

Chapter 4.0: Section 4(f) Evaluation

4.1 Section 4(f) – Department of Transportation Act of 1966

Section 4(f) of the United States Department of Transportation Act of 1966, as amended, and codified in 49 USC § 303, declares that “[i]t is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.” Congress amended Section 4(f) in 2005 when it enacted the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy For Users (Public Law 109-59, enacted August 10, 2005) (SAFETEA-LU). Section 6009 of SAFETEA-LU added a new subsection to Section 4(f), which authorizes the FHWA to approve a project that results in a *de minimis* impact to a Section 4(f) resource without the evaluation of avoidance typically required in a Section 4(f) Evaluation. FHWA regulations on Section 4(f) were revised to re-codify and include the *de minimis* regulation. Section 4(f) was put in its own section, 23 Code of Federal Regulations (CFR) §774. It became effective on April 11, 2008.

FHWA Regulations

Section 4(f) specifies that:

"The Administration may not approve the use, as defined in §774.17, of Section 4(f) property unless a determination is made under paragraph (a) or (b) of this section.

(a) The Administration determines that:

(1) There is no feasible and prudent avoidance alternative, as defined in §774.17, to the use of land from the property; and

(2) The action includes all possible planning, as defined in §774.17, to minimize harm to the property resulting from such use; or

(b) The Administration determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a *de minimis* impact, as defined in §774.17¹, on the property.” [23 CFR §774.3 (a) and (b)]

¹*De minimis impact.* (1) For historic sites, *de minimis* impact means that the Administration has determined, in accordance with 36 CFR part 800 that no historic property is affected by the project or that the project will have “no adverse effect” on the historic property in question.(2) For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f).

Section 4(f) further requires consultation with the Department of Interior and, as appropriate, the involved offices of the United States Department of Agriculture and the United States Department of Housing and Urban Development, and relevant state and local officials, in developing transportation projects and programs that use lands protected by Section 4(f).

The proposed action, as described in Chapter 2, Alternatives Considered, is a transportation project that may receive federal funding and/or discretionary approvals through United States Department of Transportation; therefore, documentation of compliance with Section 4(f) is required.

This Section 4(f) evaluation has been prepared in accordance with the joint FHWA/FTA regulations for Section 4(f) compliance codified at 23 CFR §774 and SAFETEA-LU (Public Law 109-59, enacted August 10, 2005). Additional guidance has been obtained from the FHWA Technical Advisory T 6640.8A (1987) and the revised FHWA Section 4(f) Policy Paper (2005).

This Section 4(f) evaluation summarizes and incorporates the results of this consultation process. The FHWA Division Administrator for Colorado is responsible for determining that this project meets the criteria and procedures set forth in the federal regulations. Application of 4(f) requires a determination of whether there are feasible and prudent alternatives that avoid the use of the 4(f) resource. Supporting information must demonstrate that there are unique problems or unusual factors involved in the use of alternatives that avoid these properties or that the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach extraordinary magnitudes.

The FHWA may not approve the use of land from a Section 4(f) resource unless there are no feasible and prudent alternatives and that the proposed action includes all possible planning to minimize harm. If no alternatives exist that avoid Section 4(f) use, then a least harm analysis must be performed to determine which alternative does the least overall harm to the Section 4(f) properties. In performing this analysis, the net harm (after mitigation) to the properties is the governing factor. The following sections describe and analyze the impacts to the 4(f) properties located within the study area of this project.

4.2 Description of Section 4(f) Properties

4.2.1 Section 4(f) Properties: Parks and Recreational Resources

Table 4-1 lists the properties and the resources that qualify for protection under Section 4(f), and which are potentially used by the project. Section 3.19 in Chapter 3.0 of this document gives a full description of park and recreational resources.

Table 4-1
Section 4(f) Resources: Parks and Recreational Resources

Section 4(f) Resource	Property Jurisdiction	Type of 4(f) Resource	Description of Resource
Legion Park	Boulder County	Park	Parking, benches, Legion Trail

Legion Park is owned and operated by the Boulder County Open Space department. Located on the north side of SH 7 between Valtec Lane and Westview Drive, Legion Park is open to the public and used for recreational purposes. On-site facilities include a multi-use trail, parking areas, and benches for scenic viewing. Currently, Boulder County has no future plans for improvements to the park.

Under Section 4(f) definition, a park or recreational property qualifies when:

- The parcel is publicly owned and operated.
- The parcel has public access.
- The parcel is presumed to be, or is determined by public officials with jurisdiction to be, for significant park, recreation, or wildlife refuge purposes.

With these determinants, Legion Park would qualify as a Section 4(f) resource.

4.2.2 Section 4(f) Properties: Historic Sites

Table 4-2 lists the historical and archaeological resources located within the area of potential effect (APE) that were determined to be listed on or eligible for the National Register of Historic Places (NRHP) and were determined to have a use under Section 4(f). Section 3.17 in Chapter 3.0 of this document gives a full description of historic sites in the APE.

Table 4-2
Section 4(f) Resources: Historic Properties

Historic Properties	Site #	SHPO Determination of Eligibility for NRHP
Colorado and Southern Railroad- Burlington Northern Railroad	5BL400.5	Railroad segment eligible; Bridge not eligible and non-contributing
Cottonwood Ditch #2 Segment	5BL4488.2	Eligible Segment
Cottonwood Ditch #2 Segment	5BL4488.3	Eligible Segment
Enterprise Ditch Segment	5BL4164.2	Eligible Segment
Enterprise Ditch Segment	5BL4164.4	Eligible Segment
Butler/Smith Property	5BL8917	Eligible
Gas Station and Small House	5BL9021	Eligible
The Harburg House, Barn and Gazebo	5BL9024	Eligible
DeBacker-Tenenbaum House	5BL9029	Eligible

Source: Colorado Historical Society, State Historic Preservation Office, 2002 and 2005.

