount and type of vegetation within the watershed as well as the character of local streams.

Common activities that alter an area's water resources include agriculture and ranching, mining, recreation, and development of human settlements. Direct channel and floodplain modifications arising from these activities include water diversion for irrigation and mining processes, dams for drinking water storage and recreation, straightening of streams, and narrowing of floodplains. Development also increases the amount of impervious surface due to roads, parking lots, sidewalks, roofs, and the like. Together these changes alter the timing of when and how much water is in stream channels, increase water velocities and erosion, change flooding behavior, alter and eliminate in-stream aquatic habitat as well as streamside vegetation, and fragment wildlife habitat and movement corridors (*Colorado Stream Corridor Guide*, 2001).

In addition to these water quantity issues, development can degrade water quality in several ways.

- Ground disturbed during construction can generate several times the amount of sediment entering adjacent waterways compared to undisturbed ground. Sediments pose problems in two ways, the first related to size. As very small particles (silts and clays), sediments cloud the water and coat the gills of aquatic animals to the point where they may suffocate. Larger particles can bury streambeds and destroy spawning or rearing areas. Second, sediments attract various positively-charged materials, such as metals, organic matter, pesticides, and herbicides, transporting these materials into nearby streams.
- Development usually causes increases in the amount of nitrogen and phosphorus entering nearby waters, such as from lawn fertilizers, animal waste, wastewater treatment, and septic systems. These changes often stimulate algal growth that degrades pond and stream health.

- Water flowing off roads and parking lots often contains higher levels of sediment, deicing salts, gasoline, oil, lubricants, metals, and other materials resulting from wear of engines, brakes, tires, and other vehicle parts.

### 2.3.2 SH 9 STUDY AREA WATERSHED

The SH 9 study area is located within the upper Blue River basin in the headwaters of the Colorado River basin. The upper Blue River basin consists of the Blue River, Tenmile Creek, and the Snake River [see **Figure 2-3** and **Figure 2-4** (Figure 3-26 and 3-27 in the DEIS)]. In total, the basin drains approximately 334 square kilometers (129 square miles) into Dillon Reservoir, with each stream contributing roughly one-third of the flow. The dominant water features in the study area are the Blue River and Dillon Reservoir.







Topography in the study area is dominated by the Tenmile Range to the west and the Front Range to the east, the peaks and main ridges of which are well over 3,660 meters (12,000 feet). Elevation in the study area ranges from 2,776 meters (9,100 feet) in Frisco to 2,928 meters (9,600 feet) in Breckenridge. The local geology is derived mostly from igneous-metamorphic rocks of the surrounding mountains (e.g., schist, gneiss, and granite). Erosion during several periods of glaciation during the past two million years filled lower-lying areas – including the proposed project corridor – with a variety of glacial deposits. For the last 10,000 years, these valley deposits have been moved and sorted by the Blue River (<http://geo-nsdi.er.usgs.gov>).

Undisturbed soils on the valley floor are mostly well-drained, gravelly loams derived from a variety of materials (*Soil Survey of Summit County Area, Colorado, 1980*). Soil texture varies from fine silts to coarse gravels and cobbles interspersed with boulders depending on location in the floodplain. Soils associated with wetlands and riparian areas typically have higher organic content. Of particular note is that the study area lies within a wide, mineralized belt extending from Boulder southwest to Aspen. This belt contained large quantities of precious metals that spurred mining activity in Colorado, including Summit County, beginning in the late 1800s.

Given the diversity of terrain, generalities regarding climate are difficult in the proposed study area, other than to say elevation and slope aspect are significant influences and the majority of precipitation falls as snow during winter. This last fact is critical when considering the water resources in the proposed study area.

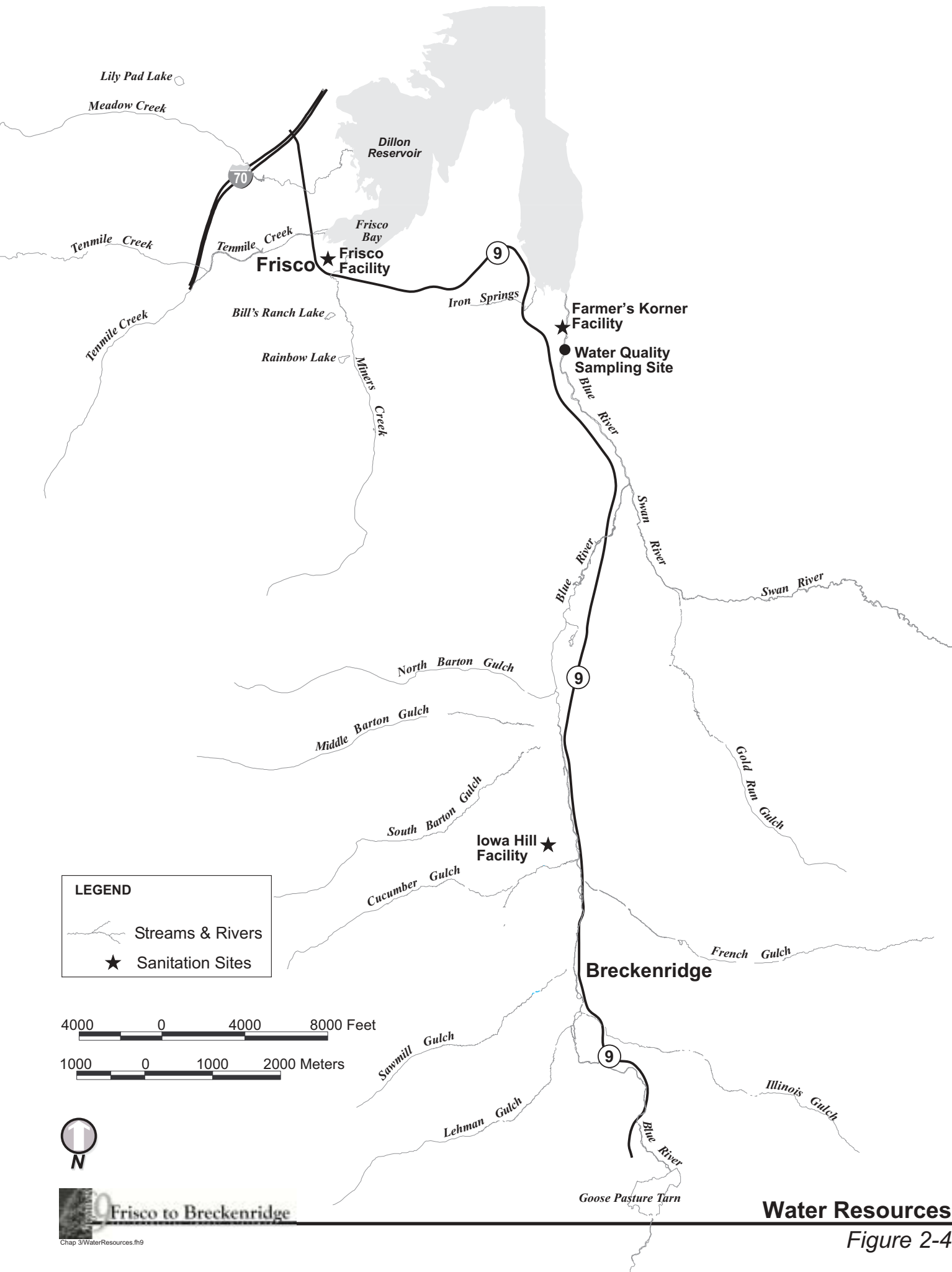


**LEGEND**

-  Rivers and Streams
-  Impaired Segment 303(d) list
-  Roads
-  Towns
-  Lakes and Reservoirs
-  Watershed Boundary

Source: CDPHE, EPA





**LEGEND**

- Streams & Rivers
- Sanitation Sites



The hydrologic regime in the watershed and the study area is dominated by spring snowmelt that causes annual stream flows to vary widely. For instance, average daily flows in the Blue River at Dillon range from 0.71 cubic meters per second (cms) [25 cubic feet per second (cfs)] mid-winter to 8.5 to 11 cms (300 to 400 cfs) during peak runoff during June (<http://waterdata.usgs.gov/nwis>). About 80% of the basin is federal land containing mostly undeveloped lodgepole pine forest and subalpine and alpine terrain. The remaining private holdings are concentrated along the major stream corridors in the valleys (BRWQMP 2002).

### 2.3.3 LAWS AND REGULATIONS

A variety of federal and state laws govern activities that may impact water resources and water quality for the proposed project. Many of those laws and regulations require that those impacts be avoided, reduced, and mitigated.

#### 2.3.3.1 FEDERAL WATER QUALITY LAWS AND REGULATIONS

The most comprehensive law governing water quality is the federal Clean Water Act (CWA). The goal of the act is to “restore and maintain the chemical, physical and biological integrity of the nation’s waters.” Under CWA, water pollution is regulated as either a “point” or “nonpoint” source. Point sources are direct discharges to receiving waters from a single source; nonpoint sources are diffuse and difficult to attribute to a single source or point. Under current regulations, any construction project that disturbs more than one acre is considered a point source. Within the study area, sewage treatment plants are the main point sources. Nonpoint sources in the study area impact water resources with excess nutrients (from septic systems), heavy metals and acidic water (from acid mine drainage), and sediment (from natural sediment loads, road sanding, development, and construction). Major sections of the act are described briefly below. Additional guidance is contained in Executive Order 11990, *Protection of Wetlands*, and regulations developed by FHWA (e.g., 23 CFR 771, *et seq.*). CDOT policies require 1:1 replacement of all wetlands (jurisdictional and non-jurisdictional) permanently lost as a result of highway projects. All of the regulations discussed below apply to this project.

**Section 402** – establishes the National Pollution Discharge Elimination System (NPDES). NPDES applies to all point source discharges and projects that impact more than a specific size of land. Under the NPDES and Colorado’s regulations, a Colorado Pollutant Discharge System (CDPS) permit is required if one or more acre of disturbance is anticipated, or if the project is part of a larger plan. CDOT has its own CDPS permit issued by the Water Quality Control Division (WQCD) of the Colorado

Department of Public Health and Environment (CDPHE), that requires Best Management Practices (BMPs) for mitigation of discharges related to construction activity.

**Section 404** – establishes a permitting system for dredge and fill operations in the nation’s waterways, including wetlands. Parties proposing to fill or alter such waterways must receive a permit to do so if impacts are to jurisdictional waters. Projects must be designed and conducted to avoid and minimize impacts to the aquatic resource, and to mitigate unavoidable impacts. In Colorado, Section 404 is administered by the USACE.

**Section 401** – authorizes states to certify that federally-permitted activities comply with state water quality standards. An example of a federally-permitted activity would be an individual Section 404 permit. Under Section 401, states may approve, deny, or apply conditions to such permitted activities. In Colorado, WQCD 401 certifications require that specific BMPs be used to limit or eliminate potential sources of water pollution.

**Section 303(d)** – requires states to designate water bodies that do not meet water quality standards for their designated uses. Based on the type and degree of water quality problem, states are required to establish a total maximum daily load (TMDL) for each such water body (referred to as “impaired waters”). The TMDL allocates allowable amounts of pollutant(s) of concern among the contributing sources and is intended to bring the water body up to the required water quality standard.

**Floodplains** – development in floodplains is controlled by a variety of federal and related state laws. Executive Order 11988, *Floodplain Management*, requires that federal agencies avoid direct and indirect support of development in floodplains whenever a practicable alternative exists. Regulations require projects to analyze prospective impacts on flood flows, beneficial floodplain values that include riparian vegetation, and estimated impacts must be eliminated, decreased, or mitigated (40 CFR Part 9).

#### 2.3.3.2 STATE WATER RESOURCE ACTIVITIES, LAWS AND REGULATIONS

In Colorado, the Water Quality Control Division (WQCD) in the Colorado Department of Public Health and Environment (CDPHE) administers sections 303(d), 401 and 402. The Water Quality Control Commission (WQCC) establishes water quality standards and classifies all state waters (including groundwater) according to their designated uses. Stream segments in the study area are classified as shown in **Table 2-3** (<http://www.cdphe.state.co.us/op/wqcc/>). See **Table 2-4** for impaired segments.

**Table 2-3  
Stream Segment Classifications in Study Area**

<b>Segment Number and Description</b>	<b>Classification</b>	<b>Additional Information</b>
1. Blue River mainstem, source to Dillon Reservoir, except specific segments	Aquatic Life Cold 1 Recreation 1 Water Supply Agriculture	Mining impact between 1 mile between Seg.2 and Swan River
2. Blue River mainstem, from confluence with French Gulch to one mile above the Swan River	Aquatic Life Cold 1 Recreation 1 Water Supply Agriculture	Temporary modifications until 12/31/03
3. Dillon Reservoir and all tributaries except specific segments	Aquatic Life Cold 1 Recreation 1 Water Supply Agriculture	Special phosphorous standards
10. French Gulch mainstem and tributaries, source to 1.5 miles below Lincoln	Aquatic Life Cold 1 Recreation 1 Water Supply Agriculture	
11. French Gulch, 1.5 miles below Lincoln to Blue River	Aquatic Life Cold 1 Recreation 2 Agriculture	Mining impacted; temporary modifications to standards
12. Illinois Gulch mainstem, source to Blue River	Aquatic Life Cold 2 Recreation 2 Water Supply Agriculture	
14. Tenmile Creek mainstem, confluence with West Tenmile to Dillon Reservoir	Aquatic Life Cold 1 Recreation 1 Water Supply Agriculture	

Other state agencies with water resource responsibilities include the Colorado Water Conservation Board and the Office of the State Engineer, both in the Department of Natural Resources.

#### 2.3.3.3 PROTECTION OF STATE FISHING WATERS

State law prohibits the activities of state agencies from adversely affecting state fishing waters (33-5-101, *et seq.*, C.R.S.). A memorandum of agreement between CDOT and CDOW specifies how CDOT will conduct activities in and around streams in order to limit impacts from road construction and maintenance projects. Provisions include: using clean fill materials; locating construction staging areas away from nearby waters;



limiting construction activities to low-flow periods; working from above rather than within streams; maintaining or creating buffer areas between roads and nearby waters; restoring stream profile, substrate and habitat values to similar to, or better than, pre-construction conditions; using bioengineering techniques; and revegetating with appropriate, native species.

### 2.3.4 WATER QUALITY - EXISTING CONDITIONS

Existing water quality in the study area reflects both its high mountain origin and the influence of human settlement. Above area settlements, water quality is excellent, but tends to decline as it passes through areas impacted by previous and continuing human activity. Major point-source water quality issues in the study area stem from continued expansion of wastewater treatment facilities and additional water diversions. Major nonpoint source water quality issues include existing and inactive mining activities, urban and construction activities (including septic systems), agricultural activities (e.g., forestry), and hydrologic modifications due to water diversions (*Blue River Water Quality Management Plan, 2002*).

#### 2.3.4.1 WATER QUALITY AND HISTORIC MINING

The Blue River and its tributaries have been significantly impacted by mining that began in the late 1800s and continued into the mid-1900s. For instance, in French Gulch, ore processing at the Wellington-Oro Mine produced acid mine drainage and high levels of heavy metals. In addition to receiving degraded water from French Gulch, the Blue River and its floodplain were heavily disturbed by dredge boat operations.

Around the turn of the last century, in order to remove the precious metals buried in the streambed, floating dredge platforms dug down 6 to 30.5 meters (20 to 100 feet), processed all the material through on-board sluices, and discarded the unwanted material. Dredges were capable of processing thousands of cubic feet of material in a single day ([www.nps.gov](http://www.nps.gov)). Large dredge piles from these operations remain along the west side of SH 9. Dredging usually destroyed the entire stream ecosystem in the immediate vicinity by churning and displacing the streambed and removing much of the streamside vegetation.

As a result of these activities, French Gulch and the Blue River are listed as “impaired waters” by WQCD. Water quality problems for specific segments are listed in **Table 2-4**.

**Table 2-4  
2002 List of Impaired Streams in Study Area**

Segment Description	Impaired Portion	Parameters	Additional Information
1. Blue River mainstem, source to Dillon Reservoir, except specific segments	One mile above Swan River to Swan River confluence	copper	
2. Blue River, Confluence with French Gulch to one mile above confluence with Swan River	All	cadmium, zinc	Mining Impacted
11. French Gulch, 1.5 miles below Lincoln to Blue River	All	cadmium, lead, manganese, zinc	Mining impacted

In the lower reaches of French Gulch, manganese concentrations exceed drinking water standards (17.2-196 µg/L), while the concentrations of cadmium (2.8-8.4 µg/L), copper (1.1-2.7 µg/L), lead (1.0-4.95 µg/L), mercury (not available), and zinc (1140-3500 µg/L) exceed aquatic life standards (<http://waterdata.usgs.gov/nwis>). In the Blue River from French Gulch to Dillon Reservoir, the concentration of zinc, cadmium, lead and copper exceed aquatic life standards. (At this writing, specific data for the Blue River were not available.) Aquatic macroinvertebrates are limited to those species tolerant of low-quality water (e.g., chironomids). Fish are absent from the lower 3.2 to 4.8 kilometers (2 to 3 miles) in French Gulch and reduced in number in the Blue River below its confluence with French Gulch (*Blue River Water Quality Management Plan, 2002*, [www.epa.gov/region8](http://www.epa.gov/region8)). These metal concentrations are of concern because manganese, cadmium, copper, lead and zinc are common trace pollutants from highway runoff (see Section 2.4.2.4.)

In combination, contamination from French Gulch and historic dredging operations on the Blue River have severely degraded these stream segments to the point where they no longer perform many of their natural, water-cleansing functions, and many areas are damaged beyond their ability to self-repair.

- Unless isolated, contained, or removed, existing sources of acid rock drainage and heavy metals in French Gulch will continue to contaminate the creek and the Blue River.
- Dredging fundamentally altered the hydrology of the Blue River. Because much of the desired ore was located in the layers of finer stream particles, removal and disturbance of those materials destroyed the river’s natural lining. Where once

stream flows traveled on top of this liner, the rearranged materials allow water to move quickly downward through highly porous rock. Now, only when flows are high during spring and early summer does water remain in the current channel.

- In a wide, flat valley such as that north of Breckenridge, the Blue River would normally create a lazy, meandering course through the landscape. Extensive areas adjacent to the stream would be subject to annual and periodic flooding. These conditions slow water velocity, disperse the energy during peak flows, deliver water far from the immediate channel, deposit fine silts and sands onshore, and create and sustain a wide variety of habitats. Movement of water into adjacent riparian and wetland areas also cleanses the water, both by removing suspended materials and by allowing the water to percolate slowly through the ground. Instead, dredging fundamentally altered the shape of the Blue River, by straightening (“channelizing”) and deepening the river. As a result, most areas are no longer subject to flooding, in-channel water velocity increases, suspended materials are prevented from settling, and streambanks are subjected to increased scour (*Blue River Restoration Master Plan, 2000*).

As a result of these changes, the river system can no longer perform its natural functions or sustain both in-stream and riparian habitats. Selected historic water quality data for the Blue River near Dillon Reservoir are provided in **Table 2-5**. Total suspended solids remain below 60 mg/L in all except two samples. For parameters with published stream segment standards (pH, temperature, dissolved oxygen, copper and zinc), the averages are well within standards. Zinc, the only constituent with a range higher than the stream segment standard, has only a few samples exceeding the standard. Nitrogen and phosphorous standards are not segment-specific. The phosphorous range reaches its limit, but nitrogen remains well below its limit. The average phosphorous level is higher than the standard set for Dillon Reservoir (see below).

**Table 2-5  
Selected Water Quality Parameters in the Blue River at Dillon Reservoir**

Existing Conditions	TSS (mg/L) <sup>1</sup>	pH (SU) <sup>1</sup>	Temp. (°C) <sup>1</sup>	DO (mg/L) <sup>1</sup>	Nitrogen (mg/L) <sup>1</sup>	Phosphorus (mg/L) <sup>1</sup>	Copper <sup>2</sup> (µg/L) <sup>1</sup>	Zinc <sup>2</sup> (µg/L) <sup>1</sup>
Average	20.1	8.0	6.5	9.5	0.127	0.008	2.2	32
Range	1 – 287	7.2 – 8.4	2.5 – 14	7.8 – 13.9	0.05 – 0.246	0.002 – 0.01	0.5 – 6.0	4 – 124
Stream Segment Standard <sup>3</sup>	N/A	6.5 – 9.0	<20	>6.0; >7.0 during spawning	10.0	0.010	11	97

Source: USGS Station 09046600, Blue River at Dillon Reservoir (<http://waterdata.usgs.gov/nwis/>)

#### 2.3.4.2 WATER QUALITY – DILLON RESERVOIR

Dillon Reservoir is a major drinking water supply for Denver with operations of the reservoir managed by the Denver Water Department. The reservoir was completed in September 1963 and is the largest water storage facility in the Denver water system. It has a capacity of 254,000 acre-feet and covers roughly 1,309 hectares (3,233 acres). It is situated at the former confluence of the Blue River, the Snake River and Tenmile Creek.

Since 1984, the Colorado Water Quality Control Commission has regulated phosphorus loading into the reservoir in an attempt to control nutrient enrichment (e.g., algal blooms). The current phosphorus standard is The current phosphorus standard is 0.0074 mg /L (7.4 µg /L ) during the growing season (*Blue River Water Quality Management Plan*, 2002).

Phosphorus sources in the watershed include “background runoff” (50%), precipitation (18%), septic systems (15%), wastewater treatment plants (3%), and “other sources” (14%) (*Blue River Water Quality Management Plan*, 2002). According to the plan, sustained reductions in phosphorus loading have been achieved through improved land use and wastewater treatment practices. However, continued development, land use changes, and additional septic systems are expected to negatively impact the reservoir.

<sup>1</sup> Concentrations are reported in the same units as those listed in the WQCD Water Quality Regulations. Mg/L = milligrams per liter, or ppm; µg/L = micrograms per liter, or ppb. TSS refers to total suspended solids. Readings taken 4/95-6/98 (n=41). pH : 10/95-9/02 (n=35). Temperature: 1/01-9/01 (n=342). DO refers to dissolved oxygen, and is a minimum concentration. Readings taken 10/95-9/02 (n=24). Nitrogen: 10/95-9/98 (as nitrite and nitrate; n=6). Phosphorus: 10/95-9/98 (n=6).

<sup>2</sup> *Use-Attainability Analysis, Lower French Gulch and the Blue River Downstream of French Gulch near Breckenridge, Summit County, Colorado* (revised draft). May 2003. Prepared for the Summit Water Quality Committee, USEPA, and CDPHE. Prepared by Lane Wyatt, Summit Water Quality Committee; TDS Consulting, Evergreen, Colo.; and Walsh Aquatic Consultants, Inc., Westminster, Colo. Copper (n=75); zinc (n=75). See also, <http://co.water.usgs.gov/cf/bluecf/default.cfm>.

<sup>3</sup> Source: Colorado Department of Public Health and Environment. “Hardness” = 80 mg/L. The standard for nitrogen is based on the federal Safe Drinking Water Act. The phosphorus standard is recommended by the USEPA.

Between 30-50% of turbidity in Dillon Reservoir arises from inorganic sediment suspended in the water that is often related to development activity, including road sanding (*Blue River Water Quality Management Plan, 2002*). The plan also notes that sediment from construction activities are individually small but cumulatively significant, and that gravel mining on the Blue River has on occasion released significant amounts of suspended and dissolved sediments.

#### 2.3.4.3 GROUNDWATER

Groundwater is water that exists in or moves through subsurface layers of porous rock. It arises from precipitation that soaks into the ground, both locally and regionally. Lakes and streams may also contribute to groundwater. Groundwater is a source of drinking water in the study area, although surface water provides most needs. Impacts to groundwater quality include excess nitrogen contamination from septic tanks (*Blue River Water Quality Management Plan, 2002*).

### 2.3.5 WATER QUANTITY - EXISTING CONDITIONS

Issues related to development and water quantity generally involve excessive or diminished flows.

#### 2.3.5.1 BACKGROUND

Watersheds, area streams, and floodplains adjust their form to accommodate seasonal changes in precipitation and runoff. Stream width, depth, and pattern respond to the amount and timing of water and the amount of sediment they carry, as does the extent and character of the adjacent floodplains. Development influences the dynamics of the system through direct channel disturbance, floodplain encroachment, water diversions, and increasing the amount of impervious surface.

Floodplains are attractive for human settlement because they are flat. Additional fill material is usually needed in low-lying areas to expand buildable areas or to improve their suitability. In this process, streams are often straightened and stream banks are hardened with walls or heavy debris to protect development during high flows. However, areas filled with earth and buildings are no longer available as overflow. Narrowing the floodplain and straightening the channel increases the velocity and the power of the water in the channel. This increases scour, removes smaller materials, and often makes instream and near-stream habitats unlivable. Increases in hard surfaces during development (e.g., roads, parking lots, roofs) compounds these impacts by increasing the amount of water in local streams and the speed with which it arrives.

Under undeveloped conditions, much of rainfall and snowmelt would soak slowly into the ground over time.

On the other hand, human settlement often requires diversion of water out of its natural channels so that it can be used for irrigation, drinking water, snow making, and industrial purposes, or stored for later use. The extent and timing of these diversions can fundamentally alter the character of the natural channel and influence its ability to perform a variety of normal functions in the local ecosystem. Impacts include increases or decreases in the amount of water available to dilute pollution, increases or decreases in flushing flows, changes in stream temperatures, and alteration of aquatic habitats.

#### 2.3.5.2 WATER QUANTITY IN THE SH 9 STUDY AREA

Within the study area, historic mining has significantly altered the Blue River channel and most of the floodplain, and subsequent development has largely confined the river to a narrow, trapezoidal channel. Current stream flows in the Blue River are influenced by the requirements of the Town of Breckenridge's water needs and snowmaking activities at the ski area. The ski area opened in 1961 when the population of the town was about 400. Skier visits totaled 1.4 million in 2000. The seasonal population currently peaks at over 120,000 (*Blue River Water Quality Management Plan, 2002*). Under certain conditions, surface flows in the river are non-existent during late summer and winter (*Blue River Restoration Master Plan, 2000, Blue River Water Quality Management Plan, 2002*). In particular, diversions for snowmaking occur when natural stream flows are lowest, and the water returns when it is most abundant, i.e., during spring runoff.

