3.15 HISTORIC PRESERVATION

3.15.1 Affected Environment

3.15.1.1 REGULATORY COMPLIANCE

What's in Section 3.15?

Legislation at the state and federal levels requires that governmental agencies assess the impacts of proposed projects on historic and archaeological resources before undertaking a project. The federal legislation that protects historic and archaeological resources includes Section 106 (36 CFR Part 800) of the National Historic Preservation Act of 1966 (NHPA as amended) and Section 4(f) (49 USC 303, Sec. 771.135) of the U.S. Department of Transportation Act.

Section 106 of the NHPA requires that federal agencies or other agencies undertaking federal actions consider the effects of their undertakings on historic properties. A historic property is defined as any prehistoric or historic site, district, structure, building, object or archaeological resource included on or eligible for the National Register of Historic Places (NRHP). In order to qualify for the NRHP, a property or resource possesses sufficient integrity of location, design, setting, materials, workmanship, feeling, and association, and meet one or more of the following eligibility criteria:

Criterion A: The property is associated with events that have made a significant contribution to the broad pattern of our history.

Criterion B: The property is associated with the lives of persons significant in our past.

Criterion C: The property embodies the distinctive characteristics of a type, period, or method of construction; or represents the work of a master; or possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.

Criterion D: The property has yielded or may be likely to yield information important in history or prehistory.

The Section 106 process (36 CFR 800.4) includes steps to: 1) identify consulting parties, 2) define an Area of Potential Effect (APE), 3) identify and evaluate historic properties, 4) assess the impacts of an undertaking on the historic properties, and 5) consult with appropriate agencies for techniques to avoid, minimize, or mitigate any adverse effects. The process for complying with the state legislation (State Register Act Article 80.1, Register of Historic Properties) is similar.

For the North I-25 EIS, the Colorado Department of Transportation (CDOT) and the Federal Highway Administration (FHWA) have formally arranged with the State Historic Preservation Officer (SHPO) to substitute the project's National Environmental Policy Act's (NEPA) documents (Draft and Final EIS) in lieu of separate correspondence, in order to accomplish the Section 106 consultation process. The document substitution process is intended to reduce the time and complexity of the review process involving the SHPO and other Section 106 consulting parties, by providing detailed information about project impacts associated with the various alternatives in the EIS rather than additional documents.

For the North I-25 EIS, the Section 106 consultation step involving determinations of NRHP-eligibility for all historic and archaeological resources was accomplished by the traditional method of submitting survey reports and site forms to the SHPO and other Section 106 consulting parties. The survey reports and site forms included the eligibility determinations proposed by CDOT, FHWA, and FTA for SHPO concurrence. A number of resources within the North I-25 project APE were determined eligible for inclusion on the NRHP as a result of past studies and were assumed eligible for this project. After the Draft EIS was released, four additional properties were identified as eligible through consultation. Concurrence on eligibility was received from the SHPO on January 3, 2011. This document provides the formal documentation for consultation on effects for all the alternatives. In addition, the Final EIS includes responses to comments received on the Draft EIS.

Following consultation on the effects, the resolution of adverse effects will documented in a Programmatic Agreement (PA) to be signed by CDOT, FHWA, the SHPO and any of the consulting parties that would like to concur with the agreement. Effects for the Preferred Alternative are in nearly all cases reduced from those presented for Packages A or B. Following consultation on effects, FHWA and CDOT will work to resolve issues with the consulting parties and the SHPO.

CDOT sent out letters to all certified local governments in the regional study area as well as a few other agencies and entities with interest in historic preservation officially inviting them to participate as consulting parties in the Section 106 process for this project. Letters were sent to the cities and communities of Berthoud, Brighton, Broomfield, Fort Collins, Fort Lupton, Greeley, Longmont, Loveland, Northglenn, and Timnath. They were also sent to Boulder County, Colorado Preservation, Inc., and the National Trust for Historic Preservation. Responses were received from the following entities agreeing to participate as consulting parties:

- City of Greeley Historic Preservation Office
- City of Fort Lupton Historic Preservation Board
- City of Longmont Historic Preservation Commission

3.15.1.2 HISTORICAL RESOURCES

Historical Resource Surveys

Historical resources were evaluated within the APE. The APE for this project was discussed at several meetings in early 2006 and further evaluated during a field trip with staff from SHPO and CDOT on June 15, 2006. The boundaries of the APE were agreed to by the SHPO in a letter dated March 12, 2007 (see **Appendix E**). Specific APE boundaries have been defined for the three proposed transportation improvements under evaluation—the North I-25 corridor

including queue jumps along US Highway (US) 34 associated with the bus rapid transit or express bus under the Preferred Alternative, a commuter rail corridor, and a commuter bus route along US 85. The APE boundaries for each specific corridor are described in detail under each of the corridor descriptions that follow.

Activities undertaken to identify historical resources in the APE included a file search at the Colorado Historical Society, a review of NRHP and State Register of Historic Properties (SRHP) listings, a review of any local landmark listings, a review of previous historical resource assessments in the general area, and field surveys of the APE.

Historical Resources

From all the historical resources that were surveyed for this project or that had previously been surveyed, 72 were determined eligible for or already listed on the NRHP. These include 35 resources surveyed on the I-25 corridor, 35 resources surveyed on the commuter rail corridor, and two resources on US 85. This total includes eight resources that have already been listed on the NRHP (see **Table 3.15-1)**.

A total of 27 individual historic ditches and canals, made up of 44 linear segments, are located within the APE. The 18 railroad segments comprise linear portions of five railroad lines and one railroad siding within the APE.

North I-25 Corridor

The APE for the North I-25 corridor includes an area encompassing the maximum area of disturbance for this project, which is generally the existing right-of-way plus portions of adjacent properties.

Intensive-level surveys of the historical resources were conducted within the APE. A total of 133 historical resources were surveyed or re-evaluated in this corridor. Linear sites (e.g., railroads, irrigation ditches) are evaluated as segments that are either supporting or non-supporting segments of an entire NRHP-eligible linear resource. Those historical resources eligible for the NRHP are listed in **Figure 3.15-1** and **Figure 3.15-2** by location from north to south.

Figure 3.15-1 Non-Linear Historical Resources within the Area of Potential Effect

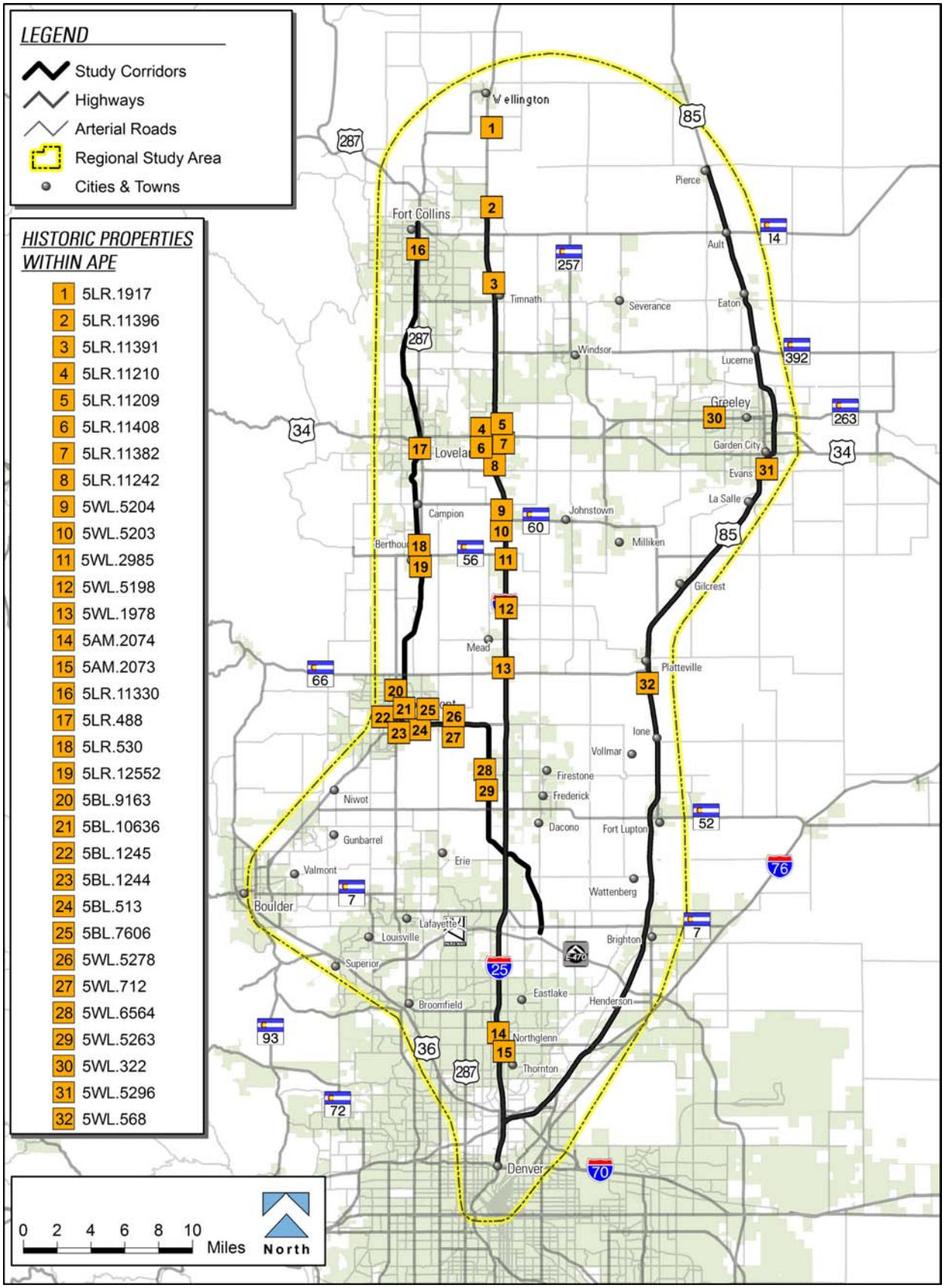


Figure 3.15-2 Linear Historical Resources within the Area of Potential Effect

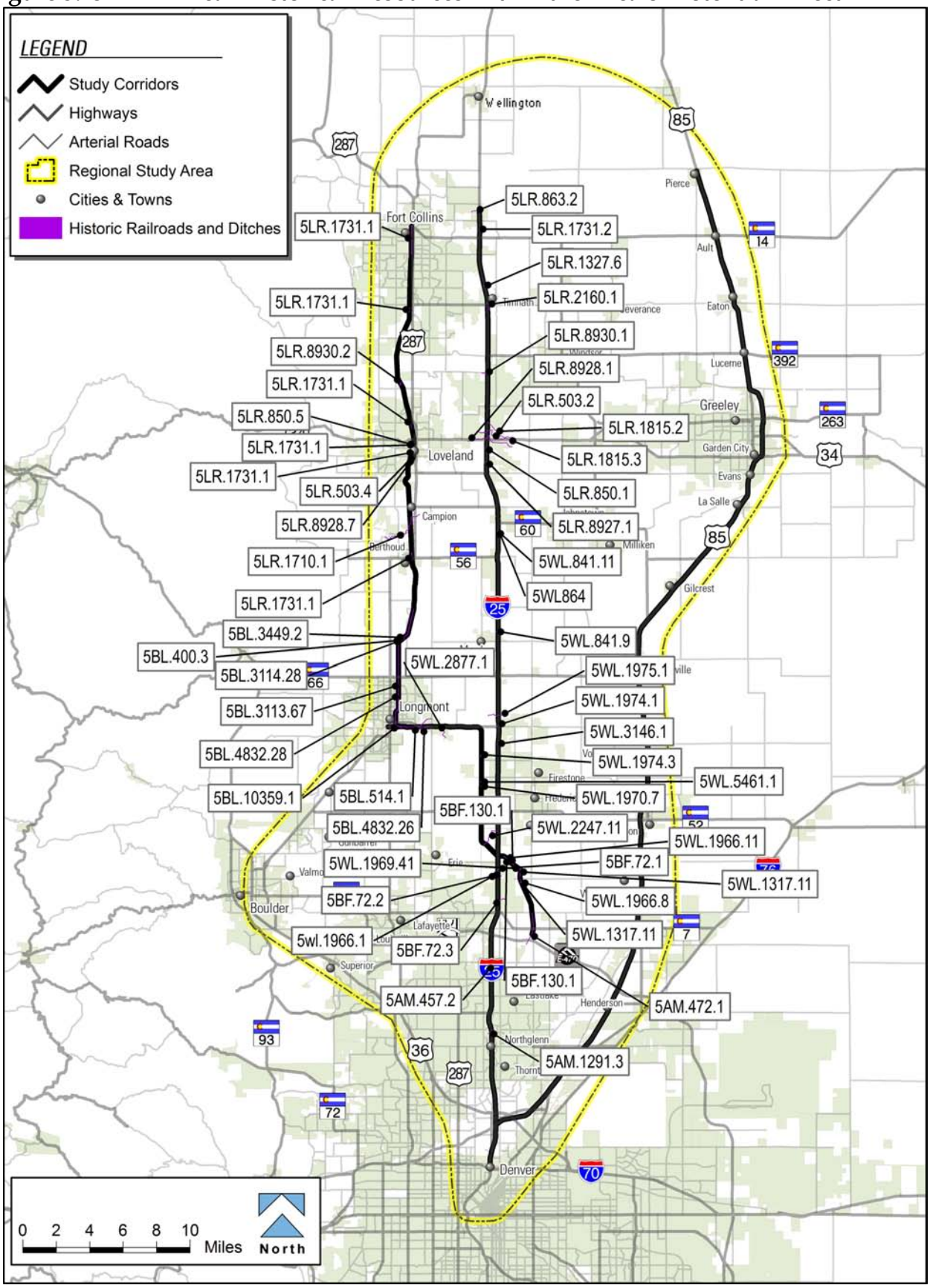


Table 3.15-1 NRHP Listed[a] or Eligible Historical Resources and Linear Historical Resource Segments Within the APE Tabulated from North to South by Corridor

Site #	Address	Name
I-25 Highway Corridor		
5LR. 1917	4320 E. County Rd. 58	Bee Farm
5LR.8932.1	T8N/R68W, SW1/4 Sec. 15	Larimer County Ditch
5LR.11396	1320 Northeast Frontage Road	Einarsen Farm
5LR.863.2	T7N/R68W, NE¼ Sec. 4	Larimer and Weld Canal
5LR.1731.2	T7N/R68W, EC Sec. 9	Colorado & Southern Railroad
5LR.11409.1	T7N/R68W, SE¼ Sec. 16	Cache La Poudre Reservoir Inlet
5LR.11391	4434 E. County Road 40	Gallatin Residence
5LR.1327.6	T7N/R68W, SW¼ Sec. 27	Colorado & Southern Railroad
5LR.2160.1	T7N/R68W, S½ Sec. 34	Boxelder Ditch
5LR.8930.1	T6N/R68W, N½ Sec. 27	Louden Ditch
5LR.1815.2	T5N/R68W, SE¼ Sec. 3	Union Pacific Railroad Fort Collins Branch
5LR.503.2	T5N/R68W, S½ Sec. 10	Loveland and Greeley Canal
5LR.8928.2	T5N/R68W, NW¼ Sec. 15	Farmers' Ditch (Farmers Irrigation Ditch)
5LR.8928.1	T5N/R68W, N½ Sec. 14-15	Farmers' Ditch
5LR.1815.3	T5N/R68W, SE¼ Sec. 11	Union Pacific Railroad Fort Collins Branch
5LR.11209	5464 E. Highway 34	Schmer Farm
5LR.11210	4856 E. Highway 34	McDonough Farm
5LR.850.1	T5N/R68W, C Sec. 15	Great Western Railway
5LR.11408		Zimmerman Grain Elevators
5LR.11382	640 Southeast Frontage Road	Hatch Farm
5LR.8927.1	T5N/R68W, N½ Sec. 22	Hillsboro Ditch
5LR.11242 [a]	5331 SH 402	Mountain View Farm
5WL.5204	3807 CR 48	Bashor Barn
5WL.5203	3766 CR 48	Bein Farm
5WL.3149.1	T4N/R68W, N1/2 Sec. 10	Handy/Home Supply Ditch Confluence
5WL.864	T4N/68W, WC Sec. 11	Great Western Railway Buda Siding
5WL.841.11	T4N/R68W, EC Sec. 10	Great Western Railway
5WL.2985[a]	E. I-25 Frontage Road at Little Thompson River	Little Thompson River Bridge No. C-17-BN
5WL.5198	17820 E. I-25 Frontage Road	Olson Farm
5WL.1978	3865 Highway 66	Rademacher/Hilgers Residence
5WL.841.9	T3N/R68W, EC Sec. 10	Great Western Railway
5WL.1975.1	T2N/R68W, NW¼ Sec. 2	Last Chance Ditch
5WL.1974.1	T2N/R68W, SW¼ Sec. 3	Rural Ditch
5WL.3146.1	T2N/R68W, NW¼ Sec. 14	Flume Ditch
5WL.1970.1	T2N/R68W, SE¼ Sec. 27	Lower Boulder Ditch
5WL.1966.1	T1N/R68W, SE¼ Sec. 22	Bull Canal/Standley Ditch
5BF.72.1	T1N/R68W, NW¼ Sec. 23	Bull Canal/Standley Ditch
5BF.72.2	T1N/R68W, SW¼ Sec. 23	Bull Canal/Standley Ditch
5BF.72.3	T1N/R68W, NE¼ Sec. 34	Bull Canal/Standley Ditch
5BF.76.2	T1S/R68W, NE¼ Sec. 3	Bull Canal
5AM.457.3	T1S/R68W, NE¼ Sec. 3	Bull Canal

Table 3.15-1 NRHP Listed[a] or Eligible Historical Resources and Linear Historical Resource Segments Within the APE Tabulated from North to South by Corridor (cont'd)

Site #	Address	Name
5AM.457.8	T1S/R68W, NE¼ Sec. 15	Bull Canal
5AM.457.2	T1S/R68W, N½ Sec. 22	Bull Canal
5AM.457.4	T1S/R68W, NW¼ Sec. 27	Bull Canal
5AM.1291.3	T2S/R68W, N½ Sec. 10	Farmers Highline Canal/Nivers Canal
5WL.322[a]	955 39th Avenue, Greeley	White—Plumb Farm
5AM.2074	Southeast corner I-25 and 112th Avenue	North Glenn Second Filing
5AM.2073	Northeast corner 1-25 and 104th Avenue	North Glenn First Filing
Commuter Rail Corridor		
5LR.1731.1	Larimer/Boulder County line north to Cherry Street in Fort Collins (eclipses 5LR1731.4, 5LR1731.7, and 5LR9888.1)	Colorado Central, Colorado & Southern/Burlington Northern & Santa Fe Railroad
5LR.11330[b]	128 Prospect St., Fort Collins	Public Service Company of Colorado — Fort Collins Substation
5LR.10819.2	T7N/R69W, N½ Sec. 26	Larimer County Canal No. 2
5LR.10681.1	T6N/R69W, NE¼ Sec. 2	New Mercer Ditch
5LR.8930.2	T6N/R69W, SW¼ Sec. 26	Louden Ditch
5LR.850.5		Great Western Railroad
5LR.488[a]	405-409 Railroad Ave., Loveland	Colorado and Southern Railway Depot / Loveland Depot
5LR.503.4	T5N/R69W, SW¼ Sec. 13	Loveland & Greeley Canal
5LR.1729.2	T5N/R69W, SE¼ Sec. 23	Big Thompson Ditch
5LR.1731.11	T5N/R69W, NW¼ Sec. 24	Colorado Central/Colorado & Southern/Burlington Northern & Santa Fe, Business Spur
5LR.8928.7	T5N/R69W, NW¼ Sec. 24	Farmers' Ditch
5LR.12552	205-207 S 1st St., Berthoud	Ludlow Brothers Property
5LR.1710.1	T4N/R69W, SE¼ Sec. 2	Handy Ditch
5BL.400.3	Larimer/Boulder County line south to Longmont	Colorado Central/Colorado & Southern Railroad/BN&SFRR
5BL.3449.2	T3N/R69W, SE¼ Sec. 11	Supply Ditch
5BL.3114.28	T3N/R69W, SE¼ Sec. 11	Highland Ditch
5BL.3113.67	T3N/R69W, NE¼ Sec. 27	Rough & Ready Ditch
5BL.4832.28	T3N/R69W, NE¼ Sec. 34	Oligarchy Ditch
5BL.9163	846 Atwood St. Longmont	Kitely House
5BL.10636[b]	122 8th Ave., Longmont	Boggs Residence
5BL.1245	103 Main Street, Longmont	Old City Electric Building
5BL.1244	100 Main Street, Longmont	Colorado & Southern /BNSF Depot
5BL.514.1	T2N/R69W, S1/2 Sec. 2	Great Western Railway
5BL.513	11939 to 11801 Sugarmill Road, Longmont	Great Western Sugar Plant
5BL.7606	1020 Sugar Mill Road	Novartis Seeds/Syngenta Seeds
5BL.4832.26	T2N/R69W, N1/2 Sec. 12	Oligarchy Ditch
5WL.5278	545 SH 119	William H. Dickens Farm
5WL.2877.2	T2N/R68W, NW1/4 Sec. 7	Union Reservoir Outlet Ditch/Coffin Spring Gulch Ditch
5WL.712[a]	T2N/R68W, NE1/4 Sec. 7	Sandstone Ranch
5WL.5461.1	T2N/R68W, NW1/4 Sec. 27	Boulder and Weld County Ditch
5WL.5263	7523 WCR 7	Hingley Farm
5WL.6564	2877 WCR 18, Longmont	Jillson Farm

Table 3.15-1 NRHP Listed[a] or Eligible Historical Resources and Linear Historical Resource Segments Within the APE Tabulated from North to South by Corridor (cont'd)

Site #	Address	Name
5WL.1970.7	T2N/R68W, W1/2 Sec. 27	Lower Boulder Ditch
5WL.2247.11	T1N/R68W, SW 1/4 Sec. 10	Community Ditch
5WL.1974.3	2N,R68W,SW ¼ Sec.15	Rural Ditch
5WL.1966.11	T1N/R68W, S1/2 Sec. 14	Bull Ditch segment of the Bull Canal/Standley Ditch
5WL.1317.11	T1N/R68W, NW1/4 Sec. 24	UPRR—Dent Branch
5WL.1969.41		Denver Pacific/Kansas Pacific/UPRR–Denver & Boulder Valley Branch
5WL.1966.8	T1N/R68W, NW1/4 Sec. 25	Bull Ditch segment of the Bull Canal/Standley Ditch
5WL.1969.1	T1N/R68W, SE¼ Sec. 15	Union Pacific Railroad, Denver & Boulder Valley Branch
5BF.130.1		Denver Pacific/Kansas Pacific/UPRR—Denver & Boulder Valley Branch
5AM.472.1	UPRR Segment within Adams County	UPRR–Dent Branch
5LR.530[a]	228 Museum Avenue, Berthoud	Bimson Blacksmith Shop/Little Thompson Valley Pioneer Museum
US 85 Corridor Queue Jumps		
5WL.5296	3611 Idaho Street, Evans	Flagstone Residence—Goetzel
5WL.568[a]	13412 US 85	Fort Vasquez

[a] Resources listed on the NRHP.
[b] SHPO concurrence pending.

Commuter Rail Corridor

The commuter rail corridor extends along the existing Burlington Northern Santa Fe (BNSF) railroad tracks from Fort Collins to Longmont. For Package A this includes a double-tracked commuter rail line using the existing BNSF railroad track plus one new track. From Longmont, a new double-tracked commuter rail line connects this point to the North Metro end-of-line station in Thornton. The new alignment trends eastward along SH 119 until WCR 7, and then continues on the west side of WCR 7 in a southward direction for about seven miles until it intersects with the existing abandoned UPRR tracks near Erie. For the Preferred Alternative the rail line will be largely single-track with passing tracks in four locations:

- Beginning at 6th Street in Loveland, continuing north to 0.04 mile south of West 57th Street in Loveland. (Length = 3.7 miles)
- Beginning 0.3 mile south of East CR 6c in Berthoud, continuing north to 0.4 mile north of WCR 14. (Length = 4.5 miles)
- Beginning in Longmont 0.05 mile west of Martin Street, continuing north along existing BNSF corridor to 19th Avenue. (Length = 2.3 miles)
- Beginning 0.6 mile west of I-25, continuing north along existing UPRR to 0.3 mile south of CR 20. (Length = 5.2 miles)

Additionally, a maintenance road has been included in the Preferred Alternative which would run parallel to the commuter rail line in areas where no other roadway access is available.

Intensive surveys were conducted of the historical resources within the APE. A total of 100 resources were surveyed or re-evaluated in this corridor, of which 35 have been determined eligible for the NRHP. These include two former power plants, two railroad depots, one sugar factory, one former blacksmith shop, one former ranch, one business, three farms, three residences, four railroads, and seventeen ditches. These historic properties are listed in **Table 3.15-1**

Queue Jumps Along US 34 and US 85

The queue jump improvements occur along two highways—US 85 from Platteville through Evans associated with the commuter bus and US 34 from State Highway (SH) 257 to US 85 for the bus rapid transit. A queue jump consists of a modification to an existing signal light to allow buses to proceed through an intersection ahead of regular traffic on a separately timed green light. A short right-turn/bus-only lane is striped onto the existing outside lane of the highway to facilitate this bus movement.

Surveys were conducted of the properties within the APE. A total of seven historical resources were surveyed or re-evaluated in these corridors, two of which are already listed on the NRHP. These historic properties are also listed in **Table 3.15-1**.

Stations and Maintenance Facilities

This project also includes potential sites for the locations of stations and maintenance facilities. The specific boundaries of these stations and maintenance facilities were provided. Most of the stations are on vacant land and no buildings would be affected. In cases where there are buildings older than 40 years on or adjacent to the station site, the historical buildings were surveyed and evaluated for NRHP eligibility.

A total of six historical resources were surveyed on or adjacent to the station locations, two of which have been determined NRHP-eligible. There were no structures on any of the proposed maintenance facility sites. These historic properties are listed in **Table 3.15-1**.

3.15.1.3 Archaeological Resources

North I-25 Corridor

This evaluation was conducted in accordance with the requirements of 36 CFR 800.4. Where right-of-entry was granted, an intensive pedestrian survey was conducted for all parcels within the APE. The North I-25 corridor surveys resulted in the recordation of 26 archaeological resources, including 22 isolated finds (IFs) and four sites. None of the isolated finds are eligible for the NRHP. The four sites identified as requiring additional data to assess their NRHP eligibility are listed in **Table 3.15-2**.

Table 3.15-2 Archaeological Resources Identified as Needing Data within the North I-25 APE Listed from North to South

Site #	Description	Evaluation
5LR11435	Site (M)—Lithic Scatter and Trash Scatter	Need Data
5LR11436	Site (P)—Open Lithic Scatter	Need Data
5WL5320	Site (P)—Open Lithic Scatter	Need Data
5AM1928	Site (P)—Open Lithic Scatter	Need Data

M…Multi-component P…Prehistoric

Two of these archaeological sites—site 5WL.5320 under all alternatives, and site 5AM.1928 under Package B and the Preferred Alternative—could be subject to direct impacts due to their proximity to the construction zones defined for each of the build packages. However, installation of retaining walls has been employed to avoid any impacts to these sites. All untested or "Needs Data" sites have been avoided, and therefore no further Section 106 actions are necessary.

Commuter Rail Corridor

Intensive pedestrian surveys of the length of the BNSF railroad track were conducted within the current right-of-way from Fort Collins to Longmont. From Longmont to FasTracks North Metro, an intensive pedestrian survey was conducted within the APE (300-foot-wide corridor) wherever right-of-entry was granted. No archaeological resources eligible for the NRHP were identified during surveys conducted within the rail corridor.

Queue Jumps Along US 85 and US 34

Where right-of-entry, was granted a pedestrian survey was conducted within the APE. Surveys of the properties within the APE yielded no prehistoric or historic archaeological resources. All of the proposed impact areas are heavily disturbed by the current highway right-of-way.

Station Site Alternatives for Commuter Bus, Commuter Rail, Express Bus and Bus Rapid Transit (BRT)

Where right-of-entry was granted, the station site alternatives for commuter bus, rail, and BRT were subjected to intensive pedestrian surveys. No prehistoric or historic archaeological resources were identified.

Operation and Maintenance Facilities

No right-of-entry was granted for proposed locations of operation and maintenance facilities. No archaeological surveys were conducted.

Results of Archaeological Resource Surveys

From all the archaeological resources that were surveyed for this project or that had previously been surveyed, only four have been determined to have potential to yield information important to prehistory. However, further subsurface testing is needed in order to evaluate the information contained by these sites and to make definitive evaluations of NRHP-eligibility. Test excavations at the sites will not be conducted under the auspices of this project since there will be no direct effects to any of these localities. Lands within the APE for which right-of-entry was not granted will be surveyed for archaeological resources at the time of final design and prior to construction.

3.15.2 Environmental Consequences

Cultural resource impacts were assessed for each of the project alternatives. The range of impacts may be direct or indirect and short-term or long-term. Direct impacts include the removal or modification of historic properties. Indirect impacts result from the project but are generally further removed in distance or may affect the setting for a historic property. Indirect impacts include visual, auditory, and atmospheric changes in the vicinity of an historic property

that affect the qualities that make the property or resource historic. For historic resources, most impacts would be long-term, but there can also be temporary impacts associated with construction of the transportation improvements.

The Advisory Council on Historic Preservation (ACHP) has developed regulations (36 CFR 800) to assist federal agencies in evaluating and mitigating the impacts of their undertakings on historic properties. Historic properties on or eligible for the NRHP are affected when the characteristics of a historic property are altered. The categories of impacts to historic resources are: No Historic Properties Affected, No Adverse Effect and Adverse Effect as defined in 36 CFR 800.5.

As part of the process, the SHPO and consulting parties reviewed the Section 106 determinations of eligibility and effects made by FHWA and the Federal Transit Administration (FTA). For the North I-25 EIS, review of the effects determinations is being done as a part of this EIS. If the Finding of Effect is that historic properties are adversely affected, then a Memorandum of Agreement (MOA) will be prepared. The MOA would set forth measures to mitigate the adverse effects and would be agreed upon by the project sponsor (FHWA, FTA, CDOT), SHPO and ACHP. Mitigation actions may include such measures as detailed archival recordation of adversely affected historic properties or development of historic interpretive signage.

3.15.2.1 Consequences of the Alternatives

This section describes the consequences of the No-Action Alternative and Packages A, B and the Preferred Alternative with regard to historic properties (NRHP-eligible or listed historical and archaeological sites). Throughout the following discussion, figures are only provided in cases when there are direct impacts to a resource from an alternative or in order to provide a more complete understanding of the proposed alternative as it relates to the resource. This discussion provides a basis for comparison of the alternatives.

Mitigation measures to address adverse impacts of the alternatives on this resource are discussed in **Section 3.15.3**.

All of the build options would entail short-term effects associated with construction of either package. Short term effects include dust from construction, noise and vibration associated with the construction, increases in roadway congestion and changes in the way people commute around the area.

3.15.2.2 No-Action Alternative

The No-Action Alternative would generally not affect historic properties. There would still be increasing traffic and congestion in this corridor. The present trend of conversion of many of the remaining historical farmsteads into residential, industrial and commercial development would also continue.

3.15.2.3 PACKAGES A, B, AND THE PREFERRED ALTERNATIVE HIGHWAY COMPONENTS

Direct and indirect effects to eligible historic properties, including supporting segments of NRHP-eligible linear resources, related to each highway component are described in this section. Some linear resources would be affected by both highway and transit components. In these cases, direct and indirect effects of both highway and transit components are described in this section to facilitate presentation of the effects on the resource as a whole.

SH 1 TO SH 14

5LR.1917 (Bee Farm)

Resource Description: This property is located on the east side of I-25, approximately two miles south of Wellington. The Bee Farm is significant for its long association with the development of agriculture in Larimer County and the high plains of Colorado and for its important role in early pioneer settlement of the Boxelder valley. It is also significant for its architecture and construction techniques which represent those used by early farmers with limited resources and materials. It contains a collection of farm structures in their original historic context representing over a century of agriculture.

Eligibility Determination: The Bee Farm was listed on the National Register of Historic Places on November 25, 2002. It was listed as significant under Criteria A and C. It was designated a Colorado Centennial Farm in 1994.

Effects Determination – Package A: Under Package A all transportation improvements would take place within the existing right-of-way adjacent to the Bee Farm resulting in no direct impacts to the Bee Farm. Indirect impacts would be a temporary increase in dust and noise during construction. Package A improvements would not diminish the agricultural or architectural qualities for which the property has been listed on the NRHP. Therefore, FHWA, FTA and CDOT have determined that Package A improvements would result in *no historic properties affected* with respect to the Bee Farm.

Effects Determination – Package B: Under Package B all transportation improvements and resulting direct and indirect impacts would be similar to Package A. Package B improvements would not diminish the agricultural or architectural qualities for which the property has been listed on the NRHP. FHWA, FTA and CDOT have determined that Package B improvements would result in *no historic properties affected* with respect to the Bee Farm.

Effects Determination – Preferred Alternative: Under the Preferred Alternative all transportation improvements would take place within the existing right-of-way adjacent to the Bee Farm resulting in no direct impacts to the Bee Farm. Indirect impacts would be a temporary increase in dust and noise during construction. The Preferred Alternative improvements would not diminish the agricultural or architectural qualities for which the property has been listed on the NRHP. Therefore, FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no historic properties affected* with respect to the Bee Farm.

5LR.8932.1 (Larimer County Ditch)

Resource Description: The Larimer County Ditch crosses I-25 approximately 900 feet north of Larimer County Road (CR) 56, south of the town of Wellington. The open ditch crosses underneath I-25 and the east frontage road inside two concrete culverts. The earthen ditch segment is approximately 20 feet wide with grassy levees, and traverses rural terrain.

Eligibility Determination: In 2001 the Larimer County Ditch (5LR.8932) was determined to be eligible for NRHP. Segment 5LR.8932.1 does not support the eligibility of the greater ditch resource due to past modifications to its structure at the culvert crossings underneath I-25 and the existing east frontage road.

Effects Determination – Package A: Package A improvements include a wider frontage road along the existing alignment parallel to the southbound I-25 mainline, requiring a 38-foot-long culvert extension to the west side of the existing 35-foot-long culvert. A new 40-foot-wide frontage road would be built parallel to the east side of the northbound I-25 mainline, requiring a new concrete box culvert (CBC) crossing of the ditch at that location. The new culvert would place 45 feet of open ditch within a concrete culvert. The length of open ditch placed inside new culvert extensions would total 83 feet. There would be no mainline I-25 improvements in this area (see **Figure 3.15-3**).

Because the qualities that make the entire resource NRHP-eligible have already been compromised by modifications associated with construction of I-25 and the frontage road and Package A improvements are minor in relative extent, FHWA, FTA and CDOT therefore has determined that Package A would result in *no adverse effect* to the Larimer County Ditch.

Effects Determination – Package B: Package B improvements include the same impacts as Package A. Because the qualities that make the entire resource NRHP-eligible have already been compromised by modifications associated with construction of the I-25 and frontage road and Package B improvements are minor in relative extent, FHWA, FTA AND CDOT therefore has determined that Package B would result in *no adverse effect* to the Larimer County Ditch (see **Figure 3.15-3**).

Effects Determination – Preferred Alternative: Preferred Alternative improvements include a wider frontage road along the west side of the existing alignment parallel to the southbound I-25 mainline and a new 40-foot-wide frontage road parallel to the east side of the northbound I-25 mainline. The Preferred Alternative also includes one new travel lane and a buffer separated TEL in each direction. The overall footprint for improvements has been reduced from Packages A and B as a result of moving the additional highway lanes to the center median as opposed to outside the existing highway footprint. The resulting impact to this resource is the addition of a 25-foot-long culvert extension to the west side and a 30-foot-long culvert extension on the east side of the existing 35-foot-long culvert under I-25. The length of open ditch placed inside new culvert extensions would total 55 feet (see **Figure 3.15-4**).

Because the qualities that make the entire resource NRHP-eligible have already been compromised by modifications associated with construction of I-25 and the frontage road and Preferred Alternative improvements are minor in relative extent, FHWA, FTA and CDOT therefore has determined that the Preferred Alternative would result in *no adverse effect* to the Larimer County Ditch.

Figure 3.15-3 5LR.8932.1 (Larimer County Ditch)—Packages A and B

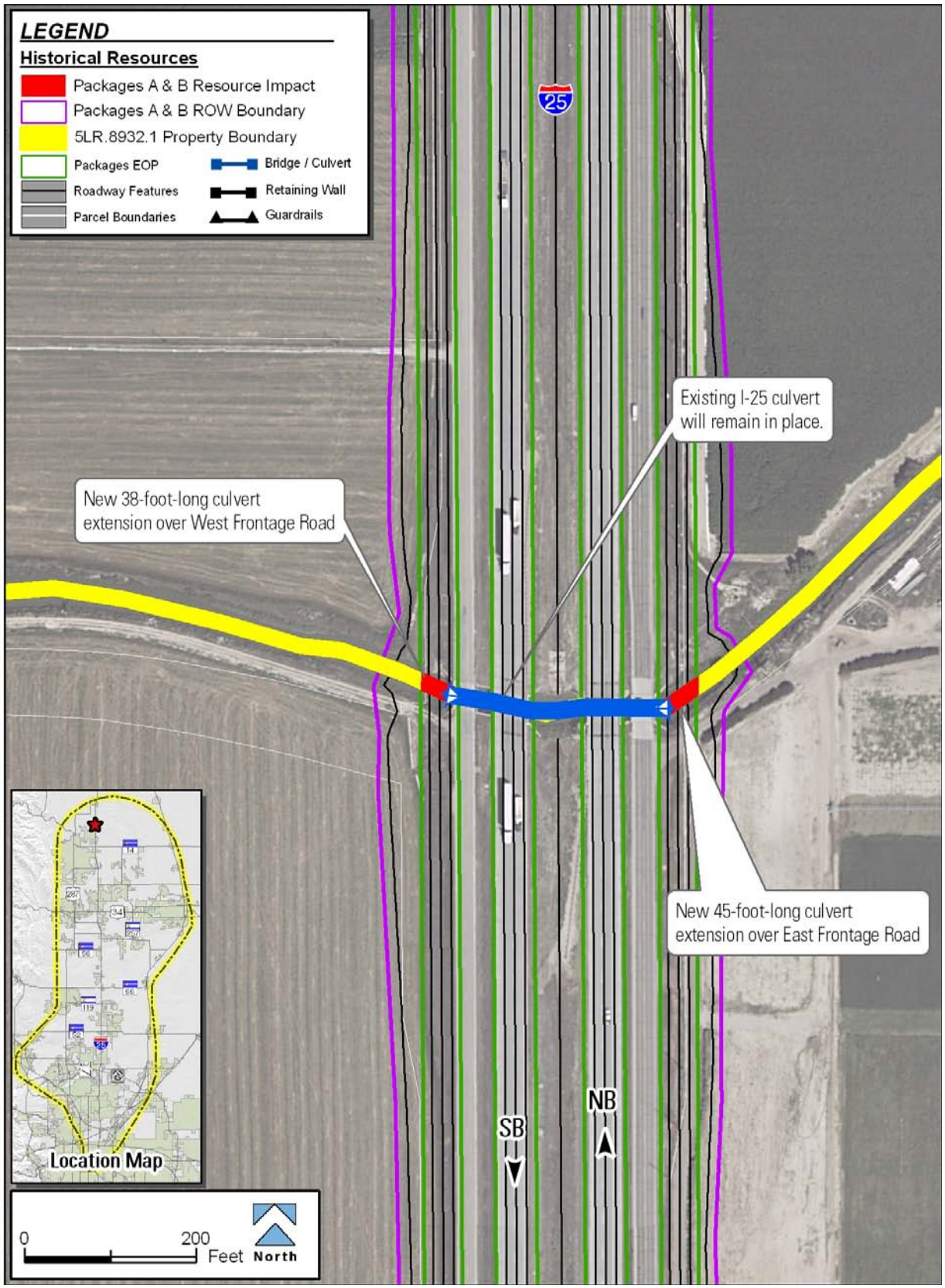
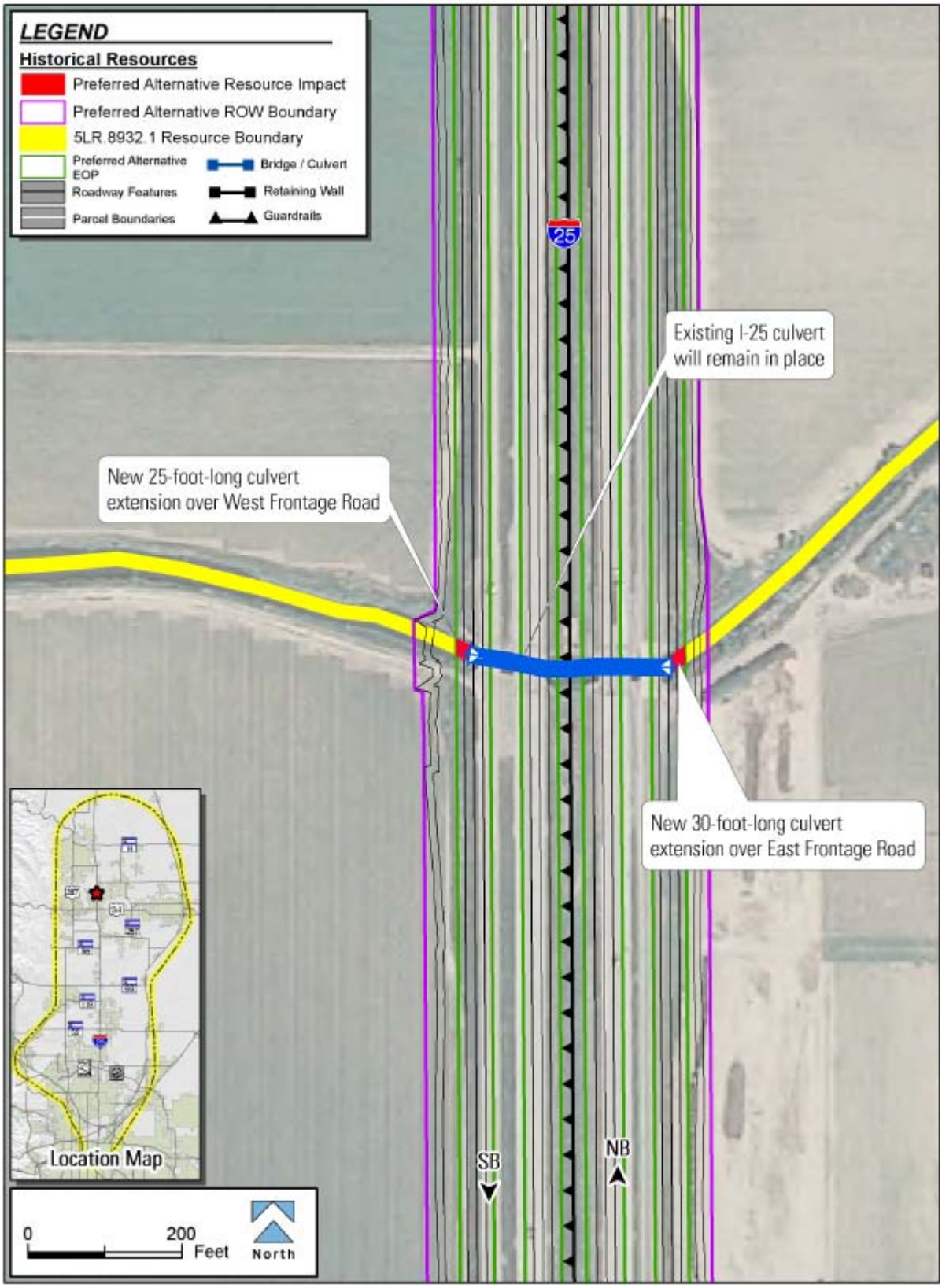


Figure 3.15-4 LR.8932.1 (Larimer County Ditch) – Preferred Alternative



5LR.11396 (Einarsen Farm)

Resource Description: The historic Einarsen Farm (5LR.11396) is located in the project APE on the east side of I-25 at 1320 Northeast Frontage Road. The farm, which was established in 1890, contains an intact barn and hipped roof cottage-style farmhouse.

Eligibility Determination: Based on its association with 19th century Larimer County agriculture and the good integrity of the farm structures built during the period of significance (1880s-1940s), this farm has been determined to be eligible for listing on the NRHP under Criteria A and C.

Effect Determination – Package A: In this location, the existing configuration of two general purpose lanes in each direction would be maintained, although the northbound and southbound roadways and the east frontage road would be widened to improve shoulders. Under Package A, a narrow sliver of land extending north from East Vine Drive would be permanently incorporated into the transportation right-of-way. This acquired right-of-way would allow construction of wider roadway shoulders and would permanently bury open farmland along the southwestern edge of this historic farm property under fill slopes associated with the wider frontage road. This strip of land measures approximately 1,600 feet in length, and 50 feet at its widest extent near the East Vine Drive intersection tapering down to the northernmost point near the ranch access road. The impacted area is along the edge of a cultivated field and contains 1.76 acres and constitutes less than 1 percent of the total area of the 220 acres within the historic boundary. No historical buildings are near the proposed improvements (see **Figure 3.15-5**).

The historical farm setting was permanently altered in the 1960s by initial construction of I-25 and introduction of the highway and associated traffic noise. Currently, the farmhouse is located 80 feet from the east edge of the existing frontage road. With the Package A improvements, the farmhouse would be 70 feet away from the east edge of the frontage road. Noise levels associated with increased Package A traffic levels on I-25 and frontage road would result in a two decibel increase over existing conditions. This noise increase is barely perceptible. The changes to the local terrain are minimal and there are no highway features introduced by the proposed improvements that would indirectly affect the historic farm or visual context of the farm. Changes in noise and physical setting and atmosphere are not expected to diminish the function, character, feel, or attributes that render the farm or farm buildings and farmhouse NRHP-eligible.

A temporary construction easement could be necessary along the western edge of the property for haul roads, construction access, and staging areas to facilitate roadway widening and slope building. No permanent impacts would be anticipated from this use of the farmland property, and no farm structures would be affected. Construction related noise generated by construction equipment and trucks would be temporary in nature, and would not permanently affect the atmosphere of the farm setting. Thus indirect effects caused by temporary construction activities would occur, but would not be expected to significantly diminish the function, character, or attributes that render the farm, farm structures and farmhouse NRHP-eligible.

Due to the small amount of farmland directly impacted, its proximity to the existing non-historic frontage road, and the fact that no historic farm buildings are located in this vicinity, FHWA, FTA and CDOT have determined that Package A would result in *no adverse effect* to the Einarsen Farm.