The following is a description of the historic properties located in the SH 7 study area for which there will be a Section 4(f) use:

Colorado and Southern Railroad - Burlington Northern Railroad

The Colorado and Southern Railroad-Burlington Northern (BNSF) Railroad (Site #5BL400.5) is eligible under NRHP Criterion A for its association with the history of rail transportation in Boulder County. This railroad line served to transport freight in the 19th century and both freight and passengers in the early part of the 20th century. The entire Colorado and Southern Railroad-Burlington Northern Railroad is considered eligible and this segment of the railroad was found to retain sufficient integrity to support the overall significance of the railroad. The SHPO concurred with this finding in correspondence dated March 29, 2005, which is located in Appendix G.

Cottonwood Ditch #2

The Cottonwood Ditch #2 (#5BL4488) is eligible under NRHP Criterion A as one of the oldest intact ditches in this area, for its importance in the agricultural history in Boulder County. This ditch, begun in 1863, still retains integrity of design, setting, feeling and association. It still flows past farms in a rural setting that has not been redeveloped. The entire ditch is considered NRHP- eligible. Segments 5BL4488.2 and 5BL4488.3 were found to retain sufficient integrity to support the significance of the entire resource. The SHPO concurred with this determination in correspondence dated March 2002, and March 29, 2005, which is located in Appendix G.

Enterprise Ditch

The Enterprise Ditch (#5BL4164) is eligible under National Register Criterion A. The ditch is very important in the agricultural development of Boulder County, but segments of it have lost historical integrity due to recent residential and commercial

development. There are two segments of the ditch that are located in the project area. Segment 5BL4164.2 is located at SH 7 just west of Westview Drive. Segment 5BL4164.4 is a 1000-foot segment that extends north of SH 7 and crosses under the railroad in a siphon.

The initial determination for Enterprise Ditch was that it was not eligible to the NRHP and would therefore result in *no historic properties affected*; however, SHPO reversed its decision in a letter dated August 15, 2005 which stated that the property is NRHP-eligible. There was a recommended finding of *no adverse effect* for the entire ditch. Correspondence can be found in Appendix G.

Butler/Smith Property

Site #5BL8917 is the only property in the study area with a 19th Century house and barn. It is an excellent example of a 1880s farmhouse with clapboard siding and a Victorian front porch. This house meets Criterion C for a type, period, and method of construction. This is the earliest surviving house in this area of SH 7. The SHPO concurred with this finding in correspondence dated March 29, 2005 and August 15, 2005, which is located in Appendix G.

Gas Station and Small House

Site #5BL9021 meets Criterion C for its characteristics as a 1920s Craftsman style gas station in rural Boulder County. The combination of cinder block sheathed in wood siding is somewhat rare, as are early gas stations of any style. The SHPO concurred with this finding in correspondence dated March 29, 2005 and August 15, 2005, which is located in Appendix G.

The Harburg House, Barn and Gazebo

Site #5BL9024 is a complex of buildings that meets Criterion C for architectural significance relating to a 1930s rural complex in the Boulder Valley. The house and gazebo are excellent examples of Craftsman style. The property also meets Criterion A as one of the important farms and for its association with the history of the area and its agricultural development from the 1880s. The SHPO concurred with this finding in correspondence dated March 29, 2005 and August 15, 2005, which is located in Appendix G.

DeBacker-Tenenbaum House

Site #5BL9029 contains the distinctive characteristics of a type, period, and method of construction seen in the original house and older out buildings and meets Criterion C. The house, built in 1913 by a member of the DeBacker family, is notable for the fine decorative brickwork and wood shingle siding. In addition, the landscaping consists of the original 1913 plantings on the property that have grown into outstanding specimens not commonly seen. This building complex is one of the few intact farm properties in the survey area that retains its rural setting and represents the former rural agricultural

nature of the area. According to the site form, the original landscaping is part of what makes the property significant. The SHPO concurred with this finding in correspondence dated March 29, 2005 and August 15, 2005, which is located in Appendix G.

4.3 Impacts to Section 4(f) Properties

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

- A direct impact to a Section 4(f) property when land is permanently incorporated into a transportation facility;
- A direct impact to a Section 4(f) property when there is a temporary occupancy of land that is adverse; or,
- Any action by the project, while not amounting to a direct use, 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. This could constitute a “constructive use” of the 4(f) property as defined by 23 CFR 774.17.

No-Action Alternative

Under the No-Action Alternative, there would be no change to the current existing conditions due to this project, and therefore, there would be no direct or indirect impacts to either historic or recreation resources. See Chapter 2 for a complete description of the No-Action Alternative.

Preferred Alternative

Below is an explanation of impacts from the Preferred Alternative to eight Section 4(f) resources; one park and seven historic properties:

- **Legion Park:** Legion Park is owned and operated by the Boulder County Open Space department. Located on the north side of SH 7 between Valtec Lane and Westview Drive, Legion Park is open to the public and used for recreational purposes. On-site facilities include a multi-use trail, parking areas, and benches for scenic viewing. Currently, Boulder County has no future plans for improvements to the park. The area of impact to the park is located on a slope directly adjacent to SH 7 where there is only landscaped vegetation, an access drive, and no recreational facilities.

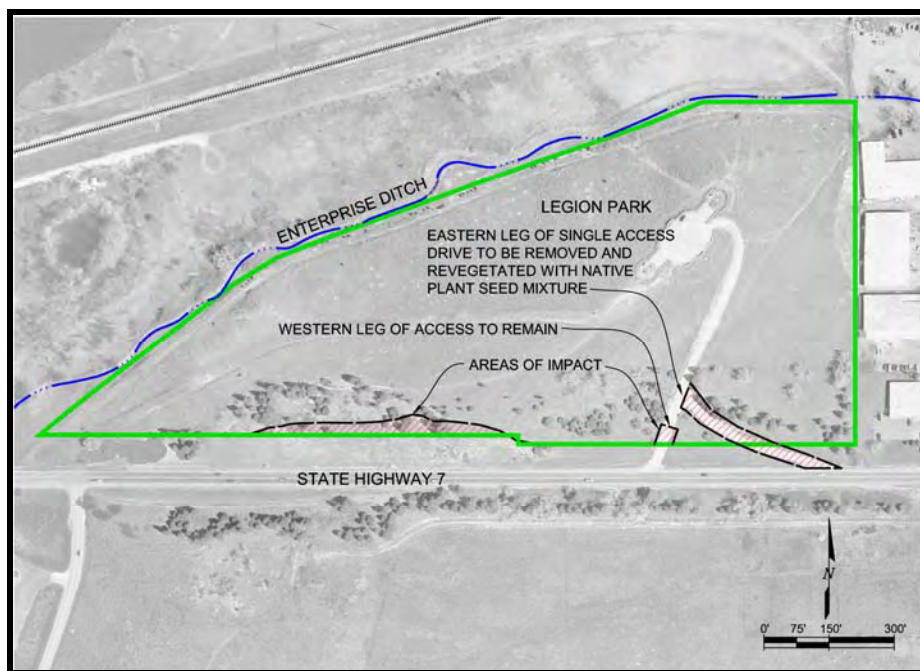
For the Preferred Alternative, the roadway will be lowered adjacent to Legion Park in order to meet minimum sight distance requirements for the design speed. This lowering will require a cut slope inside the park in order to match back to