Summit County's permanent population was 20,946 in 2000, and it is expected to increase 69% by 2020. The resulting residential and commercial development in the study area has contributed to the high use of available water. This means increased intake of water at drinking water utilities and return of water at wastewater treatment plants. The volume of return flows from area wastewater treatment plants can dramatically alter in-stream conditions at their points of discharge. Wastewater treatment plant locations are shown in **Figure 2-4**. For security reasons, drinking water plants are not located.

State law authorizes the Colorado Water Conservation Board to file for in-stream water rights in order to maintain minimum stream flows in order to preserve natural stream conditions (37-92-101, *et seq.* C.R.S.). The board has filed for several such rights on various stream segments within the study area. However, as with all water rights in

Colorado, the in-stream rights are subject to the state's prior appropriation doctrine, in which older water rights take precedence.

## **2.4 WATER RESOURCES AND WATER QUALITY IMPACTS (DEIS CHAPTER 4.0)**

The following text is a modification of the impacts discussion in Section 4.10 and Section 4.11 of the DEIS at the request of EPA. A discussion of mitigation measures can be found in Chapter 3.0, Section 3.10 of this abbreviated FEIS.

### **2.4.1 BACKGROUND**

Elements of the project that may impact water resources and water quality in the study area include highway widening, additional impervious surface, longer and larger culverts, wider and longer bridges, and changes in drainage patterns. In general, a wider roadway has direct impacts at stream crossings, may directly impinge on existing water bodies (including wetlands) and floodplains from the side (lateral encroachment), and may reduce the distance between the roadway and nearby waters. Additional impervious surface usually increases the amount of roadway runoff. The degree to which these elements may specifically impact water resources and water quality in the study area are discussed below.

Temporary impacts may also arise during construction, such as short-term increases in of sediment levels. These impacts can be greatly reduced by use of appropriate BMPs during and after construction (see Section 3.10).

### **2.4.2 ROADWAY IMPACTS**

#### *2.4.2.1 ROADWAY IMPACTS AT STREAM CROSSINGS*

Highway widening usually requires wider bridges and longer culverts. SH 9 crosses five streams in the study area - Miners Creek, Meadow Creek, and Tenmile Creek in Frisco, Iron Springs near Swan Mountain Road, and French Gulch in Breckenridge, and it crosses the Blue River three times - near Tiger Run and at the north and south ends of North Park Avenue in Breckenridge [see **Figure 2-4** (Figure 3-27 in the DEIS)]. These crossing locations remain the same under the Preferred Alternative. Where streamside habitat is immediately adjacent in these locations, a wider roadway will directly impact that habitat. Those impacts, however, will vary with different designs, such as the number of piers, bridge width, bridge height above the channel, and changes in culvert requirements. Bridge and culvert designs will be determined during final design.

Current plans anticipate replacing the existing culverts at the Blue River near Tiger Run with a single-span bridge (i.e., no piers) that will be longer and higher above the stream improving fish passage. Where North Park Avenue intersects SH 9 north of Breckenridge, plans include construction of a traffic roundabout and a new southbound bridge (see Section 1.4.2.2).

#### 2.4.2.2 ROADWAY IMPACTS ON EXISTING DRAINAGE PATTERNS

Highway reconstruction often requires adjustment of existing roadway drainage patterns as a result of new design standards, existing pipes may be undersized for existing or projected runoff or stream flows, pipes may need to be extended to accommodate a wider road, or existing pipes may no longer be functional. Such changes may influence existing water resources for better or worse. For instance, current runoff may be directly entering a stream, adding excessive sediment and flows. A change in pattern, such as directing runoff to an upland area first, may improve local stream conditions by allowing the runoff to be filtered first. On the other hand, current runoff may be supporting a local wetland and a decrease in the amount of water delivered may adversely affect that wetland.

There are dozens of roadway culverts of varying size in the study area that are unrelated to natural drainages but which serve to move water under the road or away from the road surface. The nature and extent of changes to these culverts will vary with different designs and site-specific requirements.

#### 2.4.2.3 ROADWAY IMPACTS FROM LATERAL, FLOODPLAIN ENCROACHMENT

In terms of encroachment, SH 9 currently borders the Blue River at several locations [see **Figure 2-4** (Figure 3-27 in the DEIS)]. Direct impacts can involve stream relocation, impacts to streamside areas, and constriction of the floodplain. Upland areas positioned between roadways and nearby waters act as filters for materials carried in highway runoff. Especially in areas immediately adjacent to such waters, roadway widening can eliminate these buffer zones and lead to increased water pollution. However, because of concerns expressed about roadway width during the EIS, the Preferred Alternative is the second narrowest design.

#### 2.4.2.4 ROADWAY IMPACTS FROM ADDITIONAL IMPERVIOUS SURFACE

Impervious surface area will increase under the Preferred Alternative. Impacts arise from increased runoff water volumes and decreased runoff water quality. Currently, SH 9 varies between 17 to 24 meters (55 to 79 feet) wide within the study area. Under the



Preferred Alternative, roadway width will vary between 21 to 25 meters (70 to 82 feet). Existing right-of-way is 61 to 92 meters (200 to 300 feet) wide. In the 14.5-kilometer (9-mile) study area, total roadway surface area under the Preferred Alternative will be roughly 29 hectares (72 acres). Although this area represents less than 0.01% of the watershed [about 334 square kilometers (129 square miles)], impacts discussed below are detectable.

Highway runoff during June (peak flow) was estimated to add flows equal to 0.22 cubic meters per second (7.8 cubic feet per second), a volume that represents 2% of the average flow of the Blue River in June. Such a change is not expected to have any hydrologic impacts on the stream channel of the Blue River (Harelson 2003). CDOT also examined project influence on three metals-- copper, lead and zinc – at two sites in the additional runoff arising from highway widening. This analysis indicates that the resulting instream concentrations would not exceed the Driscoll toxicity thresholds or Colorado Water Quality Standards if they were due solely to highway runoff (see Table 2-6; Harelson 2003; Driscoll, *et al.* 1989).

**Table 2-6  
Results of Driscoll Analysis of Roadway Runoff Impacts to Water Quality  
Comparison of Existing Conditions and Model Predictions**

Constituent	Blue River – Segment 2a below French Gulch <sup>4</sup>	Blue River – Segment 1 at Dillon Reservoir <sup>4</sup>	Estimated Toxicity Threshold*	SH 9, Existing Conditions* (3 yr. return interval)	SH 9, Preferred Alternative* (3 yr. return interval)
Copper	3.6 µg/L	2.2 µg/L	16 µg/L	7 µg/L	10 µg/L
Lead	1.3 µg/L	1.8 µg/L	71 µg/L	12 µg/L	17 µg/L
Zinc	994 µg/L	32 µg/L	294 µg/L	25 µg/L	35 µg/L
Hardness (avg.) <sup>5</sup>	90 mg/L	80 mg/L	–	90 mg/L	90 mg/L

\* See Harelson 2003.

In Table 2-6, changes in the level of metals in the Blue River between French Gulch and Dillon Reservoir reflect the influence of dilution. In this segment of the Blue River, groundwater inflows downstream of French Gulch and inflows from the Swan River above Dillon Reservoir increase stream flows and dilute the concentration of metals in

<sup>4</sup> Use-Attainability Analysis, Lower French Gulch and the Blue River Downstream of French Gulch near Breckenridge, Summit County, Colorado (revised draft). May 2003. Prepared for the Summit Water Quality Committee, U.S. Environmental Protection Agency, and the Colorado Department of Public Health and Environment. Prepared by Lane Wyatt, Summit Water Quality Committee; TDS Consulting, Evergreen, Colo.; and Walsh Aquatic Consultants, Inc., Westminster, Colo.

<sup>5</sup> Hardness is a measure of the amount of dissolved “salts” in water, principally calcium and magnesium (e.g., calcium carbonate). Calcium and magnesium naturally arise as water moves through sedimentary rock and soils, but they may also arise from human sources. Hardness alters the toxicity of heavy metals, that is, as water hardness increases, the given level of metals in the water decreases in toxicity.

the stream. The figures in the first two columns are measured concentrations of the pollutant levels in the Blue River (Segments 1 and 2). The last two columns reflect Driscoll model estimates of the concentration of copper, lead, and zinc in the Blue River due **solely** to roadway runoff. Those estimates are based, in part, on the following assumptions:

- Most precipitation occurs as rain.
- The entire road surface drains to one point.
- There are no intervening features, natural or man-made, between that runoff and natural waterways that work to address water quality issues.
- Soils are saturated in the vicinity of the roadway causing all the road runoff to move to natural waterways.

Regarding these assumptions:

- Rather than rainfall, the dominant precipitation pattern in the study area is spring snowmelt. Rainfall would immediately carry away roadway pollutants as runoff, while a large snowfall during the winter might not melt for several weeks or months, and the intensity of snowmelt runoff is less than rain-generated runoff. In addition, snowfall is plowed to areas adjacent to the road where it percolates into the ground, moves across the surface toward natural drainages, or sublimates.
- Roadway runoff from SH 9 generally does not drain to a single point. SH 9 crosses three natural drainages in the study area [see **Figure 2-4** (Figure 3-27 in the DEIS)]. Some direct discharge of roadway runoff occurs at these locations. By and large, though, water drains from the roadway surface at many places within the study area and sheet flows off the roadway and down side slopes in a diffuse manner.
- Several elements in the study area limit the amount of roadway runoff reaching local water bodies. For instance, most of this runoff moves along drainage ditches and vegetated areas located some distance from natural water bodies. The greater the distance and time over which runoff travels across such terrain, the greater the water treatment benefits (e.g., sediment retention, chemical transformation). CDOT programs and practices also incorporate a variety of project elements intended to address roadway-related water quality issues (e.g., permanent sediment basins). These are discussed in more detail in Section 3.10.
- Except during peak snowmelt season, soils are seldom saturated in the study area. This allows local soils to act in a similar fashion as the water quality features

discussed in previous bullet. During peak snowmelt seasons, soils are saturated and thus limited in their ability to treat water, but stream flows are also high, so pollutants are more diluted.

In order to assess the impacts of SH9 on water quality, and because the water quality in the Blue River is already degraded by significant metals concentrations, **Table 2-7** shows the calculated roadway runoff added to existing metals concentrations. These results are then compared to the water quality standards for the stream segments, as set by CDPHE. (Since aquatic toxicity data specific to the Blue River are not available, and EPA oversees state water quality standards [personal conversation with Dave Moon, EPA, Region 8, 12/2/03], the state standards are used for comparison.) Since Blue River, Segment 2 is already listed as impaired, the Driscoll-model runoff impacts are added to the Segment 1 (Blue River at Dillon Reservoir) existing conditions.

**Table 2-7  
Calculated roadway runoff added to existing metals concentrations**

Constituent	Copper ug/L*	Lead ug/L*	Zinc ug/L*	Hardness (avg.)8 mg/l*
Blue River-Segment 2a below French Gulch	3.6	1.3	994	90
Segment 2a WQ Standards	12	57	753***	Assumes 90
Blue River – Segment 1 at Dillon Reservoir 6	2.2	1.8	32	80
Segment 1 WQ Standards	11	50.6	97	Assumes 80
Driscoll Toxicity Threshold**	16	71	294	Assumes 90
SH 9, Existing Conditions** (3 yr. return interval)	9.2 (7 + 2.2)	13.8 (12+ 1.8)	57 (25 + 32)	Assumes 90
Ratio of SH 9 Existing to Blue River Segment 1 WQ Standards	0.83	0.24	0.59	
SH 9, Preferred Alternative** (3 yr. return interval)	12.2 (10 + 2.2)	18.8 (17 + 1.8)	67 (35 + 32)	Assumes 90
Ratio of SH 9 Preferred Alternative to Blue River Segment 1 WQ Standard	1.1	0.33	0.69	
BMPs Recommended	YES			

\*Units: ug/L = micrograms per liter; mg/L = milligrams per liter.

\*\* Resulting instream concentrations from Driscoll model are added to the existing conditions for **Segment 1**, from Table 3-4. See Harelson 2003.

\*\*\*Segment 2a hardness-based standards, effective January 20, 2004.

Results of the water quality modeling can be analyzed with guidelines from the Design Procedures of Driscoll (1990):

<sup>6</sup> Use-Attainability Analysis, Lower French Gulch and the Blue River Downstream of French Gulch near Breckenridge, Summit County, Colorado (revised draft). May 2003. Prepared for the Summit Water Quality Committee, U.S. Environmental Protection Agency, and the Colorado Department of Public Health and Environment. Prepared by Lane Wyatt, Summit Water Quality Committee; TDS Consulting, Evergreen, Colo.; and Walsh Aquatic Consultants, Inc., Westminster, Colo.

- If the ratio of estimated stream concentrations to CDPHE acute standards is less than 0.75, a toxicity problem is unlikely.
- If the ratio of estimated stream concentrations to CDPHE acute standards is between 0.75 and 5.0, a toxicity problem is possible.
- If the ratio of estimated stream concentrations to CDPHE acute standards is greater than 5.0, a toxicity problem is likely, and reduction measures will be employed.

The ratios of stream concentrations shown in **Table 2-7** indicate that a toxicity problem is possible for copper in the Blue River. Since this river is already stressed, BMPs will be installed. Site-specific modeling of sediment retention ponds or vegetated channels, using the Driscoll model, indicate approximately 50% decrease in copper. This will lower the 3-year return interval for copper from 10 ug/L (for the Preferred Alternative) to 5 ug/L. Thus, the proposed permanent BMPs would keep total copper concentrations at 9.2 ug/L (5 + 2.2 ug/L) below the water quality standard of 11 ug/L. An added advantage of the BMPs is a similar removal of zinc, even though it does not exceed water quality standards.

#### 2.4.2.5 WINTER ROAD MAINTENANCE

The primary means of controlling snow and ice on SH 9 is with plowing and the application of a salt/sand mixture. Salt, as sodium chloride, comprises roughly 5% of the current mix. **Table 2-8** provides information on sanding operations in the study area.

**Table 2-8**  
**CDOT Winter Sanding Operations**  
**SH 9, Blue River to I-70**  
**(figures in tons)**

Fiscal Year	MC 547	MC 73 <sup>7</sup>	Total	Average Tons per Mile	SH 9 Existing Conditions	SH 9 Preferred Alternative
1998-99	6,445	0	6,445	374	3,367	4,713
1999-00	5,058	0	5,058	294	2,642	3,699
2000-01	4,247	0	4,247	247	2,218	3,106
2001-02	2,126	0	2,126	123	1,111	1,555
2002-03	1,872	1,653	3,525	205	1,841	2,578
		Average	4,280	248	2,236	3,130

<sup>7</sup> CDOT Maintenance Section 5, Patrol 12, milepost 80 to 97.23. The state fiscal year runs from July 1 through June 30. "MC" refers to material class. MC 54 is a sand/salt mixture; MC 73 is a sand/"slicer" mix.

Because highway maintenance operations are expected to remain largely the same under the Preferred Alternative, the additional traffic lanes will require additional traction sand and salt. Currently, no liquid deicers such as magnesium chloride are being used on SH 9, although that may change. Based on the information in **Table 2-8**, over the last five years, an average of 2,236 tons of traction sand were applied in the study area. This would increase to 3,130 tons under the Preferred Alternative, assuming a 40% increase in roadway surface area. The roadway surface area increase is based on anticipated changes in numbers of lanes, lengths of added lanes, and medians.

### **2.4.3 INDIRECT AND CUMULATIVE IMPACTS TO WATER RESOURCES AND WATER QUALITY**

The larger setting in which the proposed roadway widening occurs provides important context for considering the water resource and water quality impacts from the Preferred Alternative.<sup>8</sup>

Existing water quality problems arise from historical mining activities in French Gulch and dredging operations on the Blue River. More recently, development and changing land uses have had, and will continue to have, considerable influence on water resources and water quality in the study area (BRWQMP 2002). For instance, Summit County's permanent population is expected to increase 69% by 2020, and peak seasonal populations are currently 4 to 5 times the number of permanent residents. Major *existing* point source water quality issues in the study area include nutrient enrichment (phosphorus) from continued expansion of wastewater treatment facilities and additional in-stream water depletions. Lower water volumes influence water quality by limiting the ability of area streams to dilute existing pollution. Major *existing* non-point source water quality issues include existing and inactive mining activities, urban and rural development activities (including operating septic systems), logging, and hydrologic modifications due to water diversions (BRWQMP 2002).

Most of these issues are under the purview and control of the local governments and communities in the study area through local planning, zoning, and development regulations. Several local programs currently operate to address those issues, such as improvements to existing municipal stormwater systems designed to trap additional sediment and redirect flows away from direct discharges, local setback requirements for streams and wetlands, and instructional materials, such as *Guide to Water Quality*

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<sup>8</sup> For additional information regarding indirect and cumulative impacts, please see Chapter 4, *SH 9 Draft Environmental Impact Statement and 4(f) Evaluation*, Volume 1, May 2002.

*Protection and Erosion Control* produced by the Summit Water Quality Committee. However, a recent report (BRWQMP 2002) notes that “inconsistent enforcement of erosion control and stream setback regulations by local governments continues to be an issue related to urban and construction activities.” Additional efforts are ongoing to: 1) remediate historic mine damage in French Gulch; 2) restore the Blue River to a functioning river system within the study area (BRRMP 2000); and 3) monitor cumulative impacts to wetlands. In addition, Summit County is coordinating with the US Army Corps of Engineers, EPA, and US Forest Service to develop a “special area management plan” (SAMP). SAMPs are planning tools initiated in geographic areas containing sensitive resources threatened by development pressure. The SAMP process gathers area stakeholders, identifies critical resources on a watershed basis, identifies existing and projected impacts, and develops strategies to protect and manage the resource. The process and result provide predictability to local communities and development interests regarding areas to be protected as well as areas in which future development will be allowed.

Given the general impacts of roads on water quality (Section 2.3.1), likely impacts from the Preferred Alternative will include additional runoff, higher sediment loads, additional salts, and detectable increases in heavy metals, petroleum products and other vehicle-related materials. However, analysis indicates that water quality impacts from the Preferred Alternative will not result in violations of water quality standards (if BMPs are constructed to lower copper impacts), nor will increases in water quantity be significant (see Section 2.4.2.4).

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## CHAPTER 3.0: MITIGATION MEASURES

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This chapter summarizes impacts and describes the mitigation measures for the Preferred Alternative, a four-lane reduced median roadway. Mitigation measures include those that are the responsibility of CDOT for impacts caused by construction and operation of the Preferred Alternative and those that could be implemented by others. Chapter 4.0 of the DEIS provides a detailed description of impacts associated with all alternatives analyzed, including the Preferred Alternative (see the “Summary of Direct Impacts” table in the DEIS, page 4-125, for a detailed summary of impacts). **Table 3-4** of this FEIS provides a summary of mitigation measures for the Preferred Alternative.

In order to avoid additional impacts to sensitive resources, it is the responsibility of local jurisdictions with land use planning authority to require appropriate avoidance or mitigation as part of any new development project. Development proposals would continue to be reviewed and scrutinized by local planning entities. In addition to increasing and preserving open space, local agencies can introduce environmentally sensitive development policies into future land use and transportation plans. Future development plans can be designed to retain the rural character and preserve open space and environmentally sensitive lands. Future transportation plans can identify ways in which use of alternate modes of travel can be encouraged.

In addition to mitigation provided by CDOT during transportation improvements, it is essential for Summit County and local municipalities to utilize and enforce their water protection policies and regulations to control erosion and stormwater runoff from new development that occurs.

### 3.1 LAND USE AND ZONING

No mitigation for land use and zoning impacts is required. Any new, unanticipated development that would possibly be spurred by any improvements would have to meet any guidelines or restrictions set forth in the appropriate master or comprehensive plan for the local jurisdiction. The local town and county jurisdictions are responsible for managing land use, zoning, and growth. Mitigation measures to address acceleration in development that may occur along side the Preferred Alternative and are the responsibility of local jurisdictions include:

- Land use boards could control development through the local planning process
- Stipulate in zoning and land use plans that development occur in currently developed areas and use existing access points
- Adopt, at the local level, access control and open space regulations
- Implement “smart growth” planning policies to encourage density in development, especially near transit centers and stops
- Plan future infrastructure needs to allow higher-density development

### 3.2 FARMLAND

Because no Prime and Unique Farmlands or soils of State and Local Importance are within the study area, no mitigation is required.

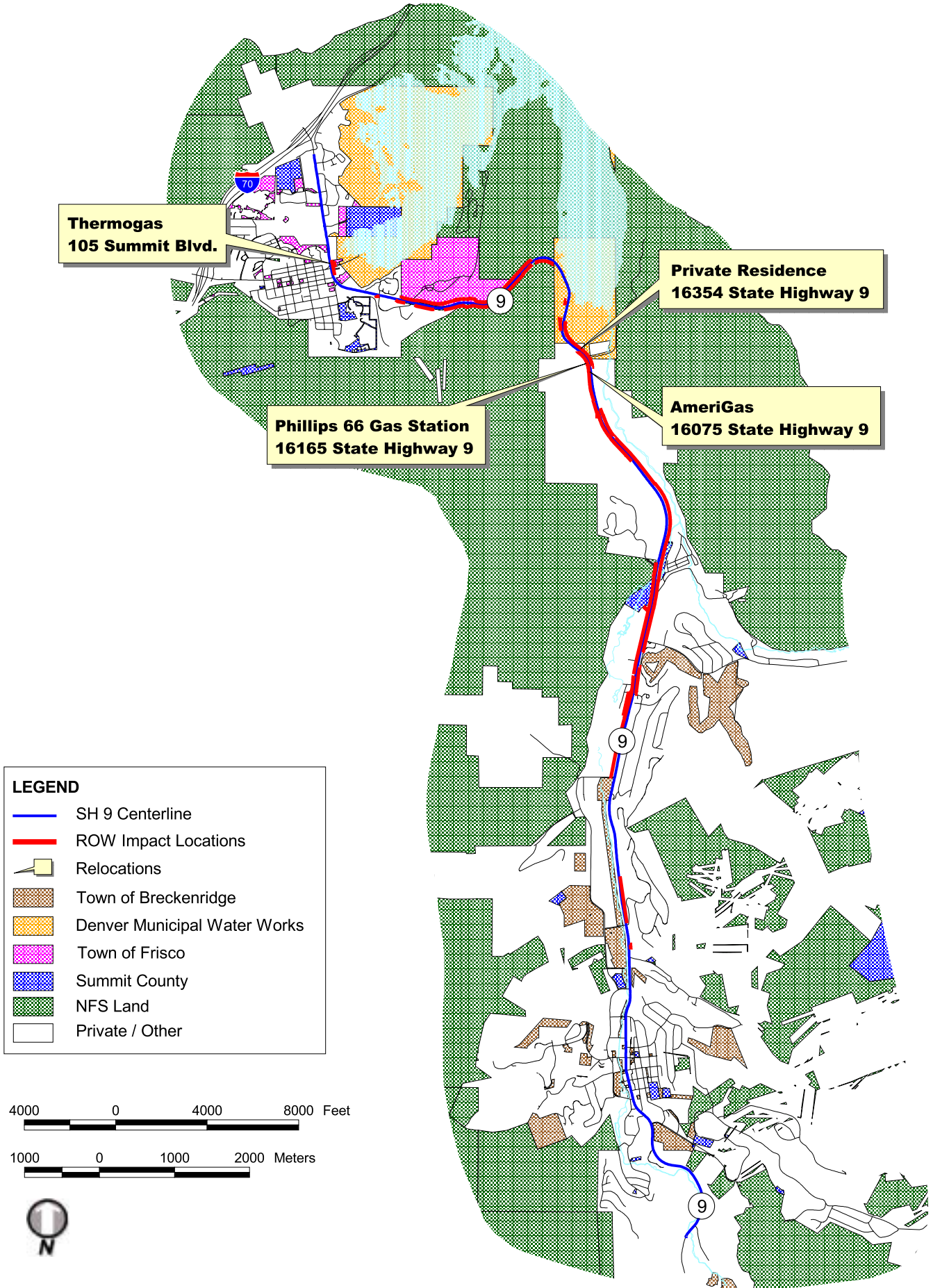
### 3.3 SOCIAL

The Preferred Alternative will not significantly affect population growth, or local racial, ethnic or other demographic characteristics or trends in Summit County or within the study area, nor will it cause disproportionately high and adverse effects on any minority or low-income populations as discussed in EO 12898 regarding environmental justice. Therefore, no mitigation is required.

### 3.4 RIGHT-OF-WAY

The Preferred Alternative will require the acquisition of 14.6 hectares (36 acres) of land for right-of-way. This includes the acquisition of one single-family home and three businesses (see **Figure 3-1**). Access to three other businesses will be impacted. Right-of-way acquisition for SH 9 will comply with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* (Public Law 91-646), as amended and the *Uniform Relocation Act Amendments of 1987* (Public Law 100-17), which contains specific requirements that govern the manner in which a government entity acquires property for public use. The purpose of this act is to provide a uniform policy for fair and equitable treatment of persons displaced as a result of federal and federally assisted programs. The law is designed to ensure just compensation for all acquired properties and to minimize adverse impact of displacement.





**LEGEND**

- SH 9 Centerline
- ROW Impact Locations
- Relocations
- Town of Breckenridge
- Denver Municipal Water Works
- Town of Frisco
- Summit County
- NFS Land
- Private / Other

4000 0 4000 8000 Feet

1000 0 1000 2000 Meters



In full compliance with the *Uniform Relocation Assistance Act of 1970*, as amended, CDOT will provide assistance to any eligible owner or tenant in relocating their business or residence at the time of displacement. Relocation benefits are available to all eligible residential and business relocatees without discrimination.

CDOT will be available to explain the relocation process regarding acquisition of housing or businesses at public meetings on the design of the Preferred Alternative and once the right-of-way/relocation process begins.

Right-of-way from the USFS would be obtained through a new easement agreement. This is consistent with existing management prescriptions and will not require an amendment to the *White River National Forest Land and Resources Management Plan*. Right-of-way from the Town of Breckenridge, Town of Frisco, Summit County and Denver Municipal Water Board would need to be obtained. Right-of-way from private parties would be obtained through outright purchase or, in some cases the purchase of construction or other easements.

### **3.5 ECONOMIC**

No mitigation is required.