Effect Determination – Package B: Direct impacts to this historical farm under Package B are very similar in nature and extent to those anticipated under Package A. A slightly shorter segment of the east frontage road would be realigned and widened. The acquired right-of-way to allow construction of wider roadway shoulders would permanently bury open farmland along the southwestern edge of this historical farm property under fill slopes associated with the wider frontage road. The impacted strip of land measures approximately 1,600 feet in length, and 50 feet at its widest extent near the East Vine Drive intersection tapering to 0 feet wide at the northernmost point. The impacted 1.76 acres are located along the edge of a cultivated field and constitutes less than 1 percent of the total area of the 220 acres within the historic boundary. No historical buildings are near the proposed improvements (see **Figure 3.15-5**).

Noise levels associated with increased traffic levels on I-25 would result in a three decibel increase over existing conditions. While one decibel louder than noise expected with Package A, this increase is still in the barely perceptible range. The changes to the local terrain are minimal and there are no highway features introduced by the proposed improvements that would indirectly affect the visual context of the farm. Changes in noise and physical setting and atmosphere are not expected to diminish the function, character, feel, or attributes that render the farm, farm structures and farmhouse NRHP-eligible. Indirect effects due to temporary construction activities would be the same as for Package A.

Due to the small amount of farmland impacted, its proximity to the existing non-historic frontage road, and the fact that no historical farm buildings are located in this vicinity, FHWA, FTA and CDOT have determined that Package B would result in *no adverse effect* to the Einarsen Farm.

Effect Determination – Preferred Alternative: The Preferred Alternative would add one general purpose lane and one TEL in each direction. A narrow sliver of land extending along and north from East Vine Drive would be permanently incorporated into the transportation right-of-way to accommodate these improvements and construct wider shoulders along the eastern frontage road. This acquired right-of-way would permanently bury open farmland along the southwestern edge of this historic farm property under fill slopes associated with the wider frontage road and at the intersection with East Vine Drive. The impacted area is along the edge of a cultivated field and contains 1.90 acres and constitutes less than 1 percent of the total area of the 220 acres within the historic boundary. No historical buildings are near the proposed improvements (see **Figure 3.15-6**).

With the Preferred Alternative improvements, the farmhouse would be 70 feet away from the east edge of the frontage road as opposed to the 80 feet away it currently sits. Noise levels associated with increased traffic levels on I-25 and the frontage road would result in a two-decibel increase over existing conditions. This noise increase is barely perceptible. The changes to the local terrain are minimal and there are no highway features introduced by the proposed improvements that would indirectly affect the historic farm or visual context of the farm. Changes in noise and physical setting and atmosphere are not expected to diminish the function, character, feel, or attributes that render the farm or farm buildings and farmhouse NRHP-eligible.

A temporary construction easement could be necessary along the western edge of the property for haul roads, construction access, and staging areas to facilitate roadway widening and slope building. No permanent impacts would be anticipated from this use of the farmland property, and no farm structures would be affected. Construction related noise generated by construction equipment and trucks would be temporary in nature, and would not permanently affect the atmosphere of the farm setting. Thus indirect effects caused by temporary construction activities would occur, but would not be expected to significantly diminish the function, character, or attributes that render the farm, farm structures and farmhouse NRHP-eligible.

Due to the small amount of farmland impacted, its proximity to the existing non-historic frontage road, and the fact that no historical farm buildings are located in this vicinity, FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no adverse effect* to the Einarsen Farm.

Figure 3.15-5 5LR.11396 (Einarsen Farm) – Packages A and B

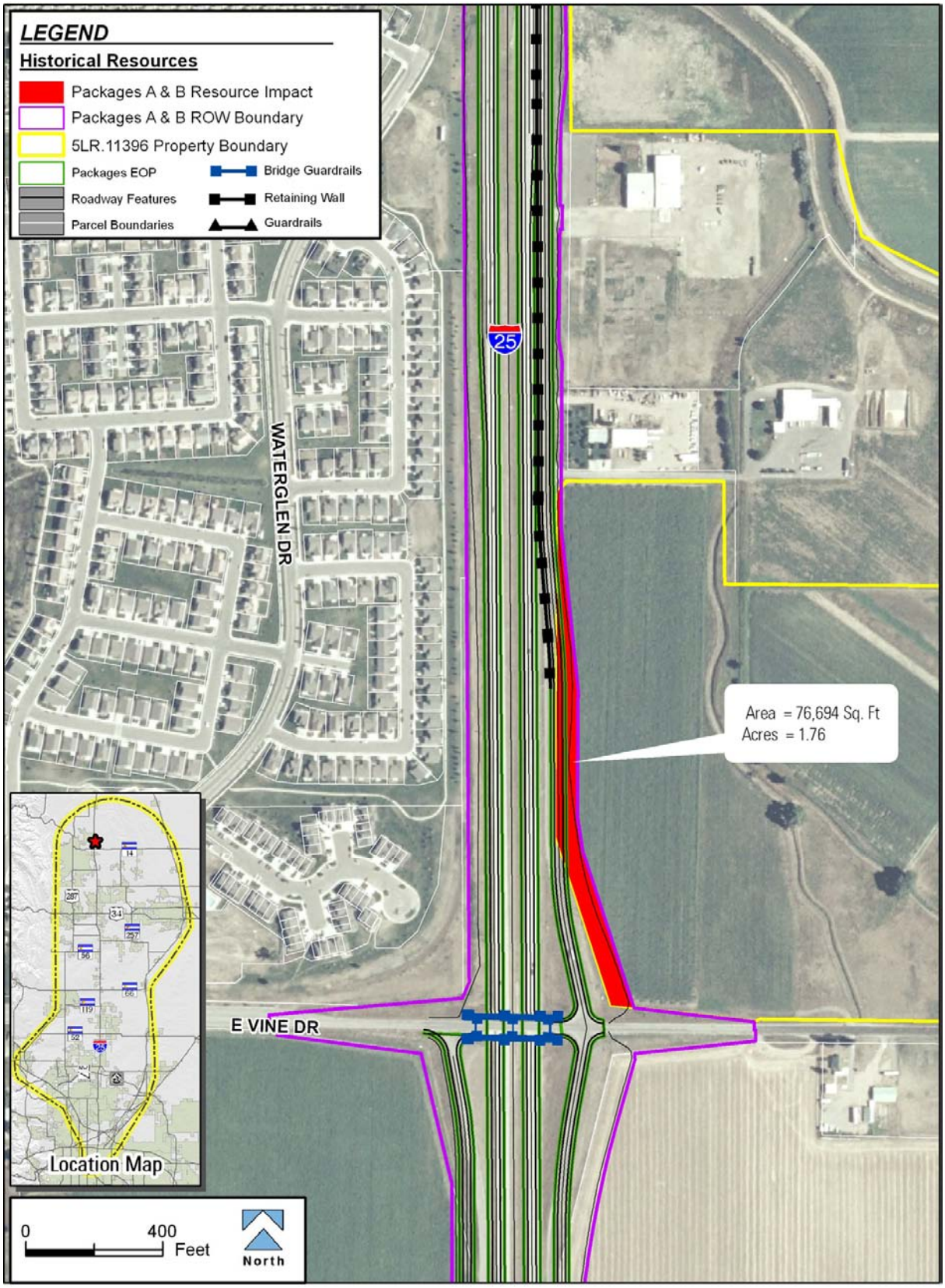
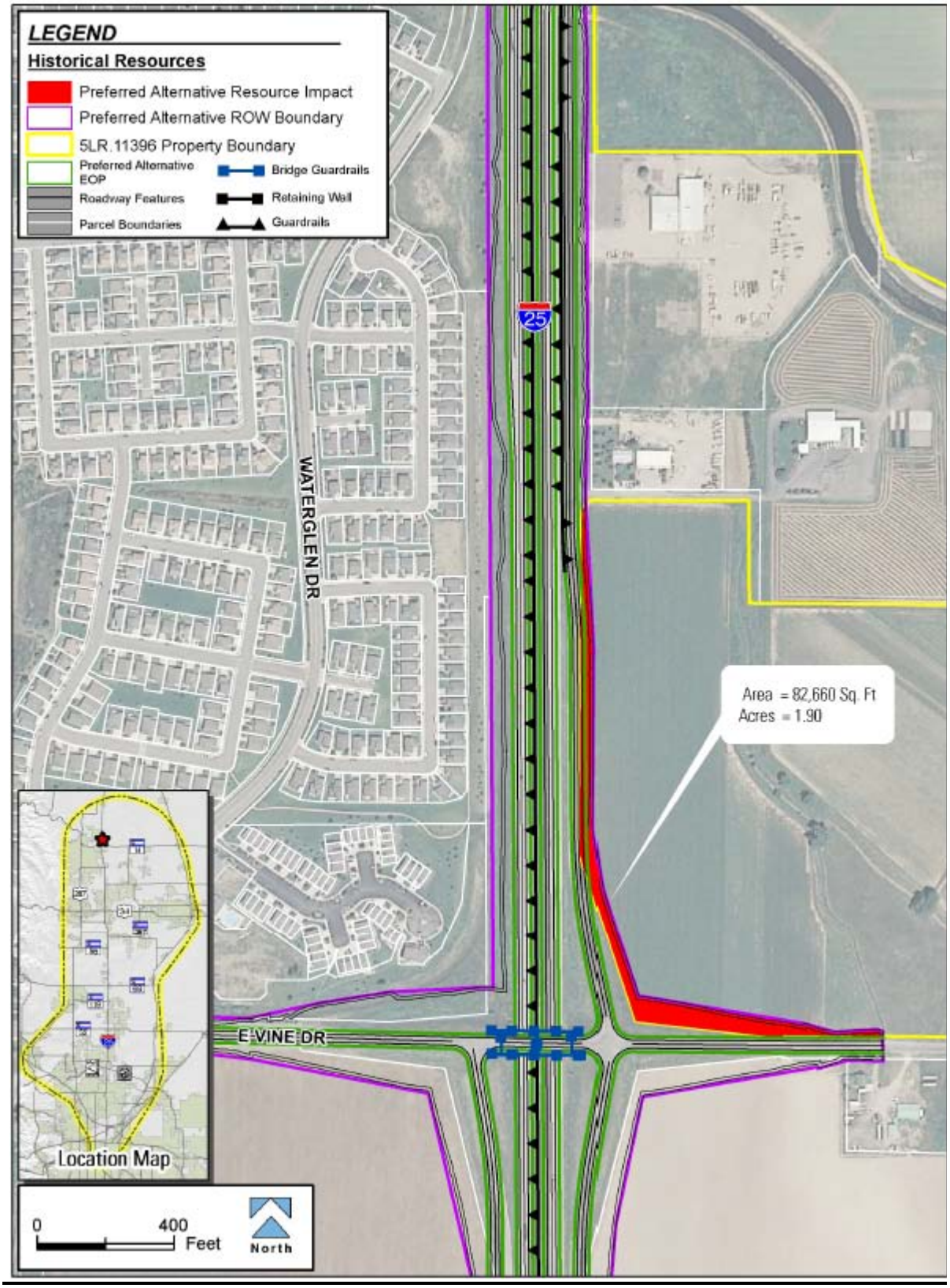


Figure 3.15-6 LR.11396 (Einarsen Farm) – Preferred Alternative



5LR.863.2 (Larimer and Weld Canal)

Resource Description: This segment of the Larimer and Weld Canal generally runs perpendicular to I-25 and crosses both the highway and the frontage road. The canal was originally built between 1878 and 1881. The canal is approximately 30 feet in width. The portion of the canal that crosses under the highway was altered when the highway was constructed in the 1960s. The entire canal is approximately 45 miles long. The segment in the project APE (5LR.863.2) is 3,782 feet long. The levees along both banks of the canal are grassy and in many areas lined with coarse stone riprap. The surrounding area includes agricultural and residential development.

Eligibility Determination: The entire canal is eligible for the NRHP under Criterion A for its important association with the development of water rights and agriculture in Larimer and Weld Counties. The segment (5LR.863.2) within the project APE retains sufficient integrity of location, setting, feeling, and use to support the eligibility of the entire linear resource.

Effect Determination – Package A: Currently, 3 bridges span the canal, carrying multiple lanes of northbound and southbound I-25, and the east frontage road. Each of these roadways would be widened to add wider shoulders and new acceleration and deceleration lanes associated with the Mountain Vista Drive interchange ramps. To accommodate the proposed improvements under Package A, the existing northbound 48-foot-long, rolled I-beam composite bridge improvements over the canal would be widened by 25 feet from its current 38-foot-width. The existing southbound bridge is identical to the northbound bridge and would be widened by 20 feet. The existing east frontage road bridge is a 48-foot-long, 24-foot-wide concrete slab and girder bridge over the canal. It would be widened by 12 feet. All highway and frontage road widening would be supported on top of the new bridge structures. New bridge piers and abutments used to support the widened bridge deck would be placed outside the historic boundary of the canal and would therefore not result in direct impacts (see **Figure 3.15-7**).

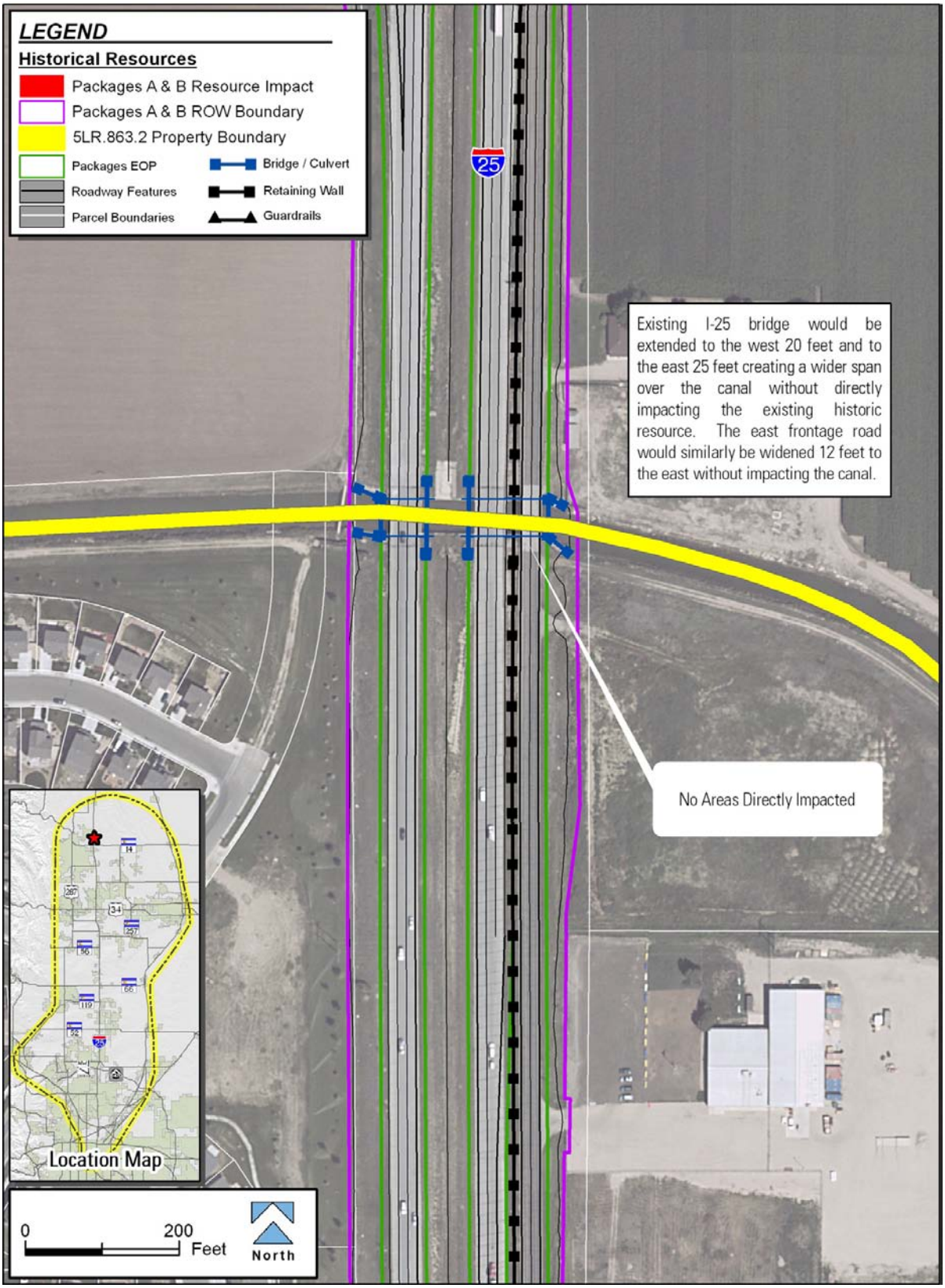
The widened bridges would increase the amount of open canal located underneath the bridge deck. This increased overhead cover due to increased bridge deck area would be an indirect effect to the historic setting of the canal, however; this would not alter the qualities that render this ditch segment NRHP-eligible.

Installation of the new bridge piers and deck structures would likely require a temporary use within the boundary of the historic property for equipment access and minor construction activities. The canal would remain operational and irrigation water would be protected from all encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

No direct impacts to the resource would occur as a result of these improvements. Indirect effects to the canal would not diminish the function, alignment, attributes, or setting that render the canal NRHP-eligible. FHWA, FTA and CDOT therefore have determined that Package A would result in *no adverse effect* to the Larimer and Weld Canal.

Effect Determination – Package B: Impacts are identical to Package A. FHWA, FTA and CDOT have determined that Package B would also result in *no adverse effect* to the Larimer and Weld Canal (see **Figure 3.15-7**).

Figure 3.15-7 5LR.863.2 (Larimer and Weld Canal) – Packages A and B



Effect Determination – Preferred Alternative: Impacts are identical to Package A. FHWA, FTA and CDOT have determined that the Preferred Alternative would also result in *no adverse effect* to the Larimer and Weld Canal (see **Figure 3.15-8**).

5LR.1731, 5LR.1327, 5BL.400 (Colorado & Southern Railroad)

Resource Description: Multiple segments of the Colorado & Southern (C&S) Railroad in Larimer and Boulder counties are located within the APE of the potential highway package improvements. Several different site numbers have been assigned to this rail line, but they all refer to the same overall resource (see **Figure 3.15-9**).

The northernmost railroad segment affected by highway improvements is segment 5LR.1731.2, an 836-foot-long segment of the historic C&S Black Hollow Branch that runs eastward from Black Hollow Junction, which is located northeast of the Downtown Fort Collins Airpark, to Black Hollow in Weld County. It was built in 1906 by the Colorado Railroad Company, a subsidiary of C&S and then absorbed by C&S in 1930. The C&S was dissolved in 1981 and the tracks taken over by Burlington Northern, which in 1995 became the BNSF. The total length of the C&S Black Hollow Branch is 9 miles. The I-25 alignment crosses the C&S alignment just northwest of the SH 14 interchange. The bridges that carry I-25 over the railroad were built during construction of I-25 in the 1960s.

The second affected segment (5LR.1327.6) is a 1,661-foot-long railroad segment originally built in 1882 as part of the Greeley, Salt Lake, & Pacific Railroad. In 1899, the rail line became part of the C&S. The segment is part of an approximately 13 mile-long link that extends diagonally from Fort Collins to Greeley. I-25 crosses this segment of the C&S alignment just south of the SH 14 interchange. The bridge that carries the highway over the railroad was built during construction of I-25 in the 1960s.

The third segment of the C&S line (5LR1731.11) in the APE is also known as the Colorado Central(CC)/C&S/BNSF Business Spur. The spur is a commercial access spur line running north from the mainline BNSF RR just south of West 1st Street in Loveland. This disused spur is 262 feet long, retains rail and ties, and includes a wooden trestle bridge (5LR.1731.11.mm6028) over the Farmers Irrigation Ditch (5LR8928.7). The bridge is in a deteriorated state.

The Larimer County segment 5LR.1731.1 and the Boulder County segment 5BL.400.3 represent the southernmost Colorado Central/Colorado & Southern Railroad/Burlington Northern & Santa Fe Railroad segments in the APE. Segment 5LR.1731.1 runs 7.8 miles south from the Larimer County line to South Pratt Parkway in Longmont. These segments were built in 1877 and have been in constant service for 130 years. The CC/C&S/BNSF runs 23.4 miles generally south from Cherry Street in Fort Collins to the Boulder County line. The entire CC/C&S/BNSF rail line in Boulder County is 33.8 miles long.

Eligibility Determination: The entire C&S railroad (5LR.1731, 5LR.1327, 5BL.400) is eligible under NRHP Criterion A for its association with the development of railway transportation. Railway transportation was critically important to the settlement and economic development of Colorado. Segments 5LR.1731.2, 5LR.327.6 and 5LR.1731.1 of the railway retain integrity of the original location, design, and function, and collectively support the eligibility of the entire linear resource. Segment 5LR1731.11 has been heavily modified and due to this loss of integrity no longer supports the eligibility of the entire railroad.

Figure 3.15-8 5LR.863.2 (Larimer and Weld Canal) – Preferred Alternative

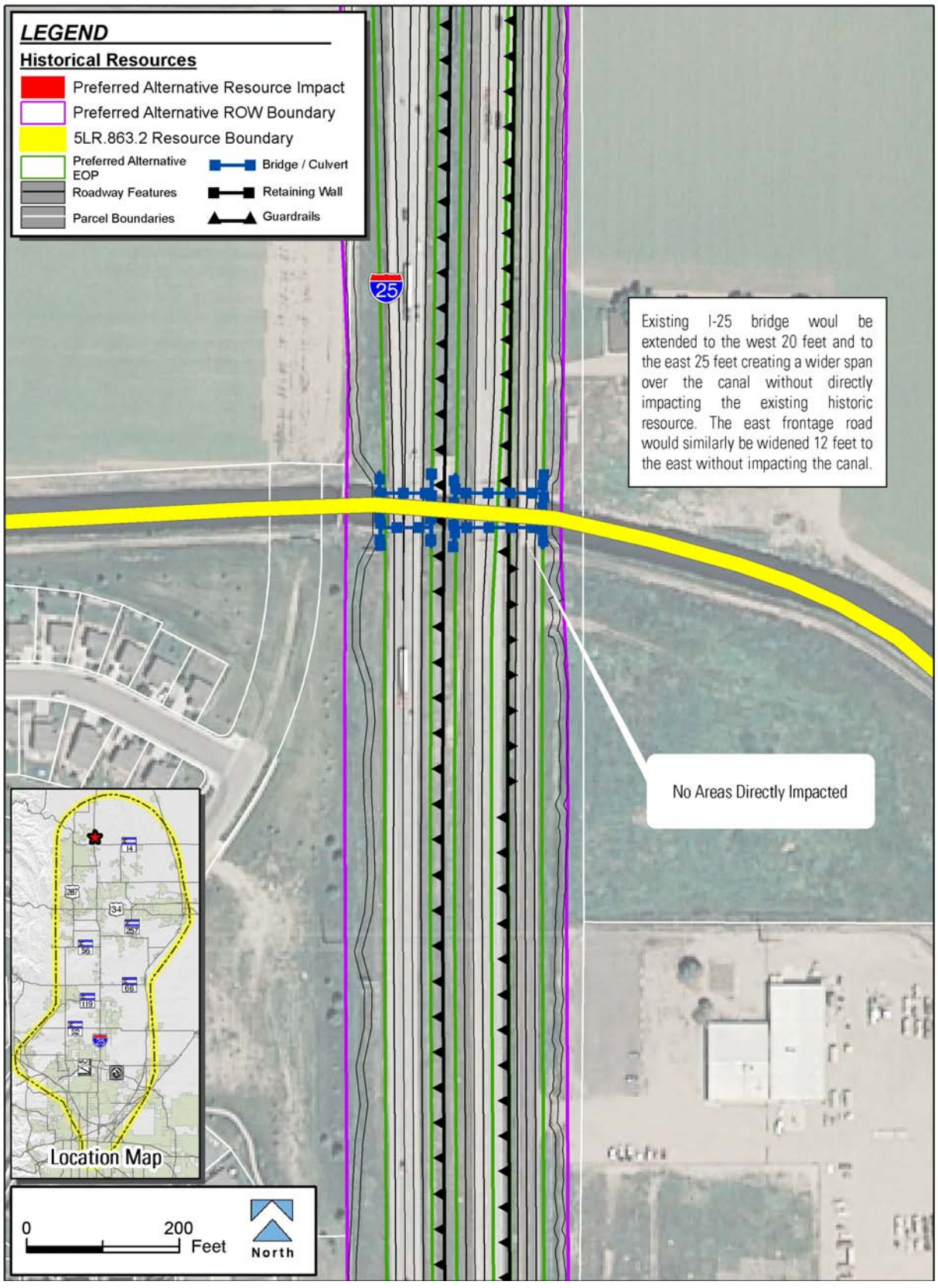
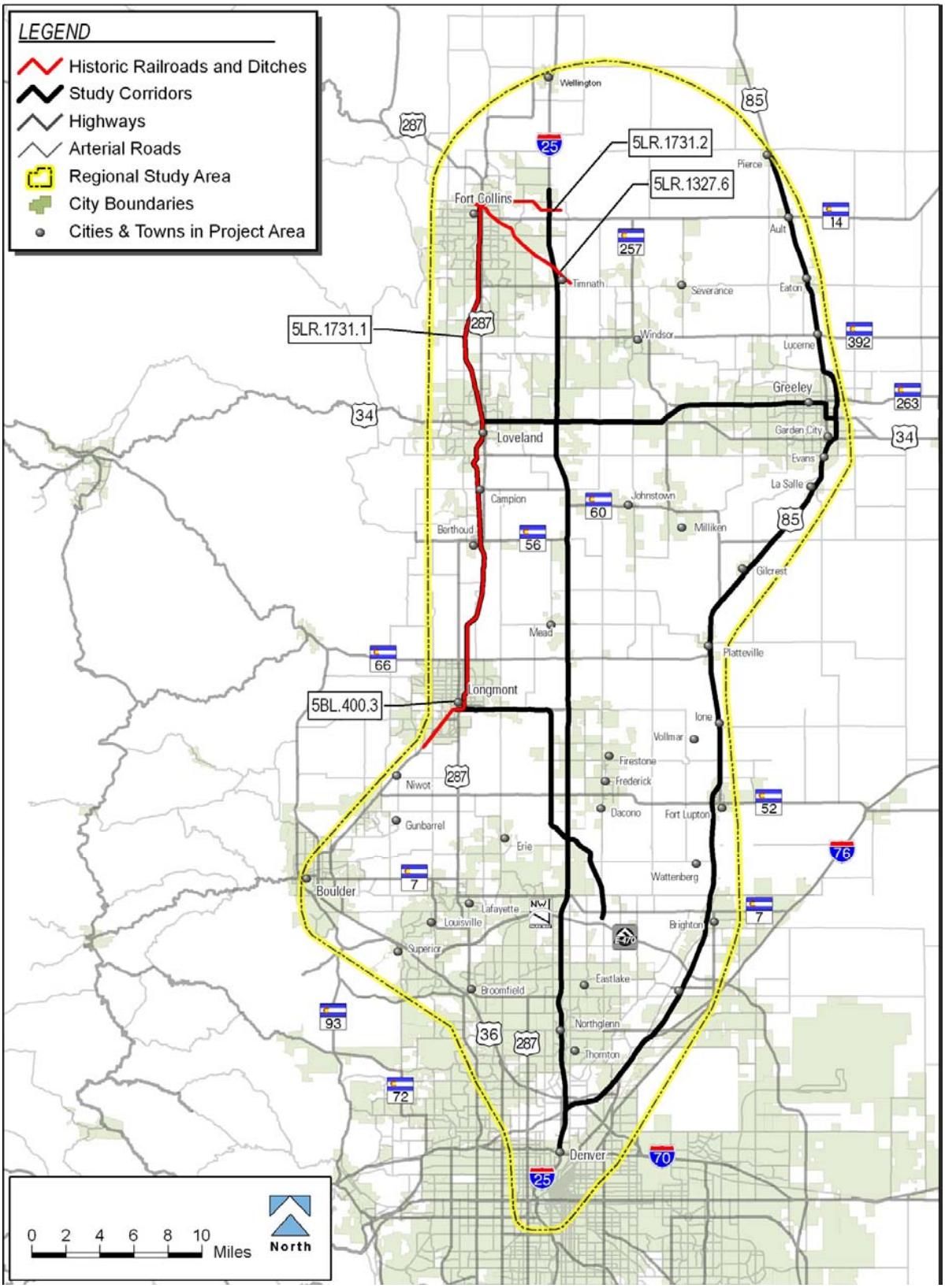


Figure 3.15-9 5LR.1731, 5LR.1327, 5BL.400 (Colorado & Southern Railroad) Segments Intersecting Project APE



Effect Determination:

In order to determine the effect to the entire linear resource, impacts to each of the segments passing through the project APE were assessed. These impact assessments are presented below, followed by a determination of effect to the entire C&S Railroad in Larimer and Boulder counties.

Impacts to segment 5LR.1731.2 – Package A: I-25 is currently carried over this historic railroad by two parallel, 125-foot-long, 38-foot-wide welded girder composite bridges for the northbound and southbound traffic lanes. The existing bridges result in a combined 76 feet of overhead railroad coverage. The existing east and west frontage roads are provided with at-grade railroad crossings. Package A in this location consists of a transition area from three general purpose lanes in each direction on the south to two general purpose lanes in each direction on the north. The northbound I-25 roadway would be widened to the east of the existing roadway edge, while the southbound roadway would be widened to the west of the existing roadway edge. Wider bridge structures would replace the existing bridges to accommodate the larger roadway template. These new bridges would each be 79 feet long and 63 feet wide, constructed as pre-stressed concrete girder type structures. Due to their wider dimensions, an additional 50 feet of railroad would be covered by the two new highway bridges. The frontage roads would remain in their current locations and would be maintained in their existing at-grade railroad crossing configurations (see **Figure 3.15-10**).

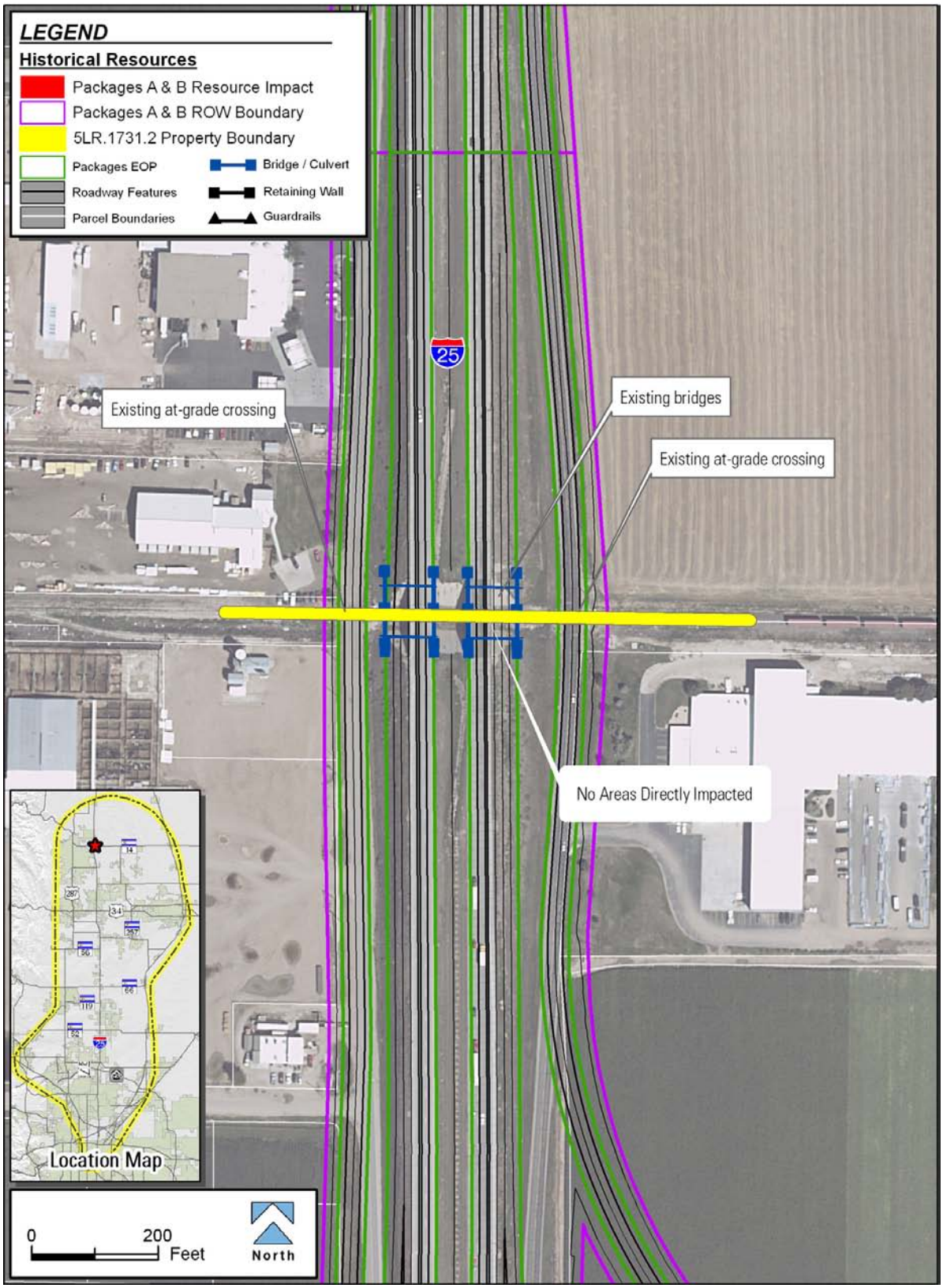
The alignment and operation of the railroad would not be changed. The entire widened I-25 roadway would continue to be carried over the historic railway on top of the new bridge structures. The new bridges would be supported by piers placed outside the historic rail corridor boundary (railroad right-of-way) resulting in no direct impacts to the historic railway.

Installation of the new bridge piers and deck structures would likely require a temporary construction easement on the historic property for equipment access and minor construction activities. The railway would remain operational and would be protected from all encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

The widened bridges would increase the amount of railway located underneath the bridge deck by 50 feet. This increased overhead cover due to a wider bridge deck would be an indirect effect to the historic setting of the railway; however, this minor impact would not diminish the qualities that render this railway segment NRHP-eligible.

No direct impacts would occur. The proposed transportation improvements associated with Package A would not substantially diminish or alter characteristics that render the property eligible for the NRHP.

Figure 3.15-10 5LR.1731.2 (Colorado & Southern Railroad, Black Hollow Branch) — Packages A and B



Impacts to segment 5LR.1731.2 – Package B: The changes associated with Package B at this location are similar in character to those associated with Package A. In the vicinity of the historic railroad, Package B consists of a transition area from two general purpose lanes plus a buffer-separated managed lane in each direction to a section containing only two general purpose lanes in each direction. The northbound roadway would be widened to the east of the existing roadway edge, while the southbound roadway would be widened to the west of the existing roadway edge. Wider northbound and southbound bridge structures would be required to accommodate the larger roadway template. These new bridges would each be 79 feet long and 63 feet wide, constructed as pre-stressed concrete girder type structures. The frontage roads would remain in their current locations and at-grade crossings would be maintained in their current configurations (see **Figure 3.15-10**).

The alignment and operation of the railroad would not be changed. The entire widened I-25 roadway would continue to be carried over the historic railway on top of the new bridge structures. The new bridges would be supported by piers placed outside the historic rail corridor boundary (railroad right-of-way) resulting in no direct impacts to the historic railway.

The widened bridges would increase the amount of railway located underneath the bridge deck. This increased overhead cover due to a wider bridge deck would be an indirect effect to the historic setting of the railway; but would not alter the property's historic function or alignment, nor diminish the character or attributes that render the railway NRHP-eligible. Construction access across the railway property may be required for installation of new bridge piers. This temporary direct impact would not diminish qualities that render the railway NRHP-eligible.

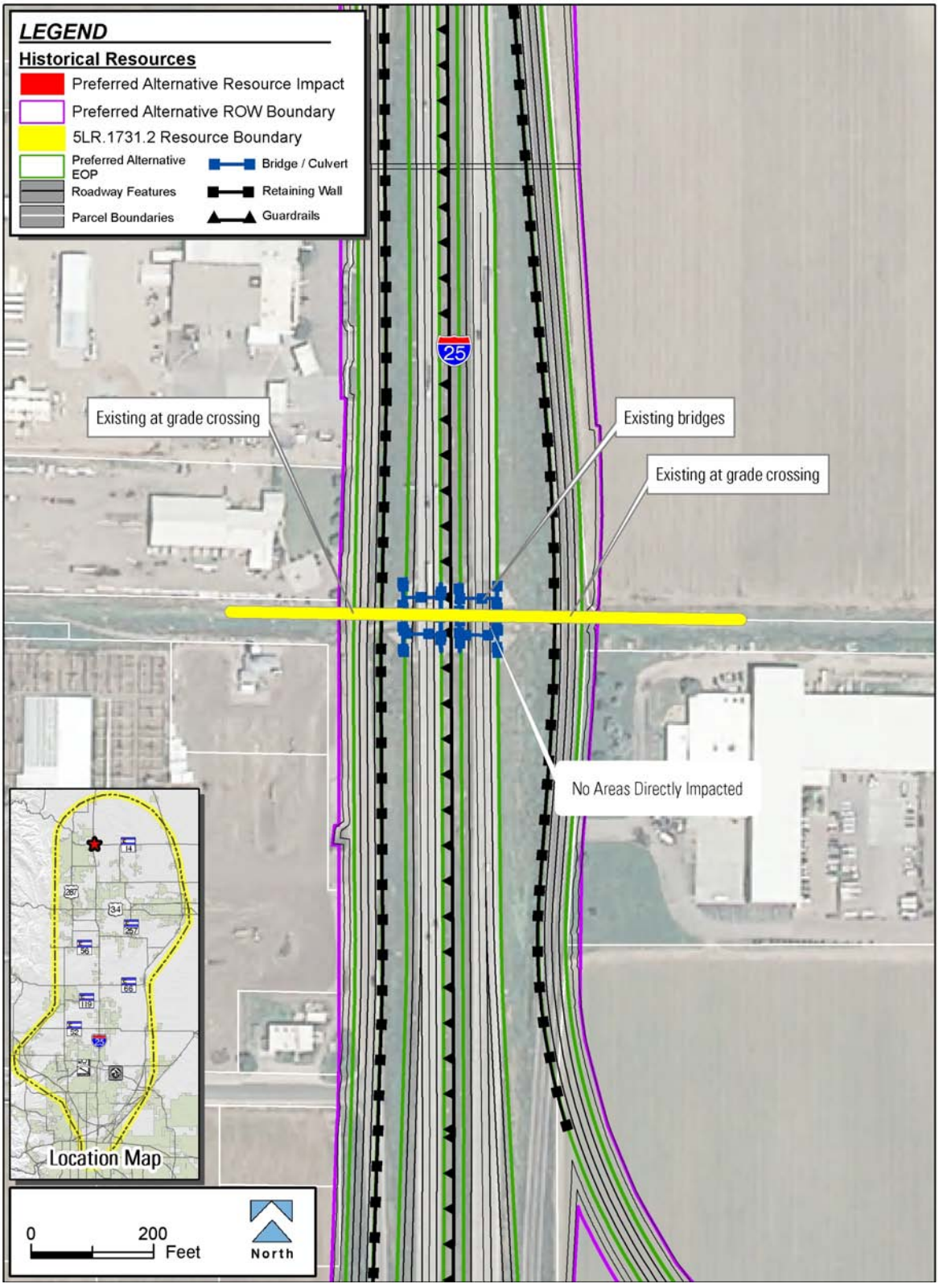
The proposed transportation improvements associated with Package B would not substantially diminish or alter characteristics that render the property eligible for the NRHP.

Impacts to segment 5LR.1731.2 – Preferred Alternative: The changes associated with the Preferred Alternative at this location consist of a transition area from three general purpose lanes plus a buffer-separated managed lane in each direction to a section containing only two general purpose lanes in each direction. The northbound roadway would be widened to the east of the existing roadway edge, while the southbound roadway would be widened to the west of the existing roadway edge. Wider northbound and southbound bridge structures would be required to accommodate the larger roadway template. These new bridges would each be 79 feet long and 63 feet wide, constructed as pre-stressed concrete girder type structures. The frontage roads would remain in their current locations and at-grade crossings would be maintained in their current configurations (see **Figure 3.15-11**).

The widened bridges would increase the amount of railway located underneath the bridge deck. This increased overhead cover due to a wider bridge deck would be an indirect effect to the historic setting of the railway; however, this minor impact would not diminish the qualities that render this railway segment NRHP-eligible.

No direct impacts would occur. The proposed transportation improvements associated with the Preferred Alternative would not substantially diminish or alter characteristics that render the property eligible for the NRHP.

Figure 3.15-11 5LR.1731.2 (Colorado & Southern Railroad, Black Hollow Branch) — Preferred Alternative



Impacts to Segment 5LR.1327.6 – Package A: Presently, I-25 is bridged over the historic rail line via two 172-foot-long, 3-span welded girder and concrete bridges for northbound (B-17-BC) and southbound lanes (B-17-BD). The existing northbound bridge is 44 feet wide and the existing southbound bridge is 38 feet wide. Under Package A, the I-25 template would be widened approximately 60 feet on the east side of the existing highway to provide space for the overall expansion of the highway footprint to accommodate three general purpose lanes in each direction. The expanded I-25 section would require replacement of the old bridges with new, larger bridge structures to span the rail line. The southbound bridge (B-17-BD) would be demolished and replaced in approximately the same position. Bridge structure B-17-BC would be demolished and the new northbound bridge would be constructed approximately 30 feet east of that location. The northbound bridge would be 208 feet long and 63 feet wide, and the southbound bridge would be 218 feet long and 63 feet wide. The alignment and operation of the railroad would not be changed, and the new bridge piers would be placed outside the historic rail corridor boundary. The frontage road would be widened approximately 12 feet to improve paved shoulder width. Where the frontage road crosses the railway, no changes to the road width or alignment are planned. Package A would result in no direct impacts to this resource (see **Figure 3.15-12**).

The larger bridges would increase the amount of railway located underneath the bridge deck by approximately 44 feet. This increased overhead cover would constitute an indirect effect to the historic setting of the railway, however; because the existing setting includes the modern highway and bridge spans, Package A improvements would not substantially impair the function, alignment, character, or other attributes that render the railway NRHP-eligible.

Installation of the new bridge piers and decking structures would likely require a temporary construction easement on a small portion of the historic property for equipment access and minor construction activities. The railway would remain operational and would be protected from all encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary in nature and any affected areas would be restored to their original condition and appearance.

No direct impact to the resource would occur as a result of these improvements. Indirect effects to the railway would not substantially diminish the function, alignment, attributes, or setting that contribute to the historic integrity and render the canal NRHP-eligible.

Impacts to segment 5LR.1327.6 – Package B: Under Package B, the I-25 template would be widened nearly 100 feet to the east and approximately 12 feet to the west to accommodate an 8-lane highway template made up of two general purpose lanes and two barrier-separated managed lanes in each direction. The existing bridges spanning the historic rail line would be replaced by new, longer bridge structures to carry 4-lanes in each direction. The northbound bridge would be 201 feet long, and the southbound bridge would be 183 feet long. Although the dimensions of the Package B bridge replacements and highway widening are larger, the effect to the railroad is the same as described under Package A. The alignment and operation of the railroad would not be changed, and the new bridge piers would be placed outside the historic rail corridor. No direct impacts would occur to the resource (see **Figure 3.15-13**).

The larger bridges would increase the amount of railway located underneath the bridge deck by approximately 80 feet. This increased overhead cover would constitute an indirect effect to the historic setting of the railway, however; because the existing setting includes the modern highway and bridge spans, Package B improvements would not substantially impair the function, alignment, character, or attributes that render the railway NRHP-eligible.