existing grades. These cut slopes will generally match the steepness of the existing slopes. Some vegetation in Legion Park will require removal due to the construction of cut slopes, including grasses, shrubs and small trees. This vegetation will be replaced in kind by CDOT.

There is currently a single access drive to Legion Park that is served by two access points on SH 7. For safety and access control reasons, the eastern leg of the single access drive into the park will be closed. This eastern leg will be removed and the land will be revegetated with a native plant seed mixture. The western leg of the single access drive will remain open. A temporary construction easement will be required to construct side slopes for roadway improvements and to reconstruct the western leg of the single access drive to accommodate the project. No trails within the park and no landform or usable portion of the park will be permanently affected. See **Figure 4-1** for the location of impacts.

These impacts to Legion Park have been determined by FHWA and CDOT, and concurred by Boulder County (letter dated May 17, 2005 in appendix G), to have *no adverse effect* to the park. The impacts to the park would result in a *de minimis* use. Correspondence on FHWA's *de minimis* finding is dated November 28, 2007 and located in Appendix G.

Figure 4-1
Legion Park Impact



- **Colorado and Southern Railroad – Burlington Northern Railroad (5BL400.5):**
The Preferred Alternative involves the construction of a temporary railroad alignment offset 25 feet to the east of the existing alignment and the construction of a temporary bridge along this alignment over SH 7. This temporary alignment is required so that the new, longer bridge over SH 7 can be constructed while train operations can continue on the temporary alignment. The ultimate railroad alignment would follow the existing alignment.

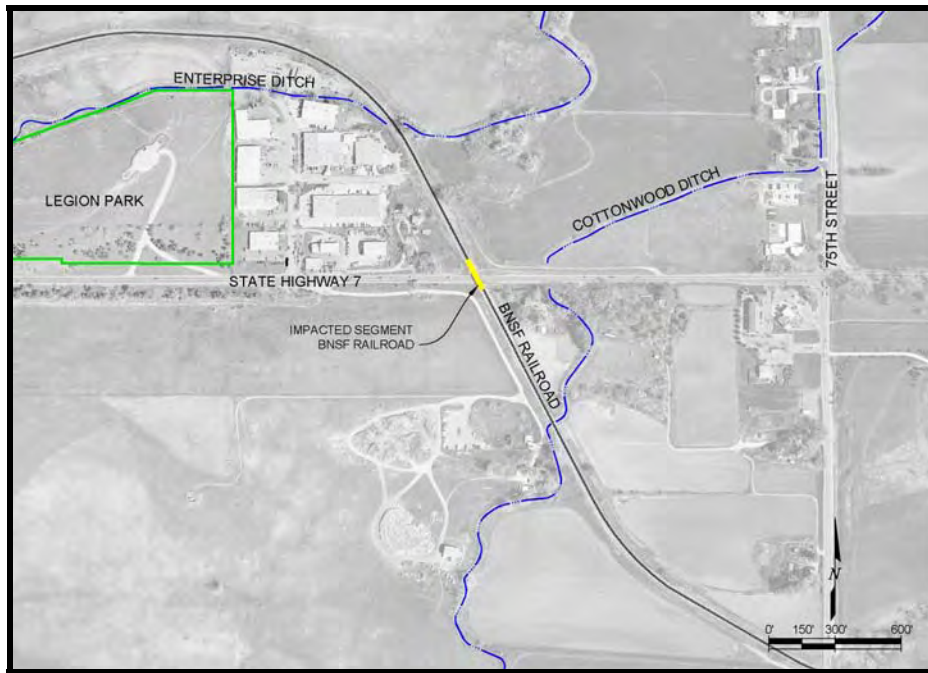
To construct the temporary alignment, approximately 500 feet of the existing railroad track would be temporarily impacted along the southern curve and approximately 600 feet of existing track would be temporarily impacted along the northern curve.

The widening of SH 7 would require the removal of approximately 25 to 35 feet of existing track on the north side of the highway. This portion of the track alignment would ultimately be on the future bridge structure over SH 7.

A temporary bridge would be required to carry the temporary railroad alignment over the Cottonwood Ditch. This temporary bridge would be removed following the need for the temporary alignment. The existing railroad bridge over SH 7 is officially *not eligible*, as documented in the *Colorado Bridge Survey for Colorado Department of Transportation*, conducted in 2000 by Clayton Fraser.

FHWA and CDOT have determined that the permanent impact to 25 to 35 feet of the railroad segment would result in an *adverse effect* to the historic Colorado and Southern Railroad-Burlington Northern Railroad segment because that portion of the railroad bed and track would be removed and will ultimately be on the new railroad bridge. See **Figure 4-2**.