### **3.6 TRANSPORTATION**

#### *3.6.1.1 TRAFFIC OPERATIONS*

Implementation of the Preferred Alternative improves traffic flow by 2025 projected volumes to Level of Service (LOS) D or better throughout the study area. Highway traffic congestion is expressed in terms of Level of Service (LOS) as defined by the *Highway Capacity Manual (HCM)*. LOS is a letter code ranging from A for excellent conditions to F for unsatisfactory (failure) conditions (for a complete discussion on LOS, see Section 1.3.3 and Section 3.64 of the DEIS, May 2002). Periodic review of signal progression plans is recommended to ensure that the growth in traffic volume is accommodated and LOS maintained. For traffic signals along SH 9 (that are not part of a coordinated system or are isolated) emerging technologies that allow real-time traffic management may be implemented, as long as they are not cost prohibitive and are feasible within the SH 9 corridor. In addition, as development occurs and traffic volumes increase along SH 9, progression analysis can be conducted to assess the appropriateness and location of any new traffic signals along the study area to ensure smooth traffic operations. Results of the progression analysis can assist in identifying

sections where consolidation of access would be considered (see Section 3.6.1.3). Future development along SH 9 will be encouraged to utilize the local street network and access SH 9 at existing access points.

Pedestrian-friendly improvements and treatments at transit stops, such as Tiger Run, will contribute to safe pedestrian access, will enhance the transit experience and help reduce congestion. During the EIS process the local transit providers and other stakeholders prepared a *Summit County Transportation Demand Management (TDM) Plan*. A strategy included in the plan was the formation of a TMO. One objective of a TMO is to result in overall better transit service and access to alternate modes of travel. CDOT will participate in funding a TMO as a partner with the Town of Frisco, the Town of Breckenridge, Summit County, and private industry. Funding will be available for two years and will be programmed as improvements are designed and constructed on the corridor. Funding will be available within ten years following the signing of the ROD.

#### 3.6.1.2 SAFETY

Improving substandard shoulders and adding a median or median barrier substantially improves safety along SH 9. By widening SH 9 to four lanes, a reduction in accidents per kilometer of approximately 40 to 60% is anticipated. Advanced signage and increased size of street name signs for better visibility at key intersections along SH 9 will provide additional safety. Use of variable message signs to indicate roadway, traffic operation, weather conditions, etc. are planned. Locations and number of signs will be determined based on discussions with police, maintenance, and the Towns during final design.

Street lighting in select locations, such as intersections, bus stops and the Gold Hill parking lot, is considered as a mitigation measure to improve safety. CDOT will work with representatives from the Towns of Breckenridge and Frisco and from Summit County to ensure the suitability of the mitigation measure(s) for the community (see Section 1.4.9).

#### 3.6.1.3 ACCESS

The Preferred Alternative will change the existing unrestricted access to right-in/right-out only at specific locations. In addition, the Preferred Alternative will reduce the number of approaches/accesses as much as practical by eliminating low-volume approaches/accesses and consolidating approaches/accesses that will improve safety, capacity, service level, visibility, and driving comfort.

CDOT will follow standards in the *CDOT Design Manual* for appropriate intersection construction/reconstruction. Changes in access will be evaluated by the CDOT Access Control Manager.

The following mitigation measures will be considered to alleviate access control impacts and will be verified by the access management/control plan currently being prepared.

- Conduct progression analysis to identify areas for access consolidation.
- Restrict left-turn movements from side street/access locations where safety and/or traffic operations are an issue. The location of restricted turn movements will be verified by the access management plan.
- Provide median breaks along SH 9 at approximately 0.8 kilometer (0.5 mile) intervals to limit out of direction travel.
- Evaluate the need for left-turn movements on SH 9 at right-in/right-out locations.
- CDOT will work with Summit County, as needed, on access issues as the commercial area around Swan Mountain Road and SH 9 is redeveloped.

The local jurisdictions should examine construction of roadways not adjacent to SH 9 to connect access points/streets to reduce out of direction travel and direct traffic to existing and future signalized locations.

### **3.7 PEDESTRIAN AND BICYCLE FACILITIES**

The Preferred Alternative will improve conditions for pedestrians by providing a raised median area near the high school and along SH 9 at the Swan River Mountain Road intersection. Widening of shoulders along stretches of SH 9 will provide safer conditions for bicyclists traveling in the roadway. Decreased congestion and improvements to intersections and turnouts will provide greater accessibility to various pedestrian and bicycle facilities located along SH 9 (also see Section 1.4.6).

The following mitigation measures will be implemented by CDOT for pedestrians and bicyclists:

- Improve pedestrian crossings and signal accommodations at key crossings. This can include median refuges, pre-intersection signing and striping at crosswalks.
- Pedestrian crossing improvements on the southern end of the South Park Avenue and Main Street intersection.

- CDOT will work with the planners from the County, the Town of Frisco and the Town of Breckenridge on future signalized pedestrian crossings of SH 9 during the design stages of each highway project on SH 9. Local funding participation for the implementation of the pedestrian crossings will be encouraged. CDOT will hold an open house prior to the finalization of each of its design projects to notify the public of the upcoming improvements.

These measures may be implemented by the local jurisdictions or by private developers to further improve conditions for pedestrians and bicyclists:

- An additional bikeway along SH 9 from Dickey Drive to Swan Mountain Road. In this location, bicyclists currently are redirected south on the bikeway away from the residential/retail area. As this area develops, it might be better served by two bikeways, one along SH 9 and a second in its current location.
- Pedestrian improvements at the high school to facilitate pedestrian access to transit stops.
- Grade-separated pedestrian crossings.

The following are mitigation measures which the Town and Breckenridge Ski Resort are recommending and will be responsible for implementing:

- Mitigation for Watson/Sawmill Parking Lots – The ski area’s master plan commits to constructing a skiway which will bring skiers down from Peak 8 to the parking lots via a tunnel under Park Avenue. This grade-separated pedestrian crossing will provide a safe haven for pedestrians needing to cross Park Avenue to get to their vehicles. Additionally, the Town and Ski Resort have discussed installing a sidewalk from the auxiliary parking lot just to the north to this tunnel under Park Avenue to allow people to park and walk to the proposed intermodal center at Watson/Sawmill parking lots. This mitigation measure should reduce the number of vehicle/pedestrian conflicts in this area.
- Mitigation for Four O’clock Ski Run – Currently, during the ski season, some skiers ski down Four O’clock Run to Park Avenue and then cross Park Avenue to get back to their vehicles. With the construction of the skiway (see above), skiers will now be able to ski down to the tunnel under Park Avenue, greatly diminishing the number of skiers/pedestrians needing to cross at grade on Park Avenue. This mitigation measure should reduce the number of vehicle/pedestrian conflicts in this area.
- Mitigation for F Lot Pedestrian Crossing to the Village at Breckenridge – This is a congested pedestrian area due to skiers and shoppers parking and walking to the village. To mitigate this situation, the Town and the Ski Resort are planning in the

future to install an above-grade walkway. There would be a structure constructed on F Lot that would allow pedestrians to walk above Park Avenue via an elevated crosswalk to the existing plaza of the village. This mitigation measure should reduce the number of vehicle/pedestrian conflicts in this area.

### **3.8 AIR QUALITY**

The Preferred Alternative is not expected to cause violation of National Ambient Air Quality Standards (NAAQS). There has been only one recorded exceedance of the 24-hour PM<sub>10</sub> (small particulate matter) standard in Summit County during the past seven years. The study area and all of Summit County are expected to remain in attainment of all NAAQS in the future.

Dust emissions will be minimized during construction by implementation of techniques to control dust, such as regular use of dust palliative within construction-disturbed areas. Since Summit County is designated an attainment area for all NAAQS, the air quality implementation plan and conformity provisions of the federal Clean Air Act do not apply. CDOT will periodically sweep SH 9 to reduce particulates associated with winter sanding. Summit County and the towns of Frisco and Breckenridge also could implement street sweeping following sanding operations.

### **3.9 NOISE**

The feasibility and reasonableness of constructing noise walls as noise mitigation were analyzed for 35 impacted receptors. Other mitigation measures, such as traffic controls and alignment shifts, were not considered economically or logistically feasible, nor would provide any significant noise reduction. Feasible means that a continuous noise barrier of reasonable length is able to be constructed, that there are no significant maintenance or safety issues, and that noise levels are reduced at least 5 dBA (A-weighted decibels) for the first row of noise receptors. The continuous barrier is designed to minimize the number of significant gaps caused by driveways or other access points. Reasonableness means that the cost-benefit of such a mitigation measure is within the CDOT policy, that the development type is primarily residential, and that the mitigation is desired by the residents.

Any noise mitigation measures (noise walls, berms, etc.) recommended for inclusion with the Preferred Alternative will be re-analyzed during final design to determine the final feasibility and reasonableness and the desire of those affected. There could be other implications, such as effect to mountain views, that would occur if the noise walls are installed.

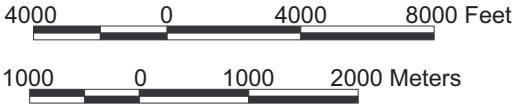
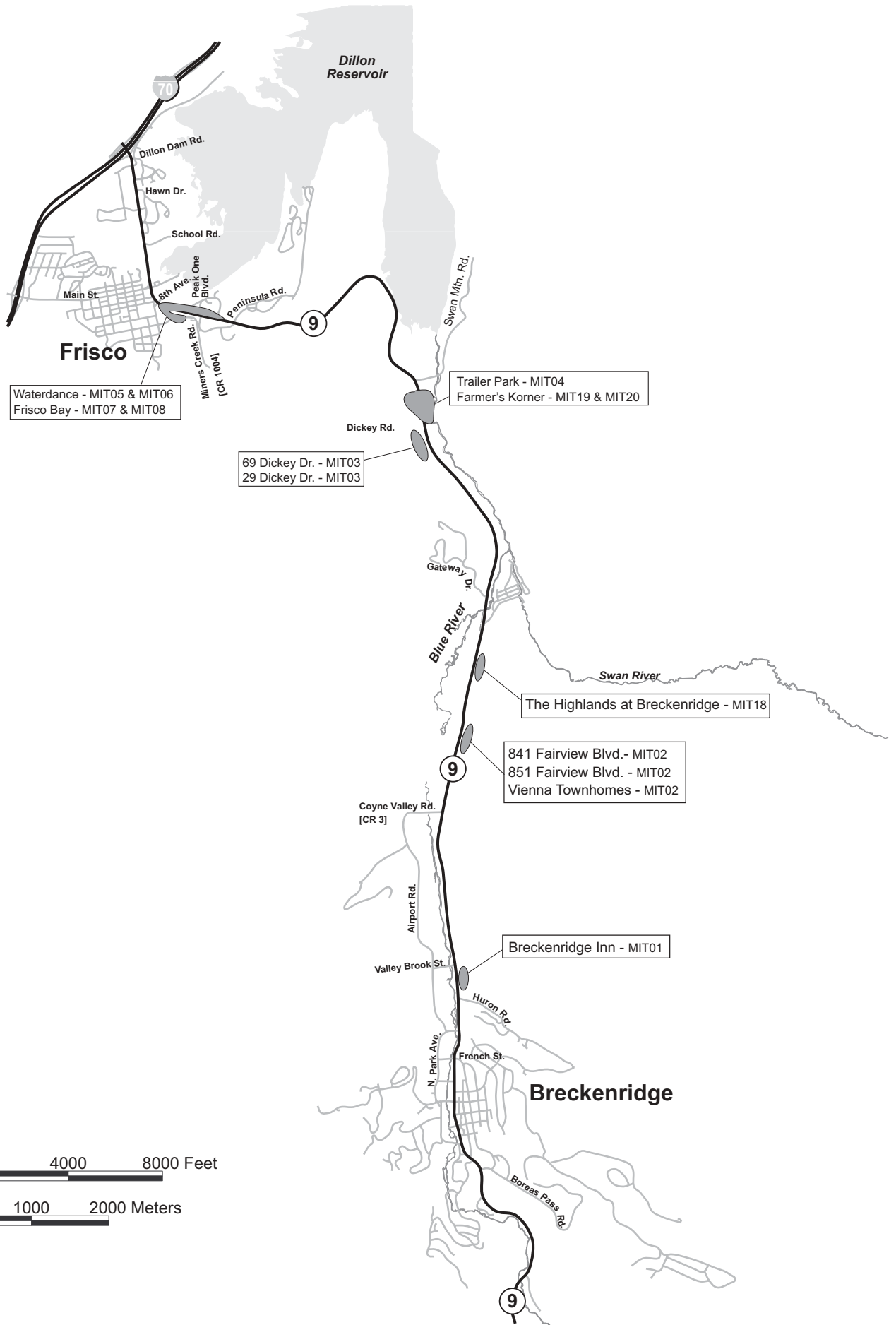
Of the 35 impacted receptor locations, four of the properties will be acquired for right-of-way. Nine other receptor locations are considered infeasible due to lack of outdoor use areas or because a noise wall would require numerous breaks for access, thus reducing its effectiveness (see **Table 3-1**).

**Table 3-1  
Noise Receptor Locations Not Analyzed for Mitigation**

Receptor Locations	Receptor Description	Reason
3	Main Street Junction	Direct access
16, 17, 18, 20	River Mountain Lodge, Saw Mill Creek Condos, Ski Hill	No outdoor use and/or direct access
24	Colorado Log and Antler	Commercial, no outdoor use
71	58 Dickey Drive	Single-home, multiple gaps in wall required
87	SH9 Access Rd - MP 92.8	Direct access
89, 90	Amerigas Propane, Phillips 66 Gas Station	Right-of-way acquisition
92a	Trailer Park - Swan Mountain Road*	Direct access, conflict with surroundings
94	Antler House	Right-of-way acquisition
123d	Thermogas	Right-of-way acquisition

\*Approximately 183 meters (600 feet) south of Swan Mountain Road.

A noise mitigation analysis was conducted for the remaining 22 receptor locations, with noise walls analyzed at 11 sites (see **Figure 3-2**). **Table 3-2** lists the mitigation design number and which receptors it was designed to protect. The results of the mitigation analysis for the Preferred Alternative are listed in **Table 3-3**. Six of the 11 locations analyzed (MIT02, MIT06, MIT07, MIT08, MIT19 and MIT20) meet CDOT’s feasible and reasonable criteria. That is, they are predicted to provide at least 5 dBA of noise reduction for the front row receptors, and they meet the cost-benefit requirement per affected receptor per dBA of noise reduction. Therefore, these six walls are recommended for inclusion with the Preferred Alternative and will be re-analyzed during final design to determine the final feasibility and reasonableness as well as impacts on mountain views and neighborhood acceptability. The six locations for these walls are shown in **Figure 3-3**. Refer to the report *Noise Technical Report – SH 9, Frisco to Breckenridge*, Hankard Environmental, 2001 for more detail on this analysis, including those walls that did not meet the CDOT criterion.





**Table 3-2  
Noise Receptor Locations Analyzed for Mitigation**

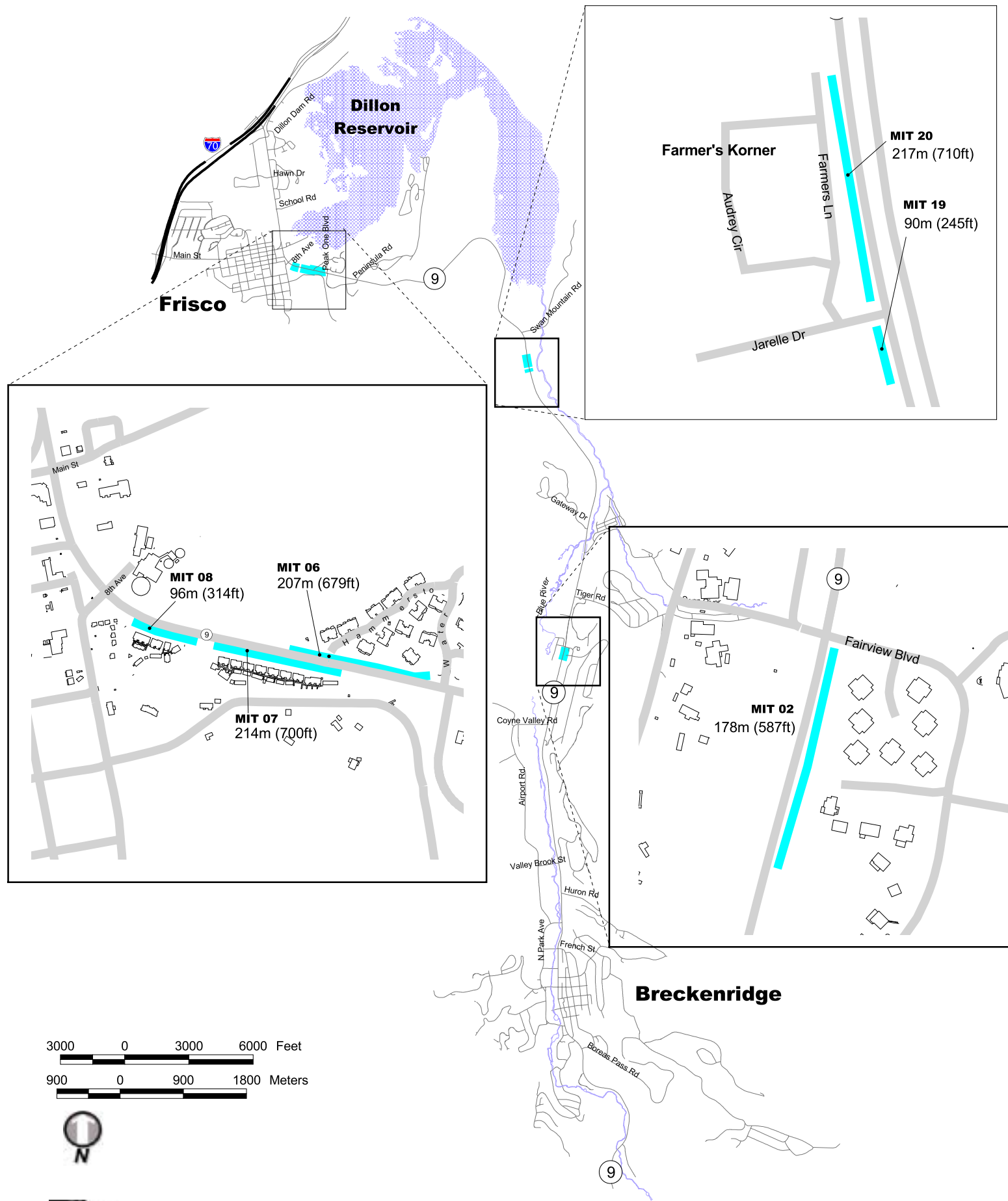
Mitigation Design	Receptor Locations	Receptor Description
MIT01	26	Breckenridge Inn
MIT02	46, 47, 48, 49	841 Fairview Blvd., 851 Fairview Blvd., Vienna Townhomes
MIT03	72, 73	69 Dickey Dr., 29 Dickey Dr.
MIT04	92b	Trailer Park - Swan Mountain Road (adjacent to Swan Mtn. Rd.)
MIT05	100, 101	Waterdance
MIT06	112, 116, 119	Waterdance
MIT07	120	Frisco Bay
MIT08	121	Frisco Bay
MIT18	58, 59	The Highlands at Breckenridge
MIT19	80c	Farmer's Korner
MIT20	80d, 80e, 80f, 80g	Farmer's Korner

**Table 3-3  
Noise Mitigation Analysis Results**

Mitigation Design	Barrier Height	Barrier Length	Barrier Cost	Front Row Noise Receptors		All benefited Receptors			Meets CDOT Criteria? <sup>2</sup>
				Number Impacted	Avg. Noise Reduction	Total Number Benefited	Average Noise Reduction	Cost per Benefited Receptor per dBA	(Yes/No)
MIT01	4/14	44/145	\$50,809	1	2.3	1	2.3	\$22,091	No
MIT02	3/10	178/584	\$145,918	9	7.3	9	7.3	\$2,221	Yes
MIT03	3.6/12	117/385	\$115,477	2	8.1	2	8.1	\$7,128	No
MIT04	4.3/14	99/323	\$113,050	5	2.3	2	1.9	\$29,750	No
MIT05	3.6/12	112/368	\$110,255	2	5.7	2	5.7	\$9,757	No
MIT06	2/8	207/679	\$135,874	8	7.1	14	5.7	\$1,718	Yes
MIT07	3/10	214/700	\$175,078	34	5.7	34	5.7	\$903	Yes
MIT08	3/10	96/314	\$78,452	18	6.1	18	6.1	\$715	Yes
MIT18	3/10	704/2,308	\$577,000	12	5.3	12	5.3	\$9,072	No
MIT19	3.6/12	90/295	\$84,500	4	5.2	7	4.1	\$3,084	Yes
MIT20	3.6/12	217/710	\$213,000	7	5.3	23	3.9	\$2,375	Yes

<sup>1</sup> meter/foot

<sup>2</sup> CDOT's feasibility and reasonableness criteria.



### 3.10 WATER RESOURCES AND WATER QUALITY

Mitigation measures related to water resources and water quality are implemented during the project design phase, as well as during construction and subsequent routine maintenance by CDOT.

#### 3.10.1 MITIGATION DURING DESIGN

Mitigation during the CDOT project design incorporates elements that are intended, as practical, to avoid impacts to water resources, such as:

- shifting the overall road alignment to move it away from sensitive resources;
- narrowing the total roadway width (“footprint”) by steepening side slopes, or constructing walls rather than side slopes;
- narrowing the roadway footprint at a stream crossing by using a bridge instead of a culvert; and
- incorporating permanent water quality features, such as sediment basins.

Another critical aspect of mitigation during design is creation of the project stormwater management plan (SWMP) to be implemented by the contractor during construction. SWMPs are required on almost all CDOT construction projects, and will be required for the Preferred Alternative. The SWMP contains project features and instructions necessary to control erosion, to prevent or limit sediment from leaving the project site, and to address the storage and use of equipment and hazardous materials. For instance, the SWMP defines the areas of disturbance as well as areas that should not be disturbed, notes sensitive resources, details the type and position of temporary stormwater features, and it may specify the sequence of construction activities.

These features and procedures are generally referred to as BMPs: facilities, policies, and practices used to eliminate, minimize, and control sources of water pollution. BMPs may be temporary or permanent, structural or nonstructural. Common temporary BMPs during construction include silt fence, hay bales, erosion logs and temporary basins. A stormwater detention basin is an example of a permanent structural BMP. Most structural BMPs require some level of on-going maintenance. Examples of nonstructural BMPs include prohibiting the use of herbicides and pesticides near water, storing these and other hazardous materials a minimum of 15 meters (50 feet) from water sources, limiting the amount of exposed surface during construction, and rapid

revegetation of exposed areas. Successful implementation of BMPs at higher elevations like those in the study area can be a challenge due to less availability of nutrients, short construction and growing seasons, thinner atmosphere, and adverse weather conditions.

With the Preferred Alternative, most of the laws and regulations noted in Section 2.3.3 will apply and, therefore, a variety of BMPs will be required. Most CDOT water quality BMPs are contained in the department's *Standard Specification for Road and Bridge Construction*, specifically Section 107.25, "Water Quality Control," and Section 208, "Erosion Control," and the CDOT *Erosion Control and Stormwater Quality Guide (2002)* utilized during design and construction by the contractor. The discussion that follows provides specific examples of BMPs. Additional examples of BMPs are included in Section 3.10.7.

### **3.10.2 PERMANENT BMPS**

The extent to which permanent structural BMPs are used depends on site characteristics – safety, highway configuration, ability to maintain, available space, drainage size and hydrology, existing water quality and additional impacts, soil permeability, slope, stream flows and hydraulic patterns, and the proximity of sensitive resources. Each of these factors influences the expense and practicability of installing permanent water quality or water quantity features. Insufficient information is available at this stage to determine the exact types or locations of permanent BMPs for the Preferred Alternative, but current CDOT policies require consideration of permanent BMPs in highway design. For this corridor, where practicable, additional right-of-way may be required to accommodate permanent stormwater features.

### **3.10.3 STREAM CROSSING**

The six road crossings of streams in the study area will remain at their existing locations under the Preferred Alternative. No primary drainages will be altered under the Preferred Alternative. In terms of permanent wetland impacts, CDOT policies require 1:1 replacement of impacted wetlands (jurisdictional or non-jurisdictional), and existing agreements between CDOT and CDOW require consideration of impacts to streams during highway project design and construction, such as addressing fish migration issues, improving in-stream and streamside habitat, and ensuring that highway runoff does not directly enter nearby waters. Temporary impacts will be addressed by ensuring proper use of BMPs during construction.

The proposed single-span bridge at the Blue River near Tiger Run should improve existing conditions in this area by increasing the width of streamside areas, allowing revegetation of additional streamside areas, improving wildlife movement, and creating a more natural streambed to improve the movement of fish. Where North Park Avenue intersects SH 9 north of Breckenridge, plans include construction of a traffic roundabout and a new southbound bridge (see Section 1.4.2). The design accommodates the existing channel and bikeway as well as mitigation involving improvements to streamside habitat.

### **3.10.4 LATERAL FLOODPLAIN ENCROACHMENT**

The close proximity of the Blue River to SH 9 in some areas (see **Figure 2-1**) will be carefully considered during design and construction. Both short- and long-term impacts to water resources will be evaluated by CDOT biologists, hydraulic engineers, and landscape architects. There are currently no plans to relocate any streams in the study area. Impacts in certain locations can be minimized during design by steepening side slopes, by constructing retaining walls (see **Figure 1-11**), by minor alignment shifts, and by changes in template width, such as those depicted in **Figure 1-2** and **Figure 1-3**. Because of community concerns expressed about roadway width during the preparation of the EIS, the Preferred Alternative is the narrowest design of the four-lane alternatives presented in the DEIS (May 2002). The narrowest design – Alternative 4, the enhanced two-lane – did not address the stated safety and capacity needs in the study area.

Floodplain regulations require that CDOT analyze prospective project impacts on the floodplain and to design the project such that those impacts are eliminated, limited, or mitigated. Similarly, provisions in the CDOT-CDOW stream protection guidelines require consideration of potential stream impacts, avoidance and minimization of such impacts where practicable, and mitigation of unavoidable impacts. Although sometimes constrained by space, upland and riparian buffer zones positioned between the roadway and nearby waters can act as effective filters for highway runoff. One of the provisions in the CDOT-CDOW agreement stresses maintenance and creation of such buffer zones between roads and streams. CDOT is also mindful of ongoing efforts to restore the Blue River in the study area.