Figure 3.15-12 5LR.1327.6 (Colorado & Southern Railroad)—Package A

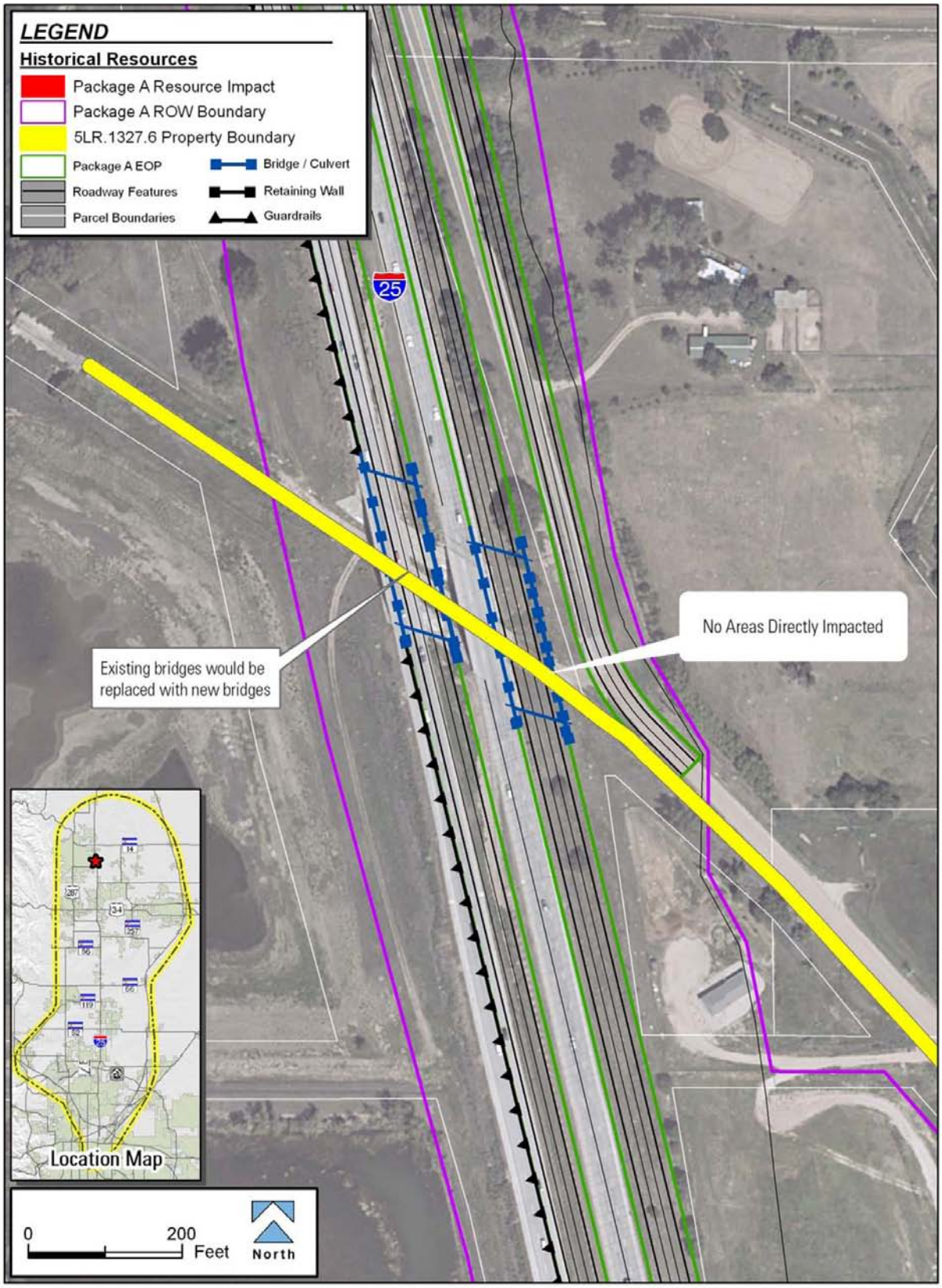
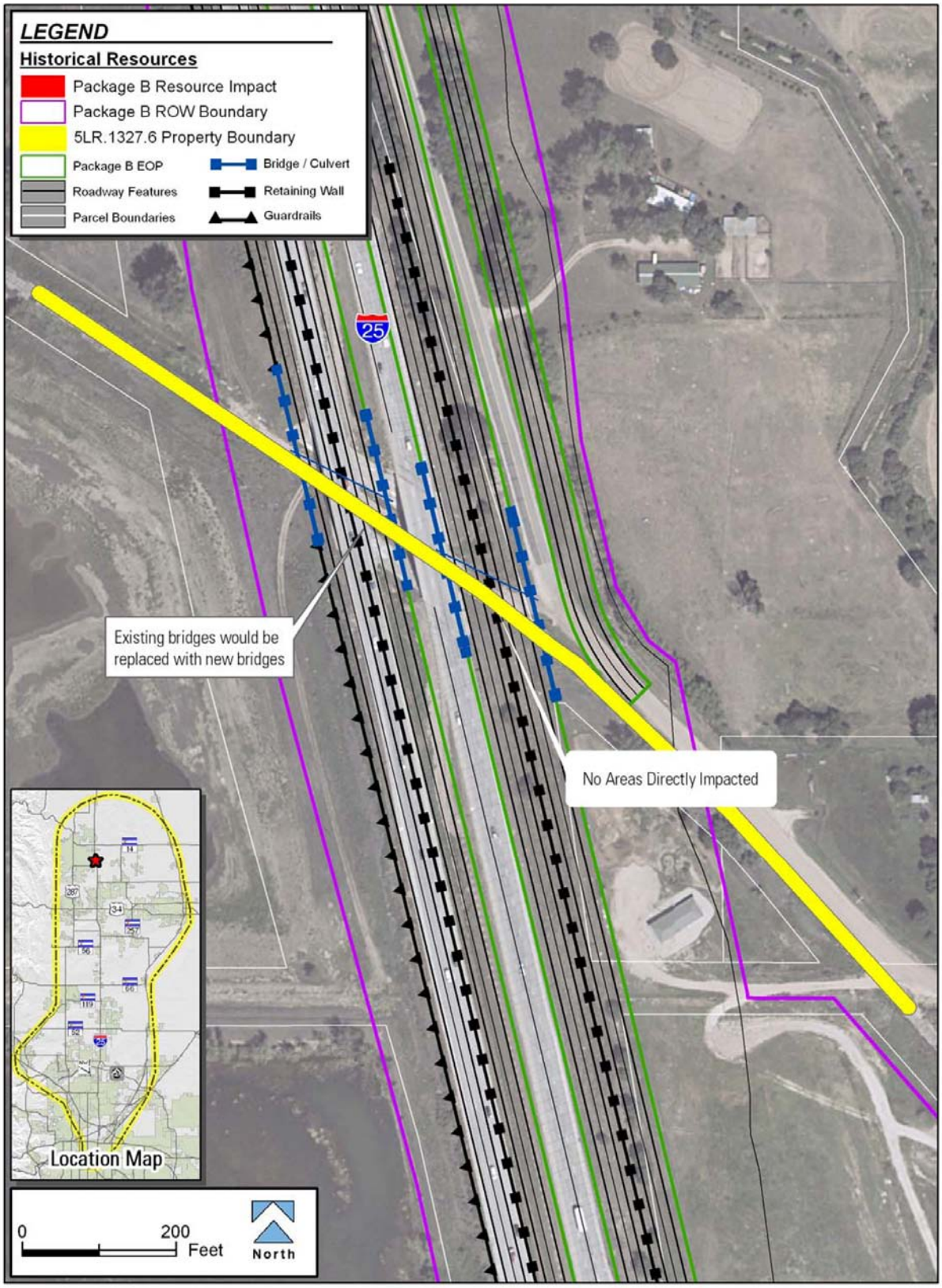


Figure 3.15-13 5LR.1327.6 (Colorado & Southern Railroad) – Package B



Installation of the new bridge piers and decking structures would likely require temporary use of a small portion of the historic property for equipment access and minor construction activities. The railway would remain operational and would be protected from all encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

The proposed transportation improvements associated with Package B would not substantially diminish or alter characteristics that render the property eligible for the NRHP.

Impacts to Segment 5LR.1327.6 – Preferred Alternative: Under the Preferred Alternative, the I-25 template would be widened into the median and approximately 60 feet on the east side of the existing highway to provide space for the overall expansion of the highway footprint to accommodate three general purpose lanes and a TEL in each direction. The expanded I-25 section would require replacement of the old bridges with new, larger bridge structures to span the rail line. The southbound bridge (B-17-BD) would be demolished and replaced with a wider bridge extending into the existing median. Bridge structure B-17-BC would be demolished and the new northbound bridge would be constructed adjacent to and east of that location. The alignment and operation of the railroad would not be changed, and the new bridge piers would be placed outside the historic rail corridor boundary. The frontage road would be widened approximately 12 feet to provide a paved shoulder. Where the frontage road crosses the railway, no changes to the road width or alignment are planned. The Preferred Alternative would result in no direct impacts to this resource (see **Figure 3.15-14).**

The alignment and operation of the railroad would not be changed. The entire widened I-25 roadway would continue to be carried over the historic railway on top of the new bridge structures. The new bridges would be supported by piers placed outside the historic rail corridor boundary (railroad right-of-way) resulting in no direct impacts to the historic railway.

The widened bridges would increase the amount of railway located underneath the bridge deck by approximately 165 feet. This increased overhead cover due to a wider bridge deck would be an indirect effect to the historic setting of the railway; but would not alter the property's historic function or alignment, nor diminish the character or attributes that render the railway NRHP-eligible. Construction access across the railway property may be required for installation of new bridge piers. This temporary direct impact would not diminish qualities that render the railway NRHP-eligible.

The proposed transportation improvements associated with the Preferred Alternative would not substantially diminish or alter characteristics that render the property eligible for the NRHP.

Impacts to segment 5LR.1731.1 – Package A: Commuter rail transit stations would be developed at six locations along this historic rail line in the cities of Fort Collins and Loveland. These stations would include new station platforms of concrete flatwork at track level, American with Disabilities (ADA) compliant high-blocks (short raised platforms for wheelchair access to trains), various minor station amenities (trash cans, benches, etc), and pedestrian overpasses/underpasses (see **Figure 3.15-15**).

Figure 3.15-14 5LR.1327.6 (Colorado & Southern Railroad)—Preferred Alternative

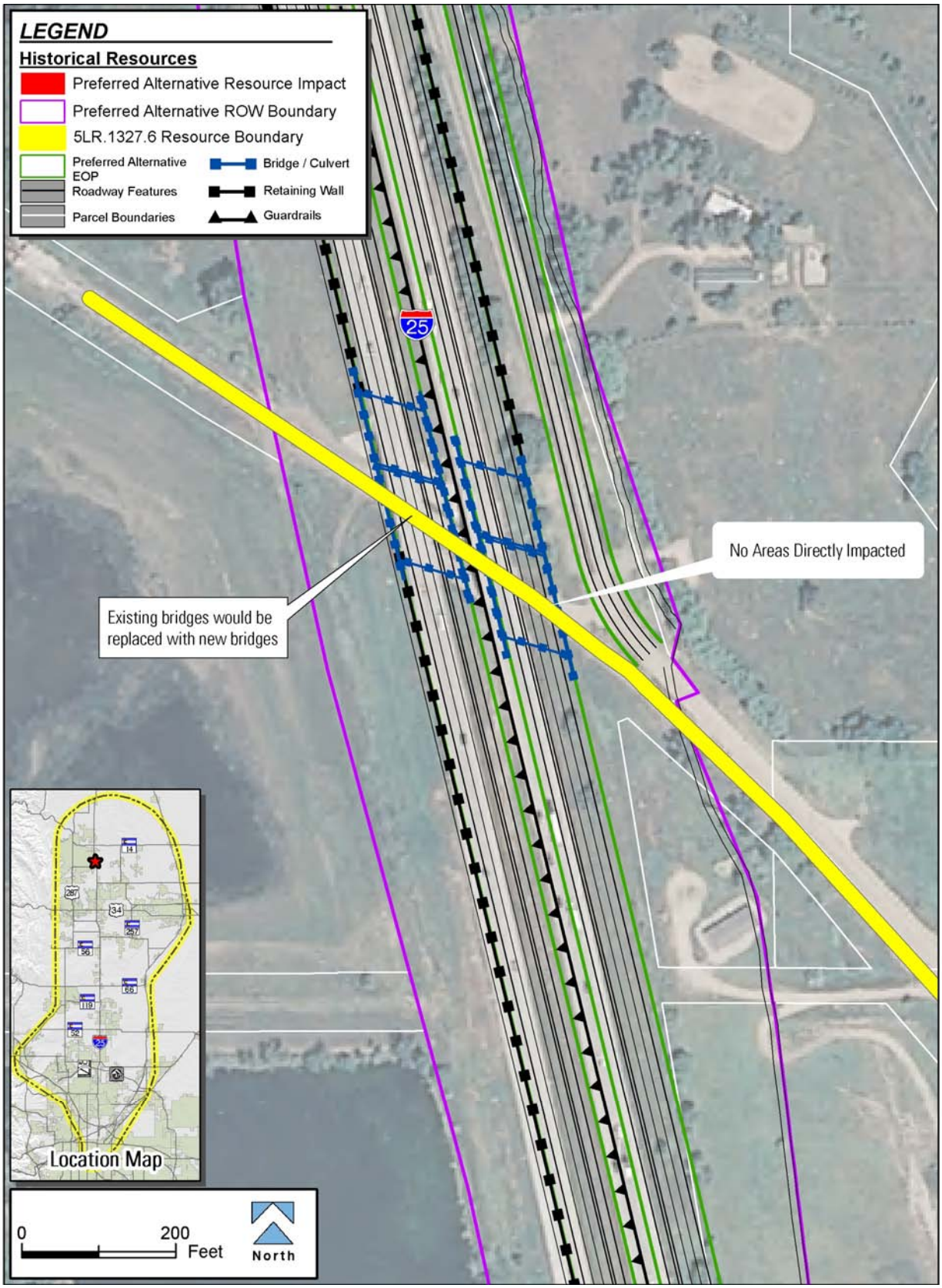
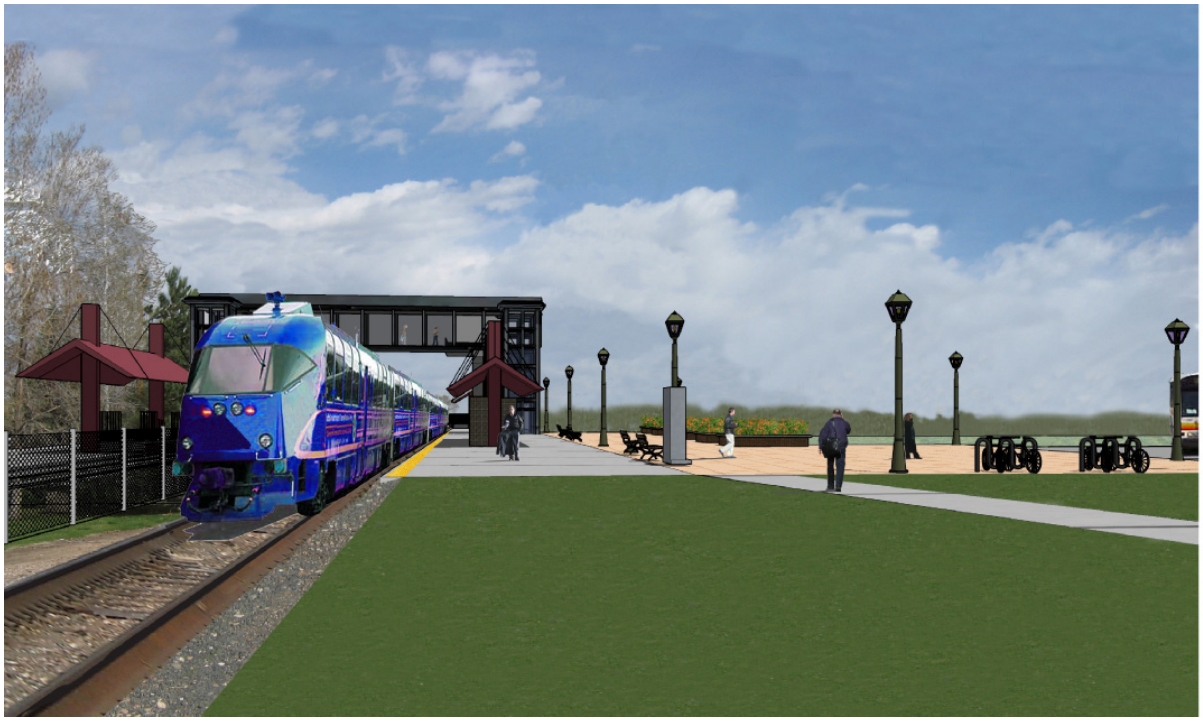
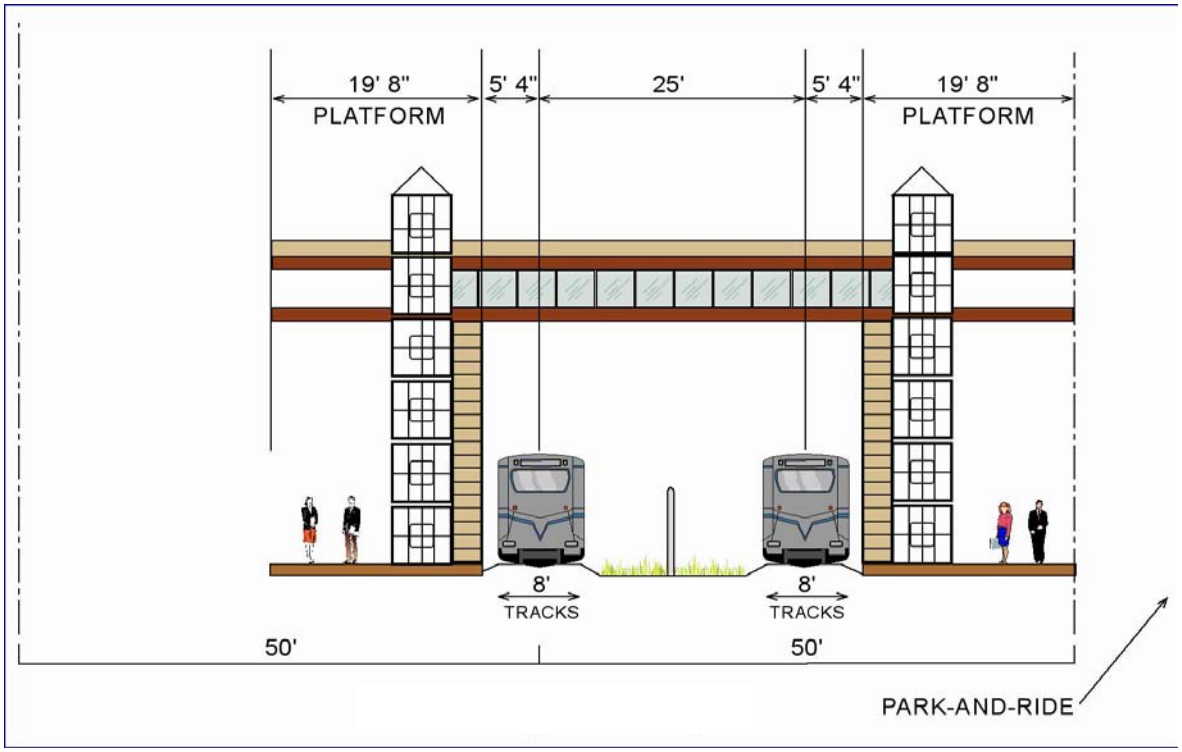


Figure 3.15-15 Typical Commuter Rail Station Design and Cross Section





The historic resource is comprised of the ballast, bed and track. In all of the station locations the existing rail line would remain in its current (historic) alignment, and thus no direct impacts would occur.

Wooden and iron/steel pedestrian train crossing bridges were common elements of major railroad stations of the early Front Range railways. Pedestrian bridges and ADA components, building layout, and parking facilities proposed under Package A would, however, introduce a modern design element into the historic setting. Modern station infrastructure would be considered an indirect effect to the historic setting of the railway; however, it is not expected to substantially harm the function, alignment, character, or other attributes that render the railway NRHP-eligible.

The Package A commuter rail would be located east of the existing spur line and would not directly or indirectly affect the switching or track of the spur. There would be no change in the current configuration of the railroad spur or trestle bridge crossing due to commuter rail improvements in Package A.

Impacts to segment 5LR.1731.1 – Preferred Alternative: Commuter rail transit stations would be developed at six locations along this historic rail line in the cities of Fort Collins, Loveland, and Berthoud. These stations would include new station platforms of concrete flatwork at track level, American with Disabilities (ADA) compliant high-blocks (short raised platforms for wheelchair access to trains), various minor station amenities (trash cans, benches, etc), and pedestrian overpasses/underpasses.

The historic resource is comprised of the ballast, bed and track. In all of the station locations, the existing rail line would remain in its current (historic) alignment, and thus no direct impacts would occur.

Wooden and iron/steel pedestrian train crossing bridges were common elements of major railroad stations of the early Front Range railways. Pedestrian bridges and ADA components, building layout, and parking facilities proposed under Package A would, however, introduce a modern design element into the historic setting. Modern station infrastructure would be considered an indirect effect to the historic setting of the railway; however, it is not expected to substantially harm the function, alignment, character, or other attributes that render the railway NRHP-eligible.

The Preferred Alternative commuter rail would operate on the existing line and would not directly or indirectly affect the switching or track. There would be no change in the current configuration of the railroad line due to commuter rail improvements in the Preferred Alternative.

Impacts to segment 5BL.400.3 – Package A: Commuter rail facilities would be developed at several locations along this historic rail line in the Longmont vicinity. In all cases the existing rail line would remain in its current, historic alignment. No direct impacts to the historic railroad ballast, bed and track would occur. The installation of an adjacent set of tracks supporting the new commuter rail line would indirectly affect the historic setting of the historic railroad line, but would not substantially harm the function, alignment, character, or other attributes that render the railroad NRHP-eligible.

Impacts to segment 5BL.400.3 – Preferred Alternative: Commuter rail facilities would be developed at several locations along this historic rail line in the Longmont vicinity. In all cases the existing rail line would remain in its current, historic alignment. No direct impacts to the historic railroad ballast, bed and track would occur. The construction of an adjacent maintenance road would indirectly affect the historic setting of the historic railroad line, but would not substantially harm the function, alignment, character, or other attributes that render the railroad NRHP-eligible.

Summary Effect Determination:

Package A: No direct impacts would occur at any segment locality. Temporary construction impacts and indirect effects due to expanded overhead coverage by the highway bridges at localities along the corridor would affect two segments of the railroad (5LR.1731.2 and 5LR.1327.6). Commuter rail stations and new track along the transportation corridor would contribute to new, but visually compatible rail infrastructural elements to the historic setting of two other segments (5LR.1731.1 and 5LBL.400.3). Taking all of these indirect impacts at specific localities into account, the proposed transportation improvements associated with Package A would not substantially diminish or alter characteristics that render the entire linear resource eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Package A transit improvements would result in a no adverse effect with respect to the entire linear resource (the C&S Railroad in Larimer and Boulder counties/ 5LR.1731, 5LR.1327, and 5BL.400).

Package B: No direct impacts would occur at any segment locality. Temporary construction impacts and indirect effects due to expanded overhead coverage by the highway bridges at localities along the corridor would affect two segments of the railroad, 5LR.1731.2 and 5LR.1327.6). Taking these indirect impacts into account, the proposed transportation improvements associated with Package B would not substantially diminish or alter characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Package B transit improvements would result in no adverse effect with respect to the entire linear resource (the C&S Railroad in Larimer and Boulder counties/ 5LR.1731, 5LR.1327, and 5BL.400).

Preferred Alternative: No direct impacts would occur at any segment locality. Temporary construction impacts and indirect effects due to expanded overhead coverage by the highway bridges at localities along the corridor would affect two segments of the railroad (5LR.1731.2 and 5LR.1327.6). Commuter rail stations along the alignment would contribute to new, but visually compatible rail infrastructural elements to the historic setting of two other segments (5LR.1731.1 and 5LBL.400.3). Taking all of these indirect impacts at specific localities into account, the proposed transportation improvements associated with the Preferred Alternative would not substantially diminish or alter characteristics that render the entire linear resource eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative transit improvements would result in a no adverse effect with respect to the entire linear resource (the C&S Railroad in Larimer and Boulder counties 5LR.1731, 5LR.1327, and 5BL.400).

SH 14 to SH 60

5LR.11409.1 (Cache la Poudre Reservoir Inlet):

Resource Description: The entire inlet ditch was built as part of a larger irrigation system developed in 1892. The ditch is 10 miles long ending at Cache la Poudre Reservoir. The ditch crosses I-25 approximately 1,400 feet north of Prospect Road. The ditch crosses I-25 at a drop box running east under I-25, and continues southeast terminating at a point where the ditch parallels Prospect Road. This well maintained segment is 3,750 feet long, 36 feet wide, and 10 feet deep. The ditch segment is concrete lined and contains a modern drop box, control house and complex system of gated box culverts that are interactive with Lake Canal. The ditch traverses cultivated fields, and is sporadically lined with riparian habitat of shrubs, willows and cottonwoods.

Eligibility Determination: The entire feature (5LR.11409) is eligible under A and C, but this segment (5LR.11409.1) is non-supporting. The Cache la Poudre Reservoir Inlet is eligible under A for its associated with period of intensive development of successful agriculture. The inlet ditch is significant as part of engineered water storage and delivery system associated with corporate irrigation projects in Colorado prior to the sugar beet industry. This segment is non-supporting due to modifications including piping under I-25 and other improvements.

Effects Determination – Package A: Package A would require an extended culvert at STA 4050. A 75-foot-long extension of double CBC farther east of the existing culvert outflow and a 10-foot-long extension west of the intake at the same double CBC would be needed to carry the widening of west frontage road shoulders and the widened Prospect Road interchange northbound I-25 on-ramp (see **Figure 3.15-16**).

Because the qualities that make the entire resource NRHP-eligible have already been compromised by modifications associated with construction of the I-25 ramps and frontage road and Package A improvements are minor in relative extent, FHWA, FTA and CDOT, therefore, have determined that Package A would result in *no adverse effect* to the Cache la Poudre Reservoir Inlet.

Effects Determination – Package B: Package B would require an extended culvert at STA 4050. A 75-foot-long extension of double CBC farther east of the existing culvert outflow and a 10-foot-long extension west of the intake at the same double CBC would be needed to carry the widening of west frontage road shoulders and the widened Prospect Road interchange northbound I-25 on-ramp (see **Figure 3.15-16**).

Because the qualities that make the entire resource NRHP-eligible have already been compromised by modifications associated with construction of the I-25 ramps and frontage road and Package B improvements are minor in relative extent, FHWA, FTA and CDOT therefore, have determined that Package B would result in *no adverse effect* to the Cache la Poudre Reservoir Inlet.

Effects Determination – Preferred Alternative: The Preferred Alternative would require an extended culvert at STA 4050. A 75-foot-long extension of double CBC farther east of the existing culvert outflow and a 10-foot-long extension west of the intake at the same double CBC would be needed to carry the widening of west frontage road shoulders and the widened Prospect Road interchange northbound I-25 on-ramp (see **Figure 3.15-17**).

Figure 3.15-16 5LR.11409.1 (Cache la Poudre Reservoir Inlet) — Packages A and B

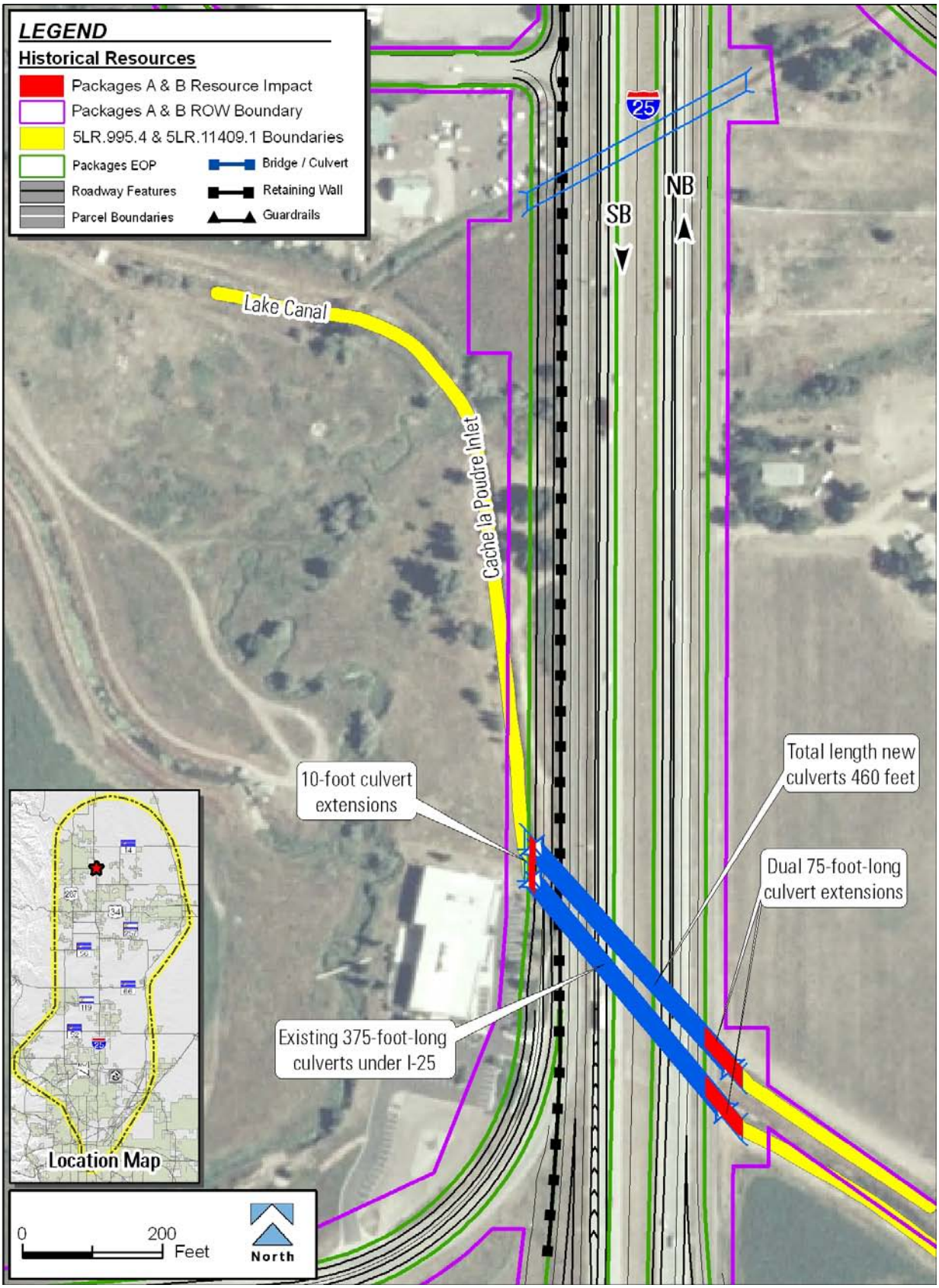
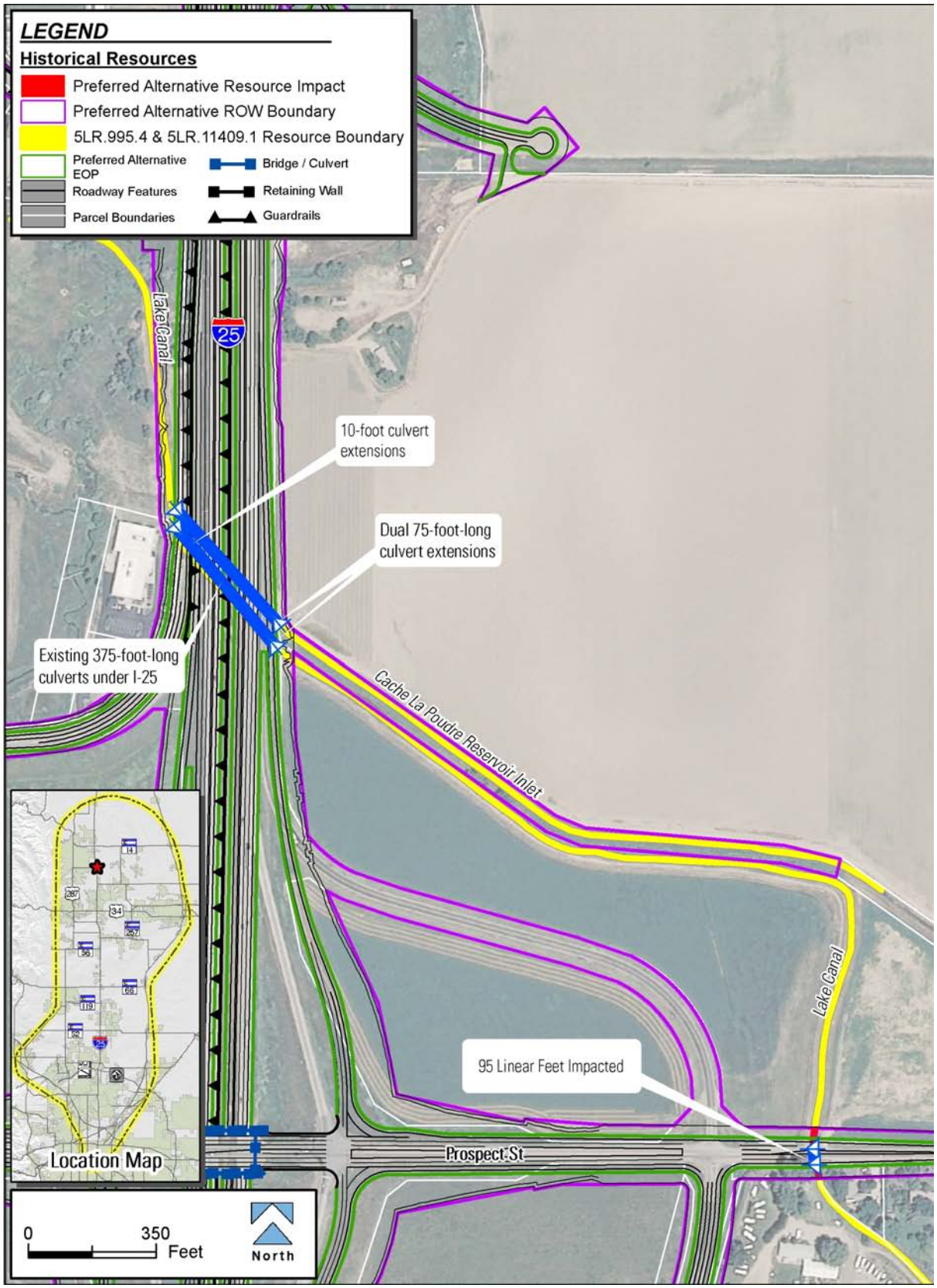


Figure 3.15-17 5LR.11409.1 (Cache la Poudre Reservoir Inlet) – Preferred Alternative



Because the qualities that make the entire resource NRHP-eligible have already been compromised by modifications associated with construction of the I-25 ramps and frontage road and the Preferred Alternative improvements are minor in relative extent, FHWA, FTA and CDOT therefore, have determined that the Preferred Alternative would result in *no adverse effect* to the Cache la Poudre Reservoir Inlet.

5LR.11391 (Gallatin Residence)

Resource Description: This property, located on the east side of I-25 approximately 0.75 mile northwest of the town of Timnath on CR Road 40, contains a historic wood frame dwelling constructed in 1925. The house is a side-gabled Bungalow-type structure with wide overhanging eaves and a projecting, front-gabled porch featuring a balustrade railing. The dwelling is surrounded by mature shade trees. Five small outbuildings, including three sheds, are located on the property.

Eligibility Determination: The Gallatin Residence (5LR.11391) is eligible for the NRHP under Criterion C as a well preserved, representative specimen of a rural Bungalow type dwelling in Colorado, surrounded by its historic agricultural setting.

Effect Determination – Package A: This 2.6-acre property is located east of an active rail line, and all proposed improvements to I-25 in this vicinity are located west of this rail line. Therefore, no direct or indirect impacts would occur to the historic property, and FHWA, FTA and CDOT have determined that Package A improvements would result in *no historic properties affected* with respect to the Gallatin Residence.

Effect Determination – Package B: This 2.6-acre property is located east of an active rail line, and all proposed improvements to I-25 in this vicinity are located west of this rail line. Therefore, no direct or indirect impacts would occur to the historic property, and FHWA, FTA and CDOT have determined that Package B improvements would result in *no historic properties affected* with respect to the Gallatin Residence.

Effect Determination – Preferred Alternative: This 2.6-acre property is located east of an active rail line, and all proposed improvements to I-25 in this vicinity are located west of this rail line. Therefore, no direct or indirect impacts would occur to the historic property, and FHWA, FTA and CDOT have determined that the Preferred Alternative improvements would result in *no historic properties affected* with respect to the Gallatin Residence.

5LR.2160.1 (Boxelder Ditch)

Resource Description: This segment of the Boxelder Ditch crosses I-25, Harmony Road, and the northbound highway ramp at the Harmony Road interchange. The earthen irrigation ditch is approximately 12 feet wide. The portion of the ditch that crosses under the existing roadways was altered when the highway was constructed and routed through a steel pipe culvert.

The ditch was originally built in the mid-1880s. The entire ditch is approximately five miles long. The recorded segment in the project APE (5LR.2160.1) is 3,194 feet or approximately 0.6 mile long. Grassy vegetation covers both banks of the ditch in most areas. The surrounding area includes agricultural and residential development.

Eligibility Determination: The Boxelder Ditch (5LR.2160) was officially determined to be NRHP-eligible by the Colorado Office of Archeology and Historic Preservation (OAHP)

in 1996. The ditch was re-evaluated for the North I-25 Draft EIS as eligible for the NRHP under Criterion A because of its important association with the development of water rights and agriculture in Larimer County. The segment within the project APE retains sufficient integrity of location, design, and use to support the eligibility of the entire linear resource.

Effect Determination – Package A: Under Package A, the I-25/Harmony Road interchange would be modified, including widening of the on- and off-ramps. Boxelder Ditch is currently enclosed inside a pipe underneath the existing ramps, fill slopes and mainline I-25 traffic lanes. To accommodate construction of a new southbound off-ramp from I-25, which would be situated 90 feet west of the existing ramp alignment, a 75-foot-long section of the open Boxelder Ditch would need to be enclosed inside a box culvert beneath the ramp. The remainder of the ditch located within the area proposed for Package A highway improvements is already piped under I-25, the northbound onramp to I-25, and Harmony Road, and no new direct impacts would occur in those locations (see **Figure 3.15-18**).

A small direct impact would occur where the ditch would pass beneath a new property access road on the southeast side of the interchange. This new access road is a cul-de-sac, required to replace the existing access from the abandoned east frontage road. A total of 62.5 feet of open ditch would have to be enclosed inside a box culvert beneath the proposed cul-de-sac.

Installation of the new culvert would likely require a temporary use of the historic property for equipment access and construction activities. The ditch would remain operational and irrigation water would be protected from all sediment and physical encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to the original condition and appearance.

The two box culverts required under Package A would enclose a total of 137.5 feet of open ditch that retain integrity, but would not alter its historic alignment. These direct impacts constitute less than one percent of the entire length of the Boxelder Ditch, and would not significantly diminish or alter characteristics that render the ditch eligible for NRHP, and FHWA, FTA and CDOT have determined that Package A would result in *no adverse effect* to the resource.

Effect Determination – Package B: Impacts are identical to Package A. FHWA, FTA and CDOT have determined that Package B would also result in *no adverse effect* to the entire Boxelder Ditch (see **Figure 3.15-18**).

Effect Determination – Preferred Alternative: Under the Preferred Alternative, the I-25/Harmony Road interchange would be modified, including widening of the on- and off-ramps. Boxelder Ditch is currently enclosed inside a pipe underneath the existing ramps, fill slopes and mainline I-25 traffic lanes. To accommodate construction of a new southbound off-ramp from I-25, which would be situated 90 feet west of the existing ramp alignment, a 124-foot-long section of the open Boxelder Ditch would need to be enclosed inside a box culvert beneath the ramp. The remainder of the ditch located within the area proposed for Preferred Alternative highway improvements is already piped under I-25, the northbound on-ramp to I-25, and Harmony Road, and no new direct impacts would occur in those locations (see **Figure 3.15-19**).

A small direct impact would occur where the ditch would pass beneath a new property access road on the southeast side of the interchange. This new access road is a cul-de-sac, required to replace the existing access from the abandoned east frontage road. A total of 70 feet of open ditch would have to be enclosed inside a box culvert beneath the proposed cul-de-sac.

Figure 3.15-18 5LR.2160.1 (Boxelder Ditch) – Packages A and B

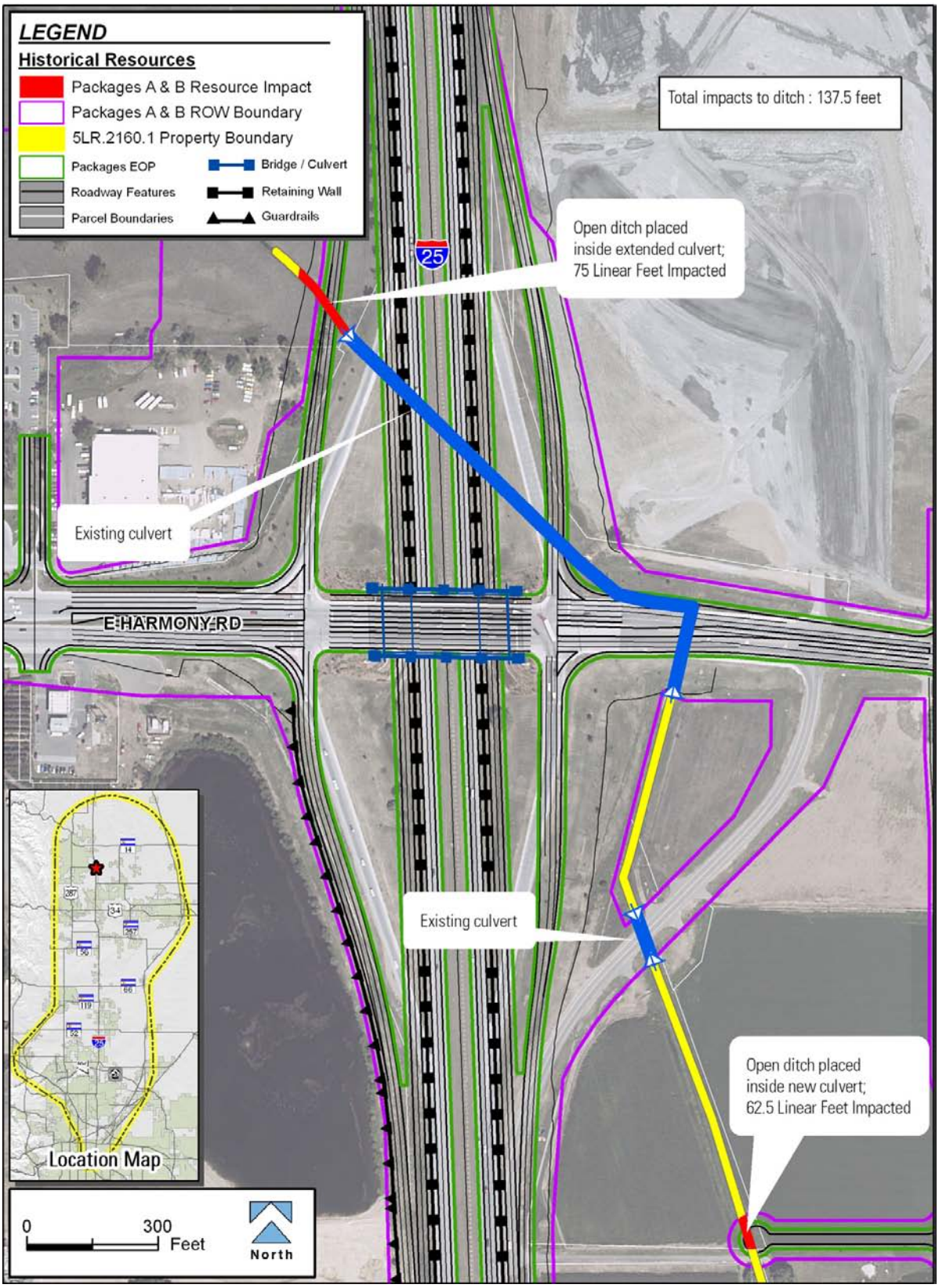
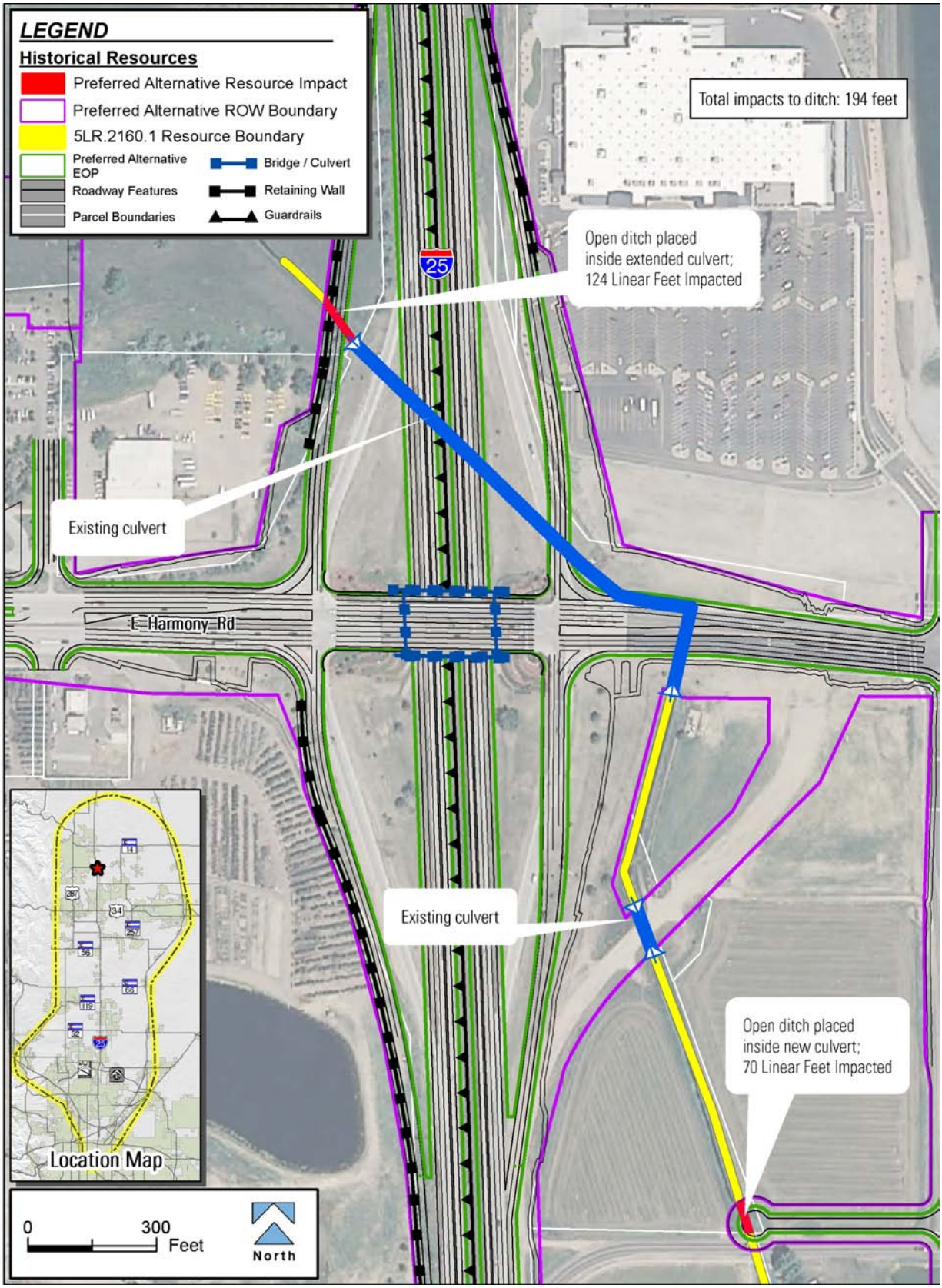


Figure 3.15-19 5LR.2160.1 (Boxelder Ditch) – Preferred Alternative



Installation of the new culvert would likely require a temporary use of the historic property for equipment access and construction activities. The ditch would remain operational and irrigation water would be protected from all sediment and physical encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to the original condition and appearance.

The two box culverts required under the Preferred Alternative would enclose a total of 194 feet of open ditch that retain integrity, but would not alter its historic alignment. These direct impacts constitute less than one percent of the entire length of the Boxelder Ditch, and would not significantly diminish or alter characteristics that render the ditch eligible for NRHP, and FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no adverse effect* to the resource.

5LR.8930 (Louden Ditch)

Resource Description: The ditch was originally built in 1871. The entire ditch is approximately 23.25 miles long. The excavated earthen ditch is approximately 20 feet wide. Two segments of the historic Louden Ditch are located within the APE (see **Figure 3.15-20**). Segment 5LR.8930.1 crosses I-25 and the existing frontage road at LCR 30 East. The portion of the ditch that crosses under I-25 and the frontage road was placed within a culvert when the highway and frontage roads were constructed in the 1960s. The documented segment in the project APE (5LR.8930.1) is 3,316 feet long. Heavy riparian growth exists along the northwest banks of the ditch. The remainder of the ditch has been dredged within the project area and no vegetation is present along the ditch levee. The surrounding area includes agricultural and residential development.