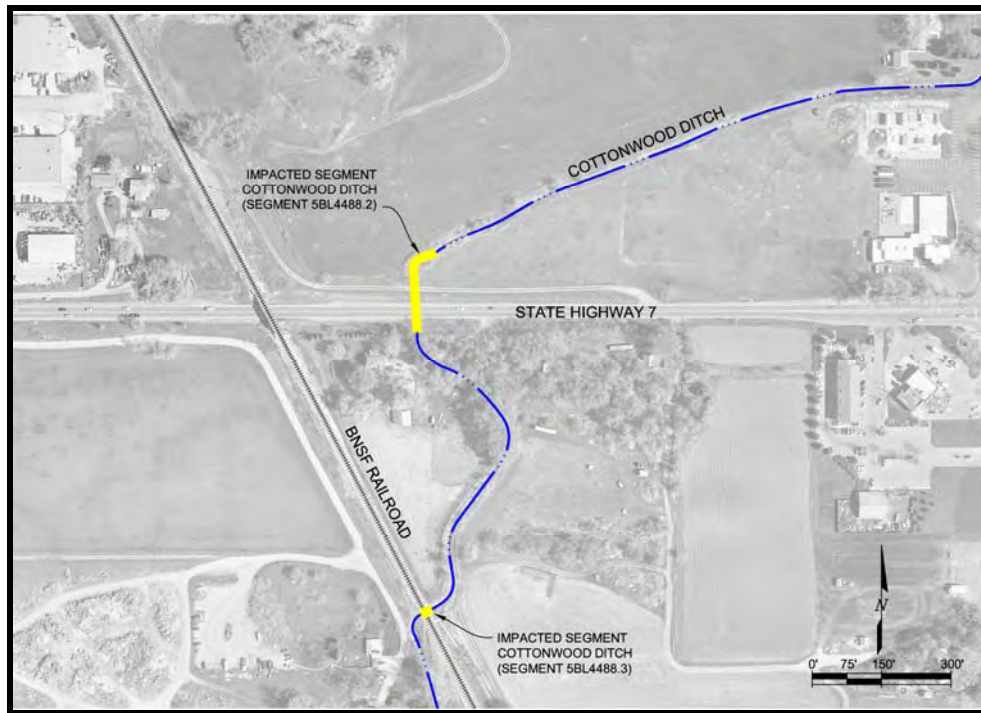
Figure 4-2
Colorado and Southern Railroad - Burlington Northern Railroad Impact



- Cottonwood Ditch #2 (5BL4488):** For segment 5BL4488.2, located at SH 7 just east of the BNSF railroad, the siphon and pipe under the road and the concrete headwalls at the openings into the siphon would need to be reconstructed. On the north side of SH 7, it is anticipated that an approximate 20-foot segment of the ditch would have to be placed in a pipe. This would constitute an *adverse effect* to this segment of the property under Section 106 and would be a Section 4(f) use of the property.

The second segment of the ditch (5BL4488.3) in the APE crosses under the railroad south and west of the DeBacker-Tenenbaum property. In order to construct a new BNSF railroad bridge over SH 7, a temporary railroad alignment would be required 25 feet to the east of the current alignment. The temporary BNSF alignment would require a temporary bridge to be constructed over the Cottonwood Ditch. The temporary bridge would be removed when the temporary alignment is removed. The ultimate railroad alignment would be along its current alignment and would not result in a direct impact to this segment of the Cottonwood Ditch since it would be restored to its original function and appearance. This has been determined as *no adverse effect* by CDOT and FHWA and concurred by SHPO. This letter dated March 24, 2006 can be found in Appendix G. **Figure 4-3** shows the impacted segments of Cottonwood Ditch.

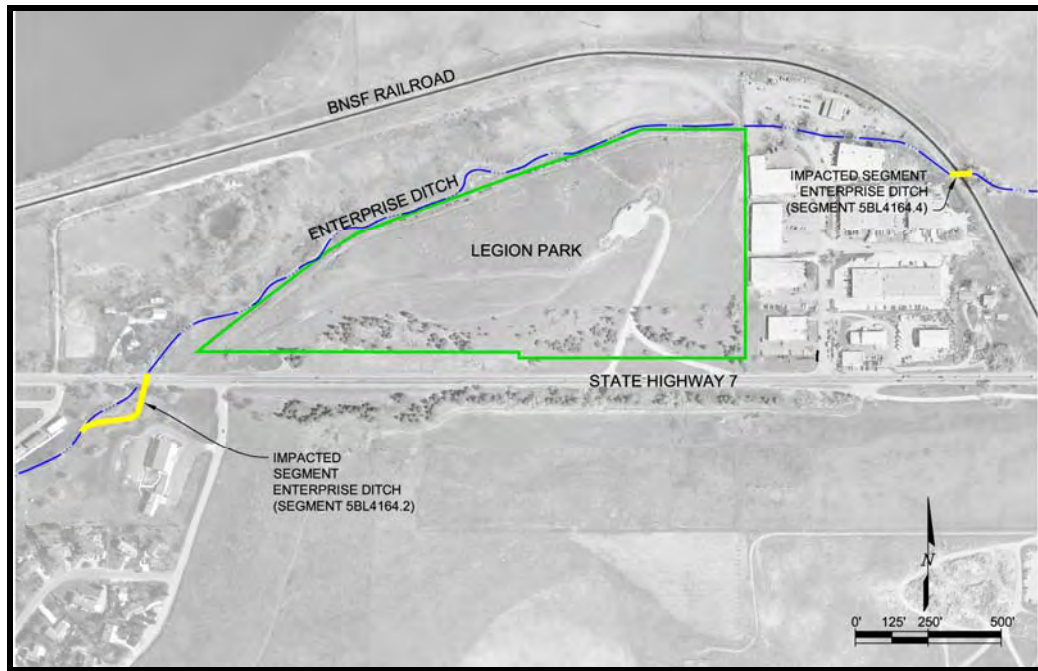
Figure 4-3
Cottonwood Ditch Impact



- Enterprise Ditch (5BL4164):** For segment 5BL4164.2 of the ditch located just west of Westview Drive, the Preferred Alternative would require a 120-foot concrete box culvert to replace the southern 60 feet of the existing box culvert. Additionally, 250 feet of the existing ditch on the south side of SH 7 would be realigned and reconstructed as an open ditch. This has been determined as *no adverse effect* by CDOT and FHWA and concurred by SHPO. This is documented in a letter dated August 15, 2005 and is located in Appendix G.

For the Preferred Alternative, the segment of the ditch that extends north of SH 7 and crosses under the BNSF railroad in a siphon (5BL4164.4) would require a temporary railroad alignment that would necessitate placement of approximately 100 feet of the ditch into a pipe. Once the temporary alignment is removed, the ditch would be restored to its original function and appearance. This has been determined as *no adverse effect* by CDOT and FHWA and concurred by SHPO. This is documented in a letter dated June 24, 2006 and is in Appendix G. See **Figure 4-4**.