### **3.10.5 IMPERVIOUS SURFACE**

Surface runoff will increase under the Preferred Alternative. Water resource and water quality data is being collected in the basin by the US Geological Survey for the Summit Water Quality Committee (<http://coweb2.cr.usgs.gov/cf/bluecf/>). CDOT will use

these data in the SH 9 corridor to ensure compliance with water quality standards on future projects. Ongoing, regular coordination with the Colorado Department of Public Health and Environment will continue throughout the project. As noted above, CDOT routinely uses a wide variety of temporary and permanent, structural and nonstructural BMPs to address impacts to water quality and impacts from increased water quantity.

Development usually increases runoff and development often occurs adjacent to roads. CDOT procedures require that any connections to existing roadway drainage systems must be analyzed for impacts and approved. CDOT has committed to coordinating with local entities regarding how best to protect local water resources.

### **3.10.6 MITIGATION DURING AND AFTER CONSTRUCTION**

As noted in Section 3.10.1, proper implementation and maintenance of the SWMP is critical for controlling water quality impacts on highway construction projects. Proper implementation of the SWMP is the responsibility of the contractor. In addition, CDOT “regional erosion control advisory teams” (RECATs) regularly evaluate projects and provide advice to correct or improve water quality features and procedures.

CDOT maintenance crews are responsible for removing any temporary BMPs used during construction and for maintaining any permanent water quality structures. After construction, permanent BMPs and maintenance BMPs should mitigate increases in winter sanding operations. Maintenance BMPs, such as highway sweeping, will be utilized and CDOT has committed to collect and dispose of no less than 25% of the sand/salt mixture placed on SH 9 in the 14.5-kilometer (9-mile) study area during winter maintenance operations. The remainder of applied sand generally is eroded off of the roadway before Maintenance crews can sweep it. Using the average figure from the Preferred Alternative in **Table 2-8**, this reflects recapture of approximately 783 tons of traction sand.

Ongoing maintenance activities in and near wetlands, streams, or other sensitive areas require coordination with CDOT environmental staff to ensure that the necessary permits are received and appropriate procedures are followed.

### **3.10.7 BEST MANAGEMENT PRACTICES**

Typical BMPs used on transportation projects, and applicable to the study area, are provided below. They are categorized into temporary structural, temporary non-structural, permanent structural and permanent non-structural BMPs. A list of typical

stormwater, maintenance, and stream BMPs is also provided. Appropriate BMPs will be implemented, where practicable, by CDOT and the project contractor.

**Temporary structural BMPs** include: limiting the amount of disturbed ground, interim ground stabilization (e.g., mulch, mulch tackifier, or temporary revegetation), limiting slope length, surface roughening, dikes and swales that divert and direct runoff, temporary sediment barriers and entrapment facilities (e.g., erosion control logs, silt fence), slope drains, inlet and outlet protection, berms and diversions to keep clean water away from construction sites, and infiltration-evaporation areas.

**Temporary non-structural BMPs** include: consideration of site constraints (e.g., slope stability, drainage, and constructability), training programs for construction personnel and project manager (including designated erosion control supervisors), timely notification of construction commencement for drinking water and wastewater treatment plants along affected streams, proper on-site storage of materials, proper positioning of staging areas and haul roads, controlling the movement and access of construction equipment, proper designation of concrete wash-out areas, construction timing, seeding and mulching, topsoil preservation and reuse, and regular maintenance and inspection of existing temporary and permanent BMPs.

**Permanent structural BMPs** include: grass buffer strips and grass-lined swales, porous pavement areas, detention (dry) basins, retention (wet) ponds, slope drains, sand filters, infiltration and evaporation trenches and basins, constructed wetlands, redirecting runoff away from nearby waters, energy-dissipating devices (e.g., riprap, drop structures), sediment vaults, water quality vaults and inlets, retaining walls, and riprap.

**Permanent non-structural BMPs** include: landscaping and vegetative practices, revegetation, correct usage of pesticides, herbicides and fertilizers, public education and participation, training programs, street sweeping, dredging of accumulated materials in permanent basins, specified stream setbacks, water quality monitoring programs, spill contingency planning, and construction timing. CDOT maintenance is working in partnership with local governments to pick up excess roadside traction sand after snow events. Chemical de-icer use along this corridor has been minimized.

**Stream-related BMPs** include: analysis of bridge and culvert design to ensure that stream hydraulics do not prevent fish passage, limiting construction activities to low-flow periods with a maximum of four crossings per day, conducting work from above the stream rather than in the stream channel, limiting equipment work areas, incorporating in-stream rocks and similar features that improve aquatic habitat,

restoring and enhancing riparian vegetation, using bioengineering techniques and limiting the amount of riprap bank stabilization, maintaining natural streambed materials, and creating low-flow channels for fish passage.

### **3.11 WETLANDS**

Wetland compensatory mitigation can be found in Section 2.2.5. There will be seven areas of wetland mitigation, accounting for 0.396 hectare (0.979 acre).

### **3.12 VEGETATION AND WILDLIFE**

#### **3.12.1 VEGETATION**

Impacts to vegetation will occur on both sides of the road from clearing, excavation, and grading for highway improvements. New road cuts and fills (e.g., toe of slope) will require vegetation removal and loss of existing vegetation, including native grasslands, sagebrush meadows, lodgepole pine and, to a lesser extent, Engelmann spruce trees. Most impacts will occur within areas disturbed by previous road construction and ongoing maintenance. Temporary impacts to vegetation will occur throughout the study area during construction due to equipment movement, storage of materials, and staging area disturbances.

The following BMPs will help reduce and mitigate the impacts to vegetation:

- Implementing construction phasing in order to minimize the length of time that disturbed soils are unvegetated.
- Avoiding to the extent possible wetlands and riparian vegetation communities.
- Placing temporary fencing or barriers to prevent accidental vegetation disturbance outside of the construction zone.
- Salvaging suitable topsoil for use in revegetation.
- Reseeding with appropriate native plants.
- Implementing temporary and permanent erosion control measures to prevent soil loss and erosion.
- Using retaining walls, as appropriate, to minimize total roadway template width and to limit toe of slope impacts.



- Reseeding the medians. However, within CDOT's safety guidelines, the community can landscape, provide irrigation, and maintain vegetation if more extensive landscaping is desired.

### 3.12.2 NOXIOUS WEEDS

A weed management plan was prepared and will be implemented in accordance with the Colorado Noxious Weed Act and other directives to control and prevent weed infestation and spread. CDOT will consult with the County Weed Coordinator during construction. BMPs include:

- Minimizing the area of disturbance and the length of time that disturbed soils are exposed.
- Reseeding disturbed areas with appropriate native seed mixes incrementally throughout construction.
- Using certified weed-free mulches and straw bales for erosion control.
- Using seed packaged with proper labeling showing germination, purity, and percent non-noxious weed content, and requiring seed contractor to supply a statement certifying that the seed has been tested by a recognized laboratory for seed testing within the last six months and has been found to contain no noxious weeds, as required by Colorado state law.
- Limiting the use of fertilizers that may favor weeds over native species.
- Using periodic inspections and spot controls to prevent weed establishment. If weeds do invade an area, use the Integrated Weed Management process to selectively combine management techniques (biological, chemical, mechanical, and cultural) to control the particular weed species per CDOT's *Integrated Weed Management Plan* (1999-2000) and the Weed Management Plan prepared specifically for this project.
- Following Summit County guidelines for weed management on impacted areas.

### 3.12.3 WILDLIFE

Impacts to wildlife will occur from widening the road resulting in the loss of habitat. The loss of habitat would be a low-to-moderate effect because of the low quality of vegetation communities near the road and the limited wildlife use near the road. The wider road would slightly expand the zone of influence (noise and visual disturbance) to wildlife near the road. The wider road also will create a barrier to wildlife.

Conservation measures will be incorporated, when applicable, to reduce impacts to wildlife, including Forest Service Management Indicator Species (MIS). Mitigation includes:

- Minimizing disturbance to native plant communities.
- Minimizing tree removal.
- Clearing and grubbing will be conducted in a manner to avoid impacts to migratory birds. Areas will be surveyed to protect bird nesting habitat.
- Stabilizing disturbed areas and re-establishing native vegetation communities following construction.
- Replacing disturbed or lost wetland habitats.
- Avoiding the use of palatable plants in the revegetation of highway medians and rights-of-way.
- Installing a bridge at the SH 9 crossing of the Blue River, just south of milepost 91, with an upland bench above the high-water line to allow movement under the highway by amphibians, reptiles, and small and medium sized mammals such as river otter, coyotes, fox, rabbits, voles, and other rodents. Planned replacement of culverts with a bridge at the Blue River SH 9 crossing will benefit movement of fish.
- Constructing a new bridge at the North Park Avenue roundabout to allow continued wildlife movement along the Blue River.
- Using signage to alert motorists to wildlife crossing areas.
- Coordinating final wildlife mitigation with resource agencies including the CDOW, USFS, USFWS, Towns of Frisco and Breckenridge, and Summit County Open Space Department.

#### 3.12.3.1 WILDLIFE CROSSING AT GOLD HILL

A 12-foot tall arched wildlife underpass has been investigated and endorsed by CDOT in the area of Gold Hill at SH 9 milepost 91.5 between Frisco and Breckenridge as a wildlife enhancement to the SH 9 corridor. The wildlife “crossing” is not a T&E or wildlife requirement of mitigation by any agency. The wildlife underpass “crossing” has been sited by USFWS, CDOW, USFS, Summit County, and CDOT at the Gold Hill area based upon high traffic-wildlife accident occurrences and regional wildlife game corridor migration patterns. Summit County has acquired a conservation easement that preserves the eastern approach to the proposed wildlife crossing from the Blue River. The western approach to the crossing lies on private property.

To ensure successful wildlife use of this underpass “crossing”, an extensive fencing plan was designed to funnel large animals to the underpass approaches. Most of this fencing and associated landscaping lies off CDOT right-of-way, on private and county land. Appendix G of this study references the study, *Proposed Wildlife Crossing Technical Report*, detailing the wildlife analyses and design of the wildlife crossing structure. CDOT and Summit County have partnered to complete the following studies to establish commitments to ensure a successful wildlife crossing constructed by CDOT at this site.

- Investigation of conservation easement opportunities to preserve a wildlife corridor on the western crossing approach properties.
- Investigation of alternate fencing and landscaping plans to ensure a successful wildlife crossing at the recommended Gold Hill site while maximizing the utilization of CDOT right-of-way and Summit County lands.
- Compilation of viable funding sources and available grants to provide the fencing and landscaping.

#### 3.12.4 AQUATIC RESOURCES

The Preferred Alternative includes replacement of existing culverts with a bridge crossing over the Blue River near its confluence with the Swan River, and constructing a new North Park Avenue bridge. Bridge construction may result in unavoidable short-term increases in sediment levels. These will be minimized by the use of BMPs during construction.

No long-term adverse changes to sediment concentration or water quality parameters are expected to occur; therefore, no long-term impacts to aquatic resources should occur.

BMPs listed in Water Resources and Water Quality (see Section 3.10) are intended to minimize short-term impacts to state waters during construction. In addition, the timing of any work in or adjacent to streams will be coordinated with the CDOW to minimize impacts to spawning fish. The best time to avoid direct stream disturbances, such as the introduction of sediment or any activity that would impede fish travel, would be from mid-September to mid-November. This is also the low flow period, which is the best time to do work in streams.

### 3.13 FLOODPLAINS

The Preferred Alternative will impact approximately 1.6 hectares (4.01 acres) of 100-year floodplains and result in minor longitudinal direct impacts to the Blue River and Dillon Reservoir floodplains. There will be a temporary negative impact to floodplain quality due to increased sediment runoff and deposition during construction. Also, there will be a permanent positive impact to floodplain quality due to containment of roadway runoff in sediment control measures and adjacent upland areas.

BMPs will be followed to reduce temporary and permanent impacts to the Blue River floodplain. Specific BMPs to be used in the study area will not be determined until final design. Specific control measures to be used in the study area will include:

- A hydraulic study per 23 CFR 650 subpart A was conducted for the Preferred Alternative to determine floodplain impacts (see Chapter 2.0 for a summary of floodplain encroachment and Appendix F for the study). The study determined that the improvements will have less than a 0.3-meter (1-foot) rise in water elevation, and therefore do not have a significant floodplain impact.
- Implementing erosion, sedimentation and revegetation techniques as well as the use of standard CDOT erosion control measures to minimize impacts to the floodplain, streambanks and shoulders. All disturbed areas will be appropriately reseeded with native plants, or protected from erosion by the placement of riprap per standard engineering specifications.
- Adhering to CDOT hydraulic design criteria for major and minor storm drainage structures.
- Coordinating with Summit County on any encroachment of the floodplain, and adherence to hydraulic design criteria.
- Securing a floodplain permit if necessary.
- Avoiding longitudinal and significant encroachments into the floodplains, during final design.
- Avoiding any changes in historical flow paths.
- Adhering to all Federal Emergency Management Agency (FEMA) requirements and conformance of all hydraulic designs to the requirements of 23 CFR 650.
- Adhering to CDOT recommendations for the design of 50- to 100-year flood event capacity.

### 3.14 WILD AND SCENIC RIVERS

Since no wild or scenic rivers are located in the study area, no mitigation is required.

### 3.15 THREATENED, ENDANGERED AND SENSITIVE SPECIES

The Preferred Alternative would not affect bald eagle roosting or foraging habitat, the Mexican spotted owl, the whooping crane, the boreal toad, lynx, the Uncompahgre fritillary butterfly and pendland eutrema, and Colorado river fish (humpback chub, bonytail chub, Colorado pike minnow and razorback sucker). The increased highway zone of influence will cause loss of habitat (low quality vegetation) increased fragmentation and increased possibility of direct mortality for wildlife. However, the study area is located within a transportation corridor heavily influenced by surrounding development and existing traffic.

The Preferred Alternative may impact some Forest Service sensitive species, but would not likely cause a trend toward federal listing or result in a loss of species viability rangewide. No Forest Service or State rare plants were found during field surveys in the study area.

Mitigation measures for impacts to Threatened, Endangered and Forest Service sensitive species include:

- Impacts to wetland and aquatic habitat suitable for boreal toad colonization will first be avoided if possible, then minimized, and impacted areas replaced (see the *Wetland Finding* in Appendix E).
- Prior to construction, boreal toad surveys will be conducted in areas of suitable habitat.
- Planned improvements in highway drainage, construction of sediment control measures and use of BMPs will reduce the introduction of roadway pollutants into aquatic habitats suitable for use by boreal toad, northern leopard frog, tiger salamander, and Colorado River cutthroat trout.
- Planned mitigation of wetlands impacted by road improvements will reduce impacts to fox sparrow habitat.
- Planned replacement of culverts with a bridge at the Blue River/SH 9 crossing (milepost 90.8) will benefit movement of boreal toad, northern leopard frog, tiger salamander, lynx, marten, wolverine, and Colorado River cutthroat trout.

- Prompt revegetation of disturbed areas with native vegetation will follow construction.
- Coordination of conservation measures with the CDOW, USFS, USFWS, Summit County, and local landowners.

### 3.16 VISUAL CHARACTER

General features of the Preferred Alternative that influence the visual quality of the study area are: wider pavement area, a depressed median for some sections, jersey barrier-divided median for a section of the roadway, removal of existing vegetation, cut and fill slopes, retaining walls, noise walls, and a raised median.

CDOT will follow measures outlined in the *Aesthetic Study and Design Guidelines* prepared for this project and will continue coordination with the local jurisdictions. CDOT will have a public meeting displaying design prior to each major construction project on the corridor. Mitigation measures to maintain a natural-looking appearance and enhance the visual character of SH 9 include:

- All new buildings, shelters, structures, signing, lighting, etc., related to future transit centers or highway improvements will be reviewed and coordinated with the Towns of Frisco and Breckenridge, Summit County and the USFS. All new elements to the highway will be consistent with local architectural standards, local guidelines, and CDOT safety specifications.
- Improvements and new highway elements introduced in Developed Recreation Complexes (Management Prescription area 8.21) within the USFS shall harmonize with the natural setting to the extent possible, to be consistent with the *White River National Forest Plan*.
- Revegetate disturbed areas as determined to be feasible and as consistent with adjacent landscape features while still adhering to safety requirements necessary in clear zones. Use native species for revegetation where feasible. Coordinate with local municipalities and other large landowners to replace important landscaping features.
- Slope modifications in 'cut' areas can be completed in a manner that maintains or accentuates foreground views. Visual variety can be achieved by undulating finished grades and creating pockets for native plant material. Rock outcroppings could remain exposed where possible.

- Upslope 'cut' conditions may be texturized, terraced or stepped to allow for revegetation. CDOT will coordinate with local jurisdictions on treatment options within reasonable and feasibility guidelines. Access and sufficient widths must be met to accommodate maintenance activities. Wall materials may include mechanically stabilized earth (MSE) or reinforced earth walls.
- Other retaining walls may be required near Dillon Reservoir and the Blue River. Possible textures, colors and aesthetic elements will be coordinated with local officials and be consistent with local planning guidelines.
- Provide architectural interest into retaining and noise wall design. Wall materials (e.g., wood, stone, masonry) and design will be coordinated with CDOT, local landowners, community officials and USFS landscape architect. The aesthetic treatments can be designed to harmonize with the surrounding landscape.
- Accomplish vegetation alteration outside the USFS management area, but visible from within the area, in a manner that does not reduce the scenic quality of that area. Clearing of existing trees, both evergreen and deciduous, will be done to accommodate the proposed section with detail added to the plans. To avoid a 'wall' effect, selective clearing shall take place at the edge of cut to transition the vegetation height and density at the edge. Prior to this activity, treeline and removals will be coordinated with a Forest Service representative and/or Summit County, Breckenridge or Frisco planners where there is open space. This approach can allow for new plantings of varying size/height trees by the local community to establish a natural edge.

### 3.17 HISTORIC PROPERTIES

See Chapter 4.0 – Final Section 4(f) Evaluation for details on impacts to historic properties by the Preferred Alternative and Section 4.2 for mitigation measures.

#### 3.17.1 SUMMARY OF COORDINATION

CDOT sent a letter to the SHPO on February 22, 2001, requesting their concurrence with the determination of eligibility and effects. On March 30, 2001, the SHPO concurred on the determination of eligibility and effects (see Appendix A of the DEIS for copies of these letters). The SHPO concurred that the four build alternatives proposed in the DEIS would have **no adverse effect** on the Breckenridge Historic District (5ST510), which is located outside the area of potential effect. The minor impacts to the DSP&P Railroad grade (5ST395.4), 36 meter (120 foot) take (see Section 4.2.2) was determined by SHPO as **no adverse effect**. The other NRHP eligible properties [Summit Power House

(5ST759), Denver Water Board House (5ST761), Dillon Placer Mine (5ST883) and the Dredge Piles Along the Blue River (5ST763)] would not be affected by any of the build alternatives. Based on this letter, the Preferred Alternative will result in **no adverse affect** to the Breckenridge Historic District (5ST510) and the DSP&P Railroad Grade (5ST395.4), and no historic properties affected with regard to Summit Power House (5ST759), Denver Water Board House (5ST761), Dillon Placer Mine (5ST883), and Dredge Piles Along Blue River (5ST763). No further consultation is required.

### 3.17.2 PALEONTOLOGICAL RESOURCES

Based on the results of a literature search and field survey conducted within the study area, no significant impacts to paleontological resources are anticipated.

If any fossils are uncovered within the study area during construction, work in the immediate vicinity will cease. The CDOT staff paleontologist will be notified and the material will be evaluated for scientific importance by a qualified paleontologist.

### 3.17.3 NATIVE AMERICAN CONSULTATION

In implementing its responsibilities under the National Historic Preservation Act (NHPA) and the revised Advisory Council on Historic Preservation (ACHP) regulations (36 CFR 800), the FHWA is required to take into account the effects of its undertakings on places of cultural and religious significance to the Native American community. As such, in July 2000 the CDOT Staff Archaeologist contacted seven federally recognized Indian tribes with an established interest in Summit County requesting the initiation of government-to-government cultural resources consultation, at their discretion. Two tribes expressed an interest in the project and the consultation process, the Southern Ute Tribe and the Northern Ute Tribe, headquartered in Ignacio, Colorado, and Fort Duchesne, Utah, respectively. Both tribes were concerned specifically about the future disposition of one of the two prehistoric archaeological sites located near SH 9, but outside the Area of Potential Effect. Letters were sent to both Tribes on October 5, 2000 (copies can be found in Appendix A of Volume 2 of the DEIS).

FHWA and CDOT have fulfilled their Native American consultation obligations for this undertaking to the satisfaction of the interested tribal governments, and no further coordination is required, and therefore no mitigation is required.



### **3.18 HAZARDOUS WASTE**

With the Preferred Alternative, new right-of-way may encroach into structures and/or property. Further site investigation will be conducted prior to construction where right-of-way acquisition is anticipated.

The contractor will comply with Section 250, Environmental, Health and Safety Management of the CDOT Standard Specifications when applicable. Specific project mitigation is unknown at this time but will be incorporated into project plans, as required, when more detailed design information becomes available.

### **3.19 PARKS AND RECREATION PROPERTIES**

See Chapter 4.0 for the Final Section 4(f) Evaluation.

### **3.20 CONSTRUCTION**

This section describes specific measures to be taken during construction to minimize impacts to air quality, noise/vibration, water quality, and traffic control.

Language will be included in construction bid plans that contractors shall provide copies of all required permits and clearances prior to work commencing on each breakout project per CDOT *Standard Specifications* (1999) Sections 107.62 and 107.05. Any contractor facilities within the project limits or off site, including but not limited to stockpile or staging areas, borrow pits, and asphalt or concrete preparation sites, will be evaluated at each breakout project development stage for environmental clearance and permitting needs.

#### **3.20.1 AIR QUALITY MEASURES DURING CONSTRUCTION**

The following measures will be used to mitigate construction impacts on air quality when applicable:

- Suppress dust through watering or dust palliative.
- Control dust by sweeping within the work zone and impacted work areas.
- Stabilize stockpile areas.
- Revegetate exposed areas incrementally throughout construction.

### **3.20.2 NOISE/VIBRATION MEASURES DURING CONSTRUCTION**

The following measures will be used to mitigate noise and vibration due to construction when applicable:

- When possible, construct noise walls (determined to be feasible and reasonable during design stages) prior to construction of roadway.
- Use noise blankets on equipment and quiet-use generators.
- Avoid nighttime activities in residential areas.
- CDOT will work with the community and local government representatives on disclosing the tradeoffs of length of time of the total construction project versus impacts of minimizing construction during high volumes or minimizing at night to limit noise. CDOT, where feasible and practicable, will limit construction staging in residential areas.
- Conduct pile driving and other high-noise activities during daytime construction.

These mitigation measures will likely increase the overall duration of construction while limiting the actual timeframe in which construction would occur during the day.

### **3.20.3 WATER QUALITY MEASURES DURING CONSTRUCTION**

The following steps will be taken during construction, when applicable, to prevent the violation of water quality standards in waterways crossed by, and adjacent to the project:

- Implement temporary and permanent BMPs for erosion control as required by local and state permitting requirements. These may include: surface roughening, mulching, revegetation, interim ground stabilization, and roads and soil stockpiles.
- Implement temporary and permanent BMPs for sediment control as required by local and state permitting requirements. These may include: implementation of planned drainages such as detention basins to capture sand runoff, slope-length and runoff considerations, slope diversions and dikes, swales, sediment barriers, straw bales, and silt fences.
- Implement temporary and permanent BMPs for drainageway protection as required by local and state permitting requirements. These may include: waterway crossing practices, temporary crossings and diversions, stability practices, conveyance controls, outlet and inlet protection measures.

- Treat contaminated trench dewatering.
- Adhere to the limits established in the 402 Permit.
- Avoid impact to wetlands or other areas of important habitat value in addition to those impacted by the project itself.
- Control and prevent concrete washout and construction wastewater. As projects are designed, the proper specifications will be adhered to and reviewed to ensure adequacy in the prevention of water pollution by concrete washout.
- Install permanent storm water quality BMPs as required for CDOT's National Pollutant Discharge Elimination System (NPDES) permit and Municipal Separate Storm Sewer (MS4) program requirements.
- Adhere to guidelines set up in the SWMP.

#### **3.20.4 TRAFFIC CONTROL MEASURES DURING CONSTRUCTION**

The following steps will be taken to minimize impacts to traffic circulation during construction when applicable:

- Develop traffic management plans.
- Maintain traffic flow during peak travel times by minimizing lane closures.
- Limit construction during peak traffic periods on holiday weekends.
- Coordinate detour routes to avoid overloading local streets with detour traffic.
- Maintain access to local businesses/residences.
- Coordinate with emergency service providers to minimize delays and ensure access to properties.
- Use signage to announce/advertise timing of road closures.

#### **3.20.5 VISUAL MEASURES DURING CONSTRUCTION**

Visual impacts will be evaluated for each breakout project during the project final design stage. Mitigation measures will be defined and implemented on a per-project basis.

### **3.21 PERMITS REQUIRED**

The following permits are likely to be required prior to construction:

### **Section 402 Permit / NPDES**

An NPDES Permit will be obtained prior to construction by CDOT from the WQCD of the CDPHE, in accordance with Section 402 of the Clean Water Act. This storm water discharge permit is required to assure the quality of storm water runoff.

### **Programmatic or Individual SB 40 Certification**

Certification for SB 40 for the Blue River crossing will include appropriate measures to eliminate or diminish adverse effects to any stream or its bank or tributaries.

### **Section 401 Certification**

A Clean Water Act Section 401 certification, issued by the WQCD of CDPHE, is required to assure water quality is maintained during construction and operation of a facility.

### **Individual Section 404 Permit**

A Clean Water Act Section 404 Permit, issued by the USACE, and a 20- to 45-day public notice is required for the discharge of dredged and/or fill material in wetlands and/or waters of the US.

### **Stormwater Permit**

Required to protect state waters from stormwater runoff.

### **Migratory Bird Treaty Act Permit**

A Migratory Bird Permit, issued by the USFWS, is required if a migratory bird, its nest, or eggs, is affected.

### **Construction Access Permits**

Construction Access Permits are required for detours and lane closures from the CDOT Region 1 Access Control Manager.

### **Permits from Local Jurisdictions**

For work outside of CDOT right-of-way permits, such as access, survey, utility and construction permits, may be required from local jurisdictions.

### **Conditional Letter of Map Revision and Letter of Map Revision**

Issued by FEMA for floodplain encroachment (see Section 2.1 for a summary of floodplain encroachment).

### **Easements**

Easements will be required for construction, slope and utilities.