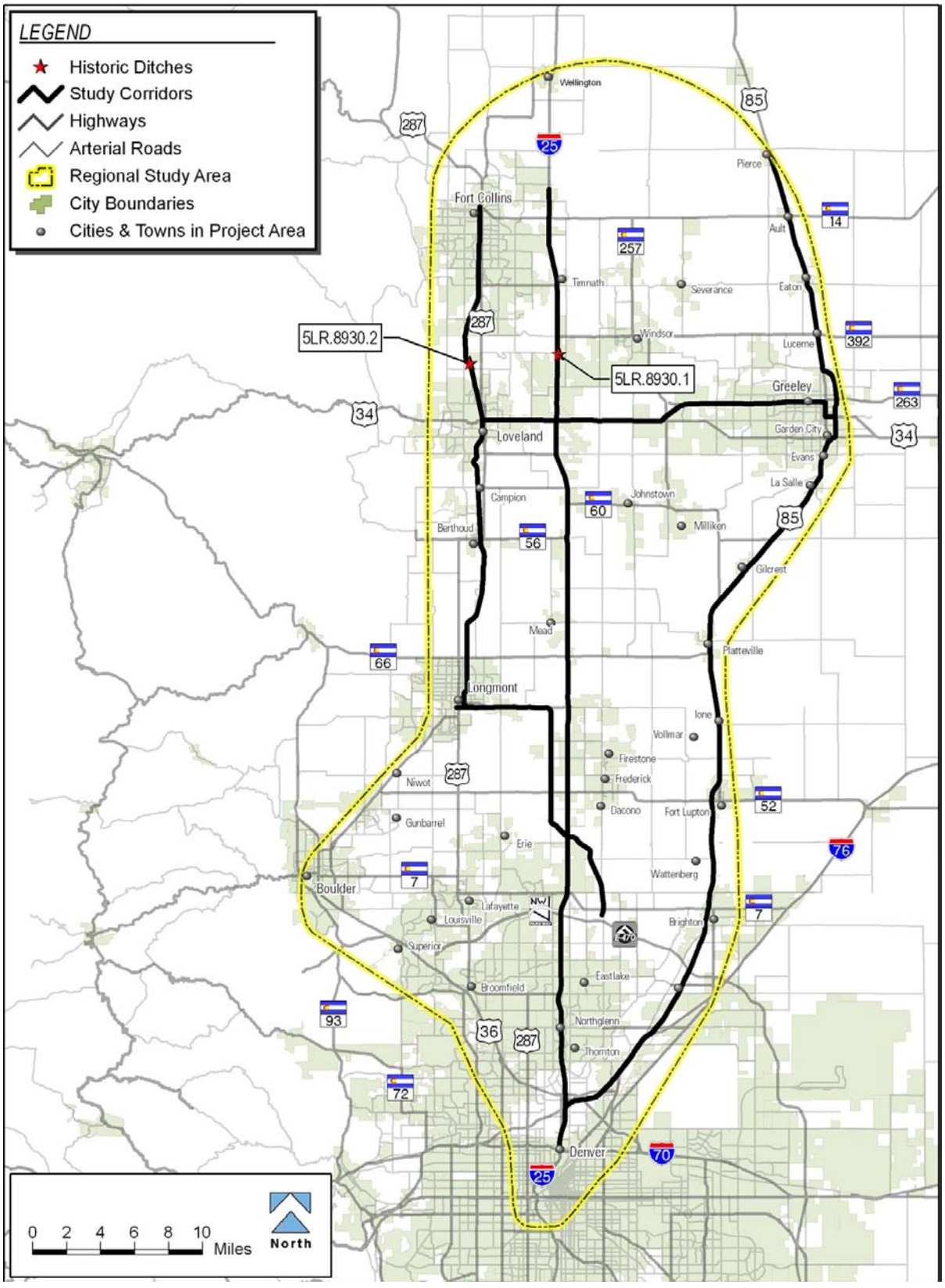
The second segment 5LR.8930.2 of the Louden Ditch crosses I-25 and the existing frontage road. Here the earthen ditch is approximately 8 feet wide. The portion of the ditch that crosses under I-25 and the frontage road was altered when I-25 was constructed in the 1960s and the ditch was placed inside a CBC. The segment occurring in the project APE (5LR.8930.2) is 200 feet long. Both banks of the ditch areas are lined with grassy vegetation. The surrounding area includes retail and residential development.

Eligibility Determination: The entire Louden Ditch (5LR.8930) is eligible for listing on the NRHP under Criterion A for its important association with the development of water rights and agriculture in Larimer County. Both segments have experienced modifications near the highway, but much of the ditch remains in its original alignment. This ditch segment retains sufficient integrity of location, setting, feeling, and use to support the eligibility of the entire linear resource. Both segments (5LR.8930.1 and 5LR.8930.2) were found to retain sufficient integrity of location, setting, feeling, and use to support the eligibility of the entire linear resource.

Effect Determination:

In order to determine the effect to the entire linear resource, impacts to each of the segments passing through the project APE were assessed. These impact assessments are presented below, followed by a determination of effect to the entire Louden Ditch in Larimer County.

Figure 3.15-20 5LR.8930 (Louden Ditch) – Segments intersecting project APE



Impacts to segment 5LR.8930.1 – Package A: This segment of the Louden Ditch is presently conveyed beneath I-25 inside a box culvert approximately 260 feet long. At this location, Package A involves re-alignment of the I-25 northbound and southbound lanes approximately 90 feet to the east of existing highway and widening each direction from two lanes to three lanes. The new corridor footprint would include relocating the east frontage road farther east of the current alignment. To provide adequate space for the re-aligned northbound lanes and east frontage road, an additional 225 feet of open ditch would be enclosed inside a box culvert underneath the new roadways. The new culvert would be extended from the end of the existing box culvert located on the east flank of the existing east frontage road.

LCR 30 on the west side of I-25 would be rebuilt along the same alignment, although the template would be widened slightly to the north. The west frontage road would be abandoned south of the interchange. A new road (Byrd Drive) would run south from LCR 30 and is functionally intended to replace the west frontage road. At this location the historic ditch follows a parallel course close to the south edge of existing LCR 30. A 91-foot-long segment of open ditch would be enclosed inside a new box culvert to pass beneath the new Byrd Drive connection to LCR Road 30 (see **Figure 3.15-21**).

Construction of the new culverts would likely require a temporary use of the historic property for equipment access and culvert installation activities. The ditch would possibly be temporarily diverted during construction, but would remain operational. Ditch waters would be protected from all sediment and physical encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary and affected areas would be restored to their original condition and appearance.

The direct and temporary impacts caused by placing a total of 316 feet of open ditch into a new box culvert extension on the east side of I-25 and a short culvert beneath Byrd Road do not affect its historic alignment or function.

Impacts to segment 5LR.8930.1 – Package B: The impacts to the Louden Ditch under Package B are the similar to those described for Package A. Re-alignment and widening of I-25 highway lanes and the east frontage road in Package B improvements would have a 45-foot-wider configuration east of the existing frontage road. This results in a 45-foot-longer section of open ditch on the east side of I-25 being placed inside a box culvert extension under the new roadway. The ditch impacts caused at Byrd Road would be the similar to Package A. The total direct impacts to the Louden Ditch caused by Package B improvements are 270 feet of open ditch to be placed in a new box culvert extension on the east side of I-25 (as opposed to 225 feet under Package A), and 87 feet of open ditch to be placed beneath the proposed Byrd Road (same linear distance as Package A). Package B would create total combined direct impacts to 357 feet of open ditch as opposed to 316 feet of open ditch under Package A. Temporary effects from construction activities would be the same as in Package A (see **Figure 3.15-22**).

The direct and temporary impacts resulting from Package B are similar in nature but slightly greater than those resulting from Package A, and do not affect the ditch's historic alignment or function.

Figure 3.15-21 5LR.8930.1 (Louden Ditch) – Package A

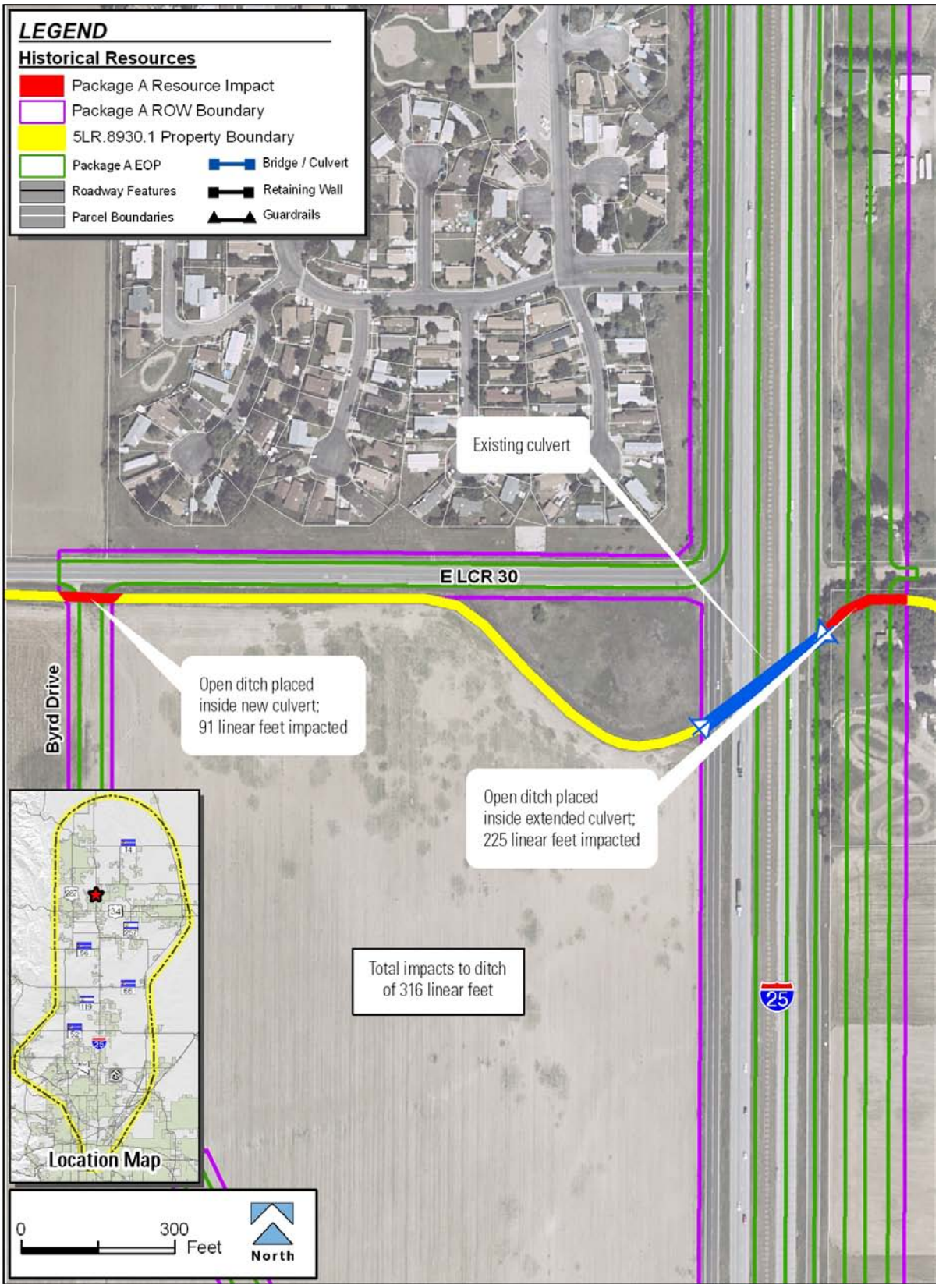
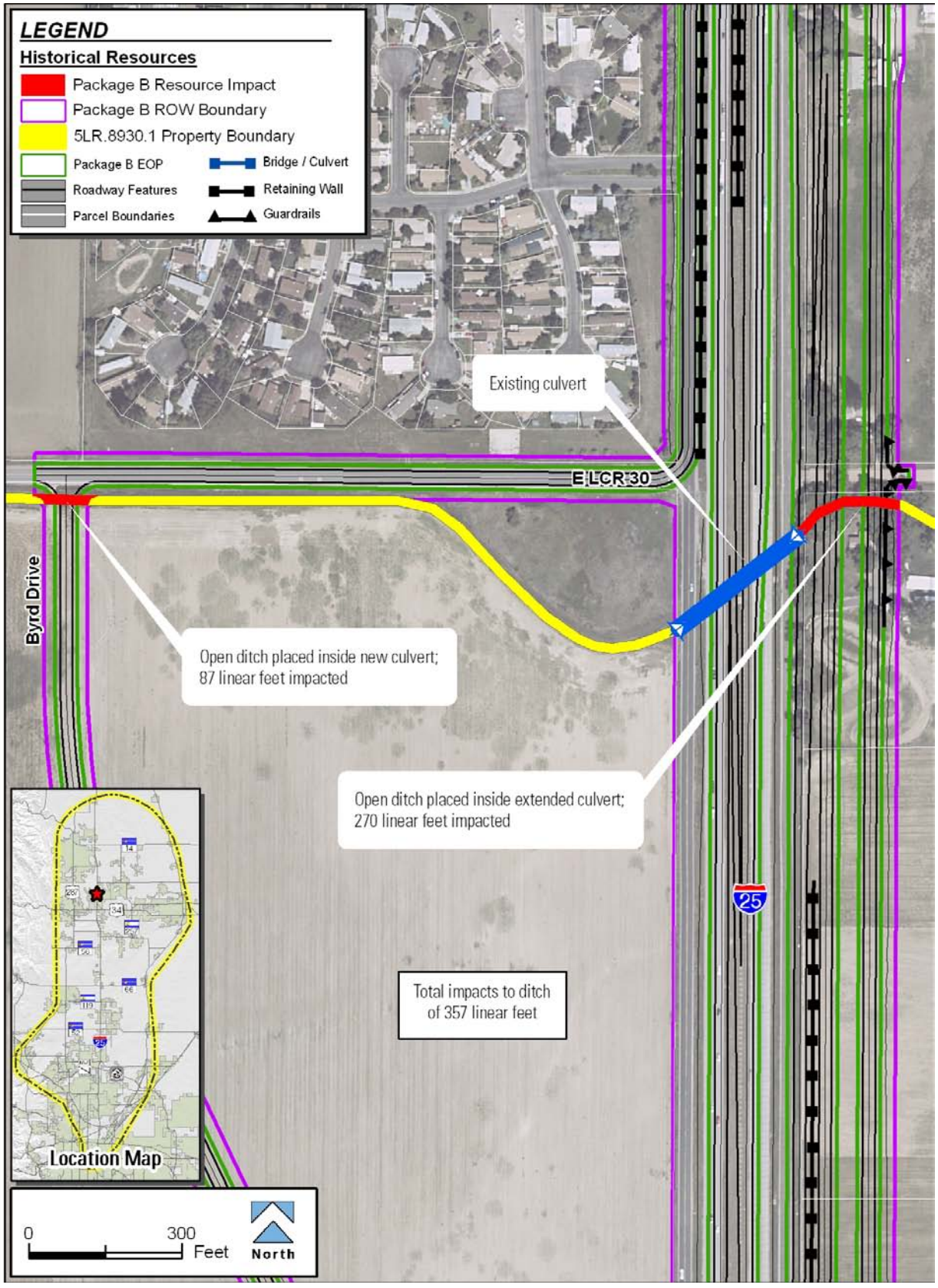


Figure 3.15-22 5LR.8930.1 (Louden Ditch) – Package B



Impacts to segment 5LR.8930.1 – Preferred Alternative: This segment of the Louden Ditch is presently conveyed beneath I-25 inside a box culvert approximately 260 feet long. At this location, the Preferred Alternative involves re-alignment of the I-25 northbound and southbound lanes approximately 90 feet to the east of existing highway and widening each direction to add one general purpose lane and one TEL. The new corridor footprint would include relocating the east frontage road farther east of the current alignment. To provide adequate space for the re-aligned northbound lanes and east frontage road, an additional 173 feet of open ditch would be enclosed inside a box culvert underneath the new roadways. The new culvert would be extended from the end of the existing box culvert located on the east flank of the existing east frontage road.

The historic ditch follows a parallel course close to the south edge of the existing LCR 30 on the west side of I-25 which would be rebuilt along the same alignment, however, the template would be widened slightly which would encroach into the ditch on the south side of the roadway. This would result in an additional 524 linear feet of impacts to the ditch. The west frontage road would be abandoned south of the interchange. A new road (Byrd Drive) would run south from LCR 30 and is functionally intended to replace the west frontage road. A 91-foot-long segment of open ditch would be enclosed inside a new box culvert to pass beneath the new Byrd Drive connection to LCR Road 30 (see **Figure 3.15-23**).

Construction of the new culverts would likely require a temporary use of the historic property for equipment access and culvert installation activities. The ditch would possibly be temporarily diverted during construction, but would remain operational. Ditch waters would be protected from all sediment and physical encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary and affected areas would be restored to their original condition and appearance.

The direct and temporary impacts caused by placing a total of 524 feet of open ditch into a new box culvert extension on the east side of I-25 and a short culvert beneath Byrd Drive do not affect its historic alignment or function.

Impacts to segment 5LR.8930.2 – Package A: None of the proposed Package A commuter rail improvements would cause changes to this historic property.

Impacts to segment 5LR.8930.2 – Preferred Alternative: The Preferred Alternative commuter rail improvements include construction of a parallel maintenance road adjacent to the existing rail line. The historic ditch is currently culverted where it passes beneath the rail line at this location. The maintenance road would be located on the west side existing rail line and would require an extension to the existing culvert. A total of 296 linear feet of this historic ditch would be impacted by the Preferred Alternative in this area (see **Figure 3.15-24**).

Construction of this new culvert would likely require a temporary use of the historic property for equipment access and culvert installation activities. The ditch would possibly be temporarily diverted during construction, but would remain operational. Ditch waters would be protected from all sediment and physical encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

Figure 3.15-23 5LR.8930.1 (Louden Ditch) – Preferred Alternative

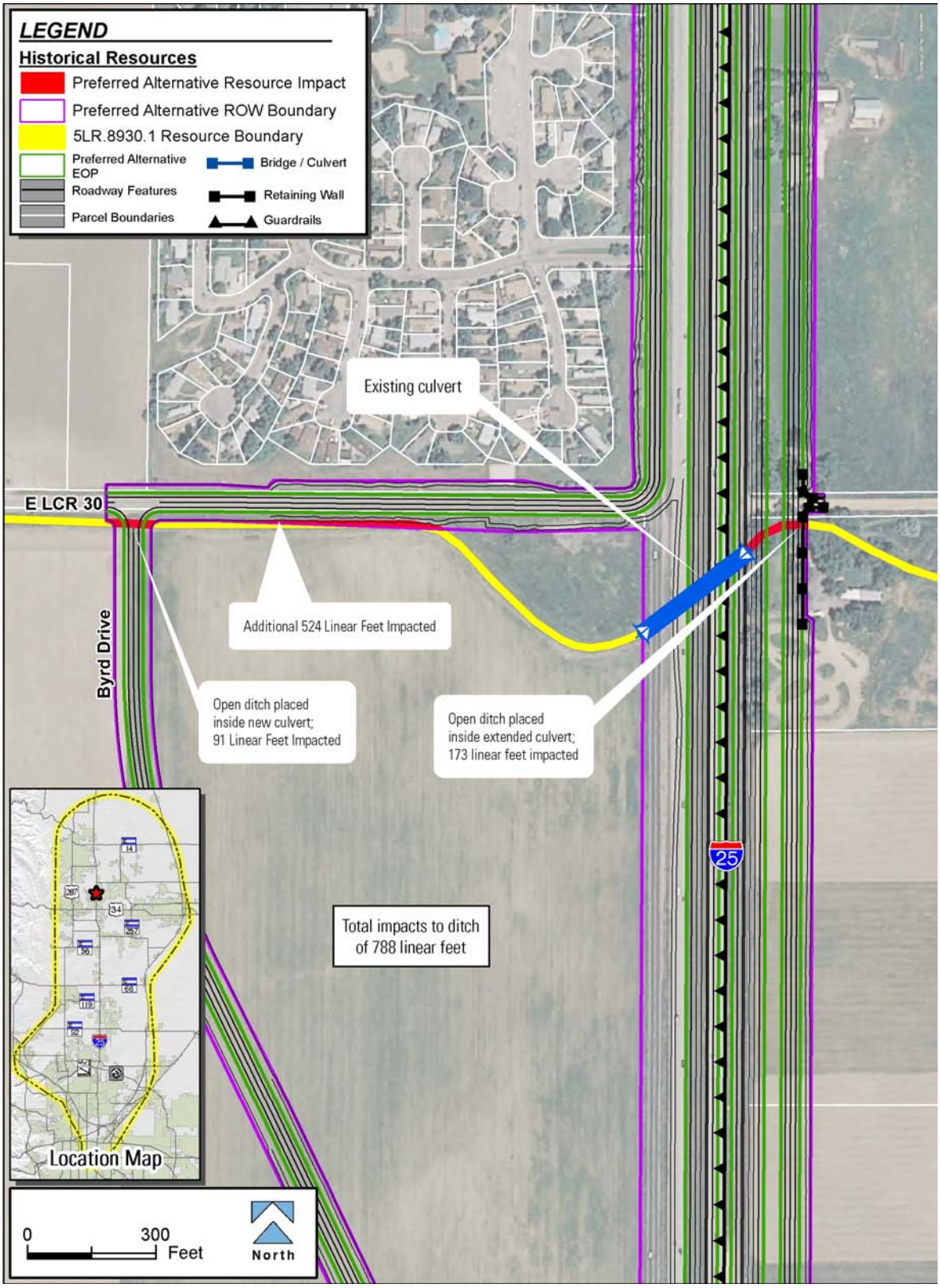
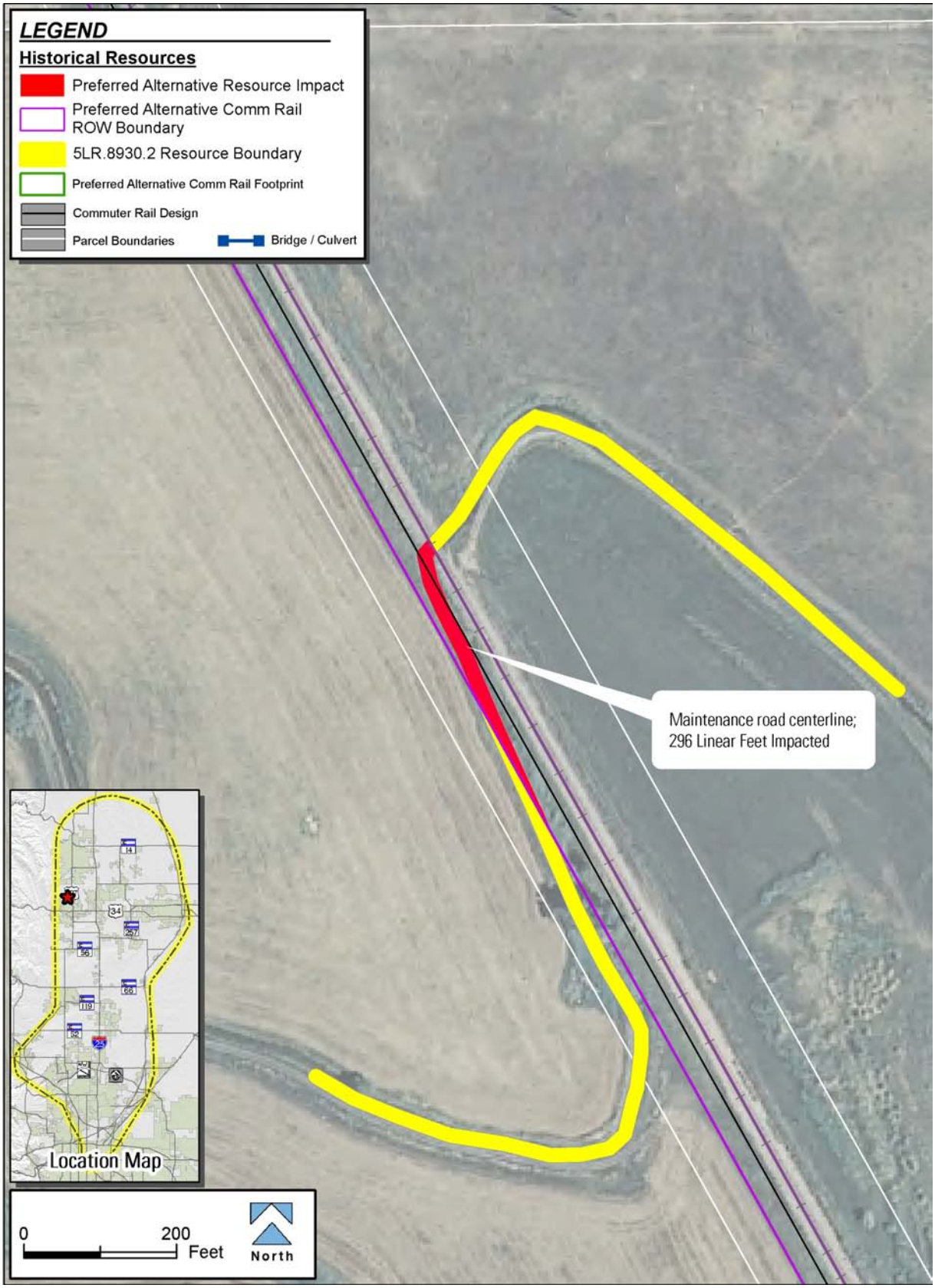


Figure 3.15-24 LR.8930.2 (Louden Ditch — Preferred Alternative



Summary Effect Determination:

Package A: No impacts to segment 5LR.8930.2 from proposed commuter rail improvements; however, 316 feet of open ditch would be placed inside a culvert in segment 5LR.8930.1. Temporary construction impacts would occur during culvert installation and highway construction activity. Because the physical integrity of the channel of the ditch segment would be permanently compromised by placing it in a culvert, FHWA, FTA and CDOT have determined that the Package A transit improvements would result in an *adverse effect* to the entire Louden Ditch (5LR.8930).

Package B: 361 feet of open ditch would be placed inside a culvert in segment 5LR.8930.1. Temporary construction impacts would occur during culvert installation and highway construction activity. Because the physical integrity of the channel of the ditch segment would be permanently compromised by placing it in a culvert, FHWA, FTA and CDOT have determined that the Package B transit improvements would result in an *adverse effect* to the entire Louden Ditch (5LR.8930).

Preferred Alternative: Impacts to segment 5LR.8930 from the Preferred Alternative include 788 feet of open ditch open ditch placed inside a culvert in segment 5LR.8930.1 for highway improvements and of 296 linear feet from segment 5LR.8930.2 placed inside a culvert as a result of proposed commuter rail improvements. Temporary construction impacts would occur during culvert installation and highway construction activity. Because the physical integrity of the channel of the ditch segment would be permanently compromised by placing it in a culvert, FHWA, FTA and CDOT have determined that the Preferred Alternative improvements would result in an *adverse effect* to the entire Louden Ditch (5LR.8930).

5LR.1815 (Union Pacific Railroad Fort Collins Branch)

Resource Description: The total length of the Union Pacific Railroad (UPRR) Fort Collins Branch rail line is 25 miles. Two segments of the rail line are located within the APE (see **Figure 3.15-25**). Segment 5LR.1815.2 is a 1.81-mile long segment of the historic railroad. The I-25 alignment crosses over this segment of the railroad alignment just north of the US 34 interchange. The active railroad segment traverses open farm land throughout its length and runs parallel to the Loveland and Greeley Canal (5LR.503.2) along part of this route.

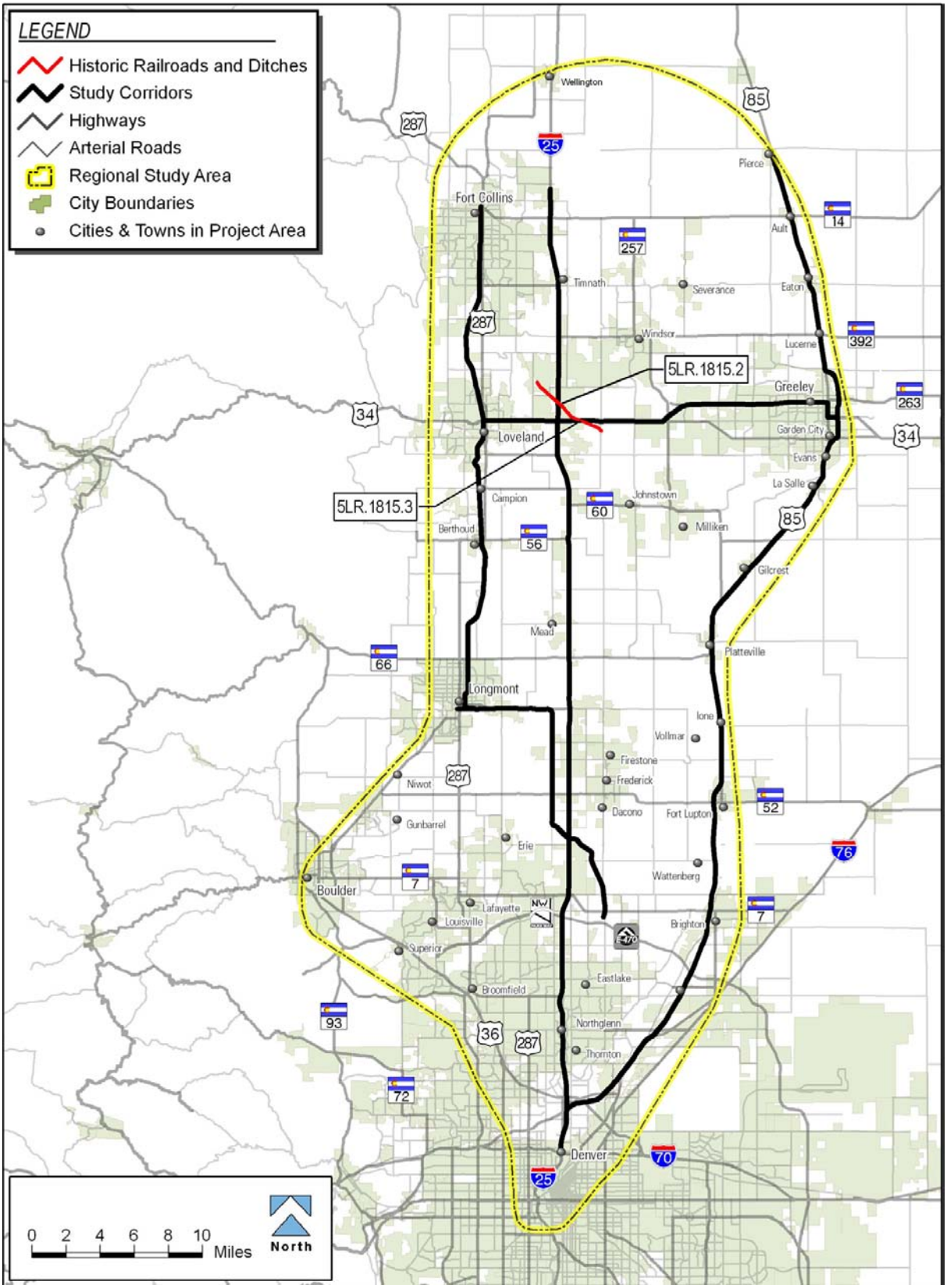
Segment 5LR.1815.3 is a 1,053-foot-long segment of the historic UPRR Fort Collins Branch. US 34 crosses over the railroad alignment just east of the I-25 interchange.

Eligibility Determination: In 2001, the UPRR Fort Collins Branch (5LR.1815) in Larimer County was officially determined by OAHP to be NRHP-eligible under Criterion A for its important association with the development of railway transportation, which facilitated the settlement and economic development of Colorado. Both railroad segments in the North I-25 APE (5LR.1815.2 and 5LR.1815.3) retain sufficient integrity of original location, design, and function to support the eligibility of the entire linear resource.

Effect Determination:

In order to determine the effect to the entire linear resource, impacts to each of the segments passing through the project APE were assessed. These impact assessments are presented below, followed by a determination of effect to the entire UPRR Fort Collins Branch (5LR.1815).

Figure 3.15-25 5LR.1815 (Union Pacific Railroad Fort Collins Branch)—Segments Intersecting Project APE



Impacts to segment 5LR.1815.2 – Package A: I-25 is currently bridged over the historic UPRR rail line via identical 158-foot-long, 37-foot-wide concrete bridges for each of the northbound and southbound lanes. Under Package A, the I-25 template would be widened on the east side of the northbound roadway and on the west side of the southbound roadway to accommodate four general purpose lanes plus one auxiliary lane in each direction. The existing bridges would be demolished and would be replaced by two new, 174-foot-long, 75-foot-wide bridge structures to span the rail line at the same general position as the old bridges. The alignment and operation of the railroad would not be changed, and the new bridge piers and abutments would be placed outside the historic rail corridor, so that no direct impacts would occur to the resource (see **Figure 3.15-26**).

The larger bridges would increase the amount of railway located underneath the bridge deck. Because these bridges replace existing modern bridges within the I-25 transportation corridor, the indirect effect to the historic setting of the railway is not expected to further diminish or alter the function, alignment, character, or attributes that render the railway NRHP-eligible.

Installation of the new bridge piers and deck structures would likely require temporary use of the historic property for equipment access and minor construction activities. The railroad would remain operational. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

The proposed transportation improvements associated with Package A would not substantially diminish or alter characteristics that render the property eligible for the NRHP.

Impacts to segment 5LR.1815.2 – Package B: Under Package B, the northbound and southbound I-25 roadways spanning the historic railroad would be substantially widened (approximately 96 feet on the east side of the northbound roadway and 104 feet on the west side of the southbound roadway), to accommodate a new template containing two general purpose lanes plus two barrier-separated managed lanes in each direction. The existing bridges carrying I-25 over the railroad would be replaced with one wider and longer 174-foot-long bridge structure. The alignment and operation of the railroad would not be changed, and the new bridge piers would be placed outside the historic rail corridor. No direct impacts would occur (see **Figure 3.15-27**).

Indirect and temporary construction effects would be the same as in Package A. The proposed transportation improvements associated with Package B would not substantially diminish or alter characteristics that render the property eligible for the NRHP.

Impacts to segment 5LR.1815.2 – Preferred Alternative: Under the Preferred Alternative, the northbound and southbound I-25 roadways spanning the historic railroad would be substantially widened to accommodate a new template containing three general purpose lanes plus one barrier-separated TEL in each direction. The existing bridges carrying I-25 over the railroad would be replaced with two new bridges (120 and 160-foot-wide) to span the rail line at the same general position as the old bridges. The alignment and operation of the railroad would not be changed, and the new bridge piers would be placed outside the historic rail corridor. No direct impacts would occur (see **Figure 3.15-28**).

Indirect and temporary construction effects would be the same as in Package A. The proposed transportation improvements associated with the Preferred Alternative would not substantially diminish or alter characteristics that render the property eligible for the NRHP.

Figure 3.15-26 5LR.1815.2 (Union Pacific Railroad Fort Collins Branch) – Package A

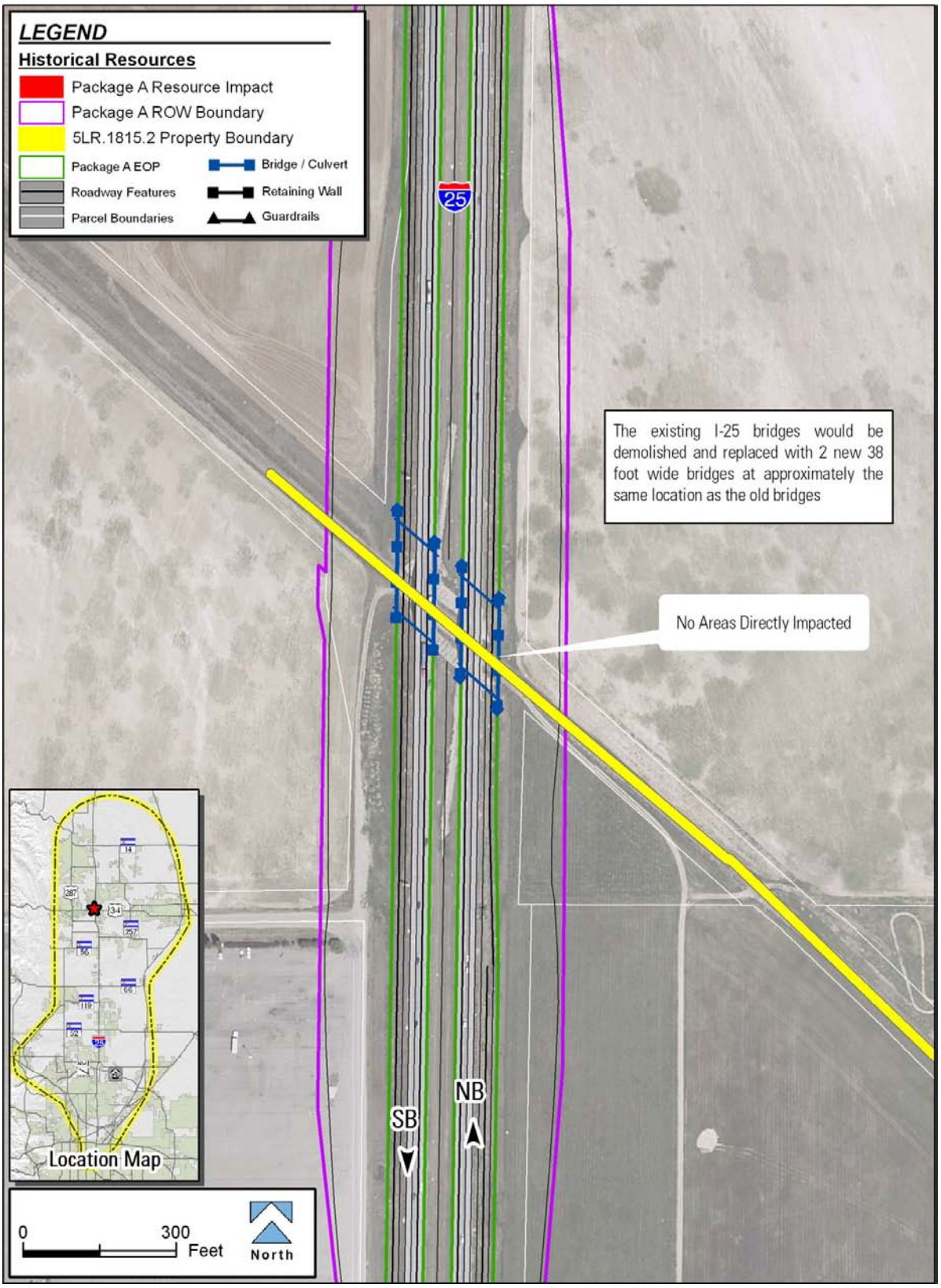


Figure 3.15-27 5LR.1815.2 (Union Pacific Railroad Fort Collins Branch) – Package B

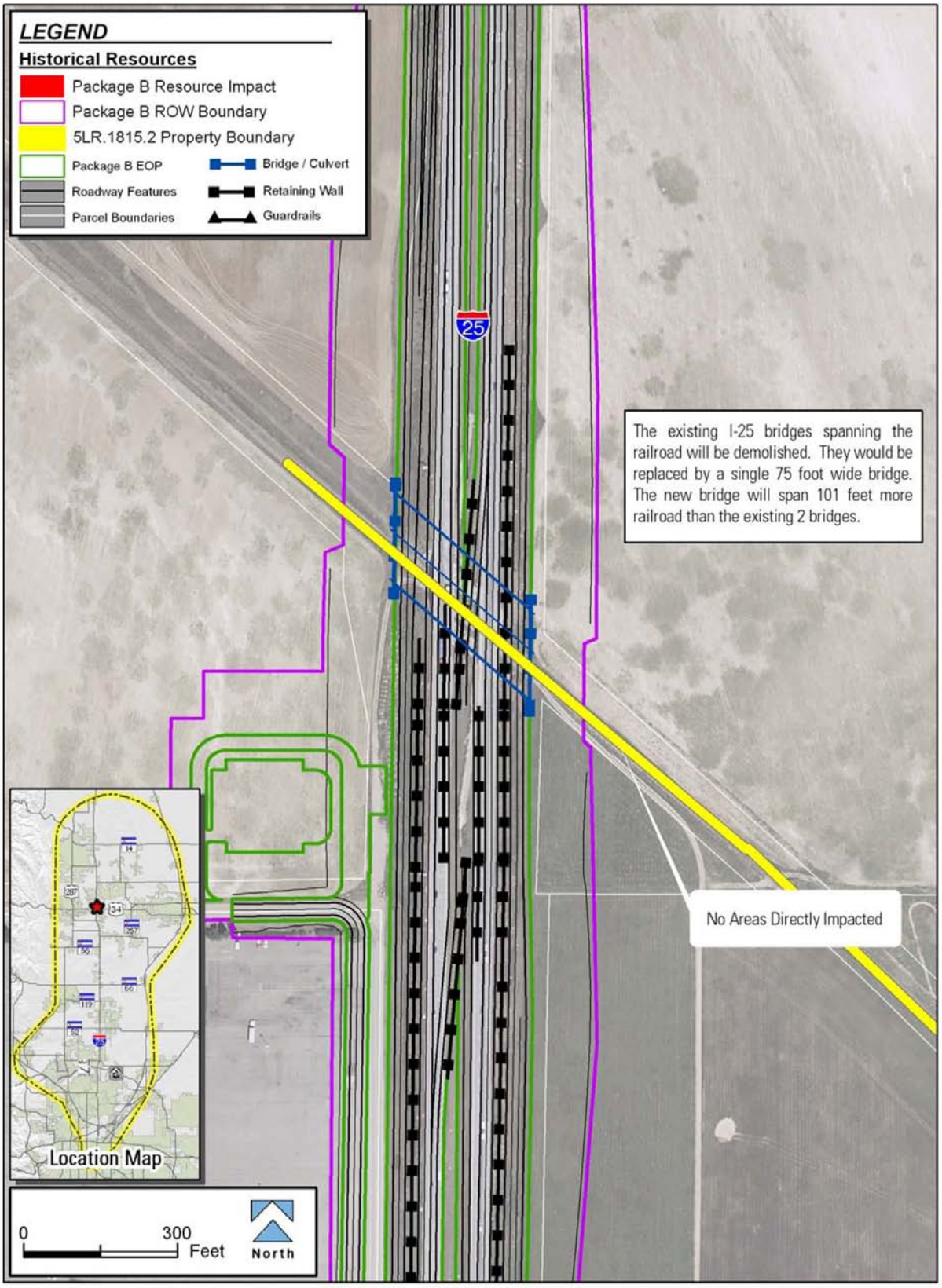
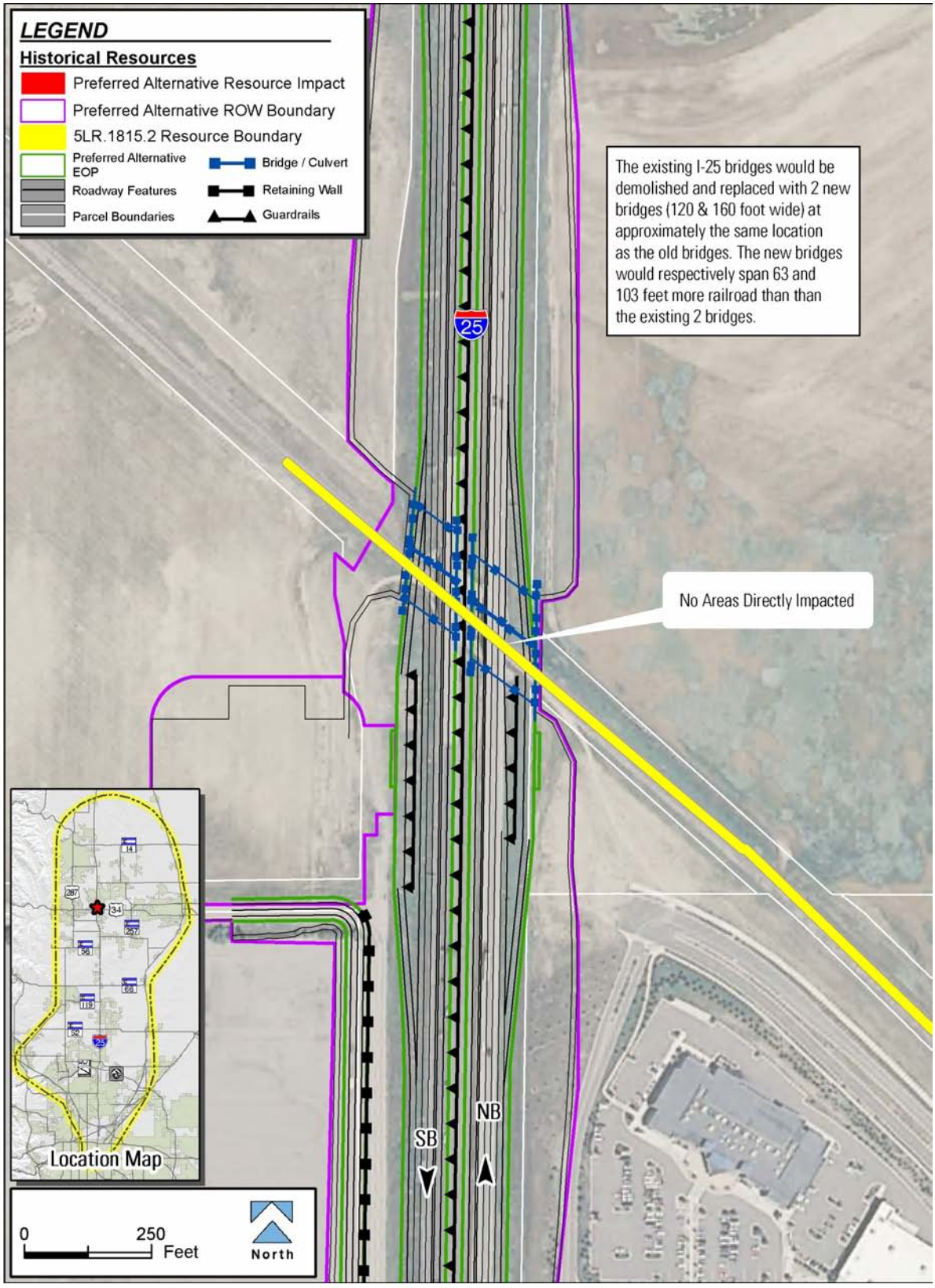


Figure 3.15-28 5LR.1815.2 (Union Pacific Railroad Fort Collins Branch) – Preferred Alternative



Impacts to segment 5LR.1815.3 – Package A: This historic resource crosses US 34 over 700 feet outside the construction limits of the proposed Package A improvements. No direct or indirect impacts would occur to the historic property.

Impacts to segment 5LR.1815.3 – Package B: The (lack of) effects to the historic segment of the UPRR under Package B are the same as Package A.

Impacts to segment 5LR.1815.3 – Preferred Alternative: The (lack of) effects to the historic segment of the UPRR under the Preferred Alternative are the same as Package A.