**Figure 4-4
Enterprise Ditch Impact**



- Butler/Smith Property (5BL8917):** SH 7 would be widened in front of the Butler-Smith House and additional vegetation would be removed in the right-of-way between the road and the house. All improvements would stay within existing roadway right-of-way. There would be no direct impact to the house or the barn and no impact to the qualities that made this property significant. Very small temporary easement for construction of curb return may be required.

As determined by CDOT and FHWA, the improvements to SH 7 would have no affect to the historic structures on this property. The temporary easement for construction would constitute no adverse effect to the property as a whole as concurred by SHPO.

- Gas Station and Small House (5BL9021):** When SH 7 is reconstructed, the corner of this property, which is currently paved and used as roadway, would continue to be used as a roadway. In consultation with SHPO, it was determined that the corner of the property does not contribute to the significance of the property. All other improvements to SH 7 would occur to the south. Curb cut from 63rd would be installed on existing roadway right-of-way. Temporary easement for construction would be required to construct private access on private property. Tree removal may be required for construction access.

As determined by CDOT and FHWA, the improvements to SH 7 would have no affect to the historic structures on this property. The temporary easement for construction would constitute no adverse effect to the property as a whole as concurred by SHPO.

- **The Harburg House, Barn and Gazebo (5BL9024):** When SH 7 is widened some of the vegetation in the CDOT right-of-way would be removed, but would have no impact on the setting or direct impact on the Harburg property. Constructing two private driveways to match proposed improvements would require a temporary easement for the Preferred Alternative and may require some limited vegetation removal. Public road on the west side of the Harburg property would require reconstruction and may require a temporary easement. If headwall and wingwalls of Enterprise Ditch outlet are replaced in current location, this construction may be on Harburg property.

As determined by CDOT and FHWA, the improvements to SH 7 would have no affect to the historic structures on this property. The temporary easement for construction would constitute no adverse effect to the property as a whole as concurred by SHPO.

- **DeBacker-Tenenbaum House (5BL9029):** When SH 7 is widened, a retaining wall may be constructed along a portion of the roadway right-of-way, north of the DeBacker-Tenebaum property, but would not have a direct impact to the landscaped setting or the buildings. The BNSF railroad would be temporarily realigned to be east of the existing location, but there would be no direct impact to the landscaped setting or the buildings. There will be temporary fill slope impacts to some of the landscaping along the western boundary of this historic property. With the exception of a single juniper bush, the vegetation impacted by the toe of the slope is not part of the original plantings that contribute to the property's significance. CDOT will build a two-foot to four-foot tall retaining wall to minimize impacts inside the historic property boundary. Crews will remove the retaining wall after construction is completed. The ultimate railroad alignment would follow its existing alignment. A temporary easement may be required to build the temporary fill slope for the temporary railroad alignment. There will be no direct impacts to the property or the elements that make the property eligible for NRHP listing.

As determined by CDOT and FHWA, the improvements to SH 7 would have no affect to the historic structures on this property. The temporary easement for construction would constitute no adverse effect to the property as a whole as concurred by SHPO.

Table 4-3 summarizes the effects to the historic properties as determined by FHWA and CDOT, and concurred by SHPO.

**Table 4-3
Historic Properties' Effect Determinations**

Historic Properties	Site #	Determination of Effect
Colorado and Southern Railroad- BNSF Railroad	5BL400.5	Adverse Effect
Cottonwood Ditch #2 Segment	5BL4488.2	Adverse Effect
Cottonwood Ditch #2 Segment	5BL4488.3	No Adverse Effect
Enterprise Ditch Segment	5BL4164.2	No Adverse Effect
Enterprise Ditch Segment	5BL4164.4	No Adverse Effect
Butler/Smith Property	5BL8917	No Adverse Effect
Gas Station and Small House	5BL9021	No Adverse Effect
The Harburg House, Barn and Gazebo	5BL9024	No Adverse Effect
DeBacker-Tenenbaum House	5BL9029	No Adverse Effect

Source: Colorado Historical Society, State Historic Preservation Office, 2002 and 2005.

4.4 Finding of *De Minimis*

Under SAFETEA-LU (the most recent Transportation Act), Congress simplified parts of Section 4(f) by creating a *De Minimis* Finding. If impacts to a resource are minor or temporary, and there is no adverse effect to that resource, it can be cleared as *de minimis* and no avoidance alternative is necessary. Below is more detail about the legislation.

The SAFETEA-LU was enacted August 10, 2005. Section 6009(a) (1) of SAFETEA-LU added a new subsection to Section 4(f) which authorizes the FHWA to approve a project that uses Section 4(f) property, without preparation of an Avoidance Analysis, if it makes a finding that such uses would have *de minimis* impacts upon the Section 4(f) resource.

4.4.1 Parks, Recreation Areas, and Wildlife or Waterfowl Refuges

With regard to Section 4(f) resources that are parks, recreation areas, and wildlife or waterfowl refuges, Section 6009 of SAFETEA-LU adds the following language to Section 4(f):

- (b) *De Minimis* Impacts. --
- (1) REQUIREMENTS.--

(B) REQUIREMENTS FOR PARKS, RECREATION AREAS, AND WILDLIFE OR WATERFOWL REFUGES.--The requirements of subsection

(a)(1) shall be considered to be satisfied with respect to an area described in paragraph (3) if the Secretary determines, in accordance with this subsection, that a transportation program or project will have a *de minimis* impact on the area. The requirements of subsection (a)(2) with respect to an area described in paragraph (3) shall not include an alternatives analysis.

(C) CRITERIA.--In making any determination under this subsection, the Secretary shall consider to be part of a transportation program or project any avoidance, minimization, mitigation, or enhancement measures that are required to be implemented as a condition of approval of the transportation program or project.