### **Access Permits and Authorizations**

Access permits will be obtained from the CDOT Region 1 Access Control Manager for

any new, relocated, realigned, reconstructed, eliminated or consolidated access within CDOT right-of-way.

**Survey Permits**

Required for survey work within CDOT right-of-way.

**Utility Permits**

Required for any work within CDOT right-of-way to install or maintain a utility.

The CDOT Traffic Section will be contacted for any additional permitting required within CDOT right-of-way as design is finalized.

**3.22 SUMMARY OF MITIGATION MEASURES**

**Table 3-4** on the following page provides a summary of mitigation measures for the Preferred Alternative:

**Table 3-4  
Summary of Mitigation Measures**

Resource	Mitigation Measures
Land Use and Zoning	<ul style="list-style-type: none"> <li>• No mitigation for land use and zoning impacts is required. Any new, unanticipated development that would possibly be spurred by any improvements would have to meet any guidelines or restrictions set forth in the appropriate master or comprehensive plan for the local jurisdiction. The local town and county jurisdictions are responsible for managing land use, zoning, and growth. Mitigation measures to address acceleration in development that may occur along side the Preferred Alternative and are the responsibility of local jurisdictions include:               <ol style="list-style-type: none"> <li>1. Land use boards could control development through the local planning process</li> <li>2. Stipulate in zoning and land use plans that development occur in currently developed areas and near existing access points</li> <li>3. Adopt, at the local level, access control and open space regulations</li> <li>4. Implement “smart growth” planning policies to encourage density in development, especially near transit centers and stops</li> <li>5. Plan future infrastructure needs to allow higher-density development</li> </ol> </li> </ul>
Farmland	<ul style="list-style-type: none"> <li>• Because no Prime and Unique Farmlands or soils of State and Local Importance are within the study area, no mitigation is required.</li> </ul>
Social	<ul style="list-style-type: none"> <li>• No mitigation is required.</li> </ul>
Right-of-Way	<ul style="list-style-type: none"> <li>• In full compliance with the <i>Uniform Relocation Assistance Act of 1970</i>, as amended, CDOT will provide assistance to any eligible owner or tenant in relocating their business or residence at the time of displacement. Relocation benefits are available to all eligible residential and business relocatees without discrimination.</li> <li>• CDOT will be available to explain the relocation process regarding acquisition of housing or businesses at public meetings on the design of the Preferred Alternative and once the right-of-way/relocation process begins.</li> <li>• Right-of-way from the USFS would be obtained through a new easement agreement. This is consistent with existing management prescriptions and will not require an amendment to the White River National Forest Land and Resources Management Plan. Right-of-way from the Town of Breckenridge, Town of Frisco, Summit County and Denver Municipal Water Board would need to be obtained. Right-of-way from private parties would be obtained through outright purchase or, in some cases the purchase of construction or other easements.</li> </ul>
Economic	<ul style="list-style-type: none"> <li>• No mitigation is required.</li> </ul>

**Table 3-4 (continued)  
 Summary of Mitigation Measures**

Resource	Mitigation Measures
Transportation	<ul style="list-style-type: none"> <li>• Traffic Operations               <ul style="list-style-type: none"> <li>○ Periodic review of signal progression plans is recommended to ensure that the growth in traffic volume is accommodated and LOS maintained (for a complete discussion on LOS, see Section 1.3.3 and Section 3.64 of the DEIS, May 2002). For traffic signals along SH 9 (that are not part of a coordinated system or are isolated) emerging technologies that allow real-time traffic management may be implemented, as long as they are not cost prohibitive and are feasible within the SH 9 corridor. In addition, as development occurs and traffic volumes increase along SH 9, progression analysis can be conducted to assess the appropriateness and location of new traffic signals along the study area to ensure smooth traffic operations. Results of the progression analysis can assist in identifying sections where consolidation of access would be considered (see Section 3.6.1.3). Future development along SH 9 will be encouraged to utilize the local street network and access SH 9 at existing access points.</li> <li>○ Pedestrian-friendly improvements and treatments at transit stops, such as Tiger Run, will contribute to safe pedestrian access, will enhance the transit experience and help reduce congestion. During the EIS process the local transit providers and other stakeholders prepared a <i>Summit County Transportation Demand Management (TDM) Plan</i>. A strategy included in the plan was the formation of a TMO. One objective of a TMO is to result in overall better transit service and access to alternate modes of travel. CDOT will participate in funding a TMO as a partner with the Town of Frisco, the Town of Breckenridge, Summit County, and private industry. Funding will be available for two years and will be programmed as improvements are designed and constructed on the corridor. Funding will be available within ten years following the signing of the ROD.</li> </ul> </li> <li>• Safety               <ul style="list-style-type: none"> <li>○ Improving substandard shoulders and adding a median or median barrier substantially improves safety along SH 9. By widening SH 9 to four lanes, a reduction in accidents per kilometer of approximately 40 to 60% is anticipated. Advanced signage and increased size of street name signs for better visibility at key intersections along SH 9 will provide additional safety. Use of variable message signs to indicate roadway, traffic operation, weather conditions, etc. are planned. Locations and number of signs will be determined based on discussions with police, maintenance, and the Towns during final design.</li> <li>○ Street lighting in select locations, such as intersections, bus stops, and the Gold Hill parking lot is considered as a mitigation measure to improve safety. CDOT will work with representatives from the Towns of Breckenridge and Frisco and from Summit County to ensure the suitability of the mitigation measure(s) for the community (see Section 1.4.9).</li> </ul> </li> </ul>

**Table 3-4 (continued)  
 Summary of Mitigation Measures**

Resource	Mitigation Measures
Transportation (continued)	<ul style="list-style-type: none"> <li>• Access               <ul style="list-style-type: none"> <li>○ CDOT will follow standards in the <i>CDOT Design Manual</i> for appropriate intersection construction/reconstruction. Changes in access will be evaluated by the CDOT Access Control Manager.</li> <li>○ The following mitigation measures will be considered to alleviate access control impacts and will be verified by an access management/control plan currently being prepared.                   <ul style="list-style-type: none"> <li>– Conduct progression analysis to identify areas for access consolidation.</li> <li>– Restrict left-turn movements from side street/access locations where safety and/or traffic operations are an issue. The location of restricted turn movements will be verified by an access management plan.</li> <li>– Provide median breaks along SH 9 at approximately 0.8 kilometer (0.5 mile) intervals to limit out of direction travel.</li> <li>– Evaluate the need for left-turn movements on SH 9 at right-in/right-out locations.</li> <li>– CDOT will work with Summit County, as needed, on access issues as the commercial area around Swan Mountain Road and SH 9 is redeveloped.</li> </ul> </li> </ul> </li> <li>• The local jurisdictions should examine construction of roadways not adjacent to SH 9 to connect access points/streets to reduce out of direction travel and direct traffic to existing and future signalized locations.</li> </ul>
Pedestrian and Bicycle Facilities	<ul style="list-style-type: none"> <li>• The following mitigation measures will be implemented by CDOT for pedestrians and bicyclists:               <ul style="list-style-type: none"> <li>○ Improve pedestrian crossings and signal accommodations at key crossings. This can include median refuges, pre-intersection signing and striping at crosswalks.</li> <li>○ Pedestrian crossing improvements on the southern end of South Park Avenue and Main Street intersection.</li> <li>○ CDOT will work with the planners from the County, the Town of Frisco and the Town of Breckenridge on future signalized pedestrian crossings of SH 9 during the design stages of each highway project on SH 9. Local funding participation for the implementation of the pedestrian crossings will be encouraged. CDOT will hold an open house prior to the finalization of each of its design projects to notify the public of the upcoming improvements.</li> </ul> </li> <li>• These measures may be implemented by the local jurisdictions or by private developers to further improve conditions for pedestrians and bicyclists:               <ul style="list-style-type: none"> <li>○ An additional bikeway along SH 9 from Dickey Drive to Swan Mountain Road. In this location, bicyclists currently are redirected south on the bikeway away from the residential/retail area. As this area develops, it might be better served by two bikeways, one along SH 9 and a second in its current location.</li> </ul> </li> </ul>



**Table 3-4 (continued)  
Summary of Mitigation Measures**

Resource	Mitigation Measures
Pedestrian and Bicycle Facilities (continued)	<ul style="list-style-type: none"> <li>○ Pedestrian improvements at the high school to facilitate pedestrian access to transit stops.</li> <li>○ Grade-separated pedestrian crossings.</li> <li>● The following are mitigation measures which the Town and Breckenridge Ski Resort are recommending and will be responsible for implementing:               <ul style="list-style-type: none"> <li>○ Mitigation for Watson/Sawmill Parking Lots—The ski area’s master plan commits to constructing a skiway which will bring skiers down from Peak 8 to the parking lots via a tunnel under Park Avenue. This grade-separated pedestrian crossing will provide a safe haven for pedestrians needing to cross Park Avenue to get to their vehicles. Additionally, the Town and Ski Resort have discussed installing a sidewalk from the auxiliary parking lot just to the north to this tunnel under Park Avenue to allow people to park and walk to the proposed intermodal center at Watson/Sawmill parking lots. This mitigation measure should reduce the number of vehicle/pedestrian conflicts in this area.</li> <li>○ Mitigation for Four O’clock Ski Run—Currently, during the ski season, some skiers ski down Four O’clock Run to Park Avenue and then cross Park Avenue to get back to their vehicles. With the construction of the skiway (see above), skiers will now be able to ski down to the tunnel under Park Avenue, greatly diminishing the number of skiers/pedestrians needing to cross at grade on Park Avenue. This mitigation measure should reduce the number of vehicle/pedestrian conflicts in this area.</li> <li>○ Mitigation for F Lot Pedestrian Crossing to the Village at Breckenridge—This is a congested pedestrian area due to skiers and shoppers parking and walking to the village. To mitigate this situation, the Town and the Ski Resort are planning in the future to install an above-grade walkway. There would be a structure constructed on F Lot that would allow pedestrians to walk above Park Avenue via an elevated crosswalk to the existing plaza of the village. The existing plaza grade is already about 6 to 8 meters (20 to 25 feet) above Park Avenue which lends itself well to an above-grade crossing. This mitigation measure should reduce the number of vehicle/pedestrian conflicts in this area.</li> </ul> </li> </ul>
Air Quality	<ul style="list-style-type: none"> <li>● Dust emissions will be minimized during construction by implementation of techniques to control dust, such as regular use of dust palliative within construction-disturbed areas. CDOT will periodically sweep SH 9 to reduce particulates associated with winter sanding. Summit County and the towns of Frisco and Breckenridge also could implement street sweeping following sanding operations.</li> </ul>
Noise	<ul style="list-style-type: none"> <li>● Based on noise mitigation analysis, six walls are recommended for inclusion with the Preferred Alternative and will be re-analyzed during final design to determine the final feasibility and reasonableness as well as impacts on mountain views and neighborhood acceptability.</li> </ul>

**Table 3-4 (continued)  
 Summary of Mitigation Measures**

<b>Resource</b>	<b>Mitigation Measures</b>
<p>Water Resources and Water Quality</p>	<ul style="list-style-type: none"> <li>• Mitigation during the CDOT project design incorporates elements that are intended, as practical, to avoid impacts to water resources, such as:               <ul style="list-style-type: none"> <li>○ shifting the overall road alignment to move it away from sensitive resources;</li> <li>○ narrowing the total roadway width (“footprint”) by steepening side slopes, or constructing walls rather than side slopes;</li> <li>○ narrowing the roadway footprint at a stream crossing by using a bridge instead of a culvert; and</li> <li>○ incorporating permanent water quality features, such as sediment basins.</li> </ul> </li> <li>• Creation of the project SWMP to be followed by the contractor during construction.</li> <li>• With the Preferred Alternative, most of laws and regulations noted in Section 2.3.3 will apply and, therefore, a variety of BMPs will be required. Most CDOT water quality BMPs are contained in the department’s <i>Standard Specification for Road and Bridge Construction</i>, specifically Section 107.25, “Water Quality Control,” and Section 208, “Erosion Control,” and the CDOT <i>Erosion Control and Stormwater Guide</i> utilized during design and construction by the contractor. Additional examples of BMPs are included in Section 3.10.8.</li> <li>• Current CDOT policies require consideration of permanent BMPs in highway design.</li> <li>• Both short- and long-term impacts to water resources will be evaluated by CDOT biologists, hydraulic engineers, and landscape architects. Impacts in certain locations can be minimized during design by steepening side slopes, by constructing retaining walls, by minor alignment shifts, and by changes in template width.</li> <li>• CDOT procedures require that any connections to existing roadway drainage systems must be analyzed for impacts and approved. CDOT has committed to coordinating with local entities regarding how best to protect local water resources.</li> <li>• CDOT RECATs regularly evaluate projects and provide advice to correct or improve water quality features and procedures.</li> <li>• CDOT maintenance crews are responsible for removing any temporary BMPs used during construction and for maintaining any permanent water quality structures. After construction, permanent BMPs and maintenance BMPs should mitigate increases in winter sanding operations. Maintenance BMPs, such as highway sweeping, will be utilized and CDOT has committed to collect and dispose of no less than 25% of the sand/salt mixture placed on SH 9 in the 14.5-kilometer (9-mile) study area during winter maintenance operations. The remainder of applied sand generally is eroded off the roadway before maintenance crews can sweep it. Using the average figure from the Preferred Alternative in Table 2-8, this reflects recapture of approximately 783 tons of traction sand.</li> </ul>

**Table 3-4 (continued)  
 Summary of Mitigation Measures**

Resource	Mitigation Measures
Water Resources and Water Quality (continued)	<ul style="list-style-type: none"> <li>• Ongoing maintenance activities in and near wetlands, streams, or other sensitive areas require coordination with CDOT environmental staff to insure that the necessary permits are received and appropriate procedures are followed.</li> <li>• Appropriate BMPs will be implemented, where practicable, by CDOT and the project contractor. BMPs include:             <ul style="list-style-type: none"> <li>○ Temporary structural BMPs include: limiting the amount of disturbed ground, interim ground stabilization (e.g., mulch, mulch tackifier, or temporary revegetation), limiting slope length, surface roughening, dikes and swales that divert and direct runoff, temporary sediment barriers and entrapment facilities (e.g., erosion control logs, silt fence), slope drains, inlet and outlet protection, berms and diversions to keep clean water away from construction sites, and infiltration-evaporation areas.</li> <li>○ Temporary non-structural BMPs include: consideration of site constraints (e.g., slope stability, drainage, and constructability), training programs for construction personnel and project manager (including designated erosion control supervisors), timely notification of construction commencement for drinking water and wastewater treatment plants along affected streams, proper on-site storage of materials, proper positioning of staging areas and haul roads, controlling the movement and access of construction equipment, proper designation of concrete wash-out areas, construction timing, seeding and mulching, topsoil preservation and reuse, and regular maintenance and inspection of existing temporary and permanent BMPs.</li> <li>○ Permanent structural BMPs include: grass buffer strips and grass-lined swales, porous pavement areas, detention (dry) basins, retention (wet) ponds, slope drains, sand filters, infiltration and evaporation trenches and basins, constructed wetlands, redirecting runoff away from nearby waters, energy-dissipating devices (e.g., riprap, drop structures), sediment vaults, water quality vaults and inlets, retaining walls, and riprap.</li> <li>○ Permanent non-structural BMPs include: landscaping and vegetative practices, revegetation, correct usage of pesticides, herbicides and fertilizers, public education and participation, training programs, street sweeping, dredging of accumulated materials in permanent basins, specified stream setbacks, water quality monitoring programs, spill contingency planning, and construction timing. CDOT maintenance is working on partnership with local governments to pick up excess roadside traction sand after snow events. Chemical de-icer use along the corridor has been minimized.</li> </ul> </li> </ul>

**Table 3-4 (continued)  
 Summary of Mitigation Measures**

<b>Resource</b>	<b>Mitigation Measures</b>
Water Resources and Water Quality (continued)	<ul style="list-style-type: none"> <li>○ Stream-related BMPs include: analysis of bridge and culvert design to ensure that stream hydraulics do not prevent fish passage, limiting construction activities to low-flow periods with a maximum of four crossings per day, conducting work from above the stream rather than in the stream channel, limiting equipment work areas, incorporating in-stream rocks and similar features that improve aquatic habitat, restoring and enhancing riparian vegetation, using bioengineering techniques and limiting the amount of riprap bank stabilization, maintaining natural streambed materials, and creating low-flow channels for fish passage.</li> </ul>
Wetlands	<ul style="list-style-type: none"> <li>● CDOT commits to replacing 0.396 hectare (0.979 acre) of directly impacted wetlands at a series of seven mitigation sites located within the study area and within the Blue River watershed on at least a 1:1 basis (see section 2.2.5 and Appendix E). The replacement wetlands will have functions and values similar to the impacted wetlands. The wetland mitigation sites are located at the following:               <ul style="list-style-type: none"> <li>○ Drainage West of Leslie's Curve</li> <li>○ South of Dillon Reservoir</li> <li>○ Blue River Crossing at Tiger Run</li> <li>○ South of Coyne Valley Road</li> <li>○ North of Highlands Drive Between Wetlands 41 and 42</li> <li>○ North of Highlands Drive Adjacent to Wetland 43</li> <li>○ North Park Avenue</li> </ul> </li> <li>● During final design every effort will be made to minimize temporary impacts to wetlands due to construction work zones.</li> <li>● In designated temporary work areas, and where appropriate, wetland trees and shrubs will be trimmed to ground line, not grubbed, then covered with a geo-textile fabric and an additional layer of straw. This will define existing topographical elevations and protect wetland rootstock and seed banks. Areas will then be covered with a minimum of 0.61 meter (2 feet) of clean fill. As soon as possible, all temporary fill will be removed to an upland location. If possible, temporary fill of wetlands will occur during periods when plants are dormant or toward the end of the growing season. If necessary, over-seeding with native wetland species and the transplanting of salvaged trees and shrubs will occur. Locally grown and/or collected nursery stock also may be used.</li> </ul>
Vegetation and Wildlife	<ul style="list-style-type: none"> <li>● Vegetation - The following BMPs will help reduce and mitigate the impacts to vegetation:               <ul style="list-style-type: none"> <li>○ Implementing construction phasing in order to minimize the length of time that disturbed soils are unvegetated.</li> <li>○ Avoiding to the extent possible wetlands and riparian vegetation communities.</li> <li>○ Placing temporary fencing or barriers to prevent accidental vegetation disturbance outside of the construction zone.</li> <li>○ Salvaging suitable topsoil for use in revegetation.</li> </ul> </li> </ul>

**Table 3-4 (continued)  
Summary of Mitigation Measures**

Resource	Mitigation Measures
Vegetation and Wildlife (continued)	<ul style="list-style-type: none"> <li>○ Implementing temporary and permanent erosion control measures to prevent soil loss and erosion.</li> <li>○ Using retaining walls, as appropriate, to minimize total roadway template width and to limit toe of slope impacts.</li> <li>○ Reseeding the medians. However, within CDOT's safety guidelines, the community can landscape, provide irrigation, and maintain vegetation if more extensive landscaping is desired.</li> <li>● Noxious Weeds - A weed management plan was prepared in accordance with the Colorado Noxious Weed Act and other directives to control and prevent weed infestation and spread. CDOT will consult with the County Weed Coordinator during construction. BMPs include: <ul style="list-style-type: none"> <li>○ Minimizing the area of disturbance and the length of time that disturbed soils are exposed.</li> <li>○ Reseeding disturbed areas with appropriate native seed mixes incrementally throughout construction.</li> <li>○ Using certified weed-free mulches and straw bales for erosion control.</li> <li>○ Using seed packaged with proper labeling showing germination, purity, and percent non-noxious weed content, and requiring seed contractor to supply a statement certifying that the seed has been tested by a recognized laboratory for seed testing within the last six months and has been found to contain no noxious weeds, as required by Colorado state law.</li> <li>○ Limiting the use of fertilizers that may favor weeds over native species.</li> <li>○ Using periodic inspections and spot controls to prevent weed establishment. If weeds do invade an area, use the Integrated Weed Management process to selectively combine management techniques (biological, chemical, mechanical, and cultural) to control the particular weed species per <i>CDOT's Integrated Weed Management Plan (1999-2000)</i> and the Weed Management Plan prepared specifically for this project.</li> <li>○ Following Summit County guidelines for weed management on impacted areas.</li> </ul> </li> <li>● Wildlife - Conservation measures will be incorporated, when applicable, to reduce impacts to wildlife, including Forest Service Management Indicator Species (MIS). Mitigation includes: <ul style="list-style-type: none"> <li>○ Minimizing disturbance to native plant communities.</li> <li>○ Minimizing tree removal.</li> <li>○ Clearing and grubbing will be conducted in a manner to avoid impacts to migratory birds. Areas will be surveyed to protect bird nesting habitat.</li> <li>○ Stabilizing disturbed areas and re-establishing native vegetation communities following construction.</li> <li>○ Replacing disturbed or lost wetland habitats.</li> </ul> </li> </ul>

**Table 3-4 (continued)  
Summary of Mitigation Measures**

Resource	Mitigation Measures
Vegetation and Wildlife (continued)	<ul style="list-style-type: none"> <li>○ Avoiding the use of palatable plants in the revegetation of highway medians and rights-of-way.</li> <li>○ Installing a bridge at the SH 9 crossing of the Blue River, just south of milepost 91, with an upland bench above the high-water line to allow movement under the highway by amphibians, reptiles, and small and medium sized mammals such as river otter, coyotes, fox, rabbits, voles, and other rodents. Planned replacement of culverts with a bridge at the Blue River SH 9 crossing will benefit movement of fish.</li> <li>○ Constructing a new bridge at the North Park Avenue roundabout to allow continued wildlife movement along the Blue River.</li> <li>○ Using signage to alert motorists to wildlife crossing areas.</li> <li>○ Coordinating final wildlife mitigation with resource agencies including the CDOW, USFS, USFWS, Towns of Frisco and Breckenridge, and Summit County Open Space Department.</li> <li>● Aquatic Resources: <ul style="list-style-type: none"> <li>○ Using BMPs during bridge construction to minimize short-term increases in sediment levels.</li> <li>○ Using BMPs listed in the water resources/quality section.</li> <li>○ Coordinating with CDOW on the timing of work in or adjacent to streams to minimize impacts to spawning fish (low-flow period from mid-September to mid-November).</li> </ul> </li> </ul>
Floodplains	<ul style="list-style-type: none"> <li>● BMPs will be followed to reduce temporary and permanent impacts to the Blue River floodplain. Specific BMPs to be used in the study area will not be determined until final design. Specific control measures to be used in the study area will include: <ul style="list-style-type: none"> <li>○ An hydraulic study per 23 CFR 650 subpart A was conducted for the Preferred Alternative to determine floodplain impacts (see Chapter 2.0 for a summary of floodplain encroachment and Appendix F for the study). The study determined that the improvements will have less than a 0.3-meter (1-foot) rise in water elevation, and therefore do not have a significant floodplain impact.</li> <li>○ Implementing erosion, sedimentation and revegetation techniques as well as the use of standard CDOT erosion control measures to minimize impacts to the floodplain, streambanks and shoulders. All disturbed areas will be appropriately reseeded with native plants, or protected from erosion by the placement of riprap per standard engineering specifications.</li> <li>○ Adhering to CDOT hydraulic design criteria for major and minor storm drainage structures.</li> <li>○ Coordinating with Summit County on any encroachment of the floodplain, and adherence to hydraulic design criteria.</li> <li>○ Securing a floodplain permit if necessary.</li> </ul> </li> </ul>

**Table 3-4 (continued)  
 Summary of Mitigation Measures**

Resource	Mitigation Measures
Floodplains (continued)	<ul style="list-style-type: none"> <li>○ Avoiding longitudinal and significant encroachments into the floodplains, during final design.</li> <li>○ Avoiding any changes in historical flow paths.</li> <li>○ Adhering to all FEMA requirements and conformance of all hydraulic designs to the requirements of 23 CFR 650.</li> <li>○ Adhering to CDOT recommendations for the design of 50- to 100-year flood event capacity.</li> </ul>
Wild and Scenic Rivers	<ul style="list-style-type: none"> <li>● Since no wild or scenic rivers are located in the study area, no mitigation is required.</li> </ul>
Threatened, Endangered and Sensitive Species	<ul style="list-style-type: none"> <li>● Impacts to wetland and aquatic habitat suitable for boreal toad colonization will first be avoided if possible, then minimized, and impacted areas replaced (see the Wetland Finding in Appendix E).</li> <li>● Prior to construction, boreal toad surveys will be conducted in areas of suitable habitat.</li> <li>● Planned improvements in highway drainage, construction of sediment control measures and use of BMPs will reduce the introduction of roadway pollutants into aquatic habitats suitable for use by boreal toads, northern leopard frog, tiger salamander, and Colorado River cutthroat trout.</li> <li>● Planned mitigation of wetlands impacted by road improvements will reduce impacts to fox sparrow habitat.</li> <li>● Planned replacement of culverts with a bridge at the Blue River/SH 9 crossing (milepost 90.8) will benefit movement of boreal toad, northern leopard frog, tiger salamander, lynx, marten, wolverine, and Colorado River cutthroat trout.</li> <li>● Prompt revegetation of disturbed areas with native vegetation will follow construction.</li> <li>● Coordination of conservation measures with the CDOW, USFS, USFWS, Summit County, and local landowners.</li> </ul>
Visual Character	<ul style="list-style-type: none"> <li>● CDOT will follow measures outlined in the <i>Aesthetic Study and Design Guidelines</i> prepared for this project and will continue coordination with the local jurisdictions. CDOT will have a public meeting displaying design prior to each major construction project on the corridor. Mitigation measures to maintain a natural-looking appearance and enhance the visual character of SH 9 include:             <ul style="list-style-type: none"> <li>○ All new buildings, shelters, structures, signing, lighting, etc., related to future transit centers or highway improvements will be reviewed and coordinated with the Towns of Frisco and Breckenridge, Summit County and the USFS. All new elements to the highway will be consistent with local architectural standards, local guidelines, and CDOT safety specifications.</li> <li>○ Improvements and new highway elements introduced in Developed Recreation Complexes (Management Prescription area 8.21) within the USFS shall harmonize with the natural setting to the extent possible, to be consistent with the <i>White River National Forest Plan</i>.</li> </ul> </li> </ul>