Summary Effect Determination:

Package A: No direct impacts would occur at any segment locality within the North I-25 APE. Temporary construction impacts and indirect effects due to expanded overhead coverage by the highway bridges would occur at segment 5LR.1815.2. The proposed transportation improvements associated with Package A would not substantially diminish or alter characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Package A improvements would result in *no adverse effect* to the entire UPRR Fort Collins Branch (5LR.1815).

Package B: No direct impacts would occur at any segment locality within the North I-25 APE. Temporary construction impacts and indirect effects due to expanded overhead coverage by the highway bridges would occur at segment 5LR1815.2. The proposed transportation improvements associated with Package A would not substantially diminish or alter characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Package B improvements would result in *no adverse effect* to the entire UPRR Fort Collins Branch (5LR.1815).

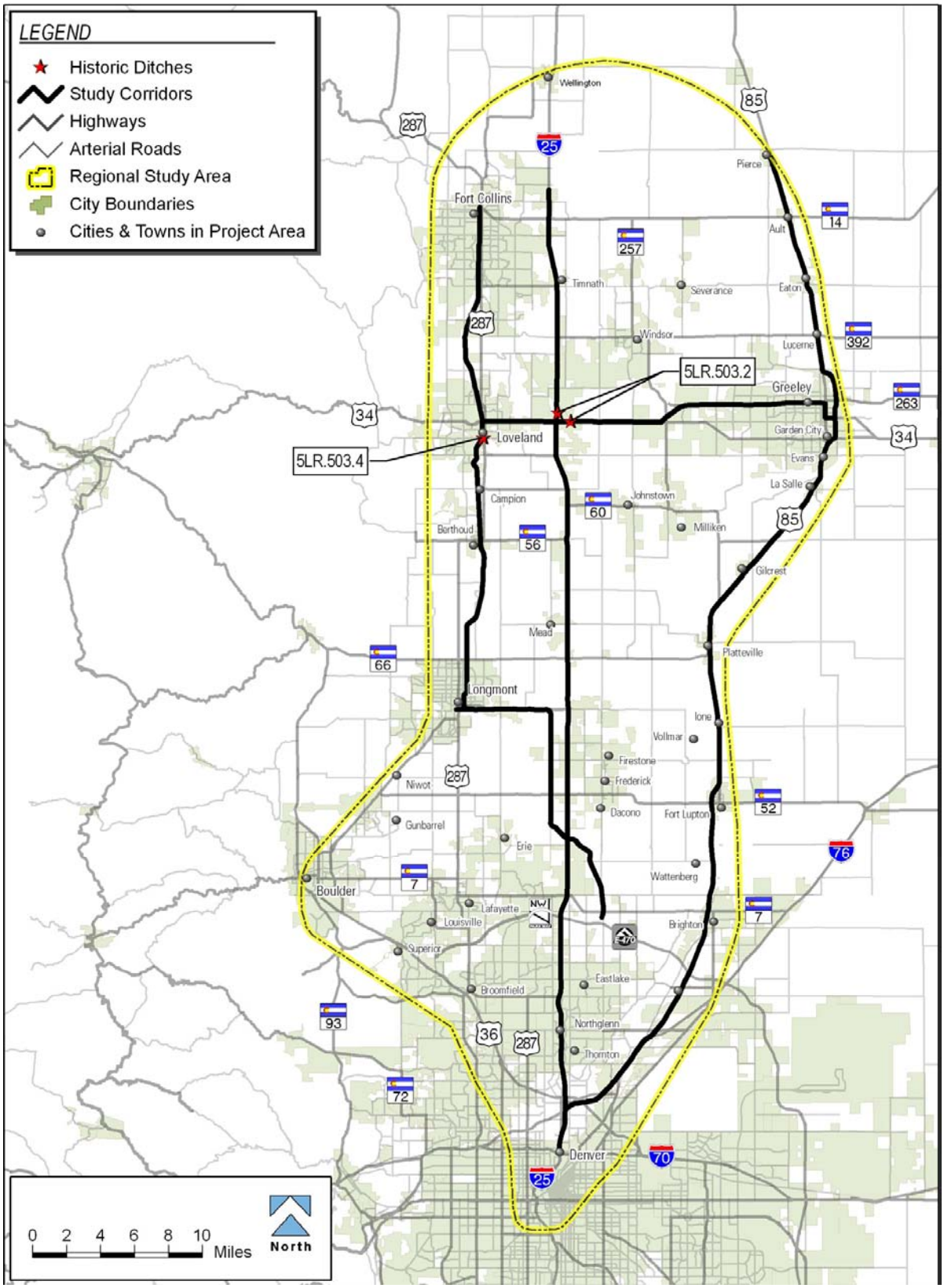
Preferred Alternative: No direct impacts would occur at any segment locality within the North I-25 APE. Temporary construction impacts and indirect effects due to expanded overhead coverage by the highway bridges would occur at segment 5LR.1815.2. The proposed transportation improvements associated with the Preferred Alternative would not substantially diminish or alter characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative improvements would result in *no adverse effect* to the entire UPRR Fort Collins Branch (5LR.1815).

5LR.503 (Loveland and Greeley Canal)

Resource Description: The canal was originally built in 1861. The entire canal is approximately 31 miles long. Two documented segments are in the project APE (**see Figure 3.15-29**). Segment 5LR.503.2 of the historic Loveland and Greeley Canal crosses I-25 as well as the parallel frontage road is 2.62 miles long. The canal is approximately 39 feet wide and 26 feet deep. During the construction of I-25 in the 1960s, the original canal alignment was preserved but the integrity of the canal in this location was compromised by placing it within a CBC under the highway. The three-sided, pre-cast CBC measures 23 feet wide and 402.6 feet long. Both banks of the canal are grass-covered, and riprap is used for bank stabilization in many areas. The area surrounding the canal segment includes retail and residential development.

The earthen ditch segment 5LR.503.4 follows the historic channel alignment through the old town area of Loveland. The surrounding area includes retail and residential development.

Figure 3.15-29 5LR.503 (Loveland and Greeley Canal)—Segments Intersecting Project APE



Eligibility Determination: In 1984, the Loveland & Greeley Canal was evaluated by OAHP as NRHP-eligible under Criterion A for its important contribution to agricultural development in the Loveland area. The Loveland and Greeley Canal is nearly 150 years old and evokes the historic agricultural era and conveys the important contribution that irrigation canals made to local history. Segment 503.2 retains physical integrity except where it was placed in a culvert beneath I-25. Segment (5LR.503.4) retains sufficient integrity of location, setting, feeling, and use to support the eligibility of the entire linear resource.

Effect Determination:
In order to determine the effect to the entire linear resource, impacts to each of the segments passing through the project APE were assessed. These impact assessments are presented below, followed by a determination of effect to the entire Loveland and Greeley Canal in Larimer County.

Impacts to segment 5LR.503.2 – Package A: Package A involves the widening of I-25 through this area, changing it from the existing configuration of two northbound and two southbound traffic lanes, to a new section containing three general purpose lanes in each direction for a total of six traffic lanes. Although more mainline travel lanes would be constructed on I-25, they would fit within the existing CDOT right-of-way without affecting the existing culvert conveying the canal underneath the highway.

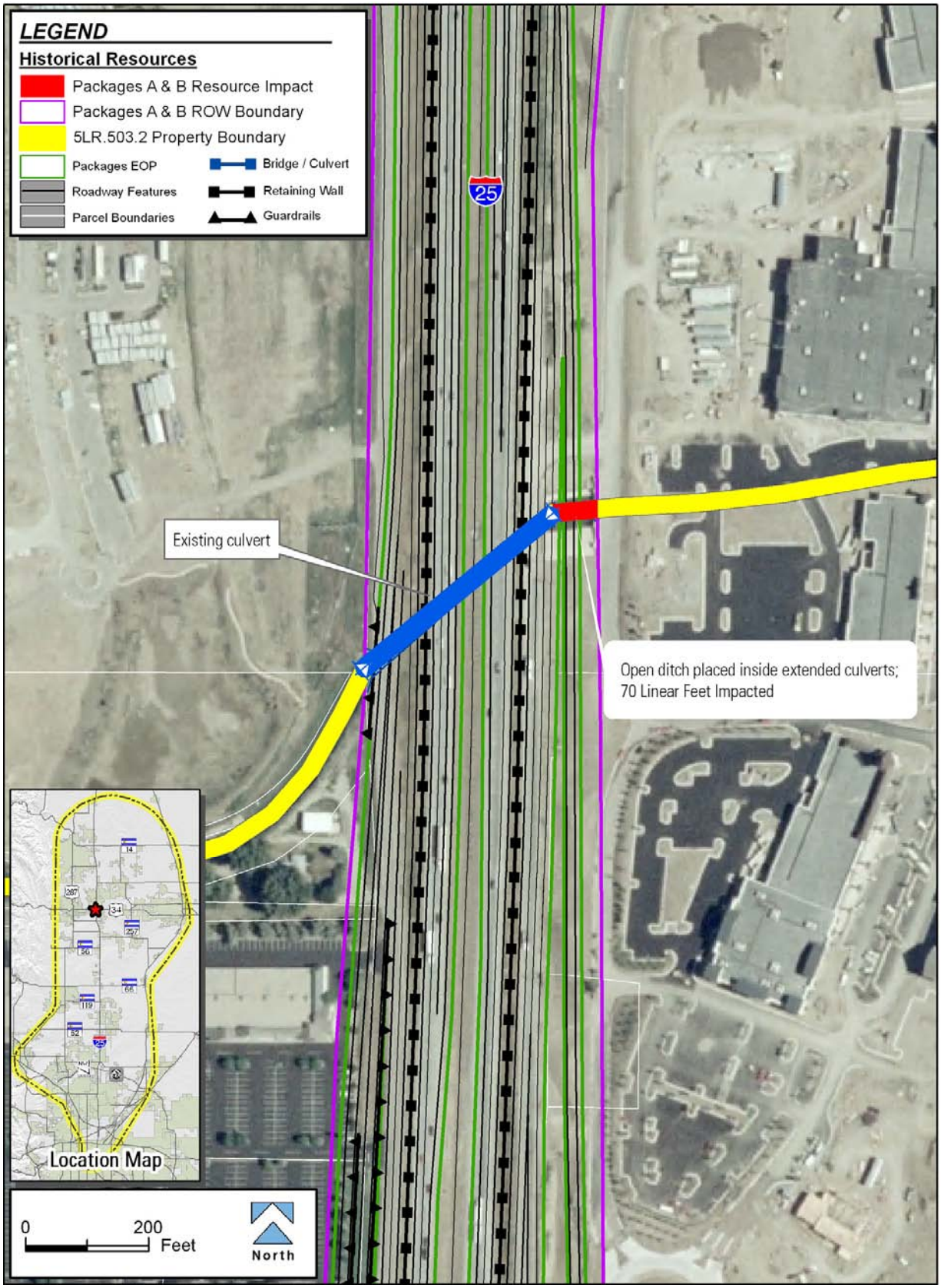
A new US 34 interchange northbound I-25 on-ramp would be constructed outside the existing highway right-of-way and would cross the Loveland and Greeley Canal east of the existing culvert opening. The existing box culvert must be extended an additional 70 feet on the east side of I-25 and the north-bound I-25 on-ramp would be built over the top of the new extended culvert (see **Figure 3.15-30**).

Construction of the new culvert would likely require temporary use of the historic property for equipment access. The ditch would likely be diverted temporarily during culvert construction but would remain operational, and irrigation water would be protected from construction-related sedimentation. All disturbance caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

Impacts to segment 5LR.503.2 – Package B: This Package involves the widening of I-25 through this area, changing it from the existing configuration of two northbound and two southbound traffic lanes, to a new section containing a total of eight lanes: two managed lanes plus two general purpose lanes in each direction. Although more lanes would be constructed, they would fit within the existing CDOT right-of-way with the exception of a new US 34 to north-bound I-25 onramp. Effects to the historic canal are the same as would occur under Package A, and involves extending the existing three-sided CBC beneath I-25 an additional 70 feet to the east to accommodate the proposed new I-25 onramp. Temporary impacts due to construction of the US 34 ramp and installation of the new culvert would be the same as for Package A (see **Figure 3.15-30**).

Impacts to segment 5LR.503.2 – Preferred Alternative: The Preferred Alternative involves the widening of I-25 through this area, changing it from the existing configuration of two northbound and two southbound traffic lanes, to a new section containing three general purpose lanes and a barrier-separated TEL in each direction for a total of eight traffic lanes. Although more mainline travel lanes would be constructed on I-25, they would fit within the existing CDOT right-of-way without affecting the existing culvert conveying the canal underneath the highway.

Figure 3.15-30 5LR.503.2 (Loveland and Greeley Canal) – Packages A and B



A new US 34 interchange northbound I-25 on-ramp would be constructed outside the existing highway right-of-way and would cross the Loveland and Greeley Canal east of the existing culvert opening. The existing box culvert must be extended an additional 65 feet on the east side of I-25 and the north-bound I-25 on-ramp would be built over the top of the new extended culvert (see **Figure 3.15-31**).

Construction of the new culvert would likely require temporary use of the historic property for equipment access. The ditch would likely be diverted temporarily during culvert construction but would remain operational, and irrigation water would be protected from construction-related sedimentation. All disturbance caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

Impacts to segment 5LR.503.4 – Package A: None of the proposed commuter rail improvements under Package A would cause changes to this historic property.

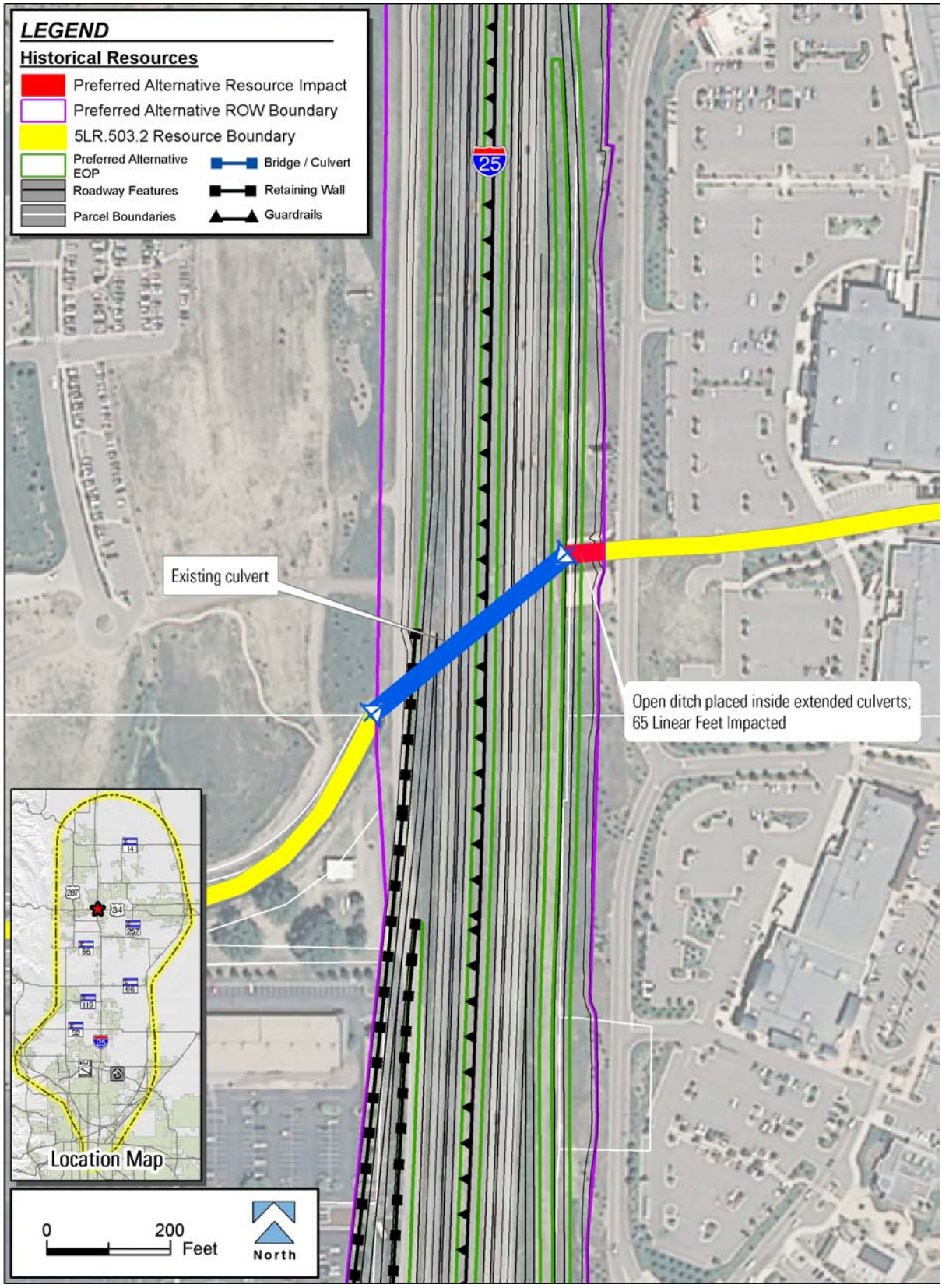
Impacts to segment 5LR.503.4 – Preferred Alternative: None of the proposed commuter rail improvements under the Preferred Alternative would cause changes to this historic property.

Summary Effect Determination:
Package A: The 70-foot culvert extension and temporary construction impacts required under Package A would enclose a very short section of open canal with integrity, and would not alter the canal's historic alignment. This change would not diminish or alter characteristics that render it NRHP-eligible, and FHWA, FTA and CDOT have determined that Package A would result in *no adverse effect* to the entire Loveland and Greeley Canal (5LR.503).

Package B: Although 70 feet of canal with integrity on the east side of I-25 would be placed in a culvert extension, this change would not diminish or alter characteristics that render the canal eligible for the NRHP, and FHWA, FTA and CDOT have determined that Package B would result in no adverse effect to the resource.

Preferred Alternative: The 65-foot culvert extension and temporary construction impacts required under the Preferred Alternative would enclose a very short section of open canal with integrity, and would not alter the canal's historic alignment. This change would not diminish or alter characteristics that render it NRHP-eligible, and FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no adverse effect* to the entire Loveland and Greeley Canal (5LR.503).

Figure 3.15-31 5LR.503.2 (Loveland and Greeley Canal) – Preferred Alternative



5LR.8928 (Farmers' Ditch)

Resource Description: This irrigation ditch was originally built in 1864. The entire Farmer's Ditch is approximately 15 miles long. Three segments of the ditch are present within the APE (see **Figures 3.15-32 and -33**). Segment 5LR.8928.1 of the Farmers' Ditch crosses I-25 parallel to US 34 in the vicinity of the I-25 and US 34 interchange. Here, the earthen canal is approximately 16 feet wide and 1.5 miles long. The levees and banks along both sides of the ditch are grass-covered. The surrounding area includes retail and residential development.

Segment 5LR.8928.2 is the portion of the irrigation ditch west of I-25 and within the northeast quadrant of the interchange to where Farmers' Ditch crosses US 34. The ditch has been lined with concrete, realigned and modified by commercial development and the construction of I-25 and US 34. The segment is 1.8 miles long.

Segment 5LR.8928.7 of the historic Farmers' Ditch generally runs perpendicular to I-25 and crosses the proposed Package A commuter railway alignment. The earthen ditch is 151 feet long and 9 feet wide. Grassy vegetation lines both banks of the ditch in many areas. The surrounding area includes industrial and residential development.

Eligibility Determination: The entire Farmers' Ditch (5LR.8928) is eligible for listing on the NRHP under Criterion A because of its important association with the development of water rights and agriculture in Larimer County. Segments 5LR.8928.1 and 5LR.8928.7 retain visual and structural integrity within a semi-rural setting, and both segments support the eligibility of the entire linear resource. Segment 5LR.8928.2 of Farmers' Ditch has been modified to the point that its remaining features no longer support the eligibility of the entire resource.

Effect Determination:

In order to determine the effect to the entire linear resource, impacts to each of the segments passing through the project APE were assessed. These impact assessments are presented below, followed by a determination of effect to the entire Farmers' Ditch (5LR.8928).

Impacts to segment 5LR.8928.1 – Package A: Under Package A, the Farmers Ditch segment that currently passes underneath US 34 in a CBC would be conveyed an additional 65 feet inside an extended culvert, south of US 34 to allow widening of the US 34 roadway. The new road would overly the ditch culvert. **Figure 3.15-34** illustrates the US 34 culvert extension.

Temporary construction activities associated with installation of new ditch culverts and nearby highway improvements would result in temporary impacts to the ditch. A temporary construction easement may be acquired.

Impacts to segment 5LR.8928.1 – Package B: Under Package B, the Farmers Ditch segment that currently passes underneath US 34 in a CBC would be conveyed an additional 65 feet inside an extended culvert, south of US 34 to allow widening of the US 34 roadway. The new road would overly the ditch culvert. **Figure 3.15-34** illustrates the US 34 culvert extension. Temporary construction impacts would be the same as those for Package A.

Impacts to segment 5LR.8928.1 – Preferred Alternative: Under the Preferred Alternative, the Farmers Ditch segment that currently passes underneath US 34 in a CBC would be conveyed an additional 78 feet inside an extended culvert, south of US 34 to allow widening of the US 34 roadway. The new road would overlay the ditch culvert. **Figure 3.15-35** illustrates the US 34 culvert extension.

Temporary construction activities associated with installation of new ditch culverts and nearby highway improvements would result in temporary impacts to the ditch. A temporary construction easement may be acquired.

Impacts to segment 5LR.8928.2 – Package A: The Farmers' Ditch segment 5LR.8928.2 runs parallel to the north side of US 34 until it reaches the west frontage road of I-25 where it flanks the north side of that roadway as an open ditch for several hundred feet. The ditch enters a pipe where it crosses underneath the west frontage road, I-25, and I-25 ramps. The ditch remains underground, inside a culvert pipe, until it daylights at the east frontage road.

Under the Package A improvements, direct impacts to the ditch would occur in four places along this ditch segment. Direct impact would occur at two locations on the west side of I-25 where this historic ditch parallels the north side of US 34. Approximately 1,225 feet of open ditch west of, and an 1,090-foot-long stretch of open ditch east of Rocky Mountain Avenue, lies within the proposed wider US 34 roadway template. The open ditch would be encased inside an underground pipe to allow construction of the wider pavement and side slope.

Two direct impacts would occur on the east side of I-25. These include a 115-foot-long portion of open ditch on the northeast quadrant of the I-25/US 34 interchange, which would require the ditch to be encased inside a culvert beneath the proposed new northbound I-25 on-ramps. A short distance farther to the east, the same ditch flows under US 34 inside a CBC. Proposed widening of the US 34 roadway in this location would require culvert extensions of approximately 44 feet on the north side of US 34 and 65 feet on the south side (5LR.8928.1) of US 34, totaling 109 feet more open ditch that would be conveyed inside a concrete culvert (see **Figure 3.15-34**).

Temporary construction activities associated with installation of new ditch culverts and nearby highway improvements would result in temporary impacts to the ditch. A temporary construction easement may be acquired.

Impacts to segment 5LR.8928.2 – Package B: Package B improvements to the I-25 /US 34 interchange as well as US 34 and the Rocky Mountain Avenue intersection would result in very similar direct impacts to the historic Farmers' Ditch as Package A (see **Figure 3.15-34**).

Impacts to segment 5LR.8928.2 – Preferred Alternative: The Farmers' Ditch segment 5LR.8928.2 runs parallel to the north side of US 34 until it reaches the west frontage road of I-25 where it flanks the north side of that roadway as an open ditch for several hundred feet. The ditch enters a pipe where it crosses underneath the west frontage road, I-25, and I-25 ramps. The ditch remains underground, inside a culvert pipe, until it daylights at the east frontage road.

Under the Preferred Alternative improvements, direct impacts to the ditch would occur in four places along this ditch segment. Direct impact would occur at two locations on the west side of I-25where this historic ditch parallels the north side of US 34. Approximately 1,225 feet of open ditch west of, and a 1,090-foot-long stretch of open ditch east of Rocky Mountain Avenue, lies within the proposed wider US 34 roadway template. The open ditch would be encased inside an underground pipe to allow construction of the wider pavement and side slope.

Two direct impacts would occur on the east side of I-25. These include a 95-foot-long portion of open ditch on the northeast quadrant of the I-25/US 34 interchange, which would require the ditch to be encased inside a culvert beneath the proposed new northbound I-25 on-ramps. A short distance farther to the east, the same ditch flows under US 34 inside a CBC. Proposed widening of the US 34 roadway in this location would require culvert extensions of approximately 44 feet on the north side of US 34 and 78 feet on the south side (5LR.8928.1) of US 34, totaling 109 feet more open ditch that would be conveyed inside a concrete culvert (see **Figure 3.15-35**).

Temporary construction activities associated with installation of new ditch culverts and nearby highway improvements would result in temporary impacts to the ditch. A temporary construction easement may be acquired.

Impacts to segment 5LR.8928.7—Package A: None of the proposed commuter rail improvements would cause changes to this historic property.

Impacts to segment 5LR.8928.7 – Preferred Alternative: None of the proposed commuter rail improvements under the Preferred Alternative would cause changes to this historic property.

Summary Effect Determination:

Package A: Ditch segments 5LR.8928.1 and 5LR.8928.2 would experience temporary construction impacts during culvert installation and highway construction activity. The direct impacts to these same segments cumulatively amount to 2,539 linear feet or 0.48 mile of open ditch requiring placement inside underground pipes and box culvert extensions. Because the physical integrity of the channel of the ditch segment in much of the I-25 /US 34 interchange area has already been compromised by numerous culvert installations, realignments and other modifications and no longer supports the qualities that make the entire ditch NRHP-eligible, FHWA, FTA and CDOT have determined that the Package A improvements would result in *no adverse effect* with respect to the entire Farmers' Ditch (5LR.8928).

Package B: The proposed transportation improvements would result in temporary and direct impacts identical to those associated with Package A. FHWA, FTA and CDOT have determined that the Package B transportation improvements would result in *no adverse effect* with respect to the entire Farmers' Ditch (5LR.8928).

Preferred Alternative: Ditch segments 5LR.8928.1 and 5LR.8928.2 would experience temporary construction impacts during culvert installation and highway construction activity. The direct impacts to these same segments cumulatively amount to 2,532 linear feet or 0.48 mile of open ditch requiring placement inside underground pipes and box culvert extensions. Because the physical integrity of the channel of the ditch segment in much of the I-25/US 34 interchange area has already been compromised by numerous culvert installations, realignments and other modifications and no longer supports the qualities that make the entire ditch NRHP-eligible, FHWA, FTA and CDOT have determined that the Preferred Alternative improvements would result in *no adverse effect* with respect to the entire Farmers' Ditch (5LR.8928).

Figure 3.15-32 5LR.8928 (Farmers' Ditch) – Segments intersecting the project APE

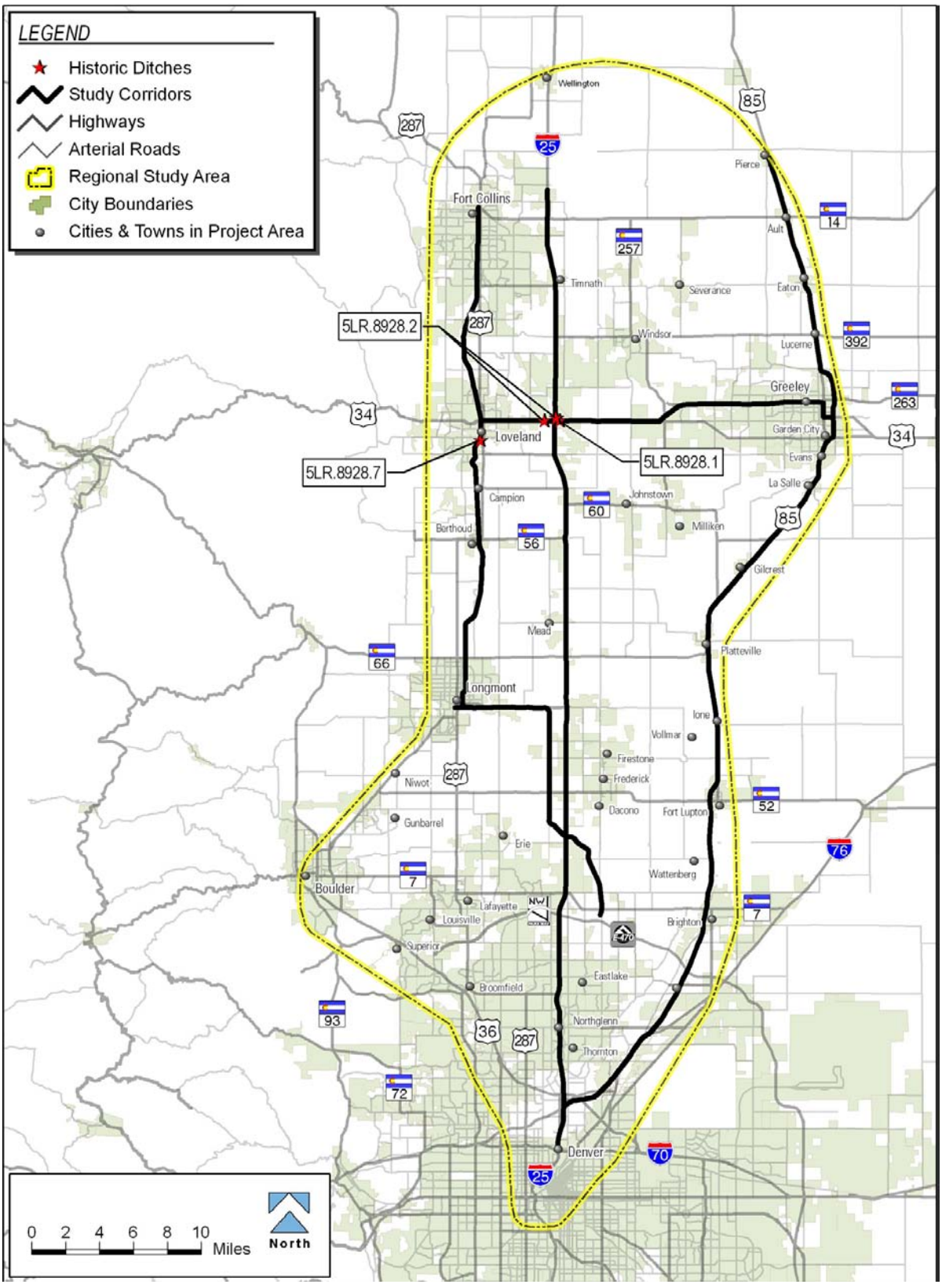


Figure 3.15-33 5LR.8928.1 and 5LR.8928.2 (Farmers' Ditch) – Location Map

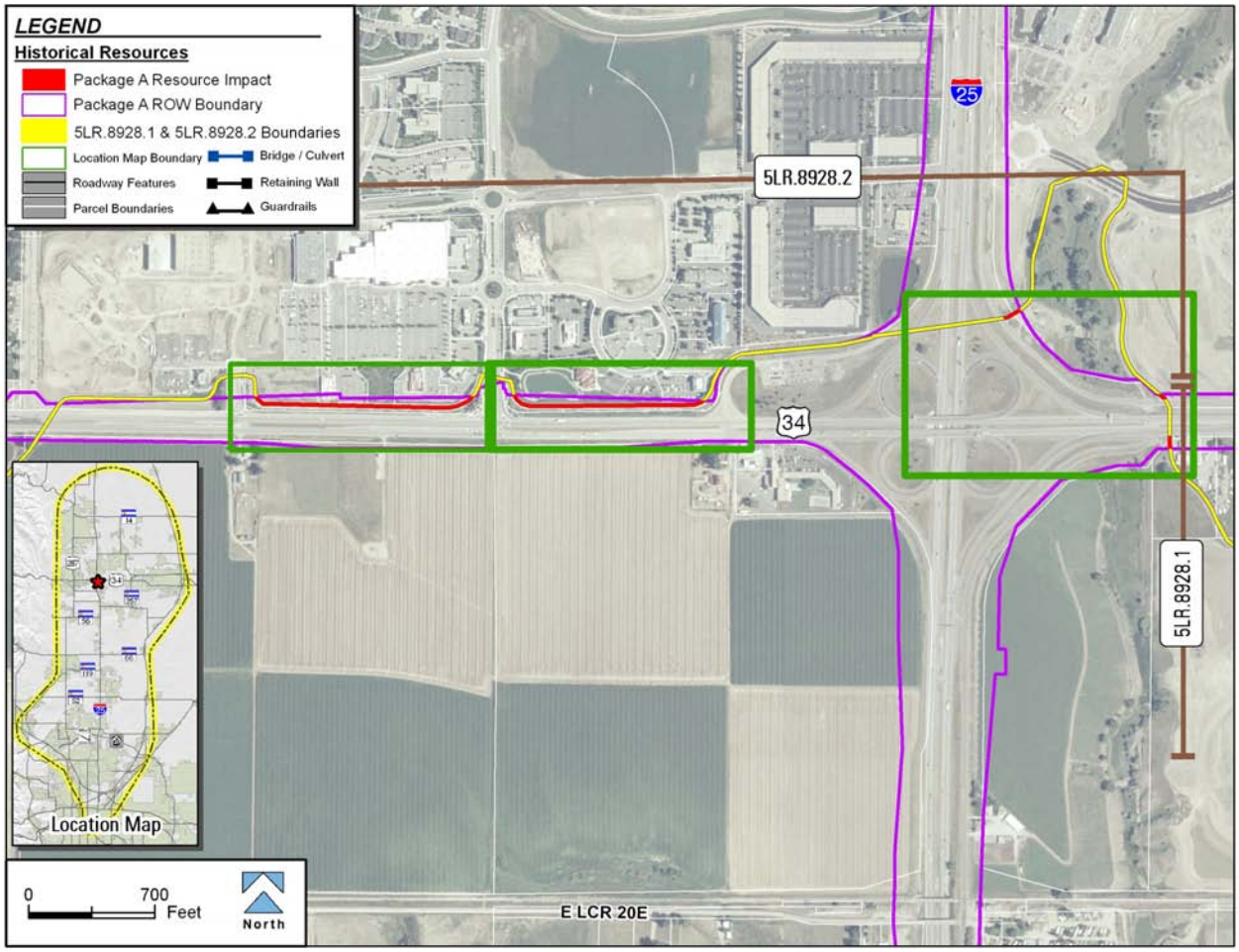


Figure 3.15-34 5LR.8928.1 and 5LR.8928.2 (Farmers' Ditch) – Packages A and B

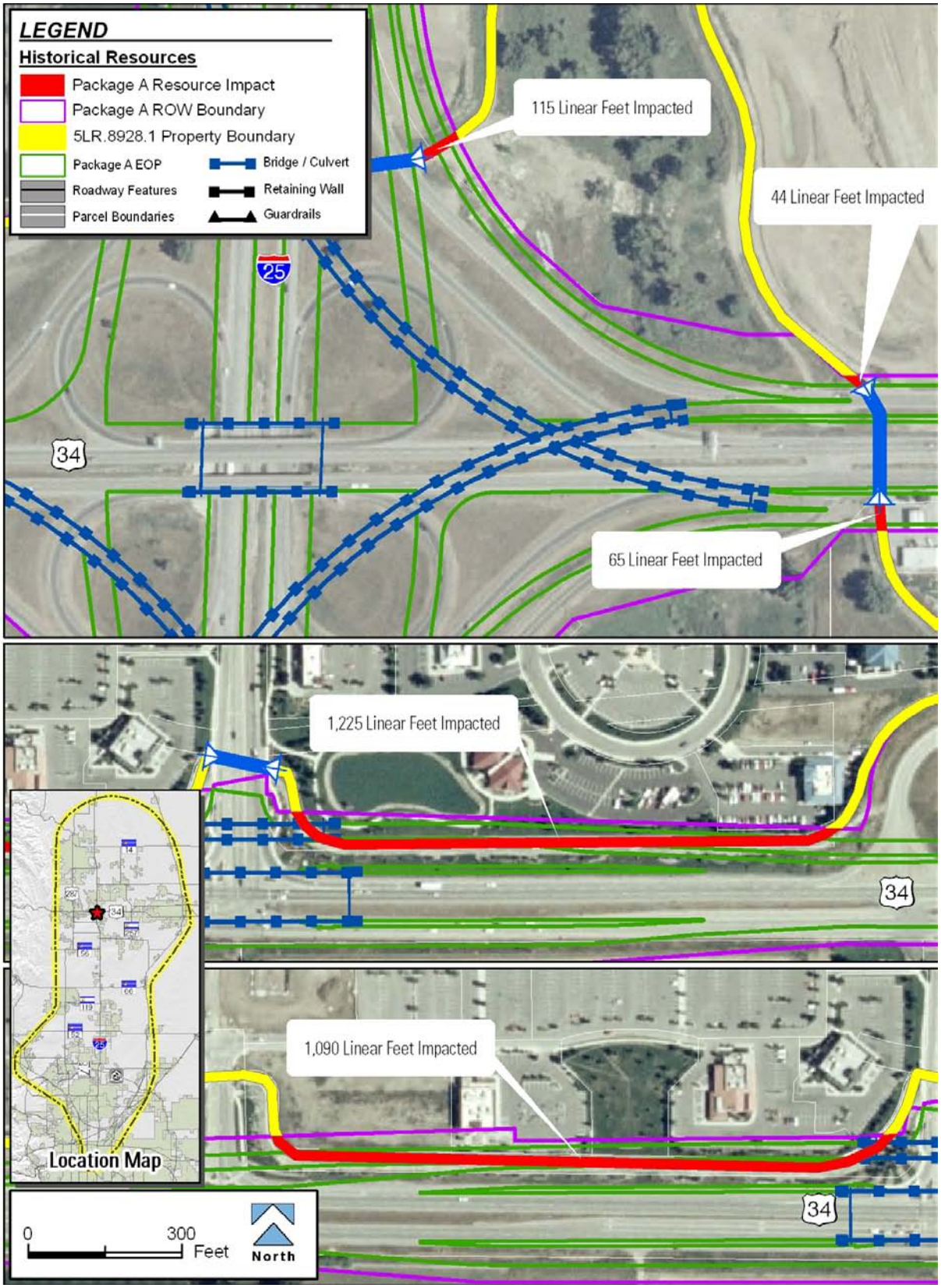
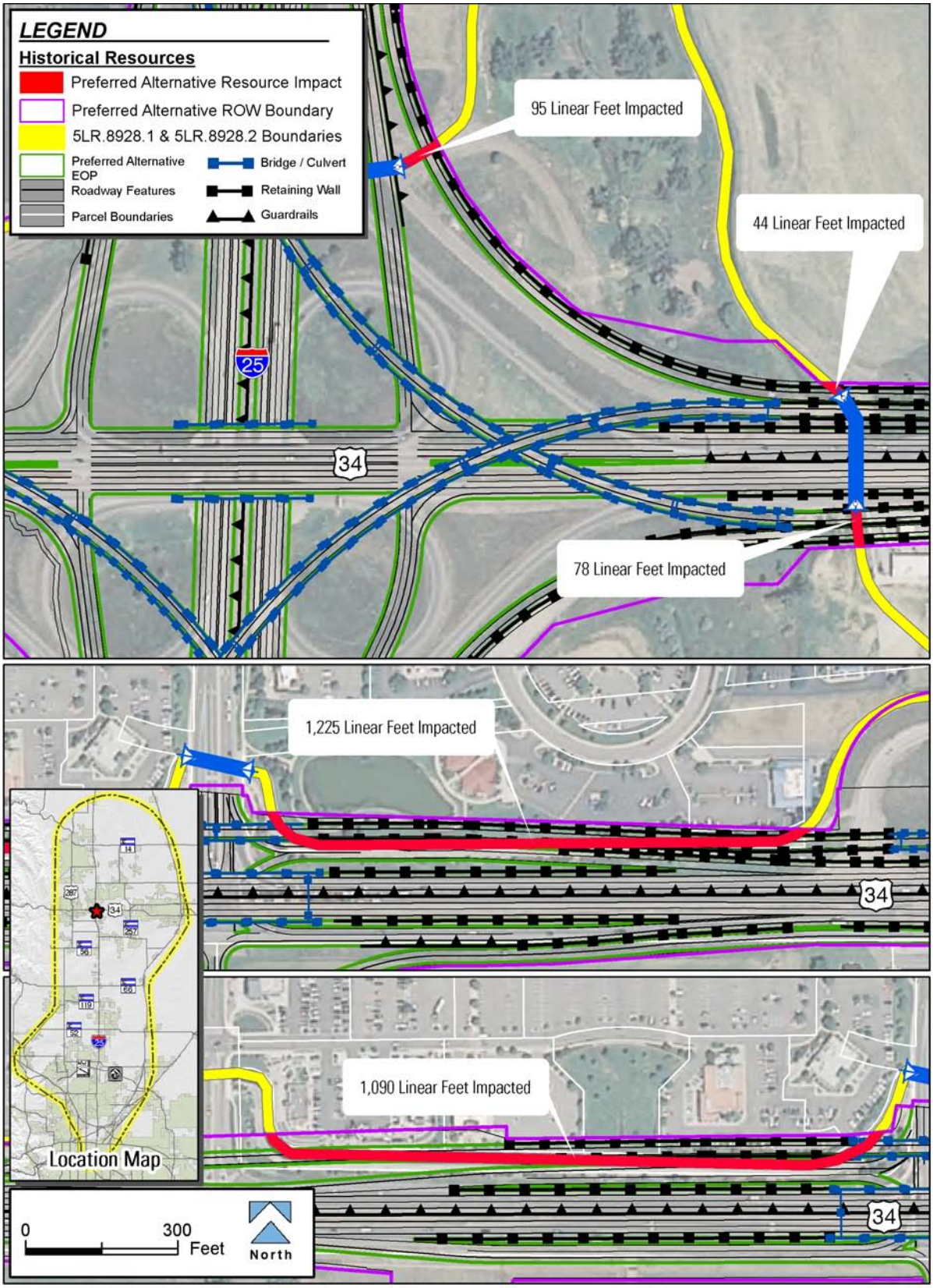


Figure 3.15-35 5LR.8928.1 and 5LR.8928.2 (Farmers' Ditch) – Preferred Alternative



5LR.11209 (Schmer Farm)

Resource Description: The Schmer Farm is located at 5464 East US 34 on the southwest corner of I-25 and US 34. Dating to the early 1900s, the farm remains a fairly complete example of a Larimer County farm from that time period. The farm continues to have a land base, and it is still currently used for farming. At one time, it was used for growing of sugar beets but now it is used for growing corn and grains. The original size of the farm was 160 acres. The farm's size has been reduced 25 percent from the original 160 acres and is currently 119.5 acres. Twenty-eight acres at the northeast corner of the property were sold by the owners in 1962 for commercial development at the I-25 entry ramp from US 34 and another twelve acres have been sold since that time.

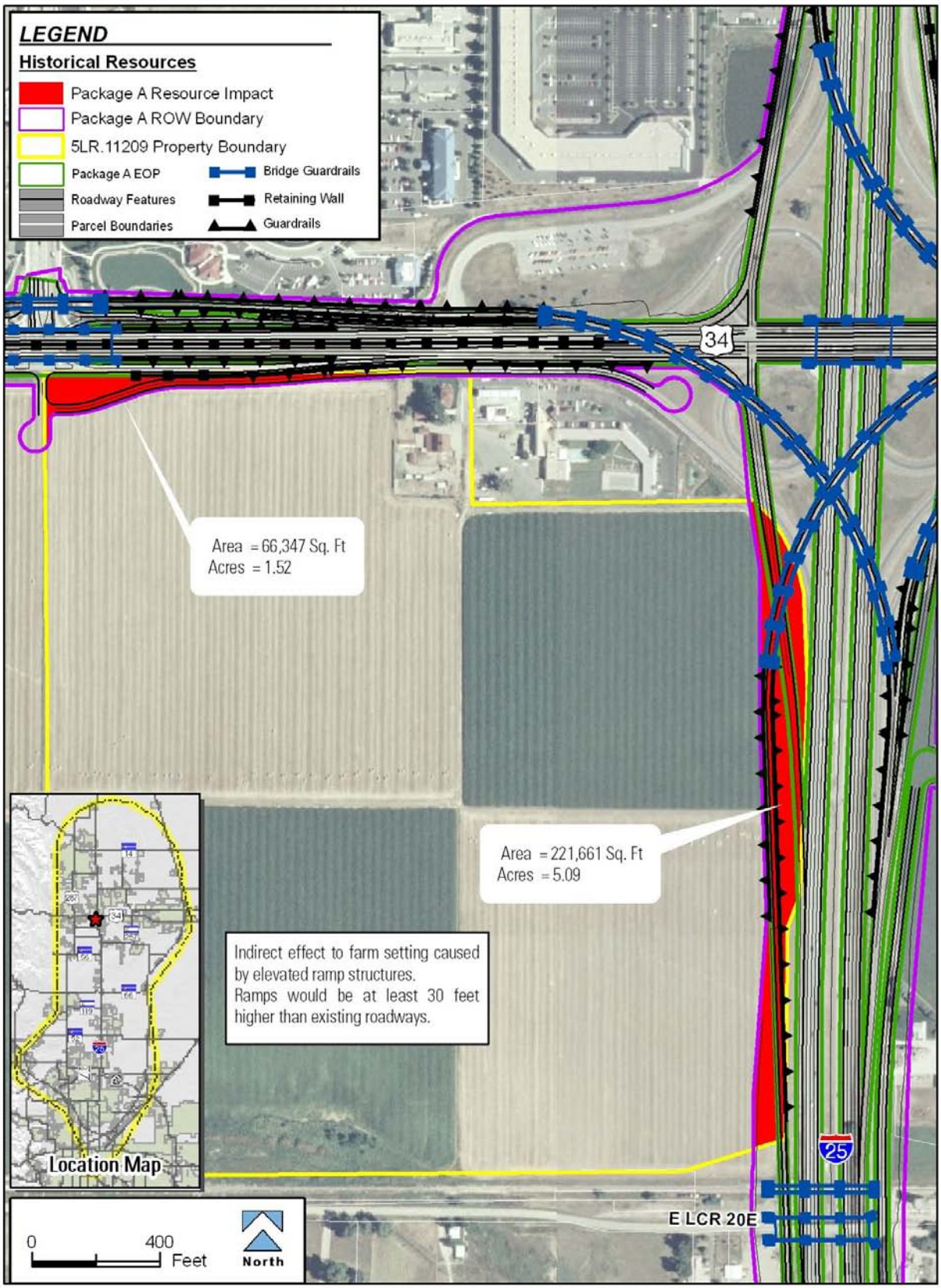
Schmer Farm

Eligibility Determination: On August 17, 2006, CDOT determined, and the SHPO concurred, that the Schmer Farm was officially eligible for the NRHP under Criterion A for its associations with 20th century farming, including sugar beet growing. It is also eligible under Criterion C as representative of the architecture typically associated with Loveland and Larimer County farms during the first half of the 20th century.