(3) PARKS, RECREATION AREAS, AND WILDLIFE OR WATERFOWL REFUGES. --With respect to parks, recreation areas, or wildlife or waterfowl refuges, the secretary may make a finding of *de minimis* impact only if—

(A) the Secretary has determined, after public notice and opportunity for public review and comment, that the transportation program or project will not adversely affect the activities, features, and attributes of the park, recreation area, or wildlife or waterfowl refuge eligible for protection under this section; and

(B) the finding of the Secretary has received concurrence from the officials with jurisdiction over the park, recreation area, or wildlife or waterfowl refuge.

In order to clarify the language in SAFETEA-LU, the FHWA has stated that the following procedures must be met in order for the impacts to parks, recreational resources, and wildlife refuges to be considered *de minimis*:

1. The transportation use of the Section 4(f) resource, together with any impact avoidance, minimization, and mitigation or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f);
2. The official(s) with jurisdiction over the property are informed of FHWA's intent to make the *de minimis* impact finding based on their written concurrence that the project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f); and
3. The public has been afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) resource.

FHWA has determined that the impacts to Legion Park, with the mitigation measures proposed, constitutes a *de minimis* impact to this property and does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f). In a letter dated May 17, 2005, the Boulder County Resource Planning Manager (the official with jurisdiction) agreed that the proposed road improvements to SH 7 will not have an adverse impact on the use of Legion Park. See Appendix G for a copy of this letter. Furthermore, at a public meeting held on November 9, 2004, the

public was afforded an opportunity to review and comment on the effects of the project to Legion Park. See Appendix H for comments received from this public meeting about Legion Park.

The following measures to avoid, minimize, mitigate, and enhance include the following best management practices (BMPs):

- The land where the eastern leg of the access into Legion Park is removed will be revegetated with native plant seed mixtures.
- The amount of disturbance of grading will be minimized to 10 feet beyond the toe of slope. Project will follow CDOT standard specifications for amount of time that disturbed areas are allowed to be non-vegetated.
- A noxious weed management plan will be developed and implemented. This will be completed during final design.
- Weed free topsoil will be salvaged for use in seeding.
- Temporary and permanent erosion control measures will be implemented to limit erosion and soil loss.
- All disturbed locations except rock cuts will be reseeded with native plant seed mixtures.
- An acceptable revegetation plan will be developed with the CDOT Landscape Architect and Boulder County.

Based on these actions and correspondence, and taking into consideration the harm minimization/mitigation measures that have been incorporated into the proposed action as documented in Section 3.19.3 of the EA, it is the conclusion of the FHWA that the proposed action would have *de minimis* impacts (see concurrence letter dated November 28, 2007 in Appendix G) and that an analysis of feasible and prudent avoidance alternatives under Section 4(f) is not required. CDOT, on behalf of FHWA, notified the Boulder County Resource Planning Manager (the official with jurisdiction) of the *de minimis* determination in a letter dated November 27, 2007 (see Appendix G).

The public will have the opportunity to comment on the *de minimis* determination during the 30-day public review period for the environmental assessment.

4.4.2 Historic Resources

With regard to Section 4(f) resources that are historic resources, Section 6009 of SAFETEA-LU adds the following language to Section 4(f)¹:

(b) *De Minimis* Impacts. --

(1) REQUIREMENTS.--

(A) REQUIREMENTS FOR HISTORIC SITES.--The requirements of this section shall be considered to be satisfied with respect to an area described in paragraph (2) if the Secretary determines, in accordance with this subsection, that a transportation program or project will have a *de minimis* impact on the area.

(C) CRITERIA.--In making any determination under this subsection, the Secretary shall consider to be part of a transportation program or project any avoidance, minimization, mitigation, or enhancement measures that are required to be implemented as a condition of approval of the transportation program or project.

(2) HISTORIC SITES.--With respect to historic sites, the Secretary may make a finding of *de minimis* impact only if--

(A) the Secretary has determined, in accordance with the consultation process required under section 106 of the National Historic Preservation Act (16 U.S.C.470f), that--

(i) the transportation program or project will have no adverse effect on the historic site; or

(ii) there will be no historic properties affected by the transportation program or project;

(B) the finding of the Secretary has received written concurrence from the applicable State historic preservation officer or tribal historic preservation officer (and from the Advisory Council on Historic Preservation if the Council is participating in the consultation process); and

(C) the finding of the Secretary has been developed in consultation with parties consulting as part of the process referred to in subparagraph (A).

FHWA's December 13, 2005 *de minimis* guidance that clarifies the SHPO role in *de minimis*, states that the SHPO must concur in writing on the Section 106 determination of "no adverse effect" or "no historic properties affected" and that CDOT must notify the SHPO of the FHWA intention to make a *de minimis* finding based on concurrence with the Section 106 finding.

¹ This provision will be codified as 23 U.S.C. § 138(b). Section 6009(a)(2) of SAFETEA-LU adds identical language at 49 U.S.C. § 303(d).

FHWA has made a determination, and the Colorado SHPO has concurred, that the use of the Enterprise Ditch segments (5BL4164.2 and 5BL4164.4), the Cottonwood Ditch #2 segment (5BL4488.3), the Butler/Smith property (5BL8917), the Gas Station and Small House property (5BL9021), the Harburg House property (5BL9024), and the DeBacker-Tenenbaum House property (5BL9029) that would be affected by the proposed action would result in "no adverse effect" for purposes of Section 106 of the NHPA (see description below). These determinations are documented in Appendix G in letters dated August 4, 2005 and August 15, 2005 for Enterprise Ditch segment 5BL4164.2, the Butler/Smith property (5BL8917), the Gas Station and Small House property (5BL9021), the Harburg House property (5BL9024), and the DeBacker-Tenenbaum House property (5BL9029); June 24, 2006 for Enterprise Ditch segment (5BL4164.4); and March 24, 2006 for Cottonwood Ditch #2 segment (5BL4488.3). They are also described in Section 3.17 of the Environmental Assessment.

The following measures to avoid, minimize, mitigate, and enhance the below listed 4(f) resources were taken into consideration in making the *de minimis* finding for project impacts to these historic properties:

Cottonwood Ditch #2 Segment (5BL4488.3)

The temporary BNSF alignment will require a temporary bridge to be constructed over the Cottonwood Ditch. The temporary bridge will be removed when the temporary alignment is removed. The surrounding area where the temporary alignment and bridge over the ditch was located will be restored to its original appearance. The ultimate railroad alignment will be along its current alignment and will not result in a direct impact to this segment of the Cottonwood Ditch since it will be restored to its original function and appearance.