**Table 3-4 (continued)  
 Summary of Mitigation Measures**

<b>Resource</b>	<b>Mitigation Measures</b>
Visual Character (continued)	<ul style="list-style-type: none"> <li>○ Revegetate disturbed areas as determined to be feasible and as consistent with adjacent landscape features while still adhering to safety requirements necessary in clear zones. Use native species for revegetation where feasible. Coordinate with local municipalities and other large landowners to replace important landscaping features.</li> <li>○ Slope modifications in 'cut' areas can be completed in a manner that maintains or accentuates foreground views. Visual variety can be achieved by undulating finished grades and creating pockets for native plant material. Rock outcroppings could remain exposed where possible.</li> <li>○ Upslope 'cut' conditions may be texturized, terraced or stepped to allow for revegetation. CDOT will coordinate with local jurisdictions on treatment options within reasonable and feasibility guidelines. Access and sufficient widths must be met to accommodate maintenance activities. Wall materials may include mechanically stabilized earth (MSE) or reinforced earth walls.</li> <li>○ Other retaining walls may be required near Dillon Reservoir and the Blue River. Possible textures, colors and aesthetic elements will be coordinated with local officials and be consistent with local planning guidelines.</li> <li>○ Provide architectural interest into retaining and noise wall design. Wall materials (e.g., wood, stone, masonry) and design will be coordinated with CDOT, local landowners, community officials and USFS landscape architect. The aesthetic treatments can be designed to harmonize with the surrounding landscape.</li> <li>○ Accomplish vegetation alteration outside the USFS management area, but visible from within the area, in a manner that does not reduce the scenic quality of that area. Clearing of existing trees, both evergreen and deciduous, will be done to accommodate the proposed section with detail added to the plans. To avoid a 'wall' effect, selective clearing shall take place at the edge of cut to transition the vegetation height and density at the edge. Prior to this activity, treeline and removals will be coordinated with a Forest Service representative and/or Summit County, Breckenridge or Frisco planners where there is open space. This approach can allow for new plantings of varying size/height trees by the local community to establish a natural edge.</li> </ul>
Historic Properties	<ul style="list-style-type: none"> <li>● See Chapter 4.0 – Final Section 4(f) Evaluation.</li> <li>● Based on the results of a literature search and field survey conducted within the study area, no significant impacts to paleontological resources are anticipated. If any fossils are uncovered within the study area during construction, work in the immediate vicinity will cease. The CDOT staff paleontologist will be notified and the material will be evaluated for scientific importance by a qualified paleontologist.</li> </ul>



**Table 3-4 (continued)  
Summary of Mitigation Measures**

Resource	Mitigation Measures
Hazardous Waste	<ul style="list-style-type: none"> <li>• Further site investigation will be conducted prior to construction where right-of-way acquisition is anticipated.</li> <li>• The contractor will comply with Section 250, Environmental, Health and Safety Management of the CDOT Standard Specifications when applicable. Specific project mitigation is unknown at this time but will be incorporated into project plans, as required, when more detailed design information becomes available.</li> </ul>
Construction	<ul style="list-style-type: none"> <li>• Language will be included in construction bid plans that contractors shall provide copies of all required permits and clearances prior to work commencing on each breakout project per CDOT Standard Specifications (1999) Sections 107.62 and 107.05. Any contractor facilities within the project limits or off site, including but not limited to stockpile or staging areas, borrow pits, and asphalt or concrete preparation sites, will be evaluated at each breakout project development stage for environmental clearance and permitting needs.</li> <li>• Air Quality               <ul style="list-style-type: none"> <li>○ Suppress dust through watering or dust palliative.</li> <li>○ Control dust by sweeping within the work zone and impacted work areas.</li> <li>○ Stabilize stockpile areas.</li> <li>○ Revegetate exposed areas incrementally throughout construction.</li> </ul> </li> <li>• Noise               <ul style="list-style-type: none"> <li>○ When possible, construct noise walls (determined to be feasible and reasonable during design stages) prior to construction.</li> <li>○ Use noise blankets on equipment and quiet-use generators.</li> <li>○ Avoid nighttime activities in residential areas.</li> <li>○ CDOT will work with the community and local government representatives on disclosing the tradeoffs of length of time of the total construction project versus impacts of minimizing construction during high volumes or minimizing at night to limit noise. CDOT, where feasible and practicable, will limit construction staging in residential areas.</li> <li>○ Conduct pile driving and other high-noise activities during daytime construction.</li> </ul> </li> <li>• Water Quality               <ul style="list-style-type: none"> <li>○ Implement temporary and permanent BMPs for erosion control as required by local and state permitting requirements. These may include: surface roughening, mulching, revegetation, interim ground stabilization, and roads and soil stockpiles.</li> <li>○ Implement temporary and permanent BMPs for sediment control as required by local and state permitting requirements. These may include: implementation of planned drainages such as detention basins to capture sand runoff, slope-length and runoff considerations, slope diversions and dikes, swales, sediment barriers, straw bales, and silt fences.</li> </ul> </li> </ul>

**Table 3-4 (continued)  
Summary of Mitigation Measures**

Resource	Mitigation Measures
Construction (continued)	<ul style="list-style-type: none"> <li>○ Implement temporary and permanent BMPs for drainageway protection as required by local and state permitting requirements. These may include: waterway crossing practices, temporary crossings and diversions, stability practices, conveyance controls, outlet and inlet protection measures.</li> <li>○ Treat contaminated trench dewatering.</li> <li>○ Adhere to the limits established in the 402 Permit.</li> <li>○ Avoid impact to wetlands or other areas of important habitat value in addition to those impacted by the project itself.</li> <li>○ Control and prevent concrete washout and construction wastewater. As projects are designed, the proper specifications will be adhered to and reviewed to ensure adequacy in the prevention of water pollution by concrete washout.</li> <li>○ Install permanent storm water quality BMPs as required for CDOT's NPDES permit and Municipal Separate Storm Sewer (MS4) program requirements.</li> <li>○ Adhere to guidelines set up in the SWMP.</li> <li>● Traffic Control Measures               <ul style="list-style-type: none"> <li>○ Develop traffic management plans.</li> <li>○ Maintain traffic flow during peak travel times by minimizing lane closures.</li> <li>○ Limit construction during peak traffic periods on holiday weekends.</li> <li>○ Coordinate detour routes to avoid overloading local streets with detour traffic.</li> <li>○ Maintain access to local businesses/residences.</li> <li>○ Coordinate with emergency service providers to minimize delays and ensure access to properties.</li> <li>○ Use signage to announce/advertise timing of road closures.</li> </ul> </li> <li>● Visual               <ul style="list-style-type: none"> <li>○ Visual impacts will be evaluated for each breakout project during the project final design stage. Mitigation measures will be defined and implemented on a per-project basis.</li> </ul> </li> </ul>
Section 4(f)	<ul style="list-style-type: none"> <li>● The Frisco - Farmer's Korner – Blue River Bikeway - Bikeway impacts will be minimized by realigning the bikeway away from the highway to a safer alignment and the bikeway will be enhanced by the more aesthetic alignment. The Frisco - Farmer's Korner – Blue River Bikeway relocation plan is designed to mitigate bikeway losses due to direct takes and to enhance the overall system safety, aesthetic character and pedestrian and cyclist mobility from Frisco to its intersection with the Breckenridge Trail System at Watson Avenue.</li> </ul>

**Table 3-4 (continued)  
 Summary of Mitigation Measures**

Resource	Mitigation Measures
Section 4(f) (continued)	<ul style="list-style-type: none"> <li>○ Leslie's Curve - A 332-meter (1,090-foot) segment of the FK-BR Bikeway would be relocated away from the existing roadway to increase safety, remove the bikeway from active traffic lanes, and enhance the route mobility and aesthetic view shed. The relocated route on National Forest Service (NFS) land would replace the old bikeway at a greater than 1:1 ratio. The new route would run from the intact bikeway west of Iron Spring Hill uphill to the old church camp facility. The new route would utilize an undeveloped roadway south to where the route would bridge a small ravine. The route would continue southward along a descending grade to reconnect with the intact bikeway (see Figure 4-2). The USFS has concurred that a bikeway easement in this area is an appropriate use of NFS lands, and provides for the mutual determination of a site-specific alignment in the future.</li> <li>○ Parkway Center-Corkscrew Park - The trail system in the vicinity of bridge construction at Parkway Center-Corkscrew Park consists of two parallel trail spurs: one trail runs at stream level under the existing bridge and the other connects at street level to a mid-street crossing. One trail spur would be retained to maintain route connectivity. A 107-meter (350-foot) segment would be relocated adjacent to the new bridge and North Park Avenue alignment to connect with the future signalized intersection at Airport Road. The replacement trail easement would be approximately 222 meters (728 feet) in length. This is a replacement ratio of 2:1.</li> <li>● Denver, South Park and Pacific (DSP&amp;P) Railroad Grade (5ST395.4) - All remaining impacted terrain of the DSP&amp;P Railroad grade will be reseeded with native plants and restored to the original aesthetic character.</li> <li>● Frisco Nordic Center Park and Recreation Area - Toe slopes and surface disturbances will be minimized while maintaining safety standards and erosion control. All remaining impacted terrain will be reseeded with native plants and restored to the original aesthetic character. Any disturbed trails would be replaced at a mutually agreeable site.</li> <li>● Peninsula Recreation Area: Dickey Day Use Area - A left-turn lane off of SH 9 and north and south bound acceleration lanes will be maintained to increase traffic safety and turning mobility of recreational vehicles and vehicles towing trailers for this area. The result provides a safety enhancement for the users. All impacted terrain will be reseeded with native plants and restored to the original aesthetic character.</li> <li>● Dillon Placer Mine (5ST883) - The area of impact is 25 sq. meters (269 sq. ft.), or less than 0.2% of the entire property and is concentrated along the area of the abandoned bikeway. The abandoned bikeway asphalt will be removed and the resulting construction disturbances will be restored to the original terrain character and aesthetic appearance. Retaining walls and the bikeway relocation will minimize permanent impacts.</li> </ul>

**Table 3-4 (continued)  
 Summary of Mitigation Measures**

<b>Resource</b>	<b>Mitigation Measures</b>
Section 4(f) (continued)	<ul style="list-style-type: none"> <li>• Dillon Reservoir Recreational Management Area: Blue River Inlet Area - Retaining walls would minimize permanent impacts to terrain, fens, reservoir, and scenic appearance of this portion of the study area. Restoration of the original terrain character, reseeding, and aesthetics will be implemented.</li> <li>• Tatum Tracts Park - The recommended mitigation for this property includes installation of an improved parking facility for fishing access for two to four vehicles to be constructed at an agreeable location by Summit County, CDOT, and the Town of Breckenridge. The proposed mitigation includes landscaping of the northeast bank of the Blue River with appropriate trees and shrubbery and reseeding of all disturbed areas with native plants. A 0.45-hectare (1.1-acre) replacement parcel of park land will be located along the Blue River north of Breckenridge as a partial mitigation for direct takes of this park and the Parkway Center-Corkscrew Park.</li> <li>• Fourmile Bridge Open Space and Recreation Area - All impacted terrain would be reseeded with native plants and restored to the original aesthetic character.</li> <li>• Parkway Center-Corkscrew Park - All impacted terrain would be reseeded with native plants, landscaped, and restored to the original aesthetic character. Wetlands impacted will be mitigated according to the Wetland Finding summarized in Chapter 2 (see Appendix E for the complete Wetland Finding). The construction of the additional bridge crossing the Blue River at North Park Avenue will restore that portion of the Blue River to a natural flow channel and native landscape. Restoration of natural flow of the Blue River would allow for improvements to fisheries and to recreation such as fishing and kayaking. CDOT will provide a replacement parcel of 0.45 hectare (1.1 acres) in the immediate Blue River, adjacent to this property, as partial mitigation for direct takes to this and Tatum Tracts Park.</li> </ul>

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## CHAPTER 4.0: FINAL SECTION 4(f) EVALUATION

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Section 4(f) of the US Department of Transportation (DOT) Act (49 USC Section 303 and 23 USC Section 138) states that the Secretary of Transportation shall not approve any transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state or local significance, or land of an historic site of national, state or local significance...unless a determination is made that:

1. there is no prudent and feasible alternative to using that land; and
2. the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuges, or historic site resulting from the use.

There are two types of impacts to a designated Section 4(f) property that require an evaluation and determination as set forth in the statute:

1. A direct impact to a Section 4(f) property resulting from the taking of a portion or all of the property.
2. Any action by the project, while not amounting to a direct taking, which would "substantially impair" the current use of the property by such intrusions as noise, air or visual impacts, as well as impairment of property access, could constitute a "constructive use" of the 4(f) property as defined by 23 CFR 771.135.(f).

### 4.1 PURPOSE AND NEED

The purpose of this project is to improve transportation along SH 9 by decreasing travel time, improving safety, and supporting the transportation needs of local and regional travelers while minimizing impacts to the surrounding environment and communities.

In general, the need for this project can be categorized into four major areas: roadway capacity and mobility; safety; growth; and transit. Some of the major points associated with each of these categories are:

- The existing two-lane roadway is currently operating at capacity, with 2020 traffic volumes expected to increase by 50%.

- The accident rate for the study area exceeds the statewide average – inconsistent lane and shoulder widths contribute to this high accident rate. (For accident data see **Figure 1-7** on page 1-16 of the DEIS.)
- Population growth in Summit County has historically been greater than the statewide and national averages – this trend is expected to continue (see **Figure 1-9**, page 1-21 of the DEIS for population comparison).
- Although transit service in the study area is currently good without changes to transportation capacity, that service will decline as congestion increases with traffic volumes.

Between Frisco and Breckenridge, SH 9 is a two-lane rural principal arterial and is a major transportation corridor for both local and regional travelers. Both Frisco and Breckenridge are employment and housing centers in Summit County. The study area has developed into a major year-round tourist destination. Local attractions include Breckenridge Ski Resort, Dillon Reservoir, Frisco Nordic Center, and the White River National Forest. SH 9 is the only north-south travel route between Frisco and Breckenridge. It also connects Highways 285, 24 and 50 to the south and Interstate 70 and Highway 40 to the north (see **Figure 1-1, page 1-3 of the DEIS**). SH 9 also supports a multitude of local uses including access to several residential, commercial and industrial developments directly adjacent to the roadway. Travel demands on SH 9 include regional, commuter, destination, and local trips.

SH 9 between Frisco and Breckenridge provides access to historic and recreational properties by local residents and area visitors. Active local and regional preservation of scenic vistas and historic properties, and promotion of outdoor recreational use resulted in most of this study area being lined by developed recreation areas, historic properties, and districts. All properties protected by Section 4(f) in the SH 9 study area are either historic, park or recreational properties. There are no archaeological properties identified in the study area. There are no wildlife refuges within the study area. There are no Native American Traditional Cultural properties identified within the study area. The Breckenridge Historic District (5ST130) will not experience any impacts from the proposed action.

**Table 4-1** includes a tabulation of all park, recreational, and historic properties within the study area, which, although located in the highway corridor, are not impacted by the Preferred Alternative. These properties were dismissed from further evaluation in the Final Section 4(f) Evaluation.

**Table 4-1  
Non-Impacted Park, Recreational, and Historic Properties in the SH 9 Study Area  
(Dismissed from Further Evaluation)**

<b>Property Description</b>	<b>Property Jurisdiction</b>	<b>Type of Property</b>	<b>Type &amp; Location Impact*</b>
Airport Open Space	Town of Breckenridge	Recreation	No Impact – Outside of Disturbance Zone
Breckenridge Ski Resort	Vail Assoc/USFS	Recreation	No Impact – Outside of Disturbance Zone
Carter Park	Town of Breckenridge	Park	No Impact – Outside of Disturbance Zone
Carter Park Trail	Town of Breckenridge	Recreation	No Impact – Outside of Disturbance Zone
Dillon-Frisco Trail	Summit County/USFS	Recreation	No Impact – Outside of Disturbance Zone
Four O'Clock Trail	Town of Breckenridge	Recreation	No Impact – Outside of Disturbance Zone
Iowa Hill Trail	Town of Breckenridge	Recreation	No Impact – Outside of Disturbance Zone
Meadow Creek Park	Town of Frisco	Park	No Impact – Outside of Disturbance Zone
Miner's Creek Dispersed Recreation Area	USFS	Recreation	No Impact – Outside of Disturbance Zone
Peaks Trail	USFS	Recreation	No Impact – Outside of Disturbance Zone
Pioneer Park	Town of Frisco	Park	No Impact – Outside of Disturbance Zone
Pocket Park	Town of Frisco	Park	No Impact – Outside of Disturbance Zone
Reservoir Trail	Town of Breckenridge	Recreation	No Impact – Outside of Disturbance Zone
Saw Mill Trail	Town of Breckenridge	Recreation	No Impact – Outside of Disturbance Zone
Swan River Valley Dispersed Recreation Area	USFS	Recreation	No Impact – Outside of Disturbance Zone
Ten Mile Recreation Pathway	Summit County/USFS	Recreation	No Impact – Outside of Disturbance Zone
Upper & Lower Flume Trails	Summit County	Recreation	No Impact – Outside of Disturbance Zone
Walter Byron Memorial Park	Town of Frisco	Park	No Impact – Outside of Disturbance Zone
Blue River Reclamation Area	Town of Breckenridge	Recreation	Proximal Location with No Impact
Braddock Dredge Piles	Various	NRHP Eligible Site	Proximal Location with No Impact

continued

**Table 4-1 (continued)**  
**Non-Impacted Park, Recreational, and Historic Properties in the SH 9 Study Area**  
**(Dismissed from Further Evaluation)**

<b>Property Description</b>	<b>Property Jurisdiction</b>	<b>Type of Property</b>	<b>Type &amp; Location Impact*</b>
Breckenridge Historic District	Town of Breckenridge	NRHP Listed Site	Proximal Location with No Impact
Breckenridge Public Golf Course	Town of Breckenridge	Recreation	Proximal Location with No Impact
Breckenridge Recreation Center	Town of Breckenridge	Recreation	Proximal Location with No Impact
Colorado Trail	USFS	Recreation	Proximal Location with No Impact
Curtis Open Space	Town of Breckenridge	Open Space	Proximal Location with No Impact by Preferred Alternative (DEIS Alternative 3). DEIS Alternatives 1, 2, and 4 had direct impacts
Denver Water Board House	Privately Owned	NRHP Eligible Site	Proximal Location with No Impact
Fourmile Bridge Bikeway	Summit County	Recreation	Proximal Location with No Impact
Frisco On-road Bike System	Town of Frisco	Mixed Recreation & Commuter	Proximal Location with No Impact
Frisco Paved Bikeway System	Town of Frisco	Recreation	Proximal Location with No Impact
Gold Hill Trailhead (in part Colorado Trail)	USFS	Recreation	Proximal Location with No Impact
Ice Arena and Open Space	Town of Breckenridge	Recreation	Proximal Location with No Impact
Kingdom Park	Town of Breckenridge	Recreation	Proximal Location with No Impact
Marina Park	Town of Frisco	Recreation	Proximal Location with No Impact
Mountain Pines Bike Path	Town of Frisco	Trail Easement / Recreation	Proximal Location with No Impact
Peninsula Recreation Area Access	USFS	Access Improvements	Proximal Location with No Impact

continued



**Table 4-1 (continued)**  
**Non-Impacted Park, Recreational, and Historic Properties in the SH 9 Study Area**  
**(Dismissed from Further Evaluation)**

<b>Property Description</b>	<b>Property Jurisdiction</b>	<b>Type of Property</b>	<b>Type &amp; Location Impact*</b>
Riverwalk Park and Amphitheater	Town of Breckenridge	Park	Proximal Location with No Impact
Summit County Open Space	Summit County	Recreation	Proximal Location with No Impact by Preferred Alternative (DEIS Alternative 3). DEIS Alternatives 1 and 2 had direct impacts
Summit Power Company-Public Service House	Private	NRHP Eligible Site	Proximal Location with No Impact
Triangle Park	Town of Frisco	Park	Proximal Location with No Impact
Waterdance Bike Path & Wildlife Overlook	Town of Frisco	Trail Easement	Proximal Location with No Impact
Breckenridge On-Road Bike System	Town of Breckenridge	Mixed Recreation & Commuter	Proximal Location with No Impact

\* Properties located within 153 meters (500 feet) were considered proximal to the disturbed zone and were evaluated for resource impacts. Properties with indications of either access concerns, some degree of functional impairment, or having noise levels at or above the NAC were evaluated and reviewed for indirect impacts by FHWA as documented in Section 4.20.6 of DEIS.

All evaluated direct impacts to Section 4(f) properties by the Preferred Alternative are tabulated in **Table 4-2** and shown on **Figure 4-1** through **Figure 4-4**. Section 4.2 includes a property description, discussion of expected impacts from the Preferred Alternative, avoidance and minimization alternatives, and measures to mitigate anticipated unavoidable impacts for each impacted historic, recreational and park property.

**Table 4-2**  
**Section 4(f): Impacted Park, Recreational and Historic Properties in the SH 9 Study Area**

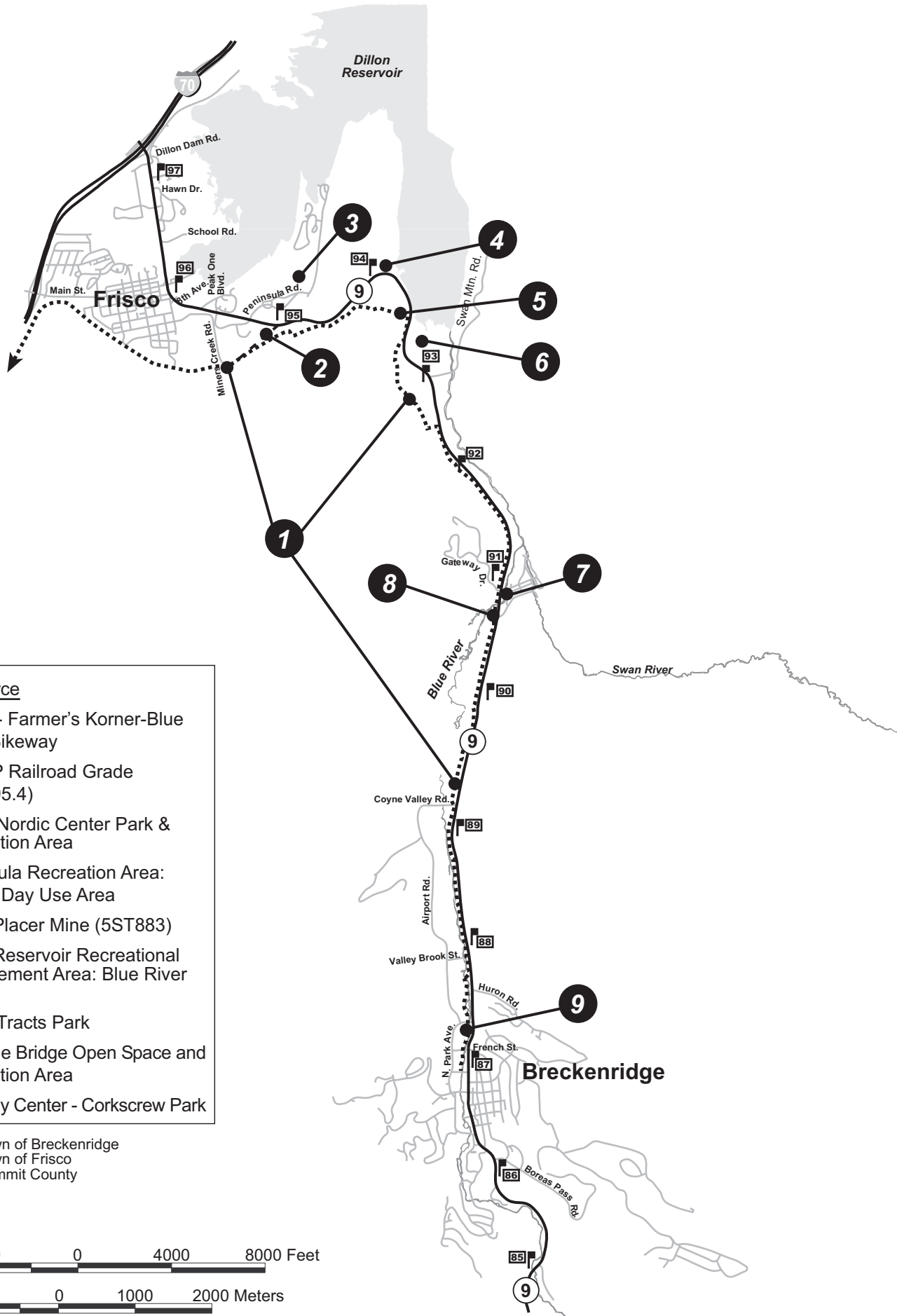
Property	Property Jurisdiction	Type of Property	Preferred Alternative Impact	Alternative 1 and 2 Impacts	Alternative 4 Impact	No-Action Alternative* Impact
Frisco - Farmer's Korner - Blue River Bikeway	Summit County/USFS	Rec.	Relocation of 332 meters (1,090 feet) from roadside to hillside north of Leslie's Curve; Relocation of 107 meters (350 feet) bikeway at North Park Avenue.	Relocation of 332 meters (1,090 feet) from roadside to hillside north of Leslie's Curve; Loss of 107 meters (350 feet) bikeway at North Park Avenue.	Relocation of 332 meters (1,090 feet) from roadside to hillside north of Leslie's Curve.	No impact
DSP&P Railroad Grade (5ST395.4)	USFS	Historic	37 meters (120 feet) take (0.6% of entire resource impacted). SHPO determination of <b>No Adverse Effect</b> .	55 meters (180 feet) take	37 meters (120 feet) take	No historic properties affected
Frisco Nordic Center Park and Recreation Area	Town of Frisco	Rec.	3.0 hectares (7.5 acres) take of narrow strip of undeveloped land parallel to SH 9 (3.4% of entire resource impacted).	3.8 hectares (9.3 acres) take of narrow strip of undeveloped land parallel to SH 9	2.3 hectares (5.6 acres) take of narrow strip of undeveloped land parallel to SH 9	No impact
Peninsula Recreation Area: Dickey Day Use Area	USFS	Rec.	0.45 hectare (1.1 acres) take of narrow strip of undeveloped land parallel to SH 9 (0.04% of entire resource impacted).	0.65 hectare (1.6 acres) take of narrow strip of undeveloped land parallel to SH 9	0.33 hectare (0.82 acre) take of narrow strip of undeveloped land parallel to SH 9	No impact

**Table 4-2 (continued)**  
**Section 4(f): Impacted Park, Recreational and Historic Properties in the SH 9 Study Area**

Property	Property Jurisdiction	Type of Property	Preferred Alternative Impact	Alternative 1 and 2 Impacts	Alternative 4 Impact	No-Action Alternative* Impact
Dillon Placer Mine (5ST883)	Summit County	Historic	25 square meters (269 square feet) take (0.2% of entire resource impacted). SHPO determination of <b>No Historic Property Affected.</b>	25 square meters (269 square feet) take	18 square meters (59 square feet) take	No historic properties affected
Dillon Reservoir Recreational Mgmt. Area: Blue River Inlet	Denver Municipal Water Board	Rec. Mgmt. Area	0.89 hectare (2.2 acres) take (0.9% of resource within the study area impacted).	0.89 hectare (2.2 acres) take	0.69 hectare (1.7 acres) take	No impact
Tatum Tracts Park	50% Summit County; 50% Town of Breckenridge	Park	0.77 hectare (1.9 acres) take of narrow strip of undeveloped land parallel to SH 9 (14.1% of entire resource impacted).	1.05 hectares (2.6 acres) take of narrow strip of undeveloped land parallel to SH 9	0.53 hectare (1.3 acres) take of narrow strip of undeveloped land parallel to SH 9	No impact
Fourmile Bridge Open Space and Recreation Area	Summit County	Rec.	0.13 hectare (0.31 acre) take of narrow strip of undeveloped land parallel to SH 9 (1.3% of entire resource impacted).	0.25 hectare (0.61 acre) take of narrow strip of undeveloped land parallel to SH 9	0.13 hectare (0.31 acre) take of narrow strip of undeveloped land parallel to SH 9	No impact
Parkway Center-Corkscrew Park**	Town of Breckenridge	Park	0.064 hectare (0.159 acre) take (2% of entire resource impacted).	0.064 hectare (0.159 acre) take	0.064 hectare (0.159 acre) take	No impact

\* Does not meet purpose and need for the project.