Effect Determination – Package A: This historic farm would be directly impacted by proposed improvements to the I-25/US 34 interchange associated with Package A. Direct impacts to the site would result from the construction of new interchange ramps, including long curving, elevated ramps from westbound US 34 to southbound I-25, and a new southbound on-ramp from eastbound US 34 on the southwest quadrant of the interchange, replacing the existing loop ramp. Land taken from the farm would be necessary to provide a foundation for support piers for the new elevated flyover ramps between US 34 and I-25. Additionally, land would be needed from the farm to allow construction of fill slopes used to support the widened highway lanes and near-grade ramps, located just west of the existing southbound on-ramp. Construction of these new ramps would create direct impacts to as many as 5.09 acres of land along the east edge of the property. Another small area of direct impact would occur west of the farmhouse, where a new access would be constructed from US 34 to the frontage road leading to the Schmer farmhouse, gas station, and hotel on the southwest corner of the interchange. A total of 1.52 acres of farmland would be directly impacted in this location. The combined 6.61 acres of open farmland subject to direct impacts under Package A amounts to approximately 5.3 percent of the total 124-acre occupied by this historic farm. No direct impacts to the historic farm building complex along US 34 would occur under Package A (see **Figure 3.15-36**).

Under Package A, traffic noise is expected to decrease approximately four decibels from the No-Action Alternative levels in the vicinity of the Schmer farmhouse due to shielding of highway traffic noise by the new on-ramp in the I-25 interchange. The on-ramp which brings westbound US 34 traffic directly to southbound I-25 is elevated 30 feet higher than the existing highway feature in the area and introduces an additional transportation element into the setting of the Schmer Farm. Transportation features have been part of the rural atmosphere and setting of the Schmer Farm since the 1960s, when I-25 and US 34 were completed.

Figure 3.15-36 5LR.11209 (Schmer Farm) – Package A



The new indirect effects to the farm setting would not substantially impair the function, setting, or architectural qualities that render the farm NRHP-eligible. The farm would remain operational and would be protected from encroachment during construction. Please see the Effect Determination discussion under the Preferred Alternative for information regarding the projects effects to character-defining features associated with the farm.

The transportation improvements associated with Package A would not substantially diminish or alter characteristics that render the site eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that Package A would result in *no adverse effect* to the resource.

Effect Determination – Package B: Impacts from Package B are similar in nature to those expected under Package A. This historic farm would be directly impacted by proposed improvements to the I-25/US 34 interchange associated with Package B. Direct impacts to the site would be slightly larger than in Package A due to the additional managed lanes on I-25 creating a slightly wider highway footprint. Construction of these new ramps would cause direct impacts to as many as 5.48 acres of land along the east edge of the property. Another small area of direct impact would occur west of the farmhouse, where a new access would be constructed from US 34 to the frontage road leading to the Schmer farmhouse, gas station, and hotel on the southwest corner of the interchange. A total of 1.52 acres of farmland would be directly impacted in this location. The combined 7.0 acres of open farmland subject to direct impacts under Package B amounts to approximately 5.6 percent of the total 124 acres occupied by this historic farm. Indirect effects would be the same as for Package A (see **Figure 3.15-37**). Please see the Effect Determination discussion under the Preferred Alternative for information regarding the projects effects to character-defining features associated with the farm.

The transportation improvements associated with Package B would not substantially diminish or alter characteristics that render the site eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that Package B would result in *no adverse effect* to the resource.

Effect Determination – Preferred Alternative: This historic farm would be directly impacted by proposed improvements to the I-25/US 34 interchange associated with the Preferred Alternative. Direct impacts to the site would result from the construction of new interchange ramps, including long curving, elevated ramps from westbound US 34 to southbound I-25, and a new southbound on-ramp from eastbound US 34 on the southwest quadrant of the interchange, replacing the existing loop ramp. Land taken from the farm would be necessary to provide a foundation for support piers for the new elevated flyover ramps between US 34 and I-25. Additionally, land would be needed from the farm to allow construction of fill slopes used to support the widened highway lanes and near-grade ramps, located just west of the existing southbound on-ramp. Construction of these new ramps would create direct impacts to as many as 3.86 acres of land along the east edge of the property.

One of the new elevated westbound US 34 to southbound I-25 ramp would begin on US 34 slightly east of the current I-25 interchange. The ramp would rise to a height of approximately 63 feet over I-25 and curve to the southwest on an alignment slightly west of existing I-25. The curve will begin to encroach on the Schmer farmland at a point approximately 700 feet south of the centerline of US 34 which is approximately 200 feet south and 1100 feet east of the existing farm buildings. The existing commercial development of a hotel, restaurant and gas station separates the farm property from this ramp at the northeast corner of the farm. As the elevated ramp gradually curves into southbound I-25 it would attain a height of 60 feet due east of the farm buildings and would be at a height of approximately 30 feet above ground and

supported on retaining walls when it is approximately 1200 feet southeast of the farm buildings. The ramp would be below ground level near Larimer County Road 20E at the south boundary of the Schmer Farm.

Another new elevated ramp would bring northbound traffic from I-25 to westbound US 34. This ramp would be built on the east side of I-25 and would not be adjacent to the Schmer farm but would elevate to height of approximately 40 feet due east of the farm. The ramp would be located about 150 feet north of the farm.

Two retaining walls would be built adjacent to the Schmer Farm. One retaining wall would be located on the east side of the farm extending along the ramp described above. The wall would not extend above the existing farmland at the south boundary of the farm. It would then rise to a height of 30 feet midway between the north and south boundaries of the farm. From that point, the ramp would be a bridge and not supported by retaining walls. The other retaining wall would be located along most of the north border of the farm on the south side of US 34. This wall woukld be approximately 70 feet from the existing farm house and would extend approximately 1300 feet. It would be at a height of approximately four feet directly in front of the existing farm house and at heights ranging from four to nine feet in other segments of the wall.

Both of these ramps would result in indirect effects as new elevated structures introduced into the visual element of the Schmer farm. The retaining walls under the ramp and along the north side of the property are similar visual indirect effects.

Another new ramp would be built on the east side of I-25 that would carry northbound I-25 traffic to eastbound US 34 traffic. This additional new ramp would be located on the east side of I-25 and not elevated, it is not expected to effect any elements of the Schmer farm as it is.

Another small area of direct impact would occur west of the farmhouse, where a new access would be constructed from US 34 to the frontage road leading to the Schmer farmhouse, gas station, and hotel on the southwest corner of the interchange. A total of 1.52 acres of farmland would be directly impacted in this location. The combined 5.38 acres of open farmland subject to direct impacts under Preferred Alternative amounts to approximately 4.3 percent of the total 124 acres occupied by this historic farm. No direct impacts to the historic farm building complex along US 34 would occur under the Preferred Alternative (see **Figure 3.15-38**). The grade of US 34 directly in front of the house would be three feet higher than the current grade of US 34. The grade of I-25 on the east would be between 5 to 15 feet below existing ground.

Guidelines for assessing historic integrity of agricultural properties are set forth in the National Register Bulletin, “Guidelines for Evaluating and Documenting Rural Historic Landscapes”, U. S. Department of the Interior, National Park Service. According to those guidelines, “historic integrity requires that the various characteristics that shaped the land during the historic periods be present today in much the same way they were historically (page 21).” The integrity of the agricultural setting of the Schmer farm was first compromised in the 1960s when I-25 was built adjacent to its eastern border. The subsequent development of a hotel and gas station on the property’s northeast corner during the early 1970s resulted in a direct loss to the farm site’s integrity. The losses of integrity associated with the development of the highway and the associated commercial development at the US 34/ I-25 interchange have occurred over 40 years ago. Those impacts were evident when the property was determined eligible for

the NRHP in 2006. In spite of the loss of these agricultural components, the farm buildings and remaining farm land still had enough integrity to convey significance in 2006 when the farm was determined eligible for the NRHP under Criteria A and C.

The production of sugar beets was the main reason the Schmer Farm and many others in northern Colorado developed and this association is an important part of its agricultural history. Sugar beet production in Larimer County started in 1901 with the opening of Great Western's first sugar beet processing facility in northern Colorado at Loveland. Sugar beet production in northern Colorado was strong for over 80 years, but declined significantly after the closure of the Great Western sugar plants in 1985. Since that time, much of the farmland in northern Colorado has been used to produce other crops. The Schmer farm has been producing corn and grains. The continued association of the Schmer farm with the sugar beet industry was lost in the mid-1980s when the Great Western sugar plants closed. In order for farms to continue their existence, they had to make modifications to adjust to many changing factors including weather, the agricultural markets and changes in surrounding land use. The Schmer Farm, like most others, has undertaken many modifications to keep it in operation over the decades. Specifically, the Schmer Farm has changed the crops it produces and has sold off part of the land for commercial development in order to infuse cash to keep the farm viable. Because of these modifications over the decades, the farm still continues in production and is able to convey significance under Criteria A and C.

The impacts associated with this project would occur along the eastern edge of the farm adjacent to I-25 where the original integrity of the farm was compromised with the highway's intrusion on the visual landscape some 40 years ago and where a portion of the land was developed in the 1960s. There would be no materially different visual perception of the farm from this project. The farm buildings would not be directly affected, agricultural production would continue and the farm would continue to convey significance in terms of its association with agricultural development in Larimer County. The farm would continue on as it was in 2006, when determined eligible for the NRHP, except for the removal of 5.38 acres for the Preferred Alternative in a thin strip of land along portions of the north and east borders of the farm as shown on **Figure 3.15-38**. In recent growing seasons, the Schmer farm land was planted with about half the acreage in corn and the other half in grain. The land was planted to the edge of their property which abuts the I-25 ROW on the east and the US 34 ROW on the north. All of the 5.38 acres that are to be taken for the Preferred Alternative are currently used as agricultural land. The northern portion of the take strip on the east edge of the property has recently been planted in corn. The remainder of the agricultural land that would be taken has been planted in grains. In spite of a loss of these 5.38 acres of land for the improvement of I-25, the Schmer Farm would still continue on as a working farm as it has since the loss of a market for sugar beets and as it has since selling off part of its land for commercial development. It would remain a working farm that conveys significance under Criteria A and C.

Figure 3.15-37 5LR.11209 (Schmer Farm) – Package B

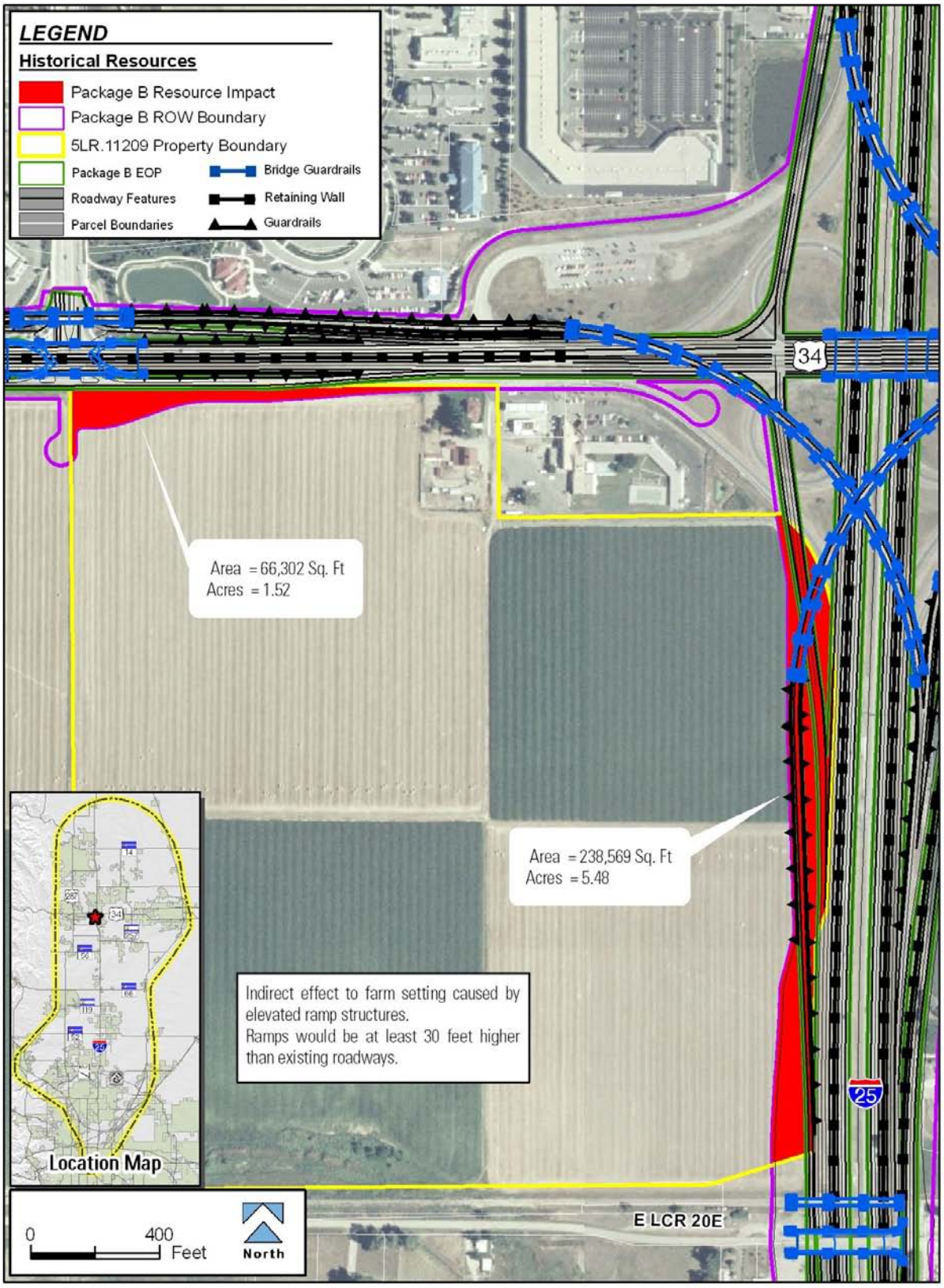
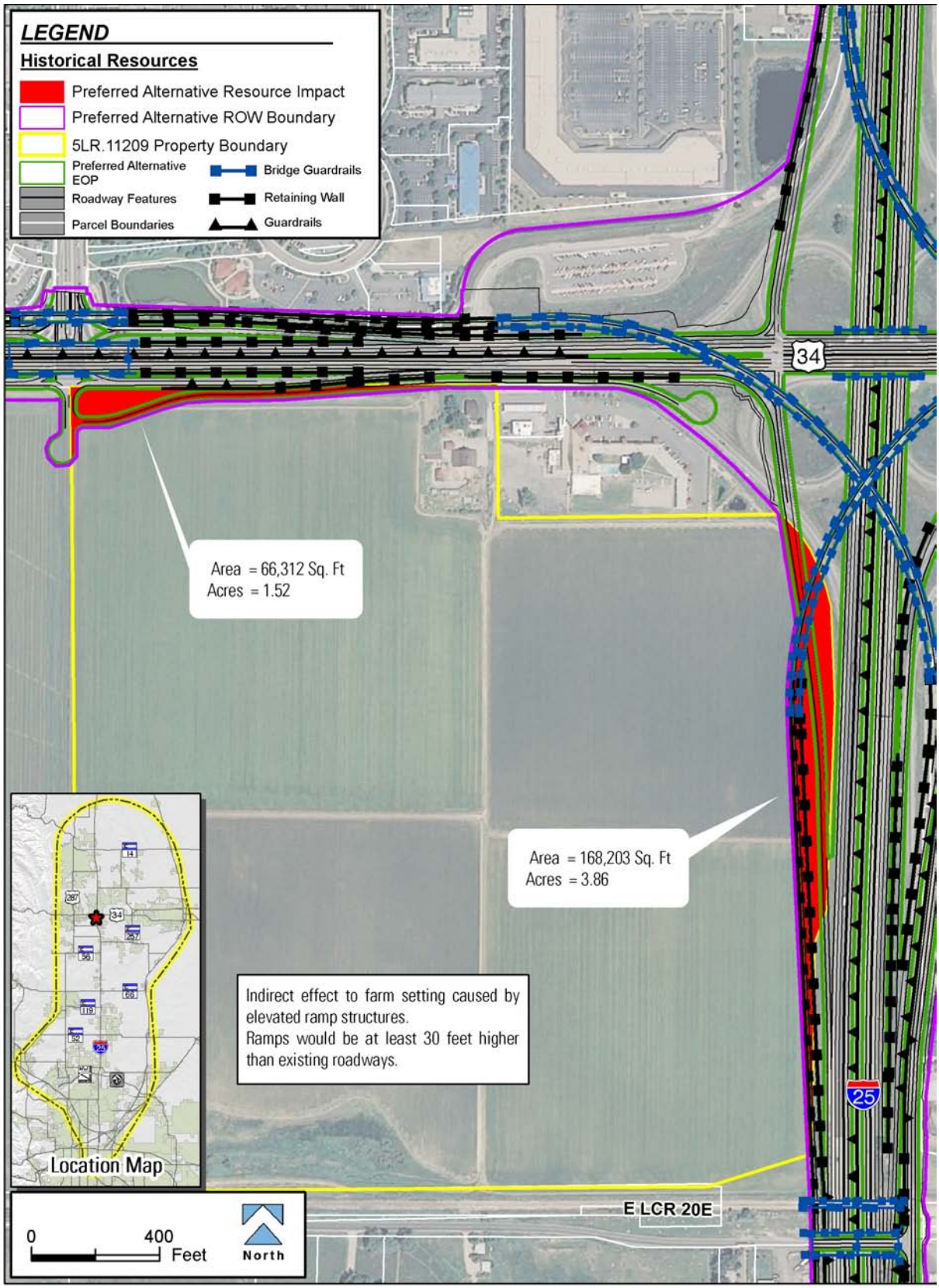


Figure 3.15-38 5LR.11209 (Schmer Farm – Preferred Alternative



Under the Preferred Alternative, traffic noise is expected to decrease approximately ten decibels from the No-Action Alternative levels in the vicinity of the Schmer farmhouse due to shielding of highway traffic noise by the new on-ramp in the I-25 interchange. The on-ramp which brings westbound US 34 traffic directly to southbound I-25 is elevated 30 feet higher than the existing highway feature in the area and introduces an additional transportation element into the setting of the Schmer Farm. Transportation features have been part of the rural atmosphere and setting of the Schmer Farm since the 1960s, when I-25 and US 34 were completed. The new indirect effects to the farm setting would not substantially impair the function, setting, or architectural qualities that render the farm NRHP-eligible. The farm would remain operational and would be protected from encroachment during construction.

The character of this area has changed drastically over the past two decades. The area is now mainly characterized by urban commercial development. The changes to the I-25/US 34 interchange as a result of this project will not be the driving force for indirect or cumulative effects in this area. These indirect impacts are not the kind that would not have occurred but for this proposed project. The change from predominantly agriculture to predominately commercial development has already occurred. There has been an interstate interchange providing access to this area for about 50 years. This change in land use has occurred over many decades with most of the change occurring in the last two decades.

The visual representations presented on the following two pages illustrate the existing setting of the farm and the change with the Preferred Alternative.

FHWA, FTA and CDOT have determined that the loss of an additional 5.38 acres of land for construction of the Preferred Alternative would result in no adverse effect to this farm because the characteristics that define the integrity of the rural landscape would not be compromised. The location, design, materials and workmanship of the farm would remain the same. The Preferred Alternative would not affect any of the farm buildings. The setting would not be affected by the Preferred Alternative. The mountains to the west of the farm continue to be a key element of its historic setting. The setting of the land to the north of the Schmer farm has changed significantly. What was once all agricultural land has been developed over the last decades into commercial development with the Loveland Outlet Stores and other retail businesses directly north of the Schmer Farm and the large Promenade Shops at Centerra to the northeast of the farm. The highways on both the north and east have been there for over forty years and were a part of the setting when the property was determined eligible for the NRHP. The feeling would remain one of an active farm established in the early part of the 20th century. The association is still strong as it is clear that this is still an active farm. The Schmer Farm was determined eligible under Criterion A for its association with 20th century Loveland area farming, including its history of sugar beet growing. That association would not change as a result of this project.

Schmer Farm Looking North

Schmer Farm – view looking north showing existing setting with barn and house visible in left center of photo.

Schmer Farm – view looking north with visual representation of Preferred Alternative improvements.

Schmer Farm Looking Southeast

Schmer Farm – view looking southeast showing existing setting with house and barn in foreground.

Schmer Farm – view looking southeast with visual representation of the Preferred Alternative improvements (in background, indicated by arrow).

5LR.11210 (McDonough Farm)

Resource Description: This property is located east of Loveland on the south side of US 34 approximately one mile west of I-25. The farm is historically important because of the architectural significance of its barn. The barn is a good example of early 20th century barn architecture in the Loveland and Larimer County area. The farm still continues in production and the barn continues to convey significance under Criterion C.

Eligibility Determination: In August 2006, the McDonough Farm was determined officially eligible for inclusion on the NRHP under Criterion C because of the architectural significance of its barn.

Effect Determination – Package A: The impacts associated with Package A would occur along the northern edge of the farm adjacent to US 34 where 1.64 acres would be removed in a thin strip of land along portions of the north and east borders of the farm. It appears that a pumphouse adjacent to US 34 would be removed. On the 2006 survey of this property, the pumphouse was evaluated as not unique, utilitarian in nature, and not adequately representing the architecture typically associated with Loveland area farms during the first half of the 20th century. This farm would remain a working farm whose barn conveys significance under Criterion C. The barn and other farm buildings would not be directly affected, agricultural production would continue and the barn would continue to convey architectural significance.

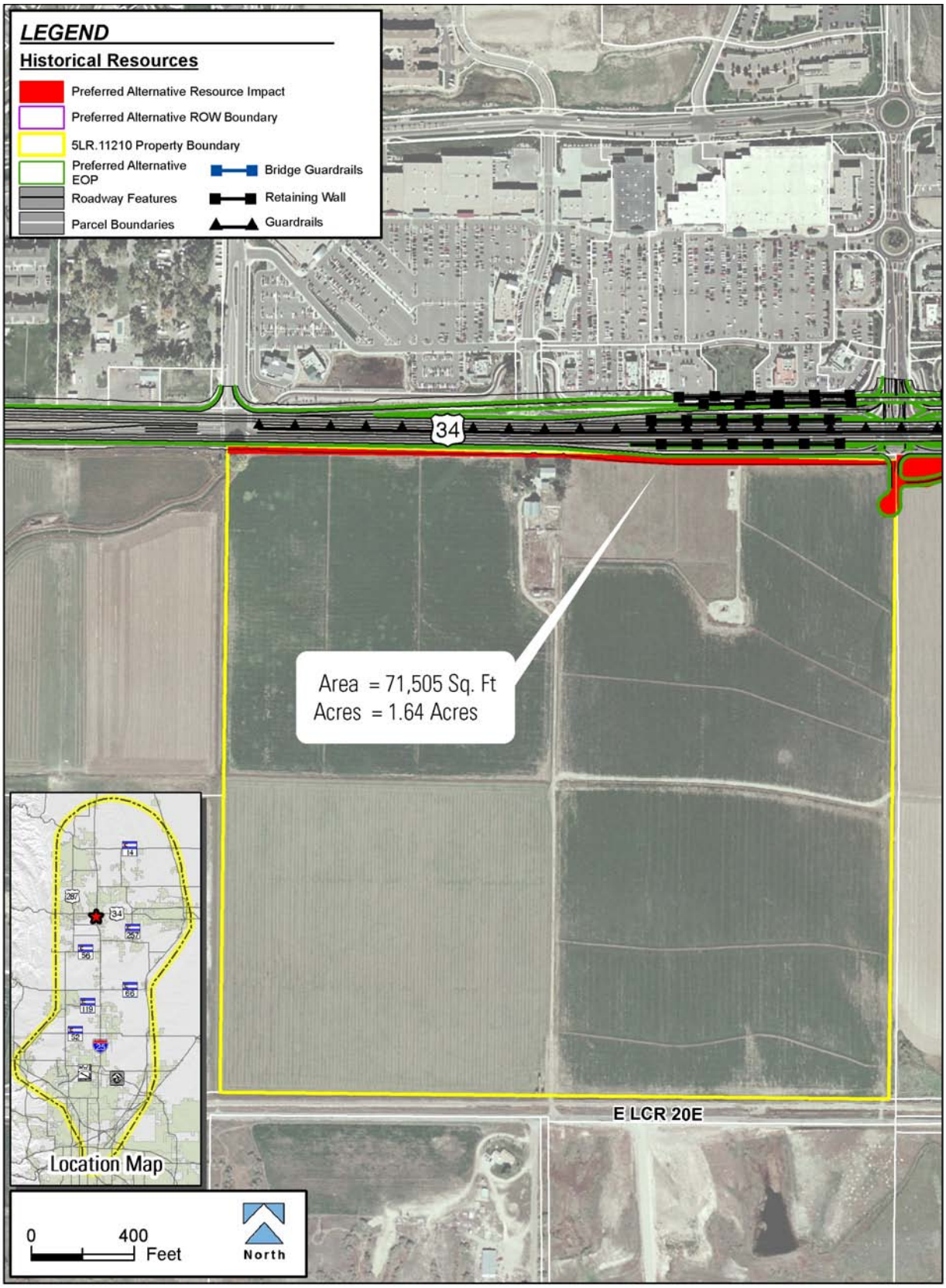
The material, workmanship, location and design of the barn would retain integrity and not be affected by a loss of land from the site. Due to the fact that there would be no direct impact to the barn, FHWA, FTA and CDOT have determined that Package A would result in *no adverse effect* to the resource.

Effect Determination – Package B: The impacts associated with Package B are identical to those described under Package A. This farm would remain a working farm whose barn conveys significance under Criterion C. The barn and other farm buildings would not be directly affected, agricultural production would continue and the barn would continue to convey architectural significance. The material, workmanship, location and design of the barn would retain integrity and not be affected by a loss of land from the site. Due to the fact that there would be no direct impact to the barn, FHWA, FTA and CDOT have determined that Package B would result in *no adverse effect* to the resource.

Effect Determination – Preferred Alternative: The impacts associated with the Preferred Alternative would occur along the northern edge of the farm adjacent to US 34 where 1.64 acres would be removed in a thin strip of land along portions of the north and east borders of the farm (see **Figure 3.15-39**). It appears that a pumphouse adjacent to US 34 would be removed. On the 2006 survey of this property, the pumphouse was evaluated as not unique, utilitarian in nature, and not adequately representing the architecture typically associated with Loveland area farms during the first half of the 20th century. This farm would remain a working farm whose barn conveys significance under Criterion C. The barn and other farm buildings would not be directly affected, agricultural production would continue and the barn would continue to convey architectural significance.

The material, workmanship, location and design of the barn would retain integrity and not be affected by a loss of land from the site. Due to the fact that there would be no direct impact to the barn, FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no adverse effect* to the resource.

Figure 3.15-39 5LR.11210 (McDonough Farm) – Preferred Alternative



5LR.850, 5WL.841, 5BL.514 (Great Western Railway)

Resource Description: The total length of the entire historic Great Western Railway (GWR) is 110 miles. Six segments of the GWR resource in Larimer, Weld, and Boulder counties pass through the North I-25 Draft EIS APE (see **Figure 3.15-40**).

The 15.7 mile-long GWR Loveland to Buda section (5LR850) was built in 1902-03 by the Loveland Construction Company and contains Larimer County segments 5LR.850.1 and 5LR.850.5 as well as Weld County segment 5WL.841.11. Segment 5LR.850.1 is approximately 1,241 feet long. The GWR is conveyed over I-25 in this portion of the APE by a non-historic bridge. Segment 5LR.850.5 is approximately 551 feet long. Segment 5WL.841.11 is the first end-of-track point for the Loveland to Buda section, and the portion within the project APE is 784 feet long.

The GWR Johnstown to Liberty section was built in 1905-1906 and is 12 miles long. Within the APE in Weld and Boulder Counties this section contains segments 5WL.841.9 and 5BL.841.1. Segment 5WL.841.9 is 1,241 feet long, and segment 5WL.841.1 is 784 feet in length. The Boulder County segment (5BL.514.1) of the GWR Johnstown to Longmont section was constructed in 1903, and is approximately 2.1 miles long.

Eligibility Determination: The entire GWR, in Larimer County (5LR.850), Weld County (5WL841), and Boulder County (5BL.514), is eligible for the NRHP under Criterion A because of its important role in the economic development of the Colorado Front Range. All of the segments passing through the APE (5LR.850.1, 5LR.850.5, 5WL.841.11, 5WL.841.9, 5WL.841.1 and 5BL.514.1) retain sufficient integrity of location and association to support the eligibility of the entire linear resource; however, those portions of the railroad spanning I-25 have been modified and have lost integrity of design and workmanship by being placed on a bridge during the 1960s.

Effect Determination:
In order to determine the effect to the entire linear resource, impacts to each of the segments passing through the project APE were assessed. These impact assessments are presented below, followed by a determination of effect to the entire GWR (5LR.850, 5WL.841, 5BL.514).

Impacts to segment 5LR.850.1 – Package A: Presently, this historic railroad segment spans I-25 via a non-historic 210-foot-long steel girder railroad bridge. Package A involves the widening of I-25 through this area, changing it from the existing configuration of two northbound and two southbound traffic lanes, to a new section containing three general purpose lanes in each direction or a total of six traffic lanes. To accommodate this wider section, it would be necessary to replace the existing bridge carrying the GWR over I-25 with a 295-foot-long bridge structure. The new bridge would be 85 feet longer than the existing structure spanning I-25. The proposed new bridge would be either of post-tensioned concrete or steel plate girder construction, and would remain at the same vertical height as the existing railroad bridge (see **Figure 3.15-41**).

Figure 3.15-40 5LR.850, 5WL.841, 5BL.514 (Great Western Railway) – Segments Intersecting Project APE

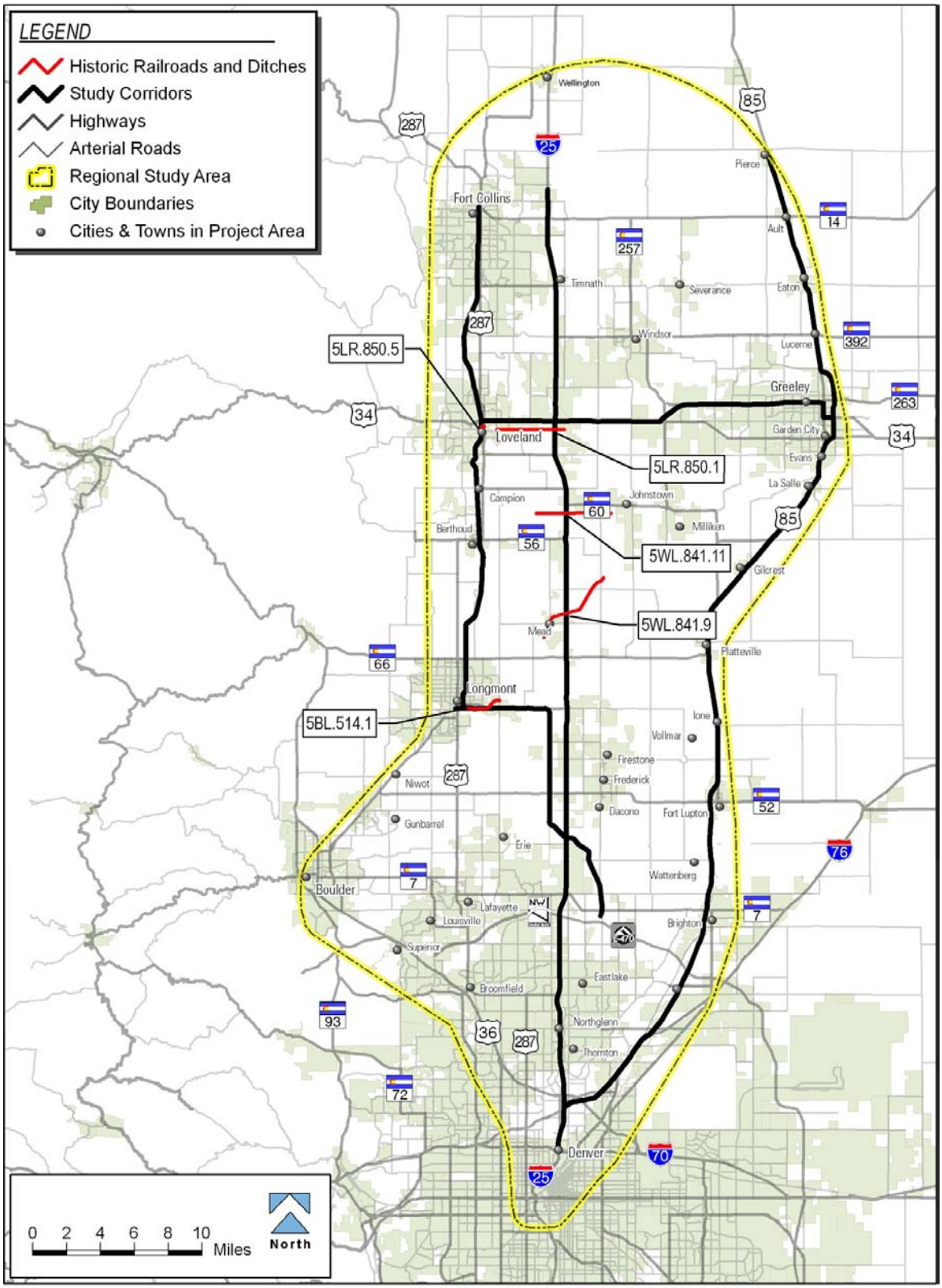
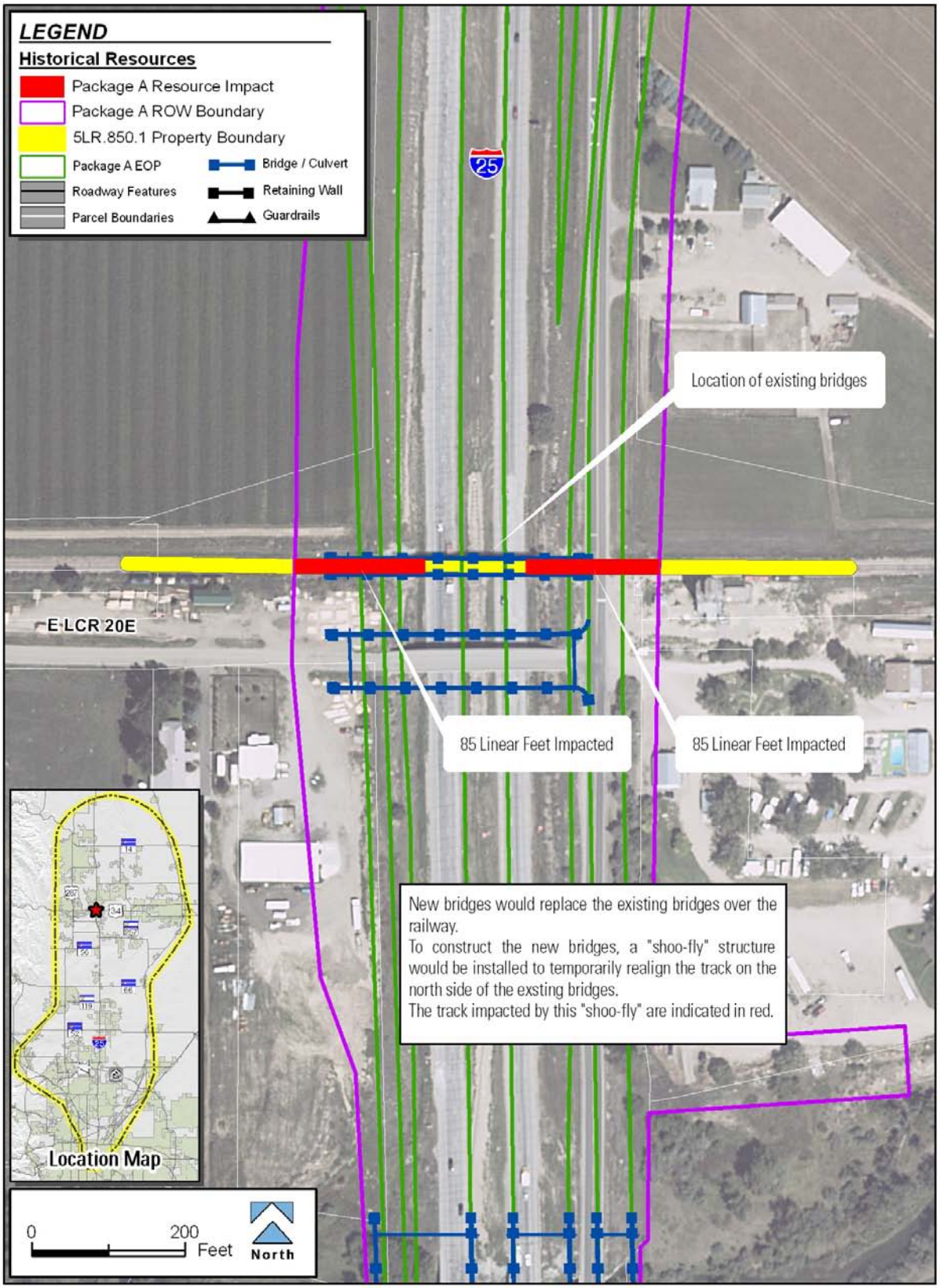


Figure 3.15-41 5LR.850.1 (Great Western Railway) – Package A



In order to replace the existing bridge with a longer structure, it would be necessary to construct a temporary "shoo-fly" structure, whereby a section of railroad would be temporarily re-aligned to cross I-25 on the north side of the existing railroad bridge. This measure would prevent a disruption in rail service, while the old bridge is demolished and the new bridge structure is being constructed in its place. A new rail crossing would be constructed north of the existing bridge. The shoo-fly structure would require altering the existing historic railroad grade at either end of the existing bridge (approximately 85 feet at each end to provide a smooth transition to the new alignment), curving to form the bypass of the existing bridge. Once the latter step has been completed, the shoo-fly would be removed, and rail traffic would be restored to its historic east-west alignment.

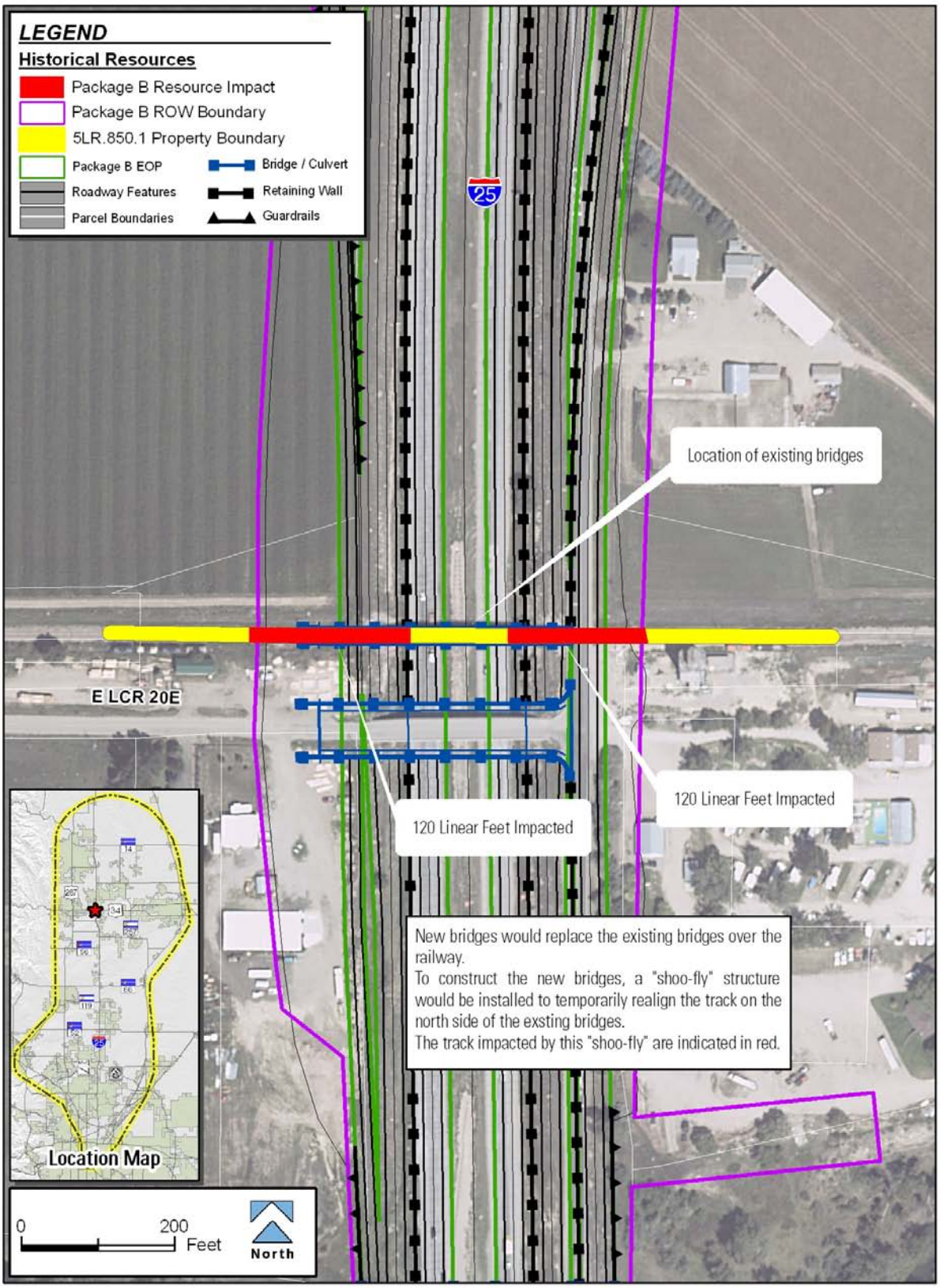
The bridge replacement under Package A would place an additional 85 feet of historic railroad line on a bridge structure similar to its current configuration. By placing that portion of the railroad already modified by the original construction of I-25 on a bridge, only 85 feet of the railroad retaining good physical integrity would be altered by placement on a longer bridge structure. The new bridge would be similar in terms of elevation and the location where it spans I-25, and thus would not introduce a new and different visual element into the railroad's setting. This change would not substantially diminish or alter characteristics that render it eligible for the NRHP.

Impacts to segment 5LR.850.1 –Package B: Presently, this historic railroad segment spans I-25 via a (non-historic) 210-foot-long steel girder railroad bridge. Package B involves widening of I-25 through this area, changing it from the existing configuration of two northbound and two southbound traffic lanes, to a new section containing a total of eight lanes: two managed lanes plus two general purpose lanes in each direction. To accommodate this much wider section, it would be necessary to replace the existing bridge carrying the GWR over I-25 with a 330-foot-long bridge structure. The new bridge would be 120 feet longer than the existing structure spanning I-25. The proposed new bridge would be either of post-tensioned concrete or steel plate girder construction, and would remain at the same vertical height as the existing railroad bridge.

Similar to Package A, construction of a shoo-fly would be needed during construction (see **Figure 3.15-42**).

The bridge replacement under Package B would place an additional 120 feet of historic railroad line on a bridge structure relatively similar to its current configuration. By placing that portion of the railroad already modified by the original construction of I-25 on a bridge, only 120 feet of the railroad retaining good physical integrity would be altered by placement on a longer bridge structure. The new bridge would be similar in terms of elevation and the location where it spans I-25, and thus would not introduce a new and different visual element into the railroad's setting. This change would not substantially diminish or alter characteristics that render it eligible for the NRHP

Figure 3.15-42 5LR.850.1 (Great Western Railway) – Package B



Impacts to segment 5LR.850.1 – Preferred Alternative: Presently, this historic railroad segment spans I-25 via a non-historic 210-foot-long steel girder railroad bridge. The Preferred Alternative involves the widening of I-25 through this area, changing it from the existing configuration of two northbound and two southbound traffic lanes, to a new section containing three general purpose lanes and one TEL in each direction or a total of eight traffic lanes. To accommodate this wider section, it would be necessary to replace the existing bridge carrying the GWR over I-25 with a 295-foot-long bridge structure. The new bridge would be 85 feet longer than the existing structure spanning I-25. The proposed new bridge would be either of post-tensioned concrete or steel plate girder construction, and would remain at the same vertical height as the existing railroad bridge (see **Figure 3.15-43**).

To replace the existing bridge with a longer structure, it would be necessary to construct a temporary "shoo-fly" structure, whereby a section of railroad would be temporarily re-aligned to cross I-25 on the north side of the existing railroad bridge. This measure would prevent a disruption in rail service, while the old bridge is demolished and the new bridge structure is being constructed in its place. A new rail crossing would be constructed north of the existing bridge. The shoo-fly structure would require altering the existing historic railroad grade at either end of the existing bridge (approximately 70 feet on the west end and 85 feet at the east end to provide a smooth transition to the new alignment), curving to form the bypass of the existing bridge. Once the latter step has been completed, the shoo-fly would be removed, and rail traffic would be restored to its historic east-west alignment.

The bridge replacement under the Preferred Alternative would place an additional 85 feet of historic railroad line on a bridge structure similar to its current configuration. By placing that portion of the railroad already modified by the original construction of I-25 on a bridge, only 85 feet of the railroad retaining good physical integrity would be altered by placement on a longer bridge structure. The new bridge would be similar in terms of elevation and the location where it spans I-25, and thus would not introduce a new and different visual element into the railroad's setting. This change would not substantially diminish or alter characteristics that render it eligible for the NRHP.

Impacts to segment 5WL.841.11 – Package A: At this location, the existing I-25 northbound and southbound roadways span this historic railroad with twin 82-foot-long, 38-foot-wide concrete slab bridges. Neither bridge is historic. Under Package A, the northbound and southbound roadways would be re-aligned to the west of their current alignments, and would be wider, containing three general purpose lanes in each direction. The new northbound and southbound roadways would span the historic railway on new, approximately 24-foot-wider, 79-foot-long pre-stressed concrete girder-type bridge structures. The old bridges would be demolished. The new bridge piers would be placed outside the limits of this historic railway, so that no direct impacts would occur. The existing east frontage road would be slightly widened but would remain in its existing alignment, and the existing at-grade railroad crossing would be maintained (see **Figure 3.15-44**).

Removal of the old bridges and returning most of the associated fill slopes to a more natural terrain shape and elevation would partially restore the historic landscape of the railway setting. A temporary construction easement would be necessary to demolish and re-grade slopes within the railroad right-of-way. The new bridges would place a portion of the railway underneath the bridge deck. This increased 48 feet of overhead cover due to a wider bridge decks would be an indirect effect to the historic setting of the railway; however, would not substantially diminish or alter the function, alignment, character, or other attributes that render the railway NRHP-eligible.