Enterprise Ditch Segments (5BL4164.2 and 5BL4164.4)

The section of the ditch that includes segment 5BL4164.2 will be realigned and reconstructed as an open ditch. This will be an enhancement to the current condition of the ditch which has a low degree of integrity. In addition, the deteriorating existing box culvert that a portion of this segment flows through will be replaced.

A 100-foot section of the ditch located north of SH 7 that includes segment 5BL4164.4 will be placed into a pipe due to the construction of the temporary railroad alignment. Once the temporary alignment is removed, the ditch will be restored to its original function and appearance.

Butler/Smith Property (5BL8917)

The proposed design for the improvements to SH 7 was specifically created to avoid direct impacts to the house or barn, and to stay within the current right-of-way. Any disturbed area adjacent to the property will be revegetated with native plant seed mixtures.

Gas Station and Small House (5BL9021)

The proposed design for the improvements to SH 7 was specifically created to avoid direct impacts to the gas station and small house, and to stay within the current right-of-way. A new private access from 63rd that is proposed to be constructed for the property would be an enhancement measure. Any disturbed area adjacent to the property will be revegetated with native plant seed mixtures.

The Harburg House, Barn and Gazebo (5BL9024)

The proposed design for the improvements to SH 7 was specifically created to avoid direct impacts to the house, barn and gazebo, and to stay within the current right-of-way. Two private drives that access the property are proposed to be reconstructed for the property in order to match the improvements to SH 7. This would be an enhancement measure. Any disturbed area adjacent to the property will be revegetated with native plant seed mixtures.

DeBacker-Tenenbaum House (5BL9029)

The proposed design for the improvements to SH 7 was specifically created to avoid direct impacts to the house, and to stay within the current right-of-way. The temporary fill slope that may be required on the property will be removed at the end of construction and the area will be restored to its original function and appearance. Any disturbed area adjacent to the property will be revegetated with native plant seed mixtures.

This findings of “no adverse effect” with regard to these six properties reflect a conclusion that these impacts will not “alter, directly or indirectly, any of the characteristics of the historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association” as described in 36 CFR § 800.5(a)(1). This conclusion takes into consideration the measures above that have been incorporated into the proposed action. It is the conclusion of the FHWA that the proposed action would have *de minimis* impacts and that an analysis of feasible and prudent avoidance alternatives under Section 4(f) is not required. CDOT, on behalf of FHWA, notified the SHPO of the *de minimis* determination in letters dated April 25, 2007 and November 2, 2007, and March 7, 2008 (see Appendix G).

4.5 Avoidance Alternatives

The Cottonwood Ditch #2 (Site #5BL4488) is eligible under NRHP Criterion A as one of the oldest intact ditches in this area, for its importance in the agricultural history in Boulder County. This ditch, begun in 1863, still retains integrity of design, setting, feeling and association. It still flows past farms in a rural setting that has not been redeveloped. The entire ditch is considered NRHP- eligible. The existing siphon pipe

and adjacent open ditch sections of the Cottonwood Ditch can currently only accommodate the existing two-lane, substandard roadway section, which does not meet the purpose and need. The purpose and need for improvements are to reduce congestion, enhance roadway deficiencies and safety, and to improve mobility for multiple modes of transportation. These are described in detail in Chapter 1.

The Colorado and Southern Railroad-Burlington Northern Railroad (Site #5BL400.5) is eligible under NRHP Criterion A for its association with the history of rail transportation in Boulder County. This railroad line served to transport freight in the 19th century and both freight and passengers in the early part of the 20th century. The entire Colorado and Southern Railroad-Burlington Northern Railroad is considered eligible and this segment of the railroad was found to retain sufficient integrity to support the overall significance of the railroad. The existing BNSF railroad bridge can currently only accommodate the existing two-lane, substandard roadway section, which does not meet the purpose and need.

A range of alternatives, including those outlined in Chapter 2 of this report, were considered and analyzed in order to determine if they were reasonable avoidance alternatives to these resources. All of the alternatives screened out in the alternatives evaluation process outlined in Chapter 2 did not meet the purpose and need. Also, as part of this EA, improvements to roadway corridors either north or south of SH 7 were considered in order to avoid the ditch and railroad. These corridors include Valmont Road/Pearl Parkway, approximately 1.5 miles north of SH 7, and Baseline Road, approximately one mile south of SH 7 (see **Figure 1-2** in Chapter 1 for a regional map). Due to the linear nature of the ditch and railroad, improvements to these other roadway corridors would still not avoid impacts to these historic resources.

Avoidance Alternative Number 1

In order to completely avoid the impacts to the BNSF railroad (segment 5BL400.5) and the Cottonwood Ditch (segment 5BL4488.2), and stay on the current roadway alignment, SH 7 would have to be reconstructed over both of these resources. This would require SH 7 to be raised approximately 55 feet on a bridge structure. To avoid impacts to other 4(f) resources in the vicinity, retaining walls would have to be incorporated into the design of the approaches to the bridge which would traverse over the BNSF railroad. The approaches to the bridge would have to begin approximately 1500 to 2000 feet in advance of the bridge location. Access to the Valtec commercial development would likely not be feasible since it is located between the BNSF railroad, Legion Park and SH 7, and the vertical grade change on SH 7 would not allow direct access, which would take away the ability of the property to remain operational. Similarly, access to other adjacent land uses would become very difficult, including access to the Tenenbaum property, the Jacobs property and the Aldridge property, which raises safety concerns. At the intersection of SH 7 and 75th, the vertical alignment change would require the reconstruction of the intersection due to the

required change in vertical grade required to traverse the railroad. It is likely that the Conoco convenience store and the commercial development would not be able to remain operational due to access issues. In addition to the access and safety concerns, the raised profile of SH 7 in this vicinity would have major impacts to the visual quality and view shed in the study area.