\*\* More detailed bridge design completed after the publication of the DEIS for the roundabout at North Park Avenue and Main Street have led to realization of resource involvement at the Parkway Center-Corkscrew Park.



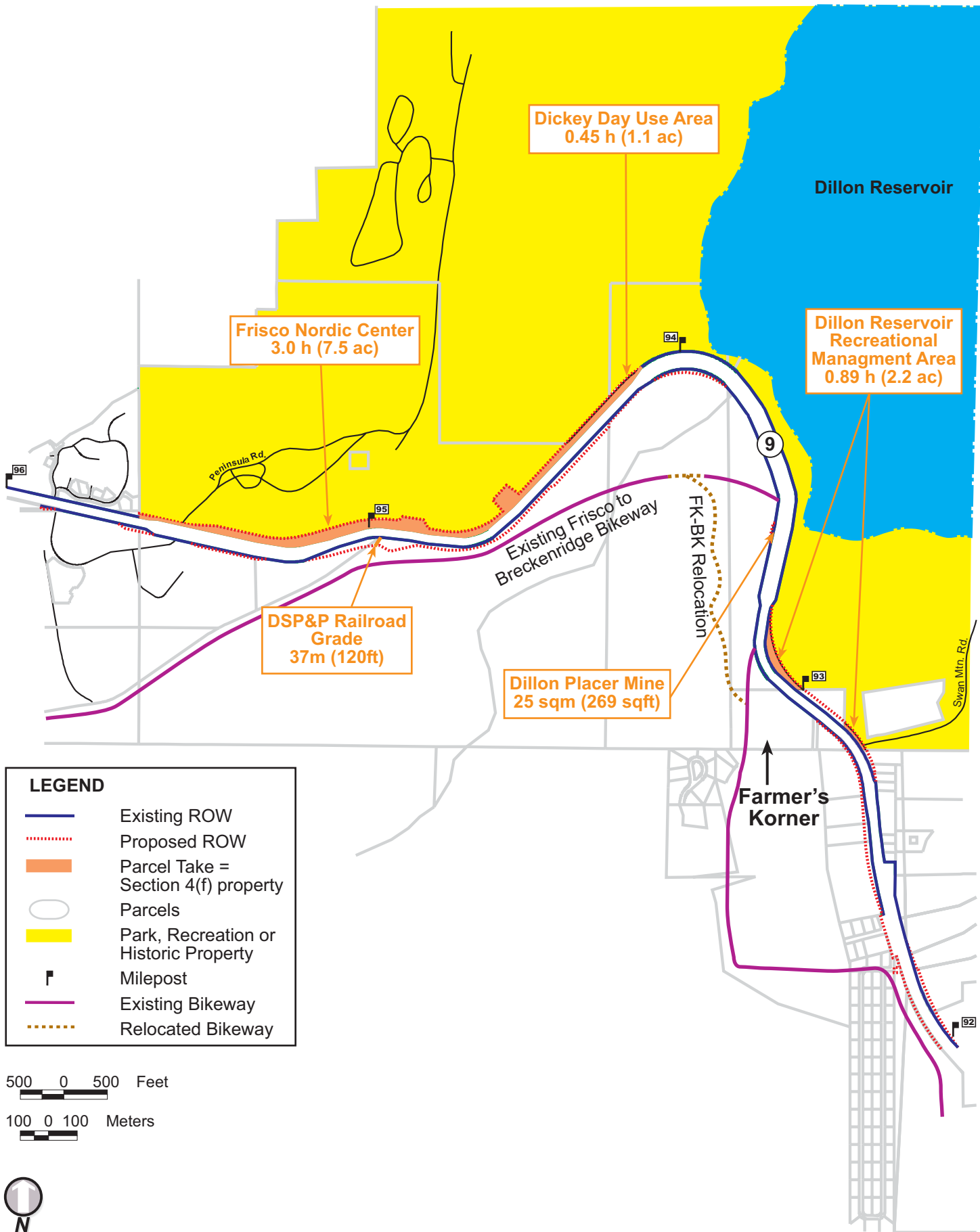
No.	Resource
1	Frisco - Farmer's Korner-Blue River Bikeway
2	DSP&P Railroad Grade (5ST395.4)
3	Frisco Nordic Center Park & Recreation Area
4	Peninsula Recreation Area: Dickey Day Use Area
5	Dillon Placer Mine (5ST883)
6	Dillon Reservoir Recreational Management Area: Blue River Inlet
7	Tatum Tracts Park
8	Fourmile Bridge Open Space and Recreation Area
9	Parkway Center - Corkscrew Park

Sources: Town of Breckenridge  
 Town of Frisco  
 Summit County



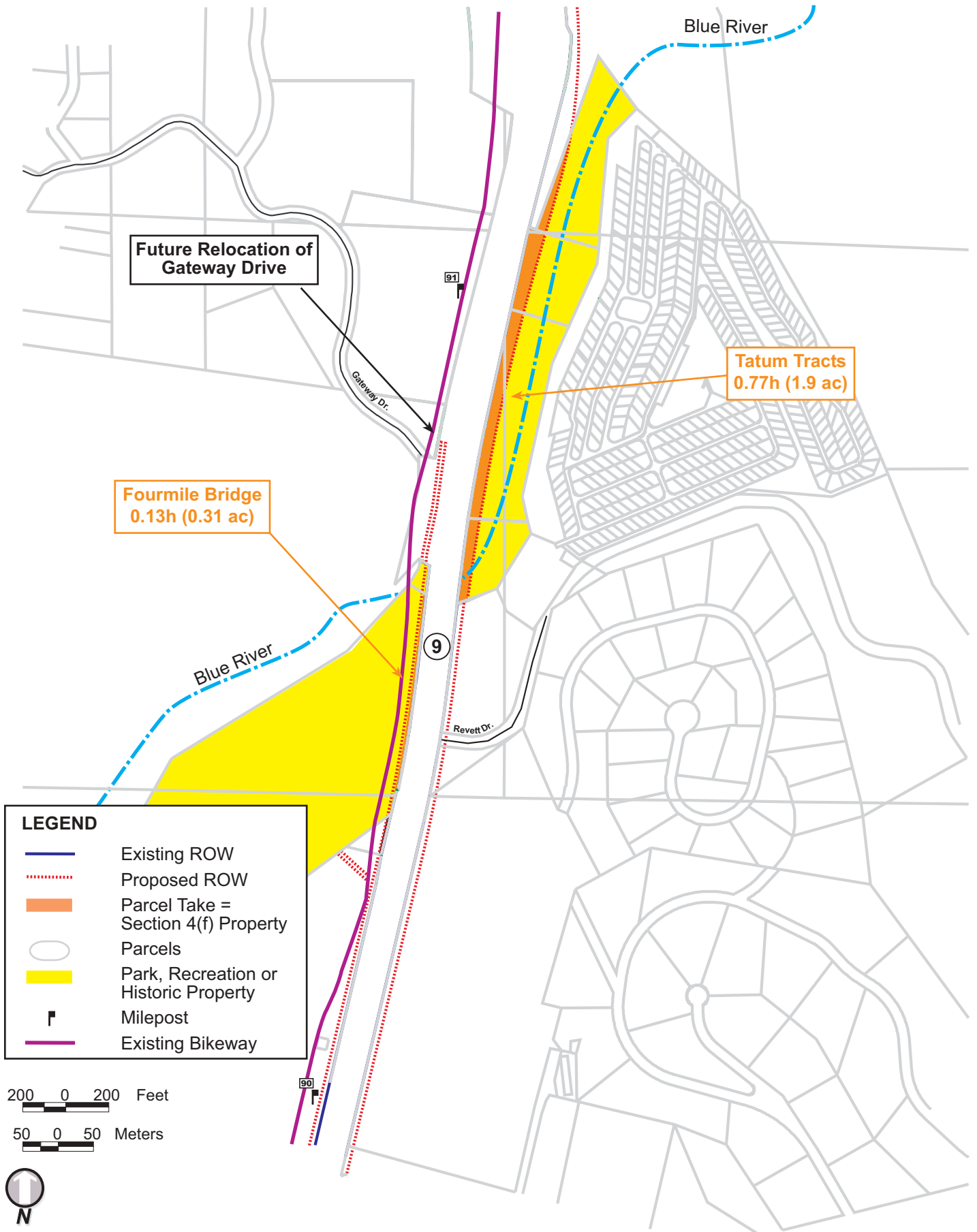
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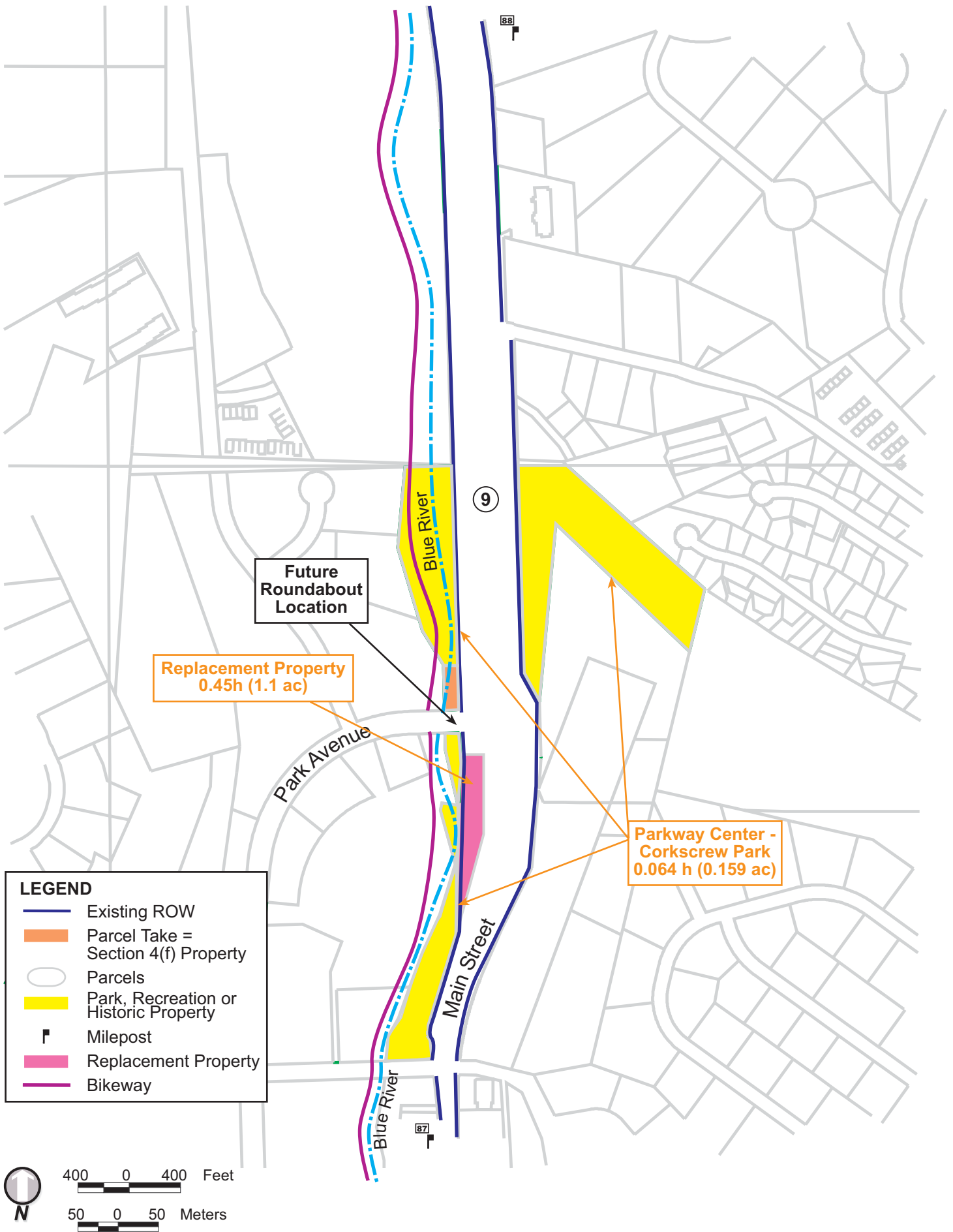
**Section 4 (f) Parcel Takes: MP 92 to MP 96**

Figure 4-2



**Section 4 (f) Parcel Takes: MP 90 to MP 91**

Figure 4-3



#### 4.1.1 PROPOSED ACTION

The Preferred Alternative documented in this abbreviated FEIS is Alternative 3 identified in the DEIS, a four-lane alternative that incorporates 3- to 5.5-meter (10- to 18-foot) wide medians and 0.6- to 3-meter (2- to 10-foot) shoulder widths to minimize the overall roadway footprint. The Preferred Alternative was identified from the DEIS evaluation of five alternatives: Alternative 1, a 31.7-meter- (104-foot-) wide four-lane roadway with 3- to 11-meter- (10- to 36-foot-) wide central medians and 3-meter- (10-foot-) wide shoulders; Alternative 2, a similar width four-lane roadway incorporating HOV strategies; Alternative 3, the Preferred Alternative summarized above; Alternative 4, a modified two-lane roadway with 5.5-meter- (18-foot-) wide medians and 0.6- to 2.4-meter- (2- to 8-foot-) wide shoulders; and lastly, the No-Action Alternative that would incorporate minor intersection safety improvements and transit/pedestrian strategies but would leave SH 9 in its existing state.

In Breckenridge, the Preferred Alternative involves the redesignation of SH 9 from Main Street in the heart of the Breckenridge Historic District (NRHP 1980) to Park Avenue, which bypasses the historic district. Park Avenue is already the designated truck route. The Breckenridge Historic District will not experience any impacts from the proposed action.

Direct benefits of this redesignation are to enhance safety, direct drivers to parking facilities, reduce pedestrian/vehicle conflicts, and improve pedestrian movements along Main Street by moving traffic congestion off the historic thoroughfare. The incremental reduction in Main Street traffic would result in a beneficial reduction in congestion, pedestrian conflict, and noise and vibration levels within the historic district. This redesignation reduces through traffic on Main Street and provides Breckenridge the opportunity to close Main Street to vehicle traffic for special events and festivals, enhancing the overall use, functionality, and vitality of the historic district.

The Preferred Alternative also involves expanding Park Avenue from two lanes to four lanes from North Park Avenue to Ski Hill Road. From Ski Hill Road south to Main Street, there will be no improvements until the South Park Avenue and Main Street intersection. Major intersection improvements will occur at Main Street in Frisco, and at North and South Park Avenues in Breckenridge (see Section 1.4.2). The North Park Avenue and Main Street intersection in Breckenridge will be a roundabout. The proposed action also includes an access control/management plan to address location,



function and control of accesses along SH 9. The total roadway width would vary from 21.3 meters (70 feet) to 25 meters (82 feet) (see **Figure 4-2** and **Figure 4-3**).

Transit improvements and TDM are part of the Preferred Alternative and involve strategies to promote alternate modes of transportation, increase vehicle occupancy, reduce travel distances, and ease peak-hour congestion. Improvements also will be made to pedestrian and bicycle facilities (see Section 1.4.4, Section 1.4.5 and Section 1.4.6).

## 4.2 IMPACTED SECTION 4(f) PROPERTIES

There are 50 park and recreation properties located within the study area. The Preferred Alternative would impact 9. Those impacted are protected under Section 4(f). There are six eligible properties for the NRHP including one Historic District within the study area. Only two historic properties are impacted by the Preferred Alternative (see **Table 4-2**).

The following sections contain a description of the Section 4(f) properties. Each property is described and followed by a discussion of impacts, avoidance alternatives and minimization of harm.

**Table 4-3** lists those Section 4(f) properties impacted by the Preferred Alternative and summarizes the proposed mitigation at each site.

**Table 4-3  
Proposed Mitigation to Section 4(f) Properties in the SH 9 Study Area**

Section 4(f) Property	Type of Property	Proposed Mitigation
Frisco - Farmer's Korner -Blue River Bikeway	Recreation	At Leslie's Curve relocate bikeway away from the existing roadway to increase safety, remove the bikeway from active traffic lanes; increase path width to 4 meters (12 feet), attempt to increase new grade-separated crossings to 5 meters (15 feet) width; and enhance the route mobility and aesthetic view shed. The relocated route on National Forest System (NFS) land would replace the old bikeway at a greater than 1:1 ratio. Abandoned bikeway asphalt will be removed and seeded with native mix. The trail system in the vicinity of bridge construction at Parkway Center-Corkscrew Park consists of two parallel trail spurs; one trail runs at stream level under the existing bridge and will be

continued

**Table 4-3 (continued)**  
**Proposed Mitigation to Section 4(f) Properties in the SH 9 Study Area**

<b>Section 4(f) Property</b>	<b>Type of Property</b>	<b>Proposed Mitigation</b>
Frisko - Farmer's Korner -Blue River Bikeway ( <i>continued</i> )		rebuilt in place, and the other connects at street level to a mid-street crossing. A 107-meter (350-foot) segment of bikeway would be relocated adjacent to the new bridge and North Park Avenue alignment to connect the existing path with the future signalized intersection at Airport Road. The replacement trail easement would be approximately 222 meters (728 feet) in length or a 2:1 ratio replacement.
DSP&P Railroad Grade (5ST395.4)	Historic	The disturbed area will be restored to the original aesthetic character.
Frisko Nordic Center Park and Recreation Area	Recreation	Toe slopes and surface disturbances will be minimized. Construction areas will be reseeded with native plants and restored to the original aesthetic character. Any disturbed trails would be replaced at a mutually agreeable site.
Peninsula Recreation Area: Dickey Day Use Area	Recreation	A left-turn lane off of SH 9 and north- and south-bound acceleration lanes have been designed to increase traffic safety and turning mobility for facility users of recreational vehicles and vehicles towing trailers. Impacted terrain will be reseeded with native plants and restored to the original aesthetic character.
Dillon Placer Mine (5ST883)	Historic	Construction areas will be reseeded with native plants and restored to the original aesthetic character. CDOT will remove abandoned bikeway asphalt from the property and restore the surface to a native cover. This relocation does not impact delineated wetlands nor does it impact proposed wetland mitigation sites.
Dillon Reservoir Recreation Management Area: Blue River Inlet	Recreation Management Area	Retaining walls and bikeway relocation would minimize permanent impacts to terrain, reservoir, and scenic appearance of this portion of the study area. Construction areas will be reseeded with native plants and restored to the original aesthetic character.
Tatum Tracts Park	Park	Installation of an improved parking facility for two to four vehicles to be constructed at an agreeable location for fishing access. Landscape the northeast bank of Blue River with appropriate trees and shrubbery. Construction areas will be reseeded with native plants and restored to the original aesthetic character. A replacement parcel located along the Blue River in north Breckenridge of 0.45 hectare (1.1 acres) will be transferred by CDOT to local agencies as partial mitigation for taking of park land at Tatum Tracts Park and Parkway Center-Corkscrew Park.

*continued*

**Table 4-3 (continued)  
Proposed Mitigation to Section 4(f) Properties in the SH 9 Study Area**

Section 4(f) Property	Type of Property	Proposed Mitigation
Fourmile Bridge Open Space and Recreation Area	Recreation	Construction areas will be reseeded with native plants and restored to the original aesthetic character.
Parkway Center-Corkscrew Park	Park	Construction areas will be reseeded with native plants, landscaped, and restored to the original aesthetic character. Wetland mitigation will occur within this segment of the Blue River. A replacement parcel located adjacent to the park along the Blue River area of 0.45 hectare (1.1 acres) will be transferred by CDOT to local agencies as partial mitigation for taking of park land at Tatum Tracts Park and Parkway Center-Corkscrew Park.

#### **4.2.1 FRISCO - FARMER’S KORNER - BLUE RIVER BIKEWAY**

##### *4.2.1.1 DESCRIPTION OF RESOURCE*

The FK-BR Bikeway is a 16-kilometer (10-mile) paved recreation and commuter trail within the SH 9 study area between Frisco and Breckenridge (see **Figure 4-1**). The FK-BR Bikeway starts in Frisco, skirts the southern edge of town, traversing the White River National Forest eastward along the old DSP&P Railroad grade. The trail intersects SH 9 near milepost 93.54 and turns southward, paralleling the highway for 14 kilometers (8 miles) where it ends at Watson Avenue in Breckenridge. Along its length, the FK-BR Bikeway lies on trail easements and license agreements owned by Frisco, CDOT, Breckenridge, USFS, and Summit County. The trail system is operated and maintained under the jurisdictions of Summit County, Town of Frisco, and Town of Breckenridge.

The FK-BR Bikeway is heavily utilized by recreational and some commuter bicyclists, rollerbladers, winter skiers, snowshoers, snowmobilers and pedestrians. Most serious cyclists and commuter cyclists utilize roadway shoulders instead of the FK-BR Bikeway. Various organizations utilize the bikeway for special cycling events most non-winter weekends. See **Figure 3-24 of the DEIS** for a map of current and planned bicycle and pedestrian facilities.

#### 4.2.1.2 ANALYSIS OF PROJECT IMPACTS

##### No-Action Alternative

With the No-Action Alternative there would be no taking or constructive use of the Frisco - Farmer's Korner -Blue River Bikeway System.

##### Preferred Alternative

The Preferred Alternative would require bikeway relocations to mitigate impacted segments of the trail and to accommodate safety issues and roadway reconstruction at Leslie's Curve and at Parkway Center-Corkscrew Park.

A total of 332 meters (1,090 feet) of bikeway would be impacted at Leslie's Curve from mileposts 93.54 through 93.32 due to road reconstruction and realignment. SH 9 is constrained through this segment by Dillon Reservoir to the east and a steep cut slope to the west. The existing FK-BR Bikeway abuts the western road shoulder and would be obliterated by new road construction and realignment.

Redesignation of SH 9 from Main Street to Park Avenue in Breckenridge requires a North Park Avenue intersection improvement. New bridge construction associated with this roundabout intersection would relocate 107 meters (350 feet) of bikeway from the existing unsafe mid-street crossing. The relocation would start at the current path diversion and parallel the new bridge and North Park Avenue to the proposed signalized intersection at Airport Road. The path would return to the existing bikeway by a parallel course along the south side of Park Avenue.

#### 4.2.1.3 AVOIDANCE

The roadway template for the Preferred Alternative requires some safety-related widening and realignment. The FK-BR Bikeway was assessed along the entirety of the study area to balance the value of avoidance and roadway construction against system safety improvements, regionally consistent aesthetics, and multi-use trail mobility. The Leslie's Curve portion of the bikeway demonstrated a safety-related need for relocation away from the roadway at the expense of trail preservation within the existing right-of-way.

On-site mitigation of the bikeway was not a viable safety solution at Leslie's Curve because relocation within the existing right-of-way would not reduce the high accident rate where the bikeway descends steeply into a sharp curve where it abuts SH 9. Any reconstruction of bikeway within existing right-of-way here would not avoid additional impact to the historic Dillon Placer Mine (5ST883) traversed by the existing bike route.

Relocation of the bikeway between mileposts 89.11 (north of Coyne Valley Road) and 87.94 (south of Valley Brook Drive) using adjacent Blue River Reclamation, Airport Open Space and Breckenridge Recreation Center land will improve safety and mitigate impacts. The relocations between mileposts 89.11 and 87.94 may be accommodated by the Town of Breckenridge Open Space Master Plan for Block 11 (Airport-McCain). Analysis of snow removal practices along this stretch of SH 9 revealed an area where bikeway users were endangered by ice and heavy snow generated by snow plowing operations. The area of endangerment impacted any bikeway contained within a zone 15 meters (50 feet) from the edge of pavement. Because the FK-BR Bikeway is utilized by hikers, snowshoers and cross-country skiers, this was determined to be a safety issue. Although this bikeway relocation is a mitigation for impacts, it also enhances the overall segment safety.

An alternative using cantilevered paths attached to retaining wall structures avoided any bikeway relocation, but also contained the above-mentioned safety concern. A third alternative bikeway location along the shoulders of Coyne Valley and Airport Roads was evaluated, but was eliminated due to excessive interruption by driveways and commercial development, and thereby did not meet Purpose and Need requirements.

Shifting the North Park Avenue intersection reconstruction either north or south to completely avoid removal of the 107 meters (350 feet) of redundant bikeway spur west of the Park Avenue bridge would result in an additional Parkway Center-Corkscrew Park take and would not provide a safe roadway intersection. Local steep topography and the existence of the Blue River channel compress the available land for alternate bikeway relocation within the existing right-of-way. Intersection reconstruction cannot avoid partial relocation of the trail system.