Figure 3.15-43 5LR.850.1 (Great Western Railway) – Preferred Alternative

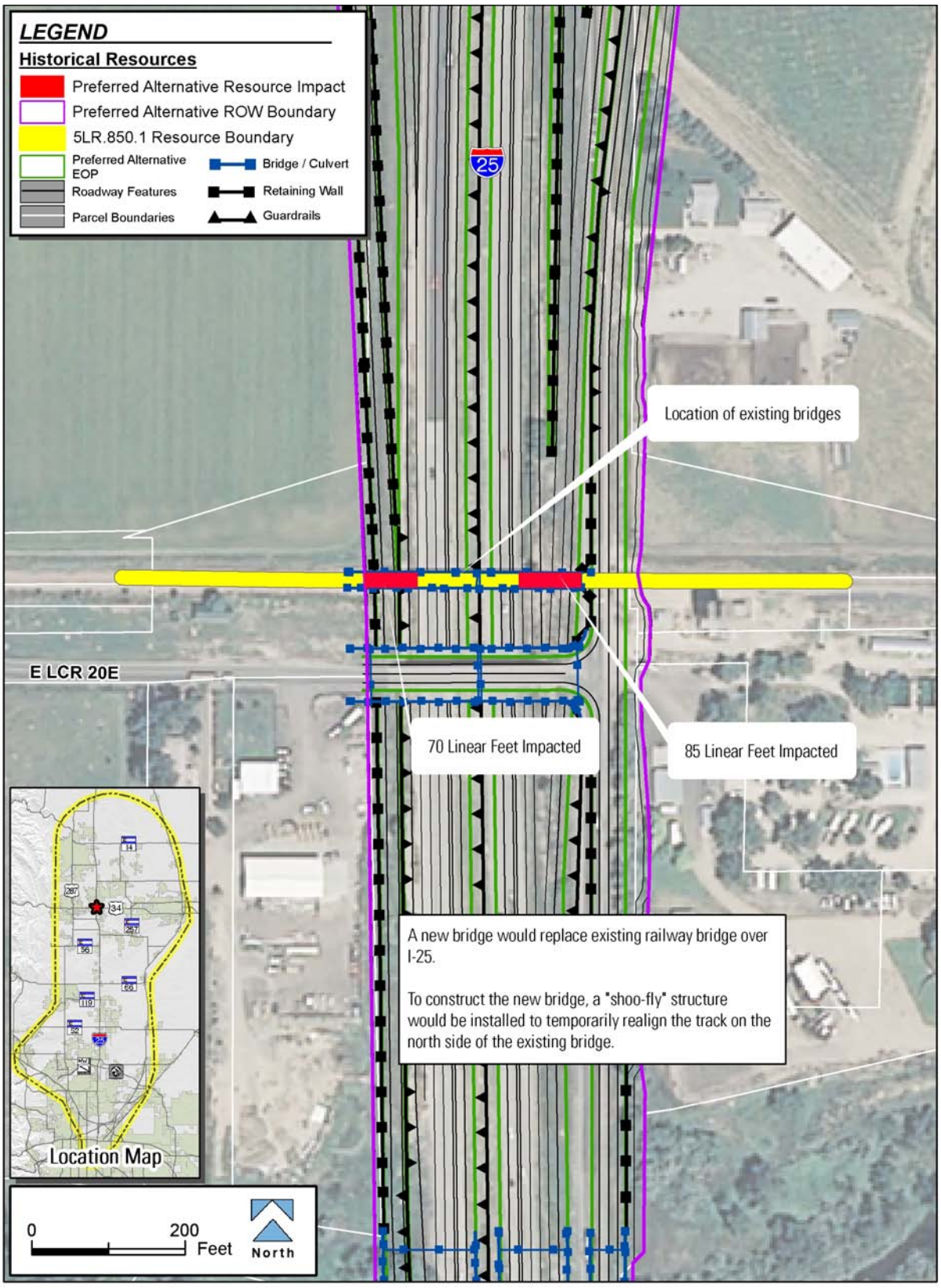
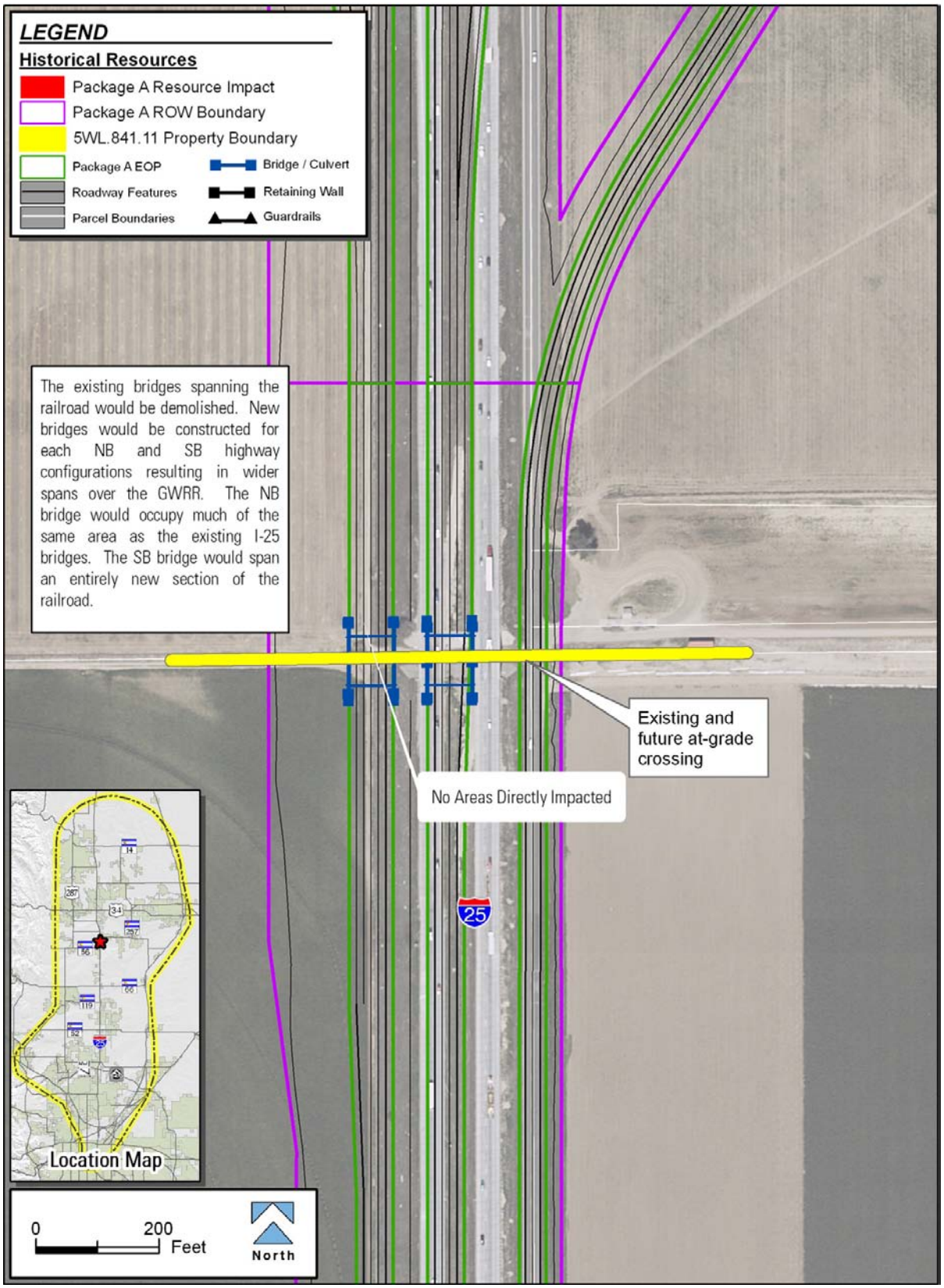


Figure 3.15-44 5WL.841.11 (Great Western Railroad) — Package A



Impacts to segment 5WL.841.11 – Package B: Under Package B, this section of I-25 is in the transition zone between a highway section containing two general purpose lanes with one buffer-separated managed lane in each direction, to a wider section containing two general purpose lanes plus two barrier-separated managed lanes in each direction(see **Figure 3.15-45**). The northbound and southbound roadways would be re-aligned to the west of their current alignments, and these new roadways would span the historic railway on two new, approximately 70-foot-wider, 79-foot-long pre-stressed concrete girder-type bridge structures similar to those proposed for Package A. The bridge piers would be placed outside the limits of this historic railway, and no direct impacts would occur. The old bridges would be demolished. The existing east frontage road would be slightly widened but would remain in its existing alignment, and the existing at-grade railroad crossing would be maintained (see **Figure 3.15-45**).

Removal of the old bridges and returning most of the associated fill slopes to a more natural terrain shape and elevation would partially restore the historic landscape of the railway setting. However, the new bridges would place an additional 140-foot-long portion of the railway underneath the new bridge decks. This increased overhead cover due to wider bridge deck would be an indirect effect to the historic setting of the railway, however; this change is not expected to substantially diminish or alter the function, alignment, character, or other attributes that render the railway NRHP-eligible.

Impacts to segment 5WL.841.11 – Preferred Alternative: At this location, the existing I-25 northbound and southbound roadways span this historic railroad with twin 82-foot-long, 338-foot-wide concrete slab bridges. Neither bridge is historic. Under the Preferred Alternative, the northbound and southbound roadways would be re-aligned to the west of their current alignments, and would be wider, containing three general purpose lanes and a TEL in each direction. The new northbound and southbound roadways would span the historic railway on new, approximately 24-foot-wider, 79-foot-long pre-stressed concrete girder-type bridge structures. The old bridges would be demolished. The new bridge piers would be placed outside the limits of this historic railway, so that no direct impacts would occur. The existing east frontage road would be slightly widened but would remain in its existing alignment, and the existing at-grade railroad crossing would be maintained (see **Figure 3.15-46**).

Removal of the old bridges and returning most of the associated fill slopes to a more natural terrain shape and elevation would partially restore the historic landscape of the railway setting. A temporary construction easement would be necessary to demolish and re-grade slopes within the railroad right-of-way. The new bridges would place a portion of the railway underneath the bridge deck. This increased 48 feet of overhead cover due to a wider bridge decks would be an indirect effect to the historic setting of the railway; however, would not substantially diminish or alter the function, alignment, character, or other attributes that render the railway NRHP-eligible.

Figure 3.15-45 5WL.841.11 (Great Western Railway) – Package B

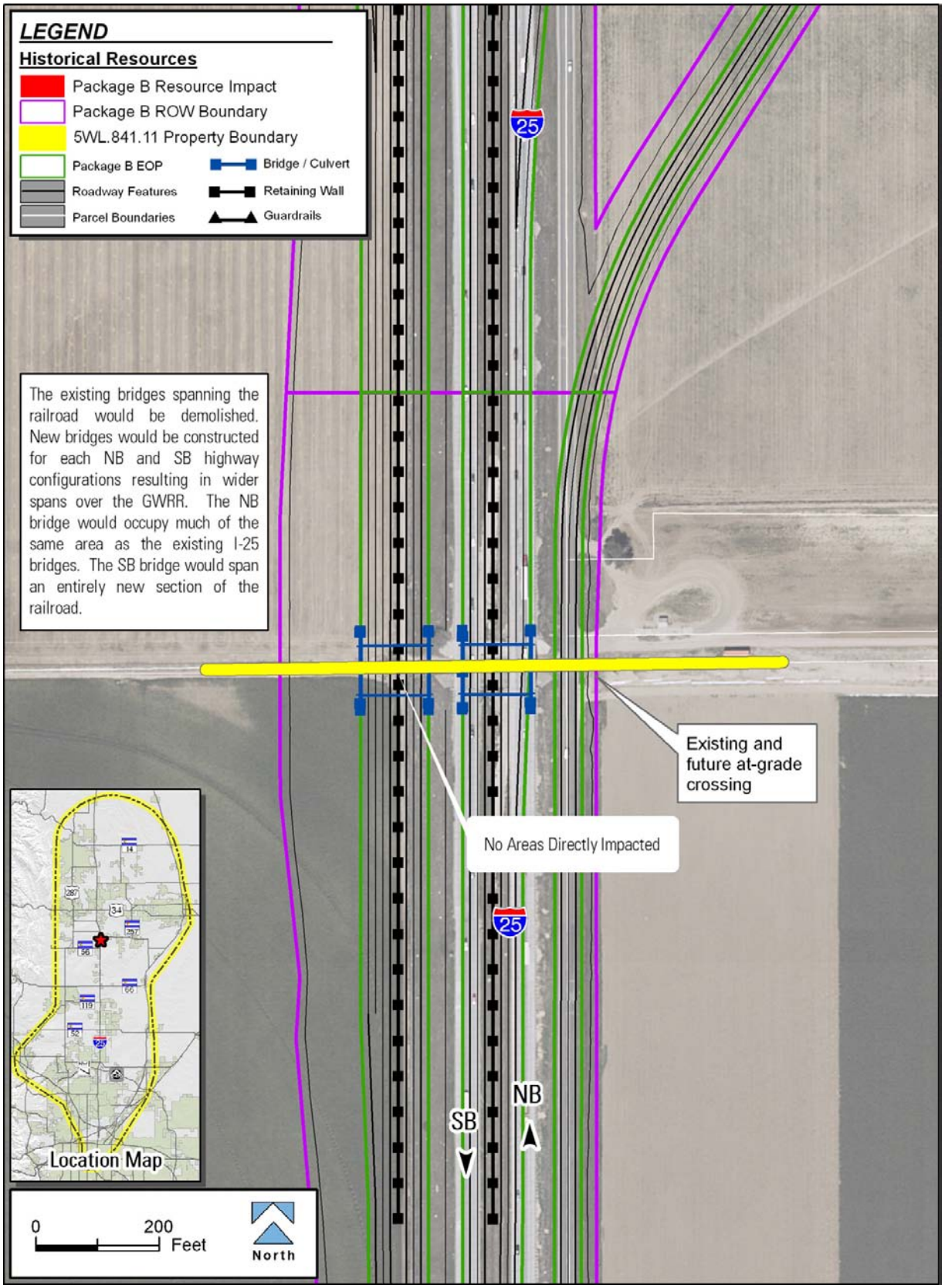
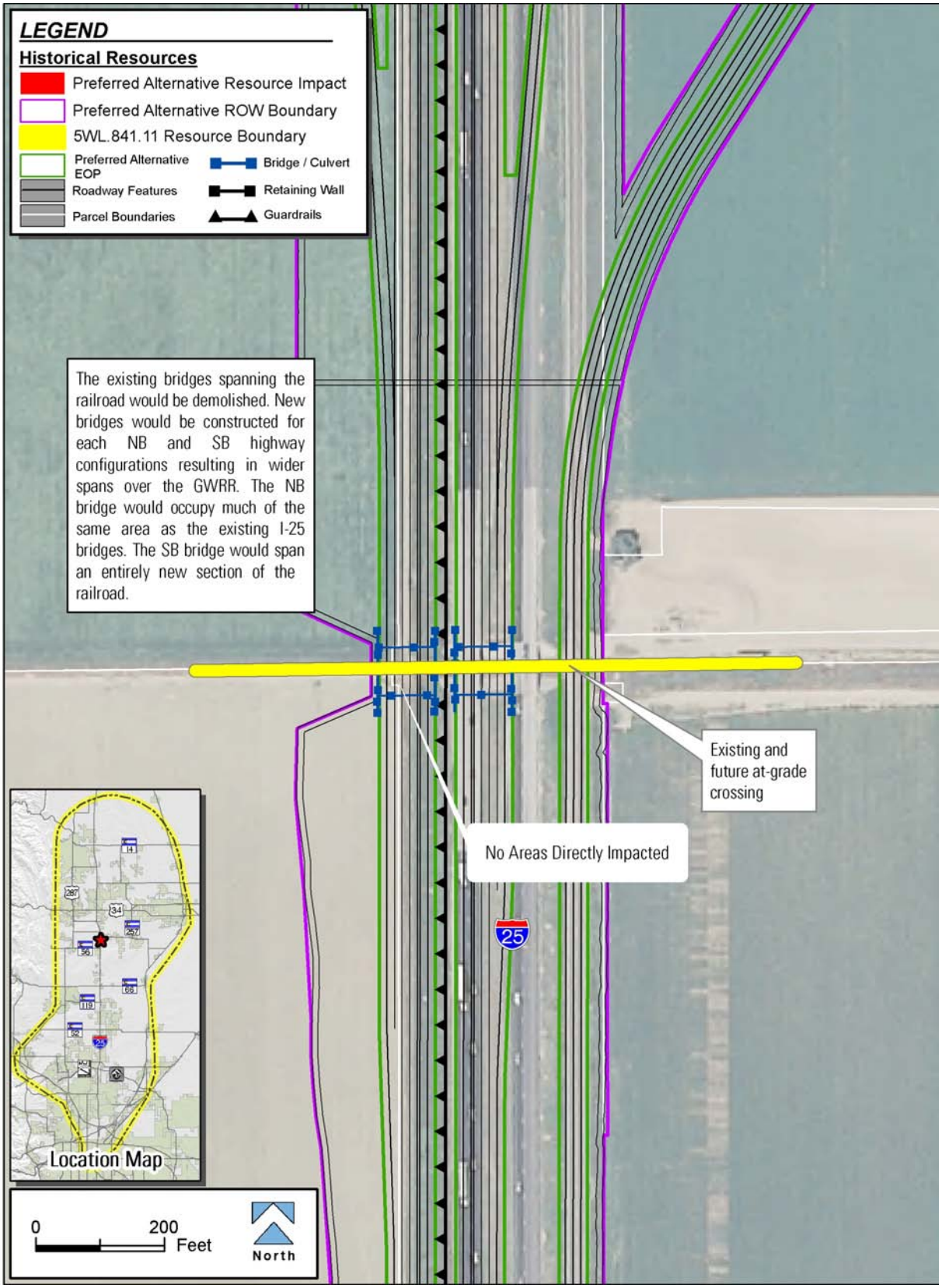


Figure 3.15-46 5WL.841.11 (Great Western Railway)—Preferred Alternative



Impacts to segment 5LR.850.5 – Package A: This rail line would remain in its current, historic alignment, and would continue to tie into the railroad mainline corridor west of Cleveland Avenue that would contain the proposed commuter rail line. No direct impacts to the historic railroad ballast, bed and track would occur. The installation of an adjacent set of tracks supporting the new commuter rail line would indirectly affect the historic setting of the historic railroad line, but would not to be expected to substantially harm the function, alignment, character, or other attributes that render the railroad NRHP-eligible.

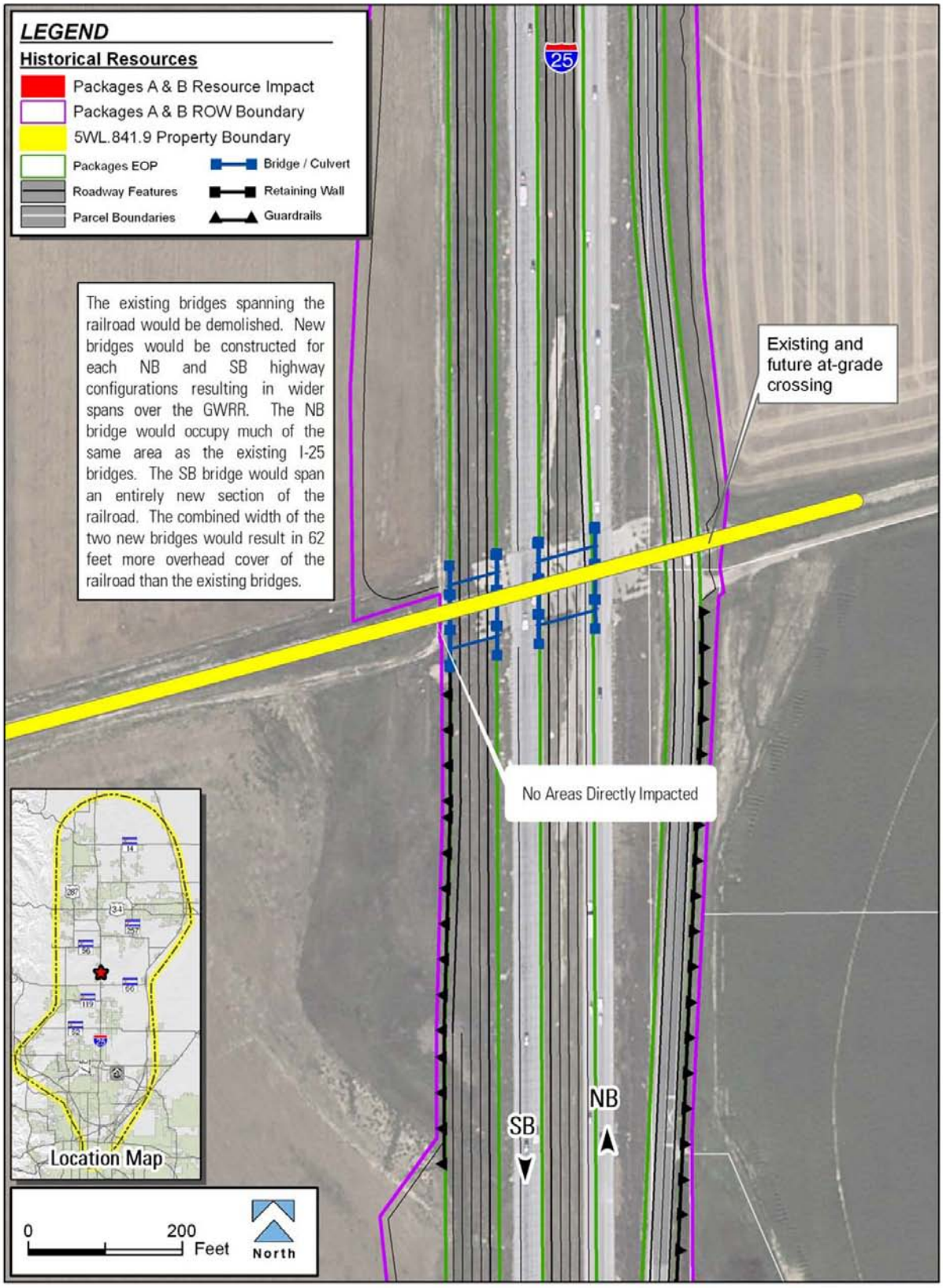
Impacts to segment 5LR.850.5 – Preferred Alternative: This rail line would remain in its current, historic alignment, and would continue to tie into the railroad mainline corridor west of Cleveland Avenue that would contain the proposed commuter rail line. No direct impacts to the historic railroad ballast, bed and track would occur. The installation of an adjacent passing track would indirectly affect the historic setting of the historic railroad line, but would not be expected to substantially harm the function, alignment, character, or other attributes that render the railroad NRHP-eligible.

Impacts 5WL.841.9 – Package A: Under Package A, the I-25 northbound and southbound roadways would be re-aligned approximately 50 to 60 feet west of their current alignments, and would be widened from two through lanes to three general purpose lanes in each direction. The new northbound and southbound roadways would span the historic railway on new 82-foot-long, 63 to 75-foot-wide, pre-stressed concrete girder-type bridge structures. The old (but non-historic) 103-foot-long, 38-foot-wide, rolled I-beam bridges, which spanned the railroad, would be demolished. The new bridge piers would be placed outside the limits of this historic railway, so that no direct impacts would occur. The two new bridges would be a combined 62 feet wider than the existing bridges, thus the railroad would have 62 feet more overhead cover. The existing east frontage road would be slightly widened but would remain in its existing alignment, and the existing at-grade railroad crossing would be maintained (see **Figure 3.15-47**).

Removal of the old bridges and returning most of the associated fill slopes to a more natural terrain shape and elevation would partially restore the historic landscape of the railway's setting. A temporary construction easement would be necessary to demolish and re-grade slopes within the railroad right-of-way. The new bridges would place a portion of the railway underneath the highway bridges. This increased overhead cover due to the new bridge decks would indirectly affect the historic setting of the railway, however; this change is not expected to substantially diminish or alter the function, alignment, character, or other attributes that render the railway NRHP-eligible.

Impacts to segment 5WL.841.9 – Package B: Under Package B, the northbound and southbound roadways would be re-aligned approximately 50 to 60 feet west of their current alignments, and would be wider, containing two general purpose lanes plus one buffer-separated managed lane in each direction. The new northbound and southbound roadway alignments would span the historic railway on new 82-foot-long pre-stressed concrete girder-type bridge structures. The two new bridges would be a combined 62 feet wider than the existing bridges, thus the railroads would have 62 feet more overhead cover. The bridge piers would be placed outside the limits of this historic railway, and no direct impacts would occur. The existing east frontage road would be slightly widened but would remain in its existing alignment, and the existing at-grade railroad crossing would be maintained (see **Figure 3.15-47).**

Figure 3.15-47 5WL.841.9 (Great Western Railway) – Packages A and B



Removal of the old bridges and returning most of the associated fill slopes to a more natural terrain shape and elevation would partially restore the historic landscape of the railway's setting. A temporary construction easement would be necessary to demolish and re-grade slopes within the railroad right-of-way. The new bridges would place an additional portion of the railway underneath the bridge deck. This increased overhead cover due to the wider bridge deck would be an indirect effect to the historic setting of the railway, however; this change is not expected to substantially diminish or alter the function, alignment, character, or other attributes that render the railway NRHP-eligible.

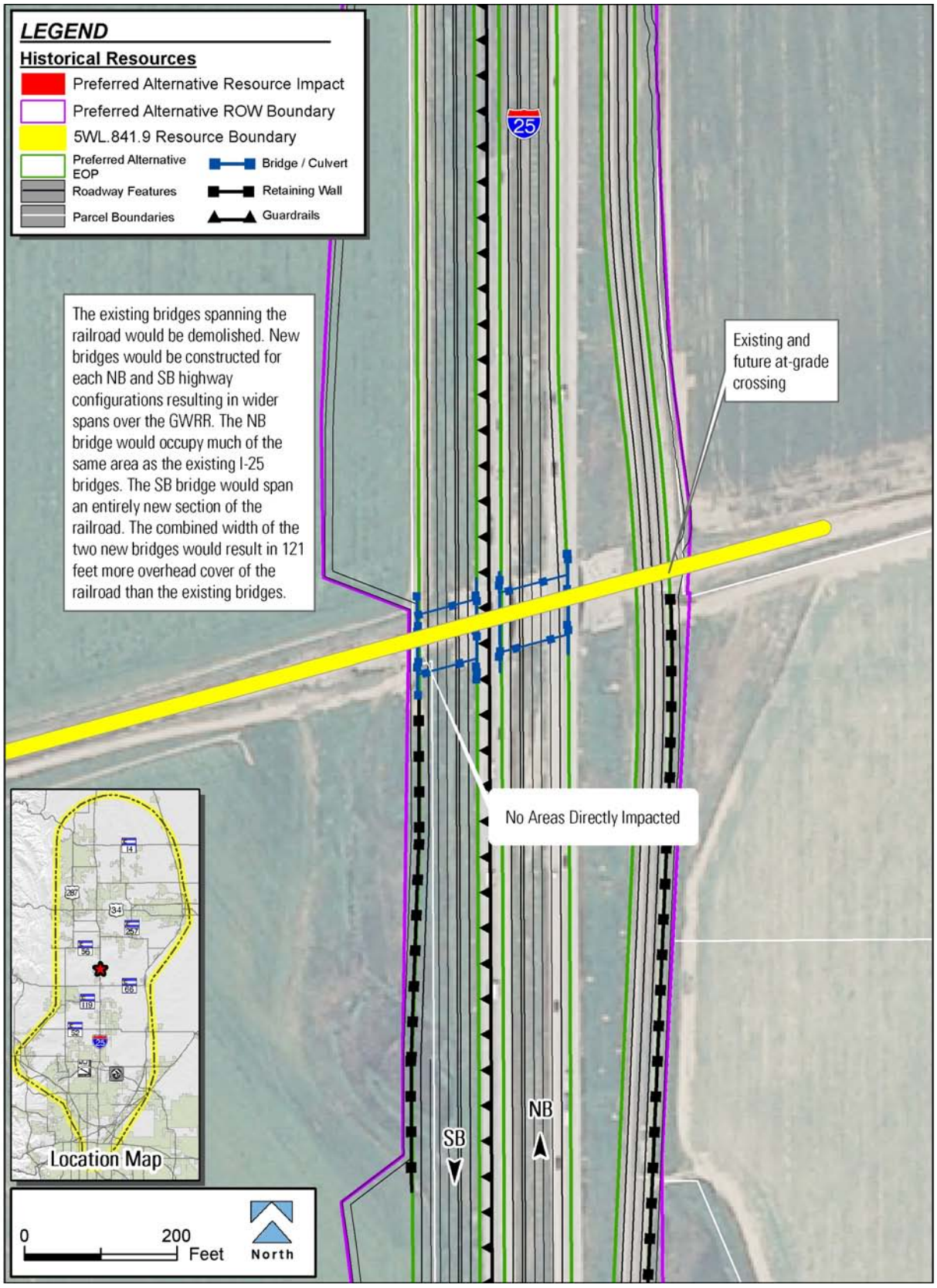
Impacts 5WL.841.9 – Preferred Alternative: Under the Preferred Alternative, the I-25 northbound and southbound roadways would be re-aligned approximately 50 to 60 feet west of their current alignments, and would be widened from two through lanes to three general purpose lanes and TEL in each direction. The new northbound and southbound roadways would span the historic railway on new 82-foot-long, 63 to 75-foot-wide, pre-stressed concrete girder-type bridge structures. The old (but non-historic) 103-foot-long, 38-foot-wide, rolled I-beam bridges, which spanned the railroad, would be demolished. The new bridge piers would be placed outside the limits of this historic railway, so no direct impacts would occur. The two new bridges would be a combined 62 feet wider than the existing bridges, thus the railroad would have 62 feet more overhead cover. The existing east frontage road would be slightly widened but would remain in its existing alignment, and the existing at-grade railroad crossing would be maintained (see **Figure 3.15-48**).

Removal of the old bridges and returning most of the associated fill slopes to a more natural terrain shape and elevation would partially restore the historic landscape of the railway's setting. A temporary construction easement would be necessary to demolish and re-grade slopes within the railroad right-of-way. The new bridges would place a portion of the railway underneath the highway bridges. This increased overhead cover due to the new bridge decks would indirectly affect the historic setting of the railway, however; this change is not expected to substantially diminish or alter the function, alignment, character, or other attributes that render the railway NRHP-eligible.

Impacts to segment 5BL.514.1 – Package A: The commuter rail improvements in this area call for the addition of a dedicated commuter rail track parallel to this existing freight railroad track. In all cases the existing rail line would remain in its current, historic alignment. No direct impacts to the historic railroad ballast, bed and track would occur. The installation of an adjacent set of tracks supporting the new commuter rail line would indirectly affect the historic setting of the historic railroad line, but would not expect to substantially harm the function, alignment, character, or attributes that render the railroad NRHP-eligible.

Impacts to segment 5BL.514.1 – Preferred Alternative: The commuter rail improvements associated with the Preferred Alternative in this area call for the commuter rail to run on the existing freight railroad track. The existing rail line would remain in its current, historic alignment. No direct impacts to the historic railroad ballast, bed and track would occur. The addition of the commuter rail would indirectly affect the historic setting of the historic railroad line, but would not expect to substantially harm the function, alignment, character, or attributes that render the railroad NRHP-eligible.

Figure 3.15-48 5WL.841.9 (Great Western Railway) – Preferred Alternative



Summary Effect Determination:

Package A: 170 feet of railroad track at segment 5LR.850.1 would be directly impacted as a result of new bridge construction. Temporary construction impacts and indirect effects due to expanded overhead coverage by the highway bridges would affect two segments of the railroad (5WL.841.11 and 5WL.841.9). New commuter rail track along the transportation corridor would contribute to modern, but compatible rail infrastructure elements to the historic setting at two localities (5BL.514.1 and 5LR.850.5). The impacts to these segments associated with the proposed Package A transportation improvements would not substantially diminish the integrity of the resource or the characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Package A transit improvements would result in no adverse effect with respect to the entire GWR in Larimer, Weld and Boulder counties (5LR.850, 5WL.841, and 5BL.514).

Package B: 240 feet of railroad track at segment 5LR.850.1 would be directly impacted as a result of new bridge construction. Temporary construction impacts and indirect effects due to expanded overhead coverage by the highway bridges would affect two segments of the railroad (5WL.841.11 and 5WL.841.9). The impacts to these segments associated with the proposed Package B transportation improvements would not substantially diminish the integrity of the resource or the characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT have determined that Package B would result in no adverse effect with respect to the entire GWR in Larimer and Weld counties (5LR.850 and 5WL.841).

Preferred Alternative: 155 feet of railroad track at segment 5LR.850.1 would be directly impacted as a result of new bridge construction. Temporary construction impacts and indirect effects due to expanded overhead coverage by the highway bridges would affect two segments of the railroad (5WL.841.11 and 5WL.841.9). Commuter rail traffic. along the transportation corridor would contribute to modern, but compatible rail elements to the historic setting at two localities (5BL.514.1 and 5LR.850.5). The impacts to these segments associated with the Preferred Alternative would not substantially diminish the integrity of the resource or the characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative would result in no adverse effect with respect to the entire GWR in Larimer, Weld and Boulder counties (5LR.850, 5WL.841, and 5BL.514).

5LR.11408 (Zimmerman Grain Elevator)

Resource Description: The Zimmerman Grain Elevator is located on the east side of I-25 adjacent to the GWR (5LR.850), and was built in 1917. The bolted steel panel elevator structure is an intact example of a specialized agricultural building that was important to dryland farming in Larimer and Weld counties in the early 20th century. It is one of several similar steel panel grain elevators built along the railroads of the Front Range during the early 20th century.

Eligibility Determination: Based on its important association with Larimer County agriculture and as a well-preserved example of a pre-fabricated early twentieth grain elevator, this property is eligible for the NRHP under Criteria A and C.

Effect Determination – Package A: I-25 is depressed in an underpass beneath the GWR to the west of the historic grain elevator. Under Package A, I-25 in this area would be substantially widened to accommodate three general purpose lanes plus one auxiliary lane in each direction. The existing east frontage road would be realigned and widened approximately 21 feet to the east. A retaining wall and guardrail would be installed along the west edge of this

frontage road, to protect the road and traffic from the steep slope of the highway cut. No right-of-way encroachment or other direct impacts to the parcel containing the historic grain elevator would occur under Package A, although the distance between the building and the east edge of pavement of the northbound I-25 roadway (in the underpass cut) would be reduced from approximately 223 feet to approximately 170 feet. Although I-25 would be wider and closer to the historic grain elevator, it sits depressed below the elevation of the grain elevator, and the historic agricultural setting has already been compromised to some degree by the original construction of I-25 adjacent to the property in the 1960s (see **Figure 3.15-49**).

The improvements associated with Package A would not substantially diminish the historical and architectural characteristics which render the property eligible. FHWA, FTA and CDOT have determined that Package A would result in no adverse effect to the Zimmerman Grain Elevator.

Effect Determination – Package B: Under Package B, I-25 in this vicinity would be substantially widened to accommodate two general purpose lanes plus two barrier-separated managed lanes in each direction. The existing east frontage road would be realigned and widened approximately 21 feet to the east. No right-of-way encroachment or other direct impact to the parcel containing the historic grain elevator would occur under Package B, although the distance between the building and the east edge of pavement of the northbound I-25 roadway would be reduced from approximately 223 feet to approximately 143 feet (see **Figure 3.15-50**). Although I-25 would be larger and closer to the historic grain elevator, the setting has already been compromised to some degree by the original construction of I-25 adjacent to the property in the 1960s.

The improvements associated with Package B would not substantially diminish the architectural characteristics which render the property NRHP-eligible. FHWA, FTA and CDOT therefore have determined that Package B would result in no adverse effect to the Zimmerman Grain Elevator.

Effect Determination – Preferred Alternative: I-25 is depressed in an underpass beneath the GWR to the west of the historic grain elevator. Under the Preferred Alternative, I-25 in this area would be substantially widened to accommodate three general purpose lanes plus one TEL in each direction. The existing east frontage road would be realigned and widened approximately 21 feet to the east. A retaining wall and guardrail would be installed along the west edge of this frontage road, to protect the road and traffic from the steep slope of the highway cut. Direct impacts to the parcel containing the historic grain elevator would occur as a result of the wider footprint and associated fill slopes on the east side of the frontage road. A total of 0.03 acre of land would be incorporated into the transportation infrastructure under the Preferred Alternative. There would be no impacts to any structures including the historic grain elevators within the property boundary, although the distance between the building and the east edge of pavement of the northbound I-25 roadway (in the underpass cut) would be reduced from approximately 223 feet to approximately 170 feet. Although I-25 would be wider and closer to the historic grain elevator, it sits depressed below the elevation of the grain elevator, and the historic agricultural setting has already been compromised to some degree by the original construction of I-25 adjacent to the property in the 1960s (see **Figure 3.15-51**).

The improvements associated with the Preferred Alternative would not substantially diminish the historical and architectural characteristics which render the property eligible. FHWA, FTA and CDOT have determined that the Preferred Alternative would result in no adverse effect to the Zimmerman Grain Elevator.

Figure 3.15-49 5LR.11408 (Zimmerman Grain Elevator) – Package A

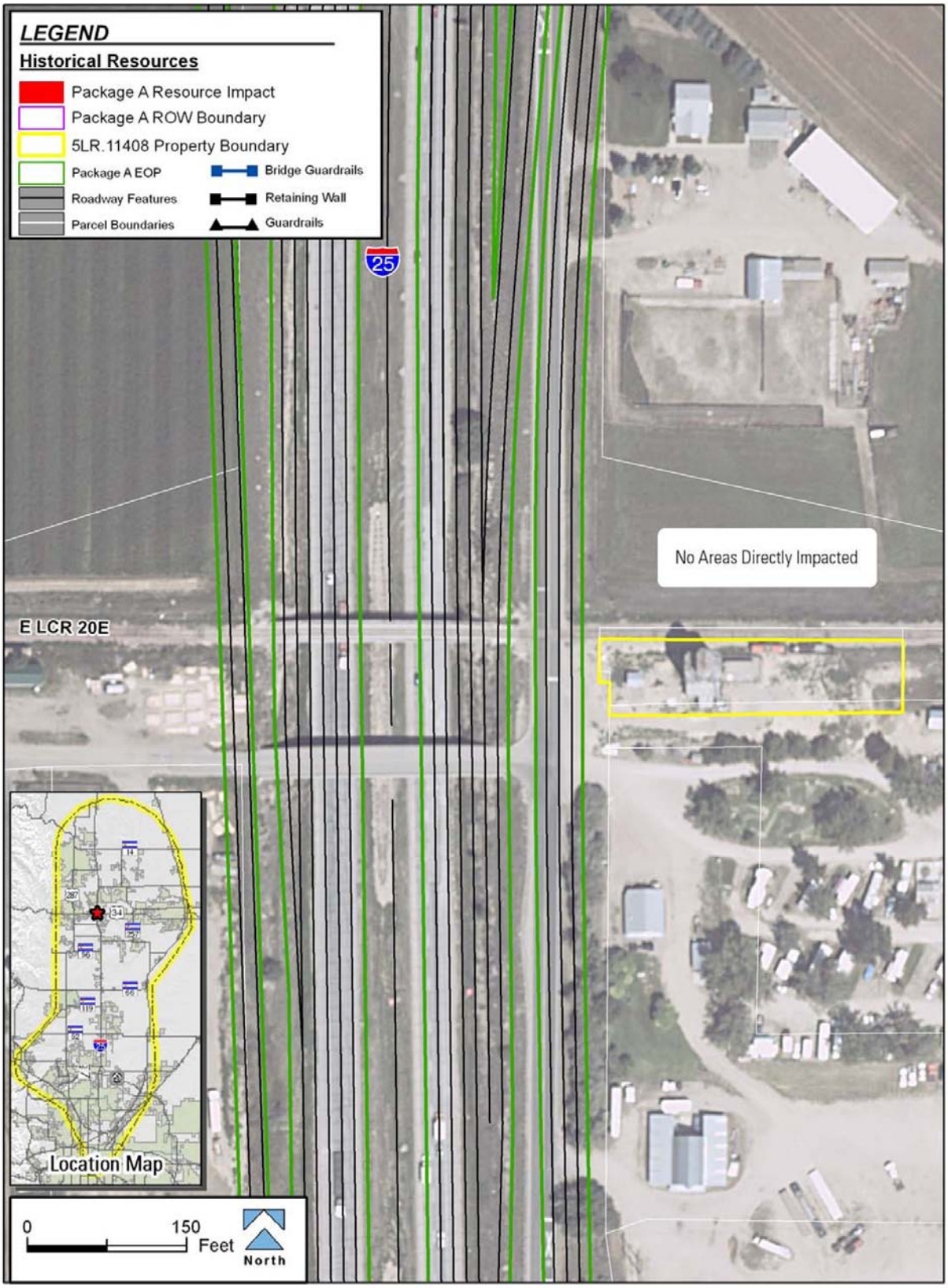


Figure 3.15-50 5LR.11408 (Zimmerman Grain Elevator) – Package B

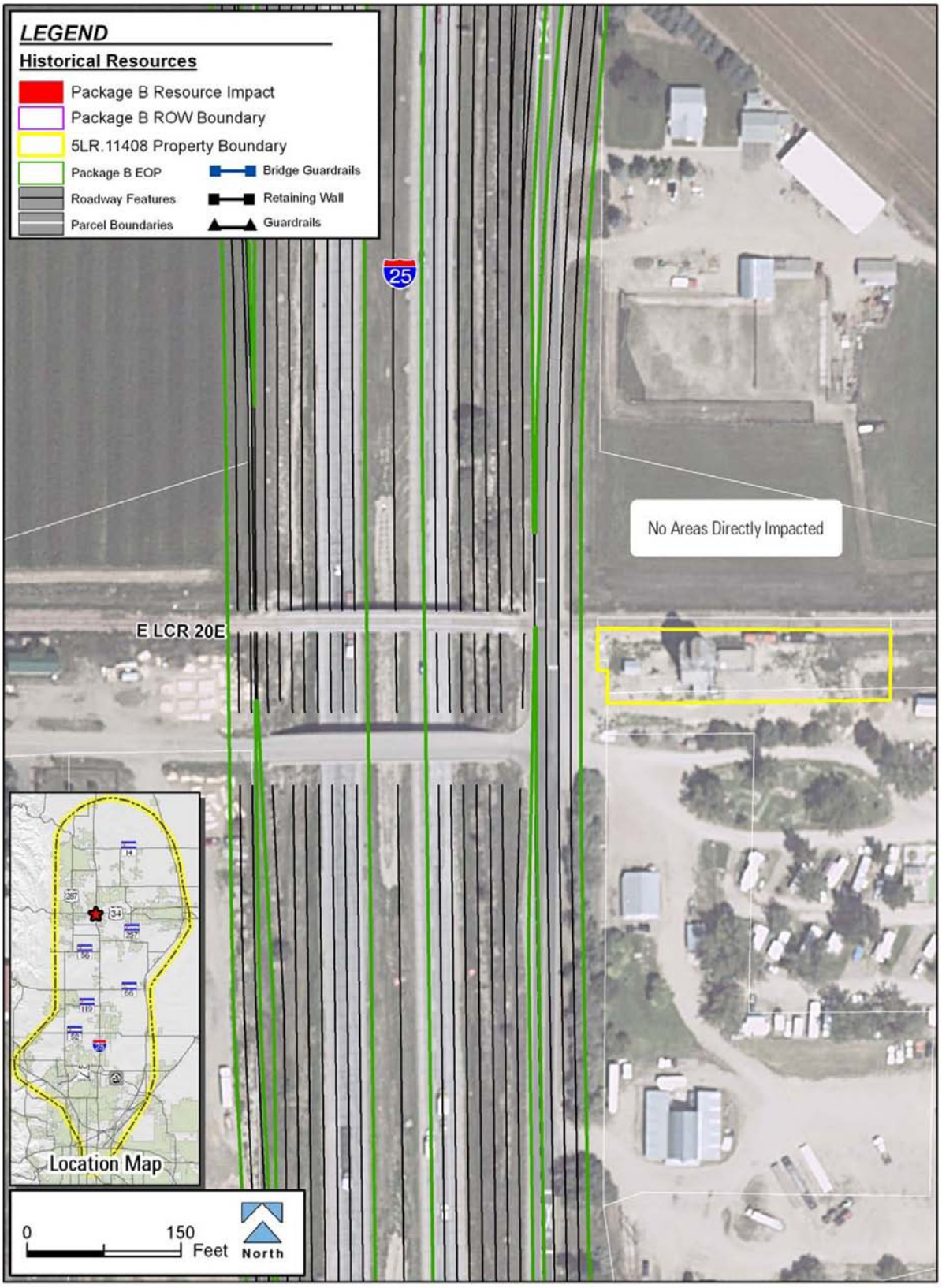
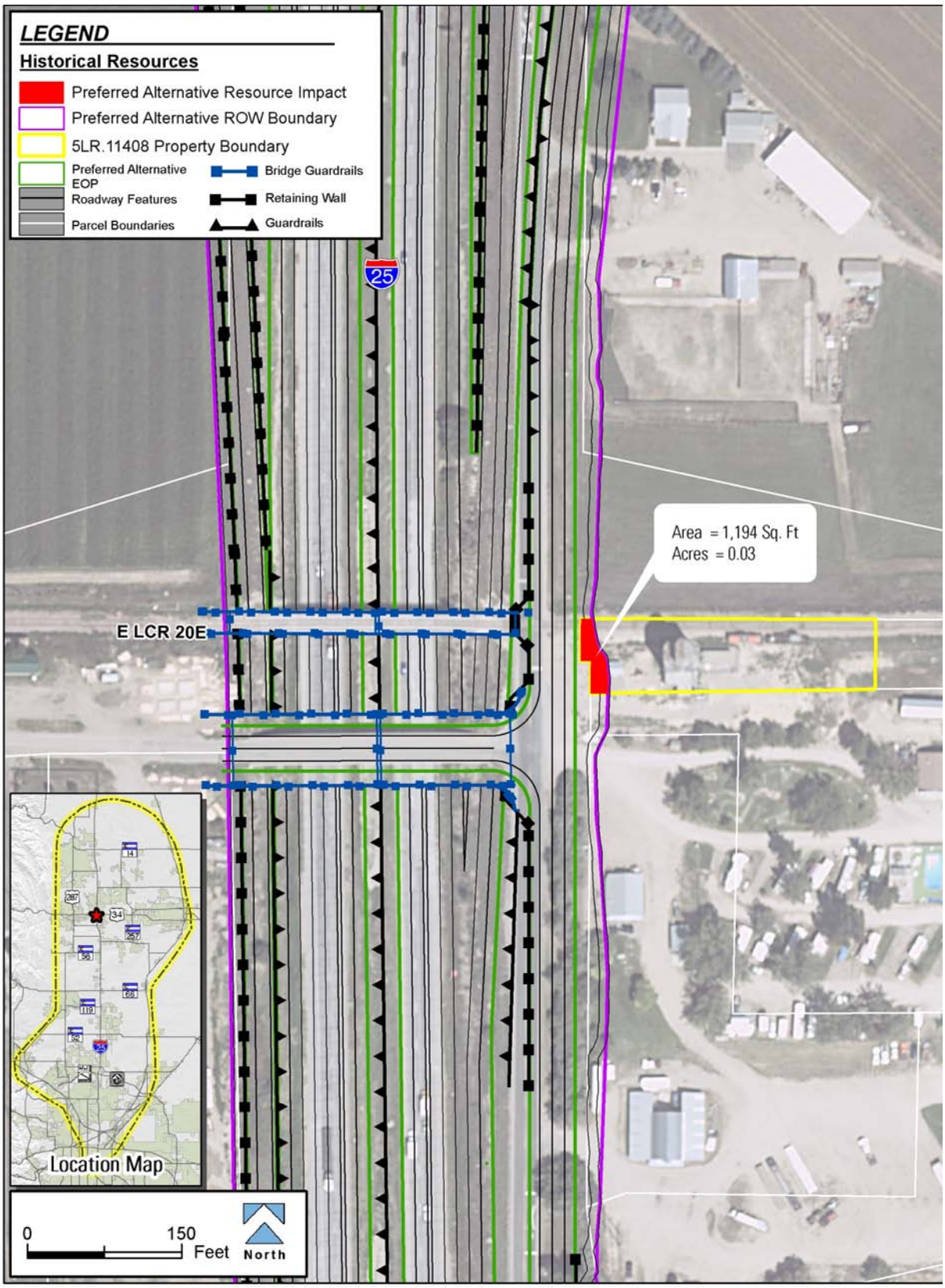


Figure 3.15-51 5LR.11408 (Zimmerman Grain Elevator) – Preferred Alternative



5LR.11382 (Hatch Farm)

Hatch Barn

Resource Description: The Hatch Farm is located at 640 Southeast Frontage Road in Larimer County on the east side of I-25, slightly more than one mile south of US 34, southeast of Loveland. An examination of historical maps and directories shows that the land where this barn is situated in Section 15 of Township 5N, Range 68W was originally a 160-acre parcel owned by T.R. Norcross in 1915 and 1940. It was owned by E.A. & Katherine Gooch in 1956 and 1959 and by Katherine Gooch in 1968. According to the Larimer County Assessor's card file, it was owned by Moffat & Sons around 1974. This property includes a historic balloon-framed barn, constructed circa 1920.The barn is surrounded by farmland.