This alternative would be feasible as a matter of sound engineering judgment, and could possibly be prudent by meeting purpose and need, however, it would not be prudent due to unacceptable safety and operational problems because of access changes. In addition, after mitigation, it causes severe visual impacts, and would likely require the closure of SH 7 during the construction resulting in impacts to the traveling public possibly lasting 1 year or more. Finally, the additional cost of this avoidance alternative is likely \$20 to \$30 million above the cost of the Preferred Alternative. Therefore this avoidance alternative would not be feasible and prudent.

Avoidance Alternative Number 2

In order to completely avoid the impacts to the BNSF railroad (segment 5BL400.5) and the Cottonwood Ditch (segment 5BL4488.2), and stay on the current roadway alignment, SH 7 would have to be reconstructed beneath both of these resources along a depressed roadway alignment and through a tunnel. This would require SH 7 to be lowered approximately 60 feet on a depressed alignment and through a 500 foot long tunnel. To avoid impacts to other 4(f) resources in the vicinity, retaining walls would have to be incorporated into the design of the approaches to the tunnel. The approaches to the tunnel would have to begin approximately 2000 feet in advance of the tunnel location from the west and approximately 1000 feet in advance of the tunnel from the east. Access to the Valtec commercial development would likely not be feasible since it is located between the BNSF railroad, Legion Park and SH 7, and the vertical grade change on SH 7 would not allow direct access, which would take away the ability of the property to remain operational. Similarly, access to other adjacent land uses would become very difficult, including access to the Tenenbaum property, the Jacobs property and the Aldridge property, which raises safety concerns.

This alternative would be feasible as a matter of sound engineering judgment, and could possibly be prudent by meeting purpose and need, however, it would not be prudent due to unacceptable safety and operational problems because of access changes. In addition, after mitigation, it would likely require the closure of SH 7 during the construction resulting in impacts to the traveling public possibly lasting 1 year or more. Finally, the additional cost of this avoidance alternative is likely \$30 to \$35 million above the cost of the Preferred Alternative. Therefore this avoidance alternative would not be feasible and prudent.

No-Action Alternative

With the No-Action Alternative, congestion (approaching maximum capacity in 2030) and the current unsafe condition of the roadway (currently accidents occur related to the substandard roadway conditions) would continue. The No-Action Alternative also does not improve the corridor for multiple modes of transportation including busses, bicycles and pedestrians. Finally, the No-Action does not meet the purpose and need of the project. Due to these reasons, this would not be a feasible and prudent avoidance alternative.

Due to the effect that these avoidance alternatives would have on surrounding properties, the cost of the alternatives, impact to the traveling public, or the fact that they do not meet the purpose and need of the project, and due to the limited use of, and the value of the two Section 4(f) resources (i.e. while important for association with railroad and agricultural history, the railroad bridge is non-contributing and the parts of the resources that are being used are not unique for these resources), do not outweigh the problems with the avoidance alternatives that make them not prudent. The Preferred Alternative would result in the least harm while still achieving project goals. This Preferred Alternative would be feasible and prudent.

4.6 Measures to Minimize Harm

Since there are no prudent and feasible alternatives to the impacts to Cottonwood Ditch (segment 5BL4488.2) and the BNSF railroad (segment 5BL400.5), the proposed action must demonstrate that it includes all possible planning to minimize harm to both resources. Planning measures incorporated into the proposed action include the following:

- A Memorandum of Agreement regarding the Cottonwood Ditch #2 (segment 5BL4488.2) and the BNSF railroad (segment 5BL400.5) has been prepared which incorporates the views of the SHPO on the proposed action. A copy of the MOA is located in Appendix G.
- CDOT shall ensure that the ditch and railroad are documented in accordance with the guidance for Level II documentation found in OAHF Form #1595, *Historical Resource Documentation: Standards for Level I, II, III Documentation*.
- The new siphon would be designed to be as short as possible. The new siphon will include reconstructed wingwalls, headwalls and short transition sections to the existing ditch.
- Retaining walls will be constructed along SH 7 which will minimize the length of the siphon.

- The rebuilt section of the ditch would be designed to carry no less than the minimum flow requirements as determined by the ditch owner.
- Construction would occur at such times as the ditch is not in use. If this is not possible, the hydraulic integrity of the ditch would be maintained through the use of temporary systems.
- The contractor's work area around the ditch would be limited to only the area that is directly impacted.
- For the railroad, the use of vertical bridge abutments would be employed to minimize the length of the new overpass bridge.
- The contractor's work area around the railroad would be limited to only the area that is directly impacted.
- In general, all efforts will be made during final project design to minimize impacts to the ditch and the railroad.

4.7 Coordination

In consultation with the SHPO, the FHWA and CDOT have determined this project will have adverse effect on Cottonwood Ditch #2 (segment 5BL4488.2) and Colorado and Southern Railroad-Burlington Northern Railroad (segment 5BL400.5). FHWA, CDOT and the SHPO have agreed this project will have no adverse effects on the Cottonwood Ditch #2 (segment 5BL4488.3), Enterprise Ditch (segments 5BL4164.2 and 5BL4164.4), the Butler/Smith property (5BL8917), the Gas Station and Small House property (5BL9021), the Harburg House property (5BL9024), and the DeBacker-Tenenbaum House property (5BL9029).

Agreement among the SHPO, Advisory Council on Historic Preservation (ACHP), FHWA, and the Certified Local Government, represented by the Boulder Landmarks Preservation Board, has been reached through the Section 106 process of the National Historic Preservation Act on measures to minimize harm and those measures are incorporated into the project. A Memorandum of Agreement was signed by FHWA on December 4, 2006. There are no federal interests on any of the historic sites, so there are no appropriate agencies to be contacted for their comments on the proposed action.

The impacts to Legion Park have been determined by FHWA and CDOT, and concurred by Boulder County (letter dated May 17, 2005 in appendix G), to have *no adverse effect* to the park.

A requirement under Section 4(f) is that the public has the opportunity to specifically comment on a *de minimis* finding for a park. At the public hearing for the EA,

information about Legion Park will be presented, including the effects of the project on the protected activities, features, and attributes. The public will have an opportunity to comment at that time. Any comments received will be addressed in the decision document for the project.

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