#### 4.2.1.4 MINIMIZATION OF HARM

Bikeway impacts will be minimized by realigning the bikeway away from the highway to a safer alignment and the bikeway will be enhanced by the more aesthetic alignment. The Frisco - Farmer's Korner - Blue River Bikeway relocation plan is designed to mitigate bikeway losses due to direct takes and to enhance the overall system safety, aesthetic character and pedestrian and cyclist mobility from Frisco to its intersection with the Breckenridge Trail System at Watson Avenue.

### Leslie's Curve

A 332-meter (1,090-foot) segment of the FK-BR Bikeway would be relocated away from the existing roadway to increase safety, remove the bikeway from active traffic lanes, and enhance the route mobility and aesthetic view shed. The relocated route on National Forest Service (NFS) land would replace the old bikeway at a greater than 1:1 ratio. The abandoned bikeway asphalt will be removed and restored with native seeding. The new route would run from the intact bikeway west of Iron Spring Hill uphill to the old church camp facility. The new route would utilize an undeveloped roadway south to where the route would bridge a small ravine. The route would continue southward along a descending grade to reconnect with the intact bikeway (see **Figure 4-2**). The USFS has concurred that a bikeway easement in this area is an appropriate use of NFS lands, and provides for the mutual determination of a site-specific alignment in the future. This mitigation plan was discussed and coordinated through the Dillon Ranger District of the Forest Service and White River National Forest, Frisco, Breckenridge, and Summit County Open Space & Trails Department. The USFS, the owner of the proposed land under easement, concurred with these mitigation recommendations in a letter dated May 1, 2001. Summit County Board of County Commissioners, the jurisdictional authority for this trail segment, was sent a letter dated July 1, 2002 and concurred with these mitigation recommendations on August 15, 2002 (see Appendix C).

### Parkway Center-Corkscrew Park

The trail system in the vicinity of bridge construction at Parkway Center-Corkscrew Park consists of two parallel trail spurs: one trail runs at stream level under the existing bridge and the other connects at street level to a mid-street crossing. One trail spur would be retained to maintain route connectivity. A 107-meter (350-foot) segment would be relocated adjacent to the new bridge and North Park Avenue alignment to connect with the future signalized intersection at Airport Road. The replacement trail easement would be approximately 222 meters (728 feet) in length. This is a replacement ratio of 2:1. This mitigation plan was coordinated and has evolved through cooperation with the Town of Breckenridge Parks and Recreation and Open Space & Trails Departments. The Town of Breckenridge was sent a letter dated February 12, 2002 and concurred with these mitigation recommendations on March 15, 2002 (see Appendix C).

## 4.2.2 DENVER, SOUTH PARK AND PACIFIC (DSP&P) RAILROAD GRADE (5ST395.4)

### 4.2.2.1 DESCRIPTION OF RESOURCE

The DSP&P Railroad consists of remnant segments of historically significant railroad grade running east-northeast, intersecting SH 9 approximately 1.6 kilometers (1 mile) west of Main Street in Frisco (see **Figure 4-1** and **Figure 4-3**). The intact DSP&P Railroad grade in this area is approximately 5.5 kilometers (3.4 miles) long and located entirely west of SH 9. The grade segment closest to the SH9 roadway consists of 0.7 kilometer (0.44 mile) of original graded rail bed while the remaining 4.8 kilometers (2.96 miles) of DSP&P Railroad grade has been utilized for the paved Frisco - Farmer's Korner Bikeway alignment. The historic grade is under the local jurisdiction of the White River National Forest.

The original rail line called the "Boreas High Line" was built over Boreas Pass in the early 1880s connecting the mining town of Leadville, Colorado, to the south with the town site of old Dillon. The line and several short spurs networked the small mining communities, transporting ore, supplies and passengers. Although the rail and ties have long since been removed, the grade represents an intact alignment of the old DSP&P Railroad. The grade is a Section 4(f) property because it is eligible for the NRHP under criterion *a* and is associated with events that have made a significant contribution to the broad patterns of our history.

### 4.2.2.2 ANALYSIS OF PROJECT IMPACTS

#### No-Action Alternative

With the No-Action Alternative there would be no taking or constructive use of the DSP&P Railroad grade.

#### Preferred Alternative

The Preferred Alternative requires a total land acquisition of 36 meters (120 feet) or 0.6% of the DSP&P Railroad grade to construct roadway, toe slope and clear zone. The impact is so minimal that the Colorado State Historic Preservation Officer (SHPO) has determined that this action will result in **no adverse effect** and **no historic properties affected** (see SHPO letter dated March 30, 2001 in Volume 2 of the DEIS, May 2002).

#### 4.2.2.3 AVOIDANCE

The No-Action Alternative fails to improve safety or capacity in the study area and, therefore, does not meet the Purpose and Need for the project. Construction of the Preferred Alternative results in a take from the DSP&P Railroad historic grade. Shifting this alignment to the east would result in a greater take of the Frisco Nordic Center Park and Recreation Area, while more of the historic grade would be altered by any westward shift in the proposed roadway alignment. Thus, there are no prudent and feasible alternatives to avoid the use of the DSP&P Railroad grade.

#### 4.2.2.4 MINIMIZATION OF HARM

All remaining impacted terrain of the DSP&P Railroad grade will be reseeded with native plants and restored to the original aesthetic character as agreed with other ground disturbances on National Forest land and in a concurrence letter dated January 17, 2003 (see Appendix C).

### 4.2.3 FRISCO NORDIC CENTER PARK AND RECREATION AREA

#### 4.2.3.1 DESCRIPTION OF RESOURCE

The Frisco Nordic Center Park and Recreation Area is approximately 87.82 hectare (217 acres) of forested and lakeside recreational lands owned by the Town of Frisco (see **Figure 4-1** and **Figure 4-3**). The property is located south of Frisco and east of SH 9 from the Waterdance area at milepost 95.3 to the start of the Peninsula Recreation Area at milepost 94.4. The property includes a disc golf course, one ball field, one multi-purpose field, an outdoor roller-blade park, several miles of walking, hiking, bicycling, and snowshoe trails, and picnic facilities. The log cabin Nordic Center serves as a special events facility for local functions year-round. There is a horse stable used for seasonal events.

Over 300 summer visitors per day use the recreation area and facilities. An estimated 20,000 visitors utilized the trail system and sleigh ride facilities in winter 2000. There are two parking areas and one vehicular access to the park at Peninsula Road.

#### 4.2.3.2 ANALYSIS OF PROJECT IMPACTS

##### No-Action Alternative

With the No-Action Alternative there would be no taking or constructive use of the Frisco Nordic Center Park and Recreation Area.



### Preferred Alternative

Improvement of SH 9 would require modification of the existing access to the Frisco Nordic Center Park and Recreation Area. The Preferred Alternative would require acquisition of a narrow strip of land parallel to SH 9 consisting of 3.0 hectares (7.5 acres) to accommodate roadway safety realignments, shoulder, and toe slope construction with a maintenance buffer. The lands directly impacted by the Preferred Alternative are peripheral to most of the active facilities within the recreation area but would involve relocating approximately 496 meters (1,625 feet) of snowshoe trail and 122 meters (400 feet) of hiking trail. This take represents 3.4% of the entire recreation property.

#### 4.2.3.3 AVOIDANCE

The roadway template requires safety-related widening and realignment. Altering the proposed alignment by moving the roadway west, away from the Nordic Center property, would create a safety design deficiency. This would put the new roadway out of compliance with current design standards and would not meet the stated Purpose and Need of this EIS. Moving the roadway to the west or north also would result in a greater taking of the historic DSP&P Railroad grade (5ST395.4).

#### 4.2.3.4 MINIMIZATION OF HARM

Toe slopes and surface disturbances will be minimized while maintaining safety standards and erosion control. All remaining impacted terrain will be reseeded with native plants and restored to the original aesthetic character. Any disturbed trails would be replaced at a mutually agreeable site. This mitigation was planned and coordinated through the Town of Frisco Planning Department. The Town of Frisco concurred with these mitigation recommendations in a letter dated August 8, 2002 (see Appendix C).

### **4.2.4 PENINSULA RECREATION AREA: DICKEY DAY USE AREA**

#### 4.2.4.1 DESCRIPTION OF RESOURCE

The Dickey Day Use Area is under management of the White River National Forest and Peninsula Recreation Area. The Peninsula Recreation Area is 94 hectares (232 acres), with campgrounds, boating, and hiking facilities located between the Frisco Nordic Center Park and Recreation Area to the north (milepost 94.4) and Dillon Reservoir to the east and south (milepost 94.1) (see **Figure 4-1** and **Figure 4-3**). The Dickey Day Use Area consists primarily of public parking and non-motorized access for Dillon Reservoir. The

area is also utilized for fishing, bicycling, and hiking. The unpaved parking and trail access services an estimated 6,000 seasonal visitors per year. The road access is closed in winter season.

#### 4.2.4.2 ANALYSIS OF PROJECT IMPACTS

##### No-Action Alternative

With the No-Action Alternative there will be no taking or constructive use of the Dickey Day Use Area.

##### Preferred Alternative

The entrance to the Dickey Day Use Area would require modification of undeveloped portions of the Day Use Area where roadway toe slope construction and maintenance clear zone are needed. The Preferred Alternative would take a narrow strip of land parallel to SH 9 consisting of 0.45 hectare (1.1 acres). The lands directly impacted are peripheral to the active recreation area and would not represent impairment or a loss of function to the continued and future recreational use. This take represents 0.4% of the entire recreation property.

#### 4.2.4.3 AVOIDANCE

The roadway template requires some safety-related widening and realignment. Any westward shift in the alignment would result in safety standard deficiencies to SH 9. Shifting the proposed alignment to the east would impact more area within the Peninsula Recreation Area and Frisco Nordic Center Park and Recreation Area.

#### 4.2.4.4 MINIMIZATION OF HARM

A left-turn lane off of SH 9 and north and south bound acceleration lanes will be maintained to increase traffic safety and turning mobility of recreational vehicles and vehicles towing trailers for this area. The result provides a safety enhancement for the users.

All impacted terrain will be reseeded with native plants and restored to the original aesthetic character. This mitigation plan was coordinated through the White River National Forest. The Forest Service concurred with these mitigation recommendations in a letter dated May 1, 2001 (see Appendix C).

## 4.2.5 DILLON PLACER MINE (5ST883)

### 4.2.5.1 DESCRIPTION OF RESOURCE

The Dillon Placer Mine (5ST883) is eligible for inclusion on the NRHP under criterion *a* for its significance in the history of mining technology in Summit County . The site contains large, 4.6-meter (15-foot) tall gravel piles, ditches, and sluicing features; and remnants of turn-of-the-century placer mining. Hydraulic placer mines were relatively rare in North America, yet they played a crucial role in the settlement of the mountainous west and development of hydro-engineering. This site covers approximately 2.1 hectares (5.2 acres) of the northeast face of Iron Spring Hill (Leslie's Curve) at milepost 93.5 (see **Figure 4-1**).

### 4.2.5.2 ANALYSIS OF PROJECT IMPACTS

#### No-Action Alternative

With the No-Action Alternative there would be no taking or constructive use of the historic property.

#### Preferred Alternative

Cut slopes required to accommodate proposed highway alignment with the Preferred Alternative would impact a 25-square-meter (269-square-foot) portion of the northeast corner of the sluicing site. This new right-of-way area is within the sluicing site and has already been disturbed by past construction of the Frisco-Farmer's Korner-Blue River Bikeway. The impacted area constitutes less than 0.2% of the entire historic property. The Colorado SHPO has determined that this action will result in **no historic properties affected (see SHPO letter dated March 30, 2001 in Volume 2 of the DEIS, May 2002)**.

### 4.2.5.3 AVOIDANCE

The roadway template for the Preferred Alternative requires roadway safety realignment. The roadway template has been reduced to the minimum width for safe roadway design to avoid as much impact to the historic property as possible. However, during final design, impacts may be further minimized. Local rugged topography and the presence of Dillon Reservoir physically prevent avoidance of the property. Moving the roadway to the west would directly impact more of the historic Dillon Placer Mine (5ST883), significantly expanding the hillside area under cut slope. Alternatively, moving the roadway to the east physically encroaches on the waters of Dillon Reservoir and creates larger direct impacts to the DRRec property (discussed below) and its locally sensitive environment.

#### 4.2.5.4 MINIMIZATION OF HARM

The area of the Dillon Placer Mine (5ST883) impact is 25 square meters (269 square feet), or less than 0.2% of the entire property, and is concentrated along the area of the abandoned bikeway. The abandoned bikeway asphalt will be removed and the resulting construction disturbances will be restored to the original terrain character and aesthetic appearance. Retaining walls and the bikeway relocation will minimize permanent impacts. A letter dated December 30, 2002 was sent to the Summit County Board of County Commissioners and they concurred with these mitigation recommendations on January 27, 2003 (see Appendix C).

#### 4.2.6 DILLON RESERVOIR RECREATIONAL MANAGEMENT AREA: BLUE RIVER INLET AREA

##### 4.2.6.1 DESCRIPTION OF RESOURCE

The Denver Municipal Water Board property is a part of the Blue River Inlet Area of the DRRec. The Blue River Inlet Area is composed of land adjacent to Dillon Reservoir, and is bounded by Swan Mountain Road to the south, Peninsula Park to the north, and SH 9 on the west (see **Figure 4-1** and **Figure 4-3**). The DRRec is under the jurisdiction of Summit County and the White River National Forest and has an active management plan to monitor and promote development of recreational facilities within the Dillon Reservoir area. Hiking, fishing, and boating activities on area-wide DRRec-associated property account for 140,000 visitors each year.

Ninety-four hectares (232 acres) of the publicly owned Denver Municipal Water Board property is located within the Blue River Inlet Area of DRRec and is protected under Section 4(f). The entirety of the Blue River Inlet Area property is located east of SH 9. There are no existing facilities on this land. Most of the property is submerged under Dillon Reservoir. Since this property is publicly available for recreation and is heavily used, it is a Section 4(f) property.

##### 4.2.6.2 ANALYSIS OF PROJECT IMPACTS

###### No-Action Alternative

With the No-Action Alternative there would be no taking or constructive use of the Denver Municipal Water Board property.

### Preferred Alternative

The Preferred Alternative would require a safety realignment of the roadway where retaining wall structures and fill slopes would impact portions of the property along Dillon Reservoir. The total direct impacts to this property are 0.89 hectare (2.2 acres). This take constitutes 0.9% of the entire property.

#### 4.2.6.3 AVOIDANCE

The roadway template for the Preferred Alternative has been reduced to the minimum width for safe design to avoid as much impact to adjacent Dillon Reservoir and the historic Dillon Placer Mine (5ST883) property as possible. Upon final design, downslope retaining walls may be used to further reduce toe of slope impacts. The roadway template minimizes the median treatment width by using median barriers, but requires roadway safety realignment. Local rugged topography and the presence of Dillon Reservoir physically restrict the location of any roadway realignment in this vicinity. Moving the roadway to the west would directly impact more of the historic Dillon Placer Mine (5ST883), significantly expanding the hillside area under cut slope. Alternatively, moving the roadway to the east physically encroaches on the waters of Dillon Reservoir, creating larger direct impacts to the DRRec Area property and its locally sensitive environment, and challenges the feasibility of construction techniques with excessive costs.

#### 4.2.6.4 MINIMIZATION OF HARM

Retaining walls would minimize permanent impacts to terrain, fens, reservoir, and scenic appearance of this portion of the study area. Restoration of the original terrain character, reseeding, and aesthetics will be implemented.

### **4.2.7 TATUM TRACTS PARK**

#### 4.2.7.1 DESCRIPTION OF RESOURCE

The Tatum Tracts Park shares ownership equally between the Summit County Board of County Commissioners and the Town of Breckenridge. The recreational park abuts residential and ranch lands and lies east of SH 9 between mileposts 91.3 and 90.8 (see **Figure 4-1** and **Figure 4-3**). The entire park is comprised of 5.33 hectares (13.17 acres) of highly modified dredge piles surrounding the current channel of the Blue River (see **Figure 4-3**). There are no formal facilities in the park and no vehicular access. Portions of the property are wooded. The land is used primarily as park land and is included in *Summit County's Open Space Protection Plan* adopted December 9, 1996.

#### 4.2.7.2 ANALYSIS OF PROJECT IMPACTS

##### No-Action Alternative

With the No-Action Alternative there would be no taking or constructive use of this property.

##### Preferred Alternative

The Preferred Alternative would require 0.75 hectare (1.9 acres) for toe slope stabilization and clear zone for the highway improvements. The lands directly impacted by the Preferred Alternative are peripheral to the active recreation area and not used for organized activities. This take constitutes 14.1% of the park.

#### 4.2.7.3 AVOIDANCE

The roadway template for the Preferred Alternative in this area requires significant safety related realignment. The location of the Blue River precludes moving the roadway realignment further east. This also results in a much larger direct impact to Tatum Tracts Park. A westward shift to the realignment tightens the roadway curvature and reduces safety standards further. A westward shift results in more impacts to Section 4(f) properties at Fourmile Bridge Open Space and Recreation Area and the adjacent Curtis Open Space. The proposed realignment offers the least disturbance to the fewest number of properties while maintaining safety standards.

#### 4.2.7.4 MINIMIZATION OF HARM

The southern half of the right-of-way take would involve removal of several mature pine trees. The recommended mitigation for this property includes installation of an improved parking facility for fishing access for two to four vehicles to be constructed at an agreeable location by Summit County, CDOT, and the Town of Breckenridge. The proposed mitigation includes landscaping of the northeast bank of the Blue River with appropriate trees and shrubbery and reseeding of all disturbed areas with native plants. A 0.45-hectare (1.1-acre) replacement parcel of park land will be located along the Blue River north of Breckenridge as a partial mitigation for direct takes of this park and the Parkway Center-Corkscrew Park (see **Figure 4-4**). This mitigation plan was discussed and coordinated through the Town of Breckenridge Parks and Recreation and Open Space & Trails Departments. The Town of Breckenridge and the Summit County Board of County Commissioners, the jurisdictional authorities for this property, were sent letters dated July 1, 2002, and both the Town of Breckenridge and the Summit County

Board of County Commissioners concurred with these mitigation recommendations on August 14, 2002 and August 15, 2002, respectively (see Appendix C).

#### **4.2.8 FOURMILE BRIDGE OPEN SPACE AND RECREATION AREA**

##### *4.2.8.1 DESCRIPTION OF RESOURCE*

Fourmile Bridge Open Space and Recreation Area is located west of SH 9 between Gold Hill at milepost 91.8 and the Curtis Open Space at milepost 90.6 (see **Figure 4-1** and **Figure 4-3**). The property is part of *Summit County's Open Space Protection Plan* adopted December 9, 1996. This open space and recreational property of 9.4 hectares (23.2 acres) is located at the north edge of the Dredge Piles Along the Blue River (5ST763). Nearly half of the remaining intact historic dredge piles are located on this property and will not be impacted by the Preferred Alternative. The Blue River meanders through the property and contains a pedestrian and bicyclist river crossing at Fourmile Bridge. The FK-BR Bikeway runs along the eastern edge of the property. The land currently allows access to the Blue River for fishing and is planned for extensive river and riparian restoration within the next 10 years. The dredge piles have been used as a commercial source of river gravel in the last decade. The County recently completed enhancement of the bikeway on the property and has plans for historic interpretive signing.

##### *4.2.8.2 ANALYSIS OF PROJECT IMPACTS*

###### No-Action Alternative

With the No-Action Alternative there would be no taking or constructive use of the Fourmile Bridge Open Space and Recreation Area.

###### Preferred Alternative

The Preferred Alternative would require 0.12 hectare (0.31 acre) of property take along a narrow strip of land adjacent to the existing right-of-way to accommodate a maintenance clear zone for roadway shoulders and toe slopes. The proposed take would not directly impact property function, the pedestrian bridge, bikeway facilities, Dredge Piles Along the Blue River (5ST763), or the interpretive signing development planned on the property. The take constitutes 1.3% of the entire property.

##### *4.2.8.3 AVOIDANCE*

The roadway is situated to minimize impacts to all surrounding park, recreational, and historic properties. Shifting the roadway to the west results in taking of more property at Fourmile Bridge, Curtis Open Space, the FK-BR Bikeway, and the Dredge Piles Along

the Blue River (5ST763). Additionally, a westward roadway shift would reduce the safety realignment at this segment of SH 9 by tightening roadway curvature. Moving the roadway to the east would result in a more severe taking of the Tatum Tracts Park property and would cause avoidable impacts to the Blue River and its ecosystem.

#### 4.2.8.4 MINIMIZATION OF HARM

All impacted terrain would be reseeded with native plants and restored to the original aesthetic character. This mitigation plan was discussed and coordinated through the Summit County Open Space & Trails Department. Summit County Board of County Commissioners, the jurisdictional authority for this property, was sent a letter dated July 1, 2002 and concurred with these mitigation recommendations on August 15, 2002 (see Appendix C).

### 4.2.9 PARKWAY CENTER-CORKSCREW PARK

#### 4.2.9.1 DESCRIPTION OF RESOURCE

The Town of Breckenridge received this 3.7-hectare (9.17-acre) property as dedicated open space resulting from commercial development commitments. The park is a collection of small parcels adjacent to the Blue River forming a continuous pedestrian-accessed riverside corridor from Kingdom Park ball fields on the north, to Watson Street in downtown Breckenridge on the south. The Parkway Center-Corkscrew Park is part of the planned Town of Breckenridge park and greenbelt linkage to the Riverwalk Park and theater complex. This area is primarily used for fishing. The Blue River Bikeway runs adjacent to much of the park (see **Figure 4-1** and **Figure 4-4**).

#### 4.2.9.2 ANALYSIS OF PROJECT IMPACTS

##### No-Action Alternative

With the No-Action Alternative there would be no taking or constructive use of Parkway Center-Corkscrew Park.

##### Preferred Alternative

The Preferred Alternative would directly impact 0.064 hectare (0.159 acre) of park land for the west abutment of the proposed North Park Avenue Bridge, a contributing element to the roundabout intersection. This represents 2% of the entire park. The bikeway would be replaced as described in Section 4.2.1.



#### 4.2.9.3 AVOIDANCE

The placement of the additional bridge at North Park Avenue has been designed to minimize permanent disturbance of the Blue River and associated wetland areas as much as possible, while attempting to avoid impacts to the park property. The physical loading constraints on girder length for this bridge limit the distance between bridge abutments. These constraints prevent complete avoidance of the Parkway Center-Corkscrew Park property. The steep topography of the eastern highway edge constrains any eastward realignment of the bridge template due to extensive cut slopes. Any eastward shift in the footprint of the road and bridge increases the direct take at the other half of the Parkway Center-Corkscrew Park property located east of SH 9.

#### 4.2.9.4 MINIMIZATION OF HARM

All impacted terrain will be reseeded with native plants, landscaped, and restored to the original aesthetic character. Wetlands impacted will be mitigated according to the *Wetland Finding* summarized in Chapter 2 (see Appendix E for the complete *Wetland Finding*). The construction of the additional bridge crossing the Blue River at North Park Avenue will restore that portion of the Blue River to a natural flow channel and native landscape. Restoration of natural flow of the Blue River would allow for improvements to fisheries and to recreation such as fishing and kayaking.

CDOT will provide a replacement parcel of 0.45 hectare (1.1 acres) in the immediate Blue River area, adjacent to this property, as partial mitigation for direct takes to this and Tatum Tracts Park (see **Figure 4-4**). This mitigation plan has been discussed and coordinated with the Town of Breckenridge Departments of Parks and Recreation, Open Space & Trails, and Community Development. The Town of Breckenridge was sent a letter dated September 30, 2003 and concurred with these mitigation recommendations on October 1, 2003 (see Appendix C).

### 4.3 COORDINATION

This project was coordinated over a three-year period with the Towns of Breckenridge and Frisco, Summit County, USFS, White River National Forest, SHPO, Colorado Outdoor Parks and Recreation, USACE, and other agencies responsible for administration of Section 4(f) properties within the SH 9 study area. In addition to public meetings, several staff-level coordination meetings were held with town, USFS, and county representatives to explain the project's alternatives and impacts in detail, as well as to discuss mitigation remedies for individual properties. Letters of concurrence

regarding Section 4(f) mitigation and resource enhancements can be found in Appendix C. Coordination letters are found in Appendix D.

Formal comments from SHPO provided through the Section 106 process on the alternatives are included in Volume 2, Appendix A of the DEIS. The SHPO letter of Determination of Effect was dated March 30, 2001. Colorado SHPO did not recommend mitigation for properties with determinations of “**no adverse affect**” or “**no historic properties affected.**”

Because of extensive development in the study area, very little land is available for in-kind replacement mitigation. The direct takings of Section 4(f) protected property as a result of the Preferred Alternative are restricted to narrow linear strips adjacent to the existing highway. The replacement parcel delineated for mitigation of corridor Section 4(f) park land takes is situated along the Blue River and provides both an adjacent and natural functional context with existing parks in the area. The Preferred Alternative will result in the overall improved access to the park and recreation system along the SH 9 corridor between Frisco and Breckenridge. It also enhances pedestrian use and safety, reduces noise, and improves the vitality of the Breckenridge Historic District. The Preferred Alternative also enhances the bikeway by realigning the primary corridor bikeway away from active traffic, enhancing safety, and designing the bikeway system to incorporate more scenic and aesthetic settings for the user.

#### **4.4 FINAL SECTION 4(f) STATEMENT**

Based upon the above considerations, it is determined that there are no feasible and prudent alternatives to the use of land from the aforementioned Section 4(f) properties, and the Preferred Alternative includes all possible planning to minimize harm to these Section 4(f) properties resulting from such use.

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## CHAPTER 5.0: LIST OF PREPARERS

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The primary consultant for this project is Carter & Burgess, Inc. Carter & Burgess used several subcontractors to provide technical expertise on various portions of this abbreviated FEIS. These subcontractors included:

- Hermsen Associates: historic property surveys
- ERO Resources: wetlands and biological surveys
- Kumar and Associates: hazardous materials data collection
- David Evans and Associates: civil engineering
- Hankard Environmental: noise analysis

Other individuals with CDOT and consulting firms to CDOT prepared portions of the FEIS.

Two cooperating agencies, the USACE and the USFS, also participated in the preparation of the FEIS by reviewing the document and providing input.

**Table 5-1** lists the representatives of the agencies and firms responsible for preparation of this FEIS, with their project responsibility, education and experience

**Table 5-1  
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Note: The project Web site and technical simulations used for the SH 9 EIS were provided by Poitra Visual Communications. The Web site address is [www.hwy9friscotobreck.com](http://www.hwy9friscotobreck.com).

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