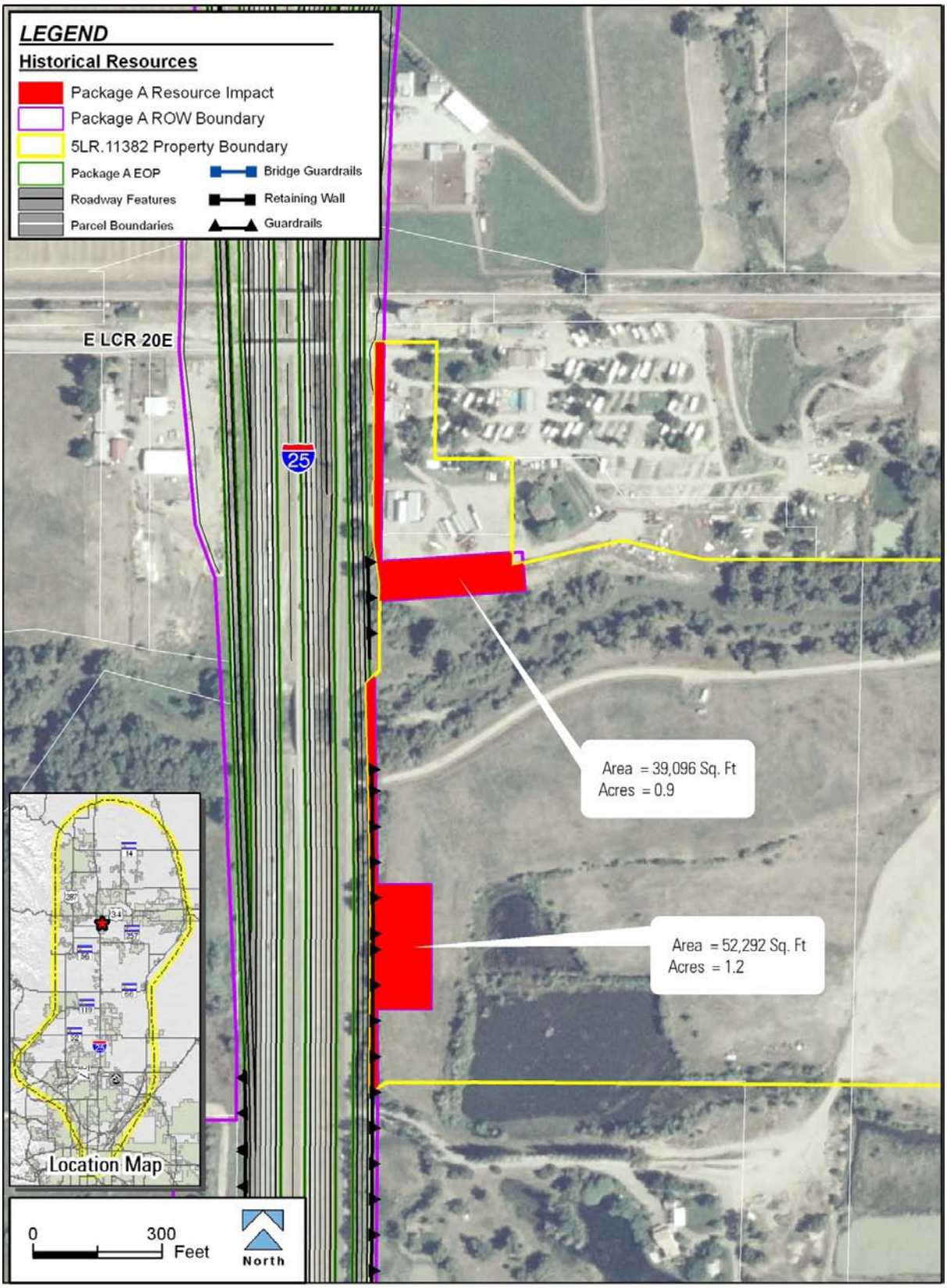
The current owner of the property, Mr. James R. Hatch, was contacted for additional information. He has owned the property for about 30 years. He indicated that the barn that is on the site had been built in approximately 1904 on the Frank farm which is located east of I-25 on US 34. The barn was moved to this site in 1968. The original part of the barn is the center part below the hay loft. The wings of the barn were added on in 1968 after it was moved to this property. From the time of its move to this property, it has always been used as storage space. It has not been associated with agricultural uses since its move to this property.

Eligibility Determination: The significance of the Hatch Farm is attributed to the architecture of the barn. The Hatch barn retains very good architectural integrity, is an excellent example of a specialized type and construction method of agricultural architecture, and was determined to be officially eligible for the NRHP on August 9, 2007 under Criterion C.

Effect Determination – Package A: Under Package A, the existing I-25 template in this vicinity would be changed from the existing two general purpose lanes in each direction, to a wider footprint containing three general purpose lanes plus one auxiliary lane in each direction. The existing east frontage road would be shifted to the east of its present alignment. In conjunction with these transportation improvements, the Package A design calls for the construction of two water quality ponds on the east side of I-25, extending into this historic property. Ponds in this area were placed to avoid wetlands and Section 4(f) protected parkland along the Big Thompson River. The northernmost water quality pond would extend nearly 300 feet into the historic property, and would occupy an area approximately 0.9 acre in size. The southernmost pond would extend approximately 104 feet into the historic property, and would occupy an area approximately 1.2 acres in size. Together, these ponds would impact approximately 2.1 acres of land within the site boundary, or approximately two percent of the area of the 106.78-acre historic farm property (see **Figure 3.15-52**).

The planned ROW allows for a 10-foot-wide, continuous maintenance easement along the retaining walls and southern basin, which can be accessed from the unpaved county road. The northern pond is accessible from both a 10-foot-wide easement along the toe slope and existing farm driveways.

Figure 3.15-52 5LR.11382 (Hatch Farm) – Package A



The proposed water quality ponds would be visually unobtrusive. The historic barn would not be directly or indirectly affected by development of these water quality ponds, and the transportation-related improvements associated with Package A would not diminish or alter architectural characteristics that render the property eligible for the NRHP. Please see the Effect Determination discussion under the Preferred Alternative for information regarding the projects effects to character-defining features associated with the farm. FHWA, FTA and CDOT therefore have determined that Package A would result in *no adverse effect* to the resource.

Effect Determination – Package B: Under Package B, the existing I-25 template in this vicinity would be altered to include two general purpose lanes and two barrier-separated managed lanes in each direction. The existing east frontage road would be shifted to the east of its present alignment. In conjunction with these transportation improvements, the Package B design specifies the construction of two water quality ponds on the east side of I-25, extending into this historic site. The northernmost water quality pond would extend nearly 286 feet into the historic property, and would occupy an area approximately 0.87 acre in size. The southernmost pond would extend approximately 91 feet into the historic property, and would occupy an area approximately 1.33 acres in size. Together, these ponds would impact approximately 2.2 acres of land within the site boundary, or approximately two percent of the area of the 106.78-acre historic farm property (see **Figure 3.15-53**).

The planned ROW allows for a 10-foot-wide, continuous maintenance easement along the retaining walls and southern basin, which can be accessed from the unpaved county road. The northern pond is accessible from both a 10-foot-wide easement along the toe slope and existing farm driveways.

The historic barn on the Hatch Farm property would not be directly or indirectly affected by development of these water quality ponds, and the transportation-related improvements associated with Package B would not diminish or alter architectural characteristics that render the property eligible for the NRHP. Please see the Effect Determination discussion under the Preferred Alternative for information regarding the projects effects to character-defining features associated with the farm. FHWA, FTA and CDOT have determined that Package B would result in *no adverse effect* to the resource.

Effect Determination – Preferred Alternative: Under the Preferred Alternative, the existing I-25 template in this vicinity would be changed from the existing two general purpose lanes in each direction, to a wider footprint containing three general purpose lanes plus one TEL in each direction. The existing east frontage road would be shifted to the east of its present alignment. In conjunction with these transportation improvements, the Preferred Alternative design calls for the construction of a water quality pond on the east side of I-25, extending into this historic property. The pond was placed in this area to avoid wetlands and Section 4(f) protected parkland along the Big Thompson River. The pond would extend approximately 104 feet into the historic property, and would occupy an area approximately 1.18 acres in size. Together, this pond and the widened footprint of the transportation infrastructure would impact approximately 1.33 acres of land within the site boundary, or approximately one percent of the area of the 106.78-acre historic farm property (see **Figure 3.15-54**).

The planned ROW allows for a 10-foot-wide, continuous maintenance easement along the retaining walls and southern basin, which can be accessed from the unpaved county road.

Very little of the original 160-acre farm is still used for agriculture. There are no farm buildings on the Hatch property except for the barn and that no longer has any association with agriculture. Mr. Hatch said that his 8-acre parcel has not been used as cropland since the 1940s. It was used as a wrecking yard in the 1950s. The Big Thompson River flows through the northern portion of the original farm. The property has been divided and sold and is now in a variety of uses. There is a campground on 12 acres in the northwest part of the original farm. Mr. Hatch has 8 acres with about 4 acres used for his trucking business and the other 4 acres used for residential uses. The land to the south of the Big Thompson River has been a large gravel pit for the last 15 years. The only remaining agricultural use of the land is for pasture on the land surrounding the gravel pit operation. The barn is eligible under Criterion C, but the site has lost integrity in terms of setting as the there are no other buildings on site that were associated with agricultural uses.

The proposed water quality pond would be visually unobtrusive. The historic barn would not be directly or indirectly affected by development of these water quality ponds, and the transportation-related improvements associated with the Preferred Alternative would not diminish or alter architectural characteristics that render the property eligible for the NRHP. The loss of the land from the site is not adverse because the setting and feeling of this property have been changed with the development of the campground, the service garage, the trucking business and the gradual reduction of agricultural use of the property. The approximate 1.33 acres of land that would be taken for this project is mainly vacant land with some portions of the land being used as an area to park trucks for the trucking business. The barn was not used for agricultural purposes on this property. The association for this property is now commercial rather than agricultural. The material, workmanship, location and design of the barn would retain integrity and not be affected by a loss of land from the site. Due to the prior loss of the agricultural setting of this property and the fact that there would be no direct impact to the barn which is the reason for the property's eligibility, FHWA, FTA and CDOT have determined that the Preferred Alternative would result in no adverse effect to the resource.

Figure 3.15-53 5LR.11382 (Hatch Farm) – Package B

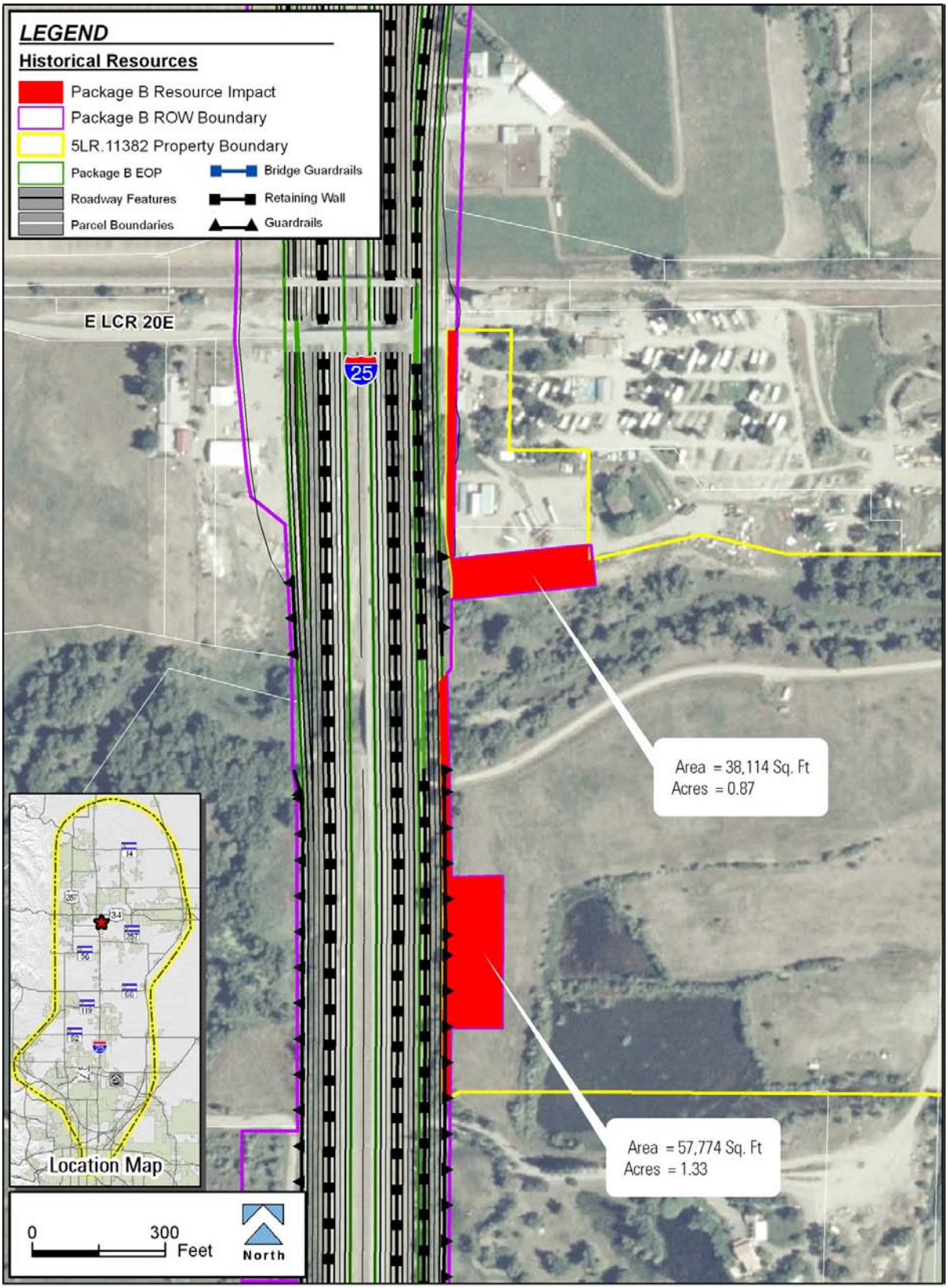
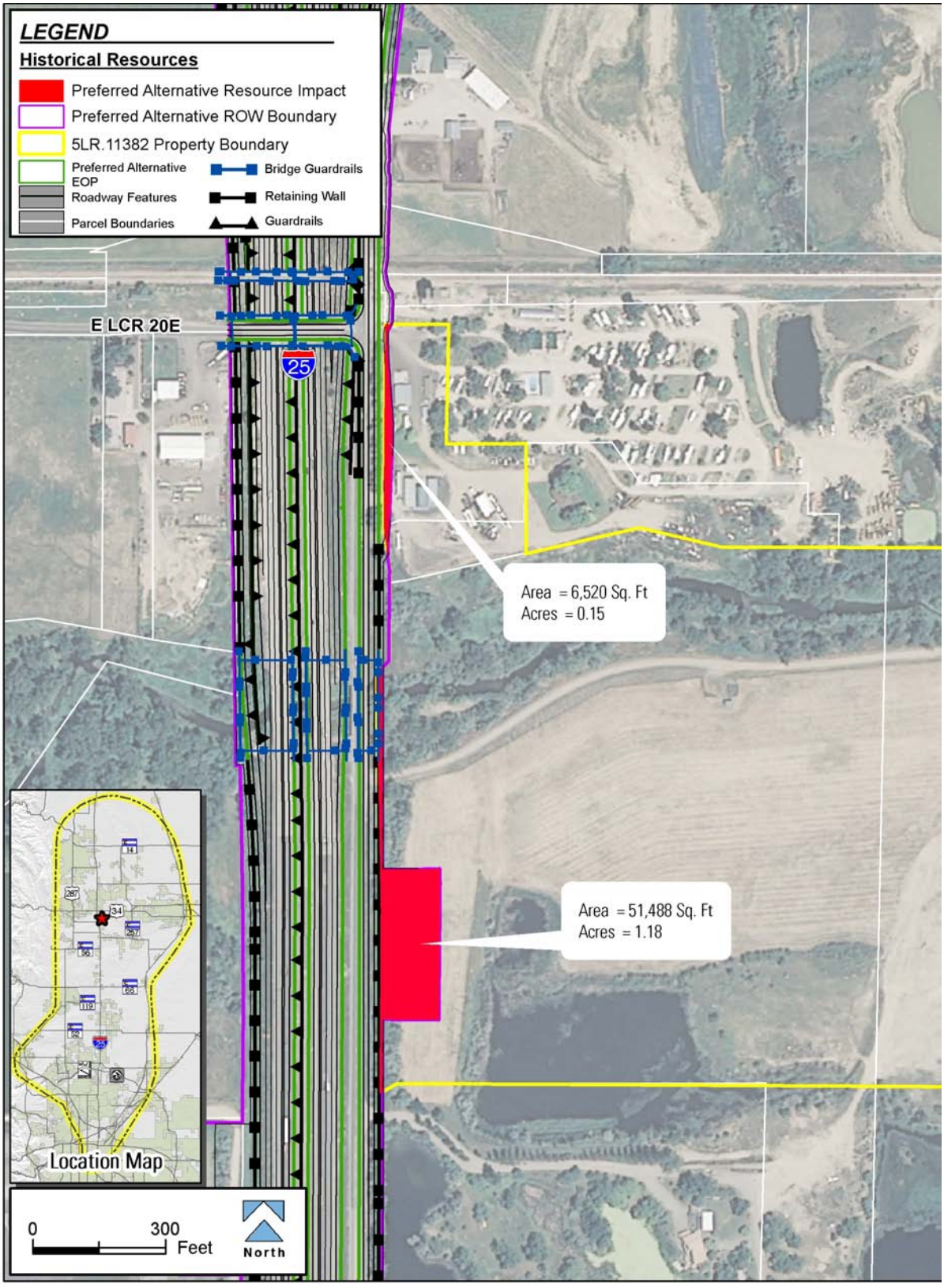


Figure 3.15-54 5LR.11382 (Hatch Farm) – Preferred Alternative



5LR.8927.1 (Hillsboro Ditch)

Resource Description: This segment of the historic Hillsboro Ditch crosses I-25 just south of the I-25 and US 34 interchange. The irrigation ditch was constructed as one of the first cooperatively owned ditches in the area. The entire ditch (5LR.8927) is approximately 19.25 miles long. The documented segment in the project APE (5LR.8927.1) is 2,065 feet (0.4 mile) long. The ditch channel is approximately 20 feet wide. Sparse riparian growth covers both banks of the ditch in many areas. The surrounding area is primarily rural in character.

Eligibility Determination: The entire Hillsboro Ditch is eligible for listing on the NRHP under Criterion A because of its important association with the development of water rights and agriculture in Larimer County. Outside the I-25 right-of-way, this segment of the functioning ditch appears to maintain its historic alignment and its association with the rural landscape through which it runs. The segment (5LR.8927.1) within the project APE retains sufficient integrity of location, setting, feeling, and use to support the eligibility of the entire linear resource.

Effect Determination – Package A: Under Package A, I-25 would be expanded to 8 lanes, containing three general purpose lanes plus one auxiliary lane in each direction. The Hillsboro Ditch is presently conveyed beneath I-25 inside a modern CBC. The box culvert would be replaced with a new, 135-foot-longer box culvert of the same cross section dimensions, 14 feet wide and 14 feet tall. That portion of the Hillsboro Ditch already inside the I-25 culvert has lost integrity. Widening of the I-25 southbound lanes, ramp and the associated slopes under Package A would require 90 feet of land west of the existing road slope edge. This requires enclosing 90 feet of open ditch on the east side of I-25 in a new culvert to allow for the expanded highway construction. Similar widening of the highway and fill slopes along the northbound lanes requires that 45 feet of open ditch be enclosed in a culvert on the east side of I-25. A total of approximately 135 feet of open ditch would be subject to direct impact from Package A transportation improvements (see **Figure 3.15-55**).

Construction of the concrete culverts would require temporary access to the historic property for equipment access, and would require a temporary easement. The ditch would likely be diverted during demolition of the old culvert and installation of the replacement culvert, but would remain operational and irrigation water would be protected from construction-related sedimentation. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

Placing additional short sections of open ditch in new culverts in proximity to the preexisting culverts would not substantially diminish the qualities that render this resource NRHP-eligible. The proposed modifications affect a very small portion of the entire 19.25-mile linear resource. FHWA, FTA and CDOT have determined that Package A would result in no adverse effect to the entire Hillsboro Ditch (5LR.8927).

Effect Determination – Package B: Package B specifies that the I-25 section would be improved to an eight-lane facility and would contain two general purpose lanes plus two barrier-separated managed lanes in each direction. Direct impacts to the Hillsboro Ditch associated from Package B are nearly identical in nature and extent to those associated with Package A (see **Figure 3.15-55**).

Placing additional short sections of open ditch in new culverts in proximity to the pre-existing culverts would not substantially diminish the qualities that render this resource NRHP-eligible. The proposed modifications affect a very small portion of the entire 19.25-mile linear resource. FHWA, FTA and CDOT have determined that Package B would result in no adverse effect to the entire Hillsboro Ditch (5LR.8927).

Effect Determination – Preferred Alternative: Under the Preferred Alternative, I-25 would be expanded to 8 lanes, containing three general purpose lanes plus one TEL in each direction. The Hillsboro Ditch is presently conveyed beneath I-25 inside a modern CBC. The box culvert would be replaced with a new, 55-foot-longer box culvert of the same cross section dimensions, 14 feet wide and 14 feet tall. That portion of the Hillsboro Ditch already inside the I-25 culvert has lost integrity. Widening of the I-25 southbound lanes, ramp and the associated slopes under the Preferred Alternative would require 90 feet of land west of the existing road slope edge. This requires that 55 feet of open ditch be enclosed in a culvert on the east side of I-25. A total of approximately 55 feet of open ditch would be subject to direct impact from the Preferred Alternative transportation improvements (see **Figure 3.15-56**).

Construction of the concrete culverts would require temporary access to the historic property for equipment access, and would require a temporary easement. The ditch would likely be diverted during demolition of the old culvert and installation of the replacement culvert, but would remain operational and irrigation water would be protected from construction-related sedimentation. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

Placing additional short sections of open ditch in new culverts in proximity to the pre-existing culverts would not substantially diminish the qualities that render this resource NRHP-eligible. The proposed modifications affect a very small portion of the entire 19.25-mile linear resource. FHWA, FTA and CDOT have determined that the Preferred Alternative would result in no adverse effect to the entire Hillsboro Ditch (5LR.8927).

Figure 3.15-55 5LR.8927.1 (Hillsboro Ditch) – Packages A and B

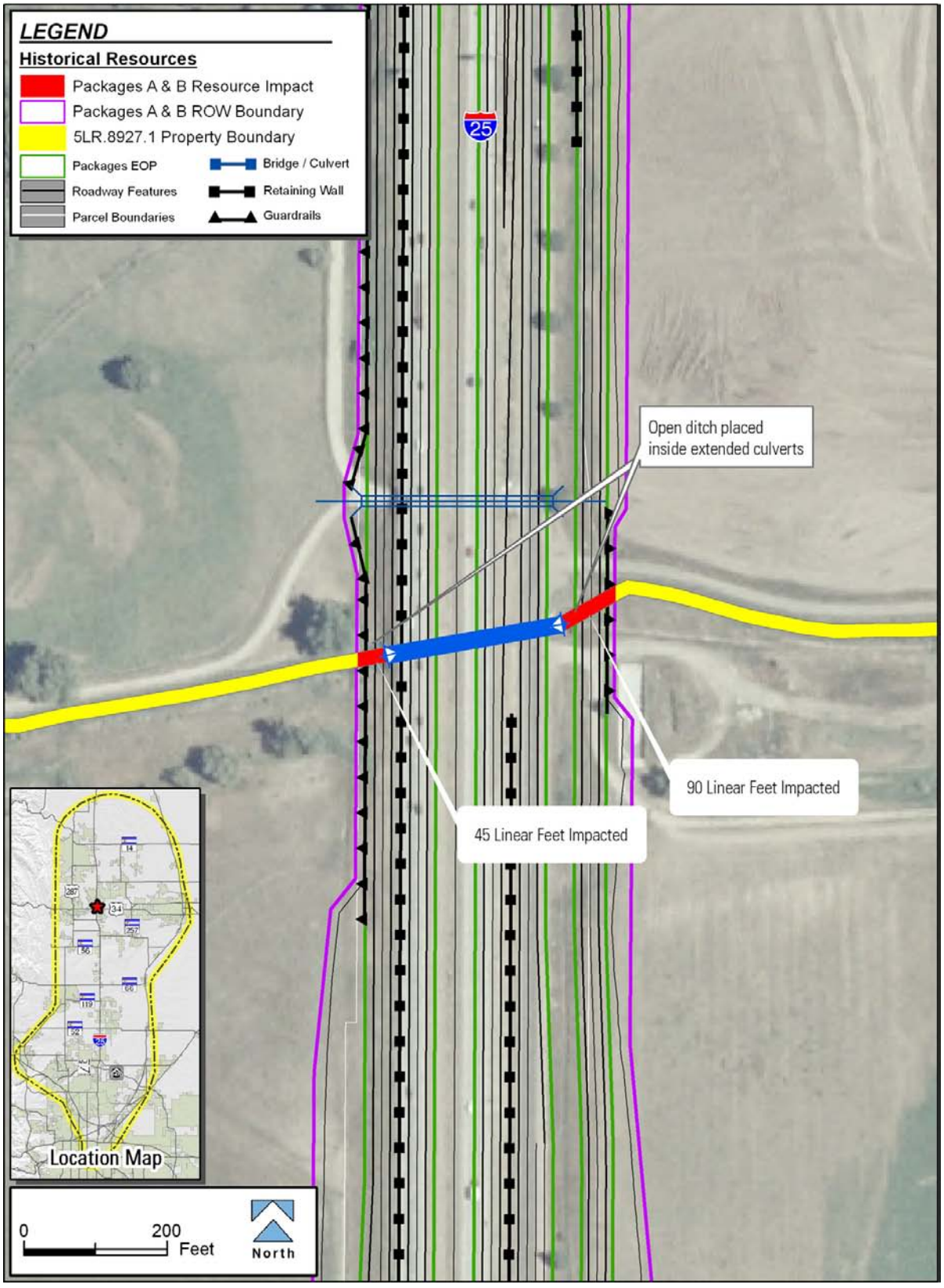
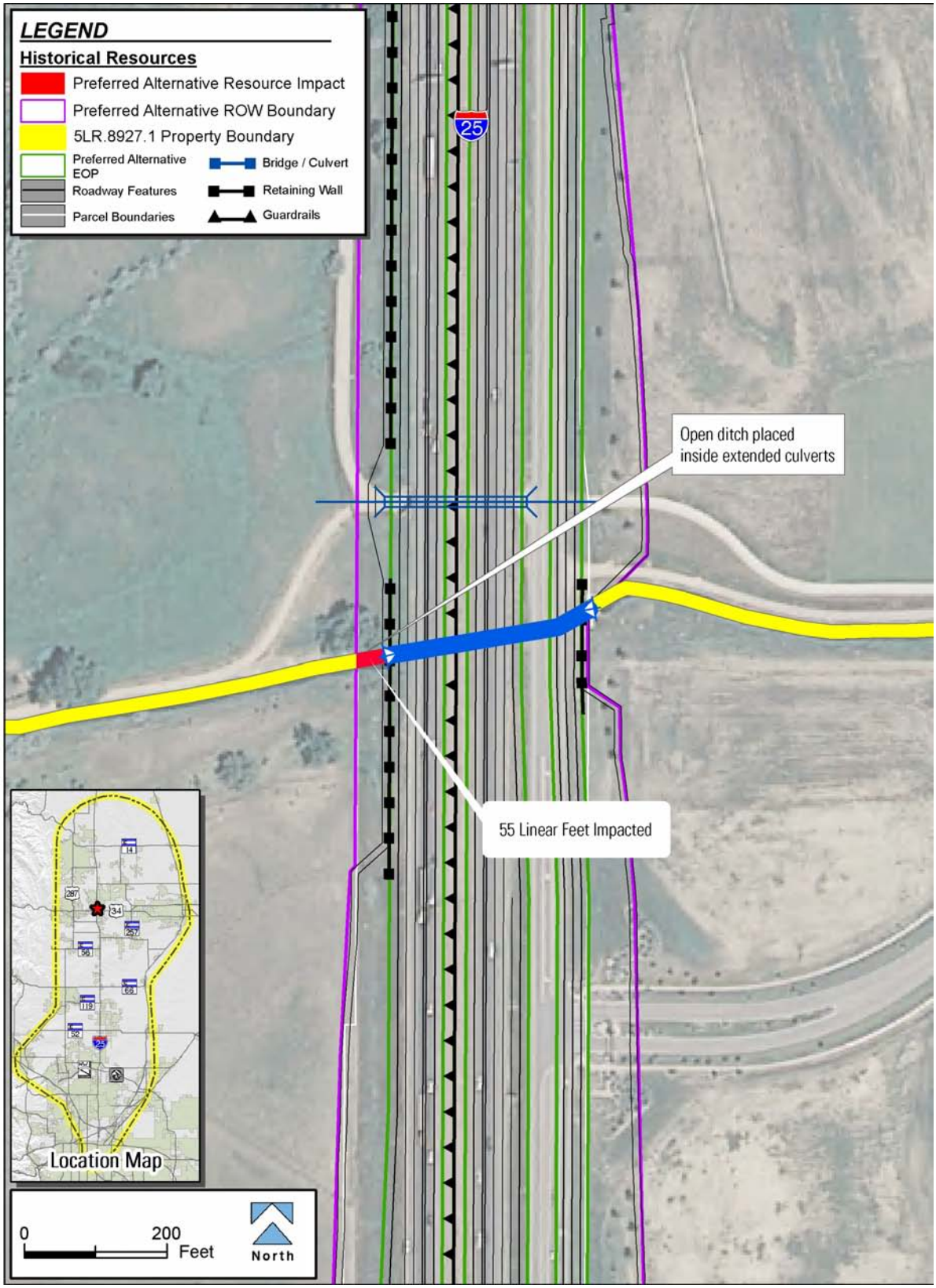


Figure 3.15-56 5LR.8927.1 (Hillsboro Ditch) – Preferred Alternative



5LR.11242 (Mountain View Farm)

Resource Description: The Mountain View Farm is located at 5531 SH 402, at the northwest corner of I-25 and SH 402 several miles southeast of Loveland. The farm appears to date to the mid-1970s with lands being acquired from other landowners along SH 402 including Kenneth Wolfe, the Kelly's and Masts. The current farm boundaries came from at least two previous ownerships. Through the 1970s and 1980s lands were bought and sold by Mountain View Farms, Inc. as they established their land base, including a major addition to the land base in 1986 from Kenneth Wolfe. The current owners, Arlo and Barbara Johnston, have been involved in real estate speculation elsewhere in the Loveland area. The Johnstons do not live on the property; rather they rent the house and use the other buildings for their farming operations. The original farm located in this area (160 acres in SW ¼ of Section 22) was patented on June 1895 by William A. Bean under the Timber Culture Act. In the past, the farm has been used for growing of sugar beets, hay, grain and for dairy operations. In the 1950s and 1960s the farm was rented to Carl Rieckle. He grew barley, corn, sweet corn and raised cattle on the farm.

In 1915, this site was a 160-acre farm but it is currently 136 acres. Some of the land at the southeast corner of the farm was developed into the I-25 / SH 402 Interchange. The farmhouse, which was built in 1923, was moved onto this site after the construction of I-25 and then remodeled in 1964. There are five historic buildings on the site, six modern buildings and nine modern features. The historic buildings include the farmhouse, a milking parlor built in the 1950s, a calving shed, a feedlot shed and another shed all dating to the 1930s.

Eligibility Determination: On July 24, 2006, the CDOT determined, and the SHPO concurred, that the Mountain View Farm was officially eligible for the NRHP under Criterion A for its association with 20th century farming. The integrity of the historic agricultural setting was compromised in the 1960s when I-25 was built adjacent to its eastern border. However, the land that is now owned and used by Mountain View Farms was not assembled until after the construction of I-25. The introduction of the interstate highway adjacent to the farm in the 1960s also affected the feeling and association by the introduction of the highway as a modern non-agricultural element. Those impacts were evident when the property was determined eligible for the NRHP in 2006.

Effect Determination – Package A: This historic farm would experience direct impacts associated with proposed improvement of the I-25/SH 402 interchange. Package A would re-align the I-25 southbound off-ramp west of the existing off-ramp, and would require the acquisition of a 60 to 100-foot-wide strip of cultivated farmland at the east edge of the historic farm property to accommodate the proposed new off-ramp from southbound I-25 to SH 402.

Another direct impact would occur near the farmhouse as a result of widening along the north edge of SH 402 to add turn and through lanes at the off-ramp. The new width of roadway along SH 402 would convert a maximum of 100 feet of farm property at the intersection with the southbound off-ramp, tapering to a 20-foot-wide strip of new transportation right-of-way near the driveway to the farmhouse. The highway overpass and ramp intersections would be approximately 22 feet above the highway at the bridge similar to the existing interchange configuration. However, the Package A design necessitates extending the slope from the elevated overpass and ramp intersections westward to the existing grade of SH 402 much closer to the historic farm house than is the case with the existing interchange configuration.

A total area of 4.76 acres of land would be converted from open farmland to paved roadway and fill slopes within the historic farm boundary. This area amounts to approximately 3.5 percent of the 136.22 acre farm. No historic buildings would be directly impacted by these transportation improvements (see **Figure 3.15-57**). However, the presence of the existing I-25 highway ramps and interchange already introduce modern elements into this agricultural setting. Under Package A, the fill slopes and ramps are moved closer to the eastern edge of the farm, and would be slightly taller than the existing slopes, ramps and overpass. Another change would be construction of a proposed new park and ride parking lot on the south side of SH 402 near the farm.

Traffic noise generated by I-25 would decrease two decibels because the highway would be re-aligned to the east, away from the farmhouse. Although the new southbound off-ramp would be built on a new alignment closer and elevated relative to the farmhouse, noise from existing traffic and the closer ramp would not substantially alter the agricultural setting or diminish the architectural characteristics that render the property NRHP-eligible.

A temporary construction easement may be requested along the eastern edge of the property for to allow haul roads, construction access, and/or staging areas to facilitate roadway widening and slope building. No permanent impacts would be anticipated from this temporary construction activity on the farmland property, and no farm structures would be affected. Construction-related noise generated by construction equipment and trucks would be temporary in nature, but would not permanently affect the character of the farm setting. Thus, indirect effects caused by temporary construction activities are not expected to substantially diminish the function, character, or attributes that render the farm or farm buildings NRHP-eligible.

The proposed transportation improvements associated with Package A would not substantially diminish or alter the architectural or setting characteristics that render the property eligible for the NRHP. Please see the Effect Determination discussion under the Preferred Alternative for information regarding the projects effects to character-defining features associated with the farm. FHWA, FTA and CDOT have determined that Package A would result in no adverse effect to the resource.

Effect Determination – Package B: Anticipated impacts to the property under Package B are similar in character and extent to those expected from Package A improvements. A total area of 5.28 acres of land may be subject to direct impact. This area amounts to approximately four percent of the136.22-acre farm. No historic buildings would be directly impacted by these transportation improvements. Please see the Effect Determination discussion under the Preferred Alternative for information regarding the projects effects to character-defining features associated with the farm.

Indirect effects to the historic farm would be the same as with Package A (see **Figure 3.15-58**).

The proposed transportation improvements associated with Package B would not substantially diminish or alter architectural or setting characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT have determined that Package B would result in no adverse effect to the resource.

Figure 3.15-57 5LR.11242 (Mountain View Farm) – Package A

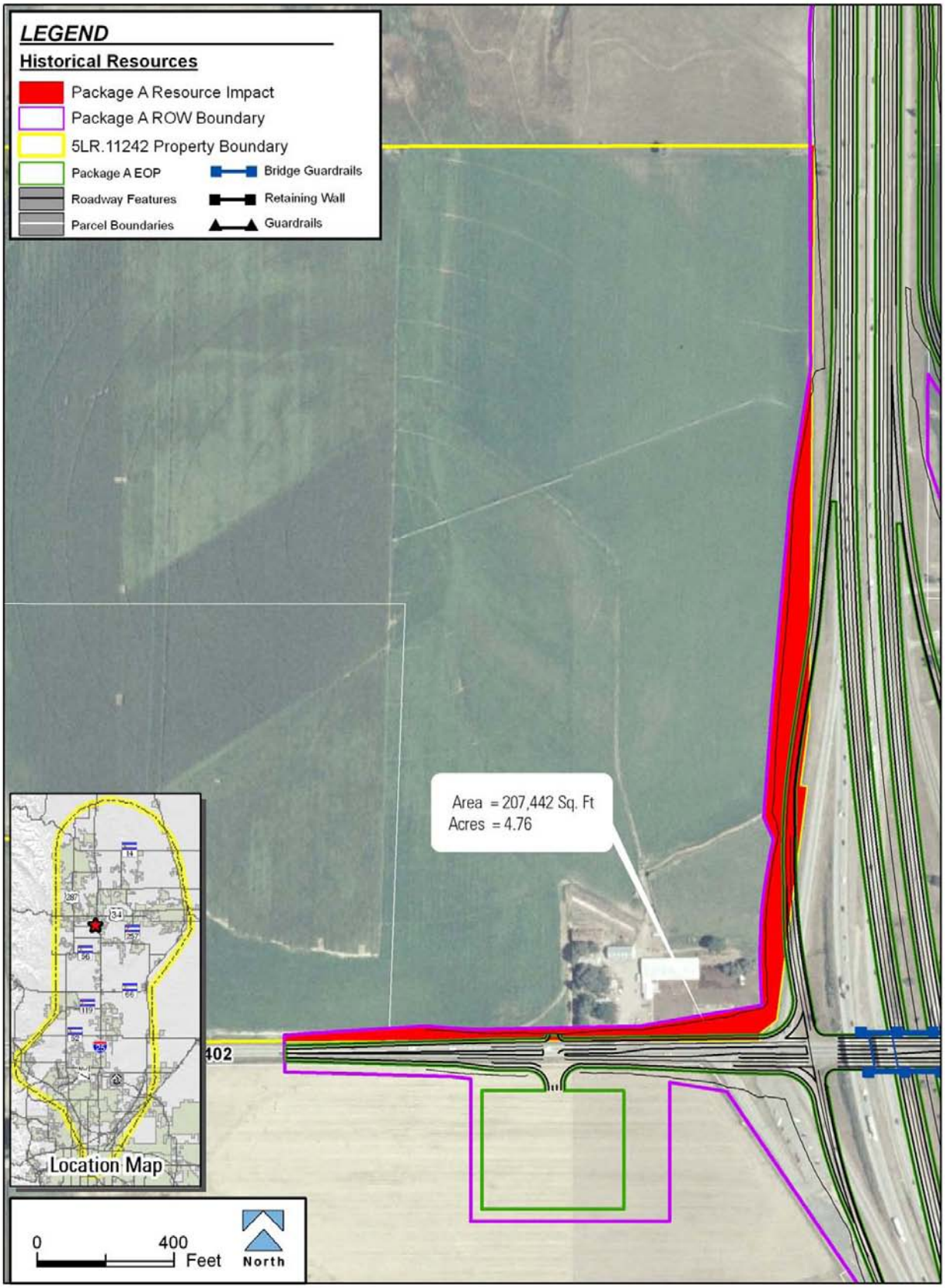
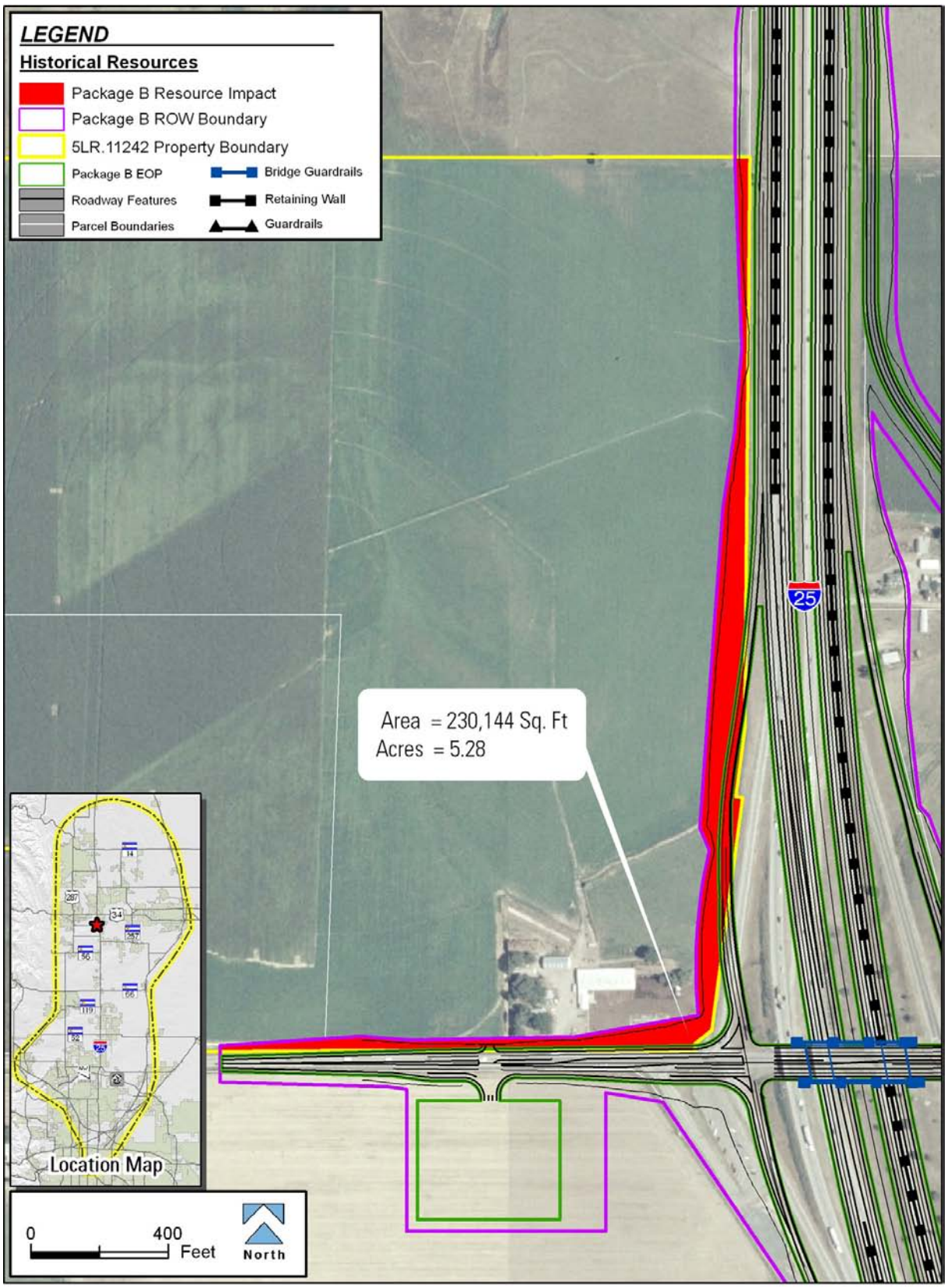


Figure 3.15-58 5LR.11242 (Mountain View Farm) – Package B



Effect Determination – Preferred Alternative: This historic farm would experience direct impacts associated with proposed improvement of the I-25 /SH 402 interchange. The Preferred Alternative would re-align the I-25 southbound off-ramp west of the existing off-ramp, and would require the acquisition of a strip of cultivated farmland that includes an irrigation canal at the east edge of the historic farm property to accommodate the proposed new off-ramp from southbound I-25 to SH 402.

The grade of the new off-ramp would be higher than the existing off-ramp. The first 400 feet of the new ramp exiting I-25 would be up to 5.5 feet higher than the existing ground. The next 900 feet would be up to 7 feet lower than the existing ground and the remaining 850 feet would be up to 26.5 feet higher than the existing ground.

Currently, SH 402 is located under I-25. The Preferred Alternative would modify this grade separation so that SH 402 would be located over I-25. The grade of SH 402 directly in front of the Mountain View farm buildings would vary from 0 to 6 feet higher than the current grade of SH 402. As the road continues east, it would climb to a height of 22 feet at the intersection with the southbound off-ramp and the northbound on-ramp. The grade of I-25 on the east side of the Mountain View Farm would be a maximum of 10 feet higher than existing ground level along the northern third of the farm property and a maximum of 25 feet lower than existing ground level for the remainder of the property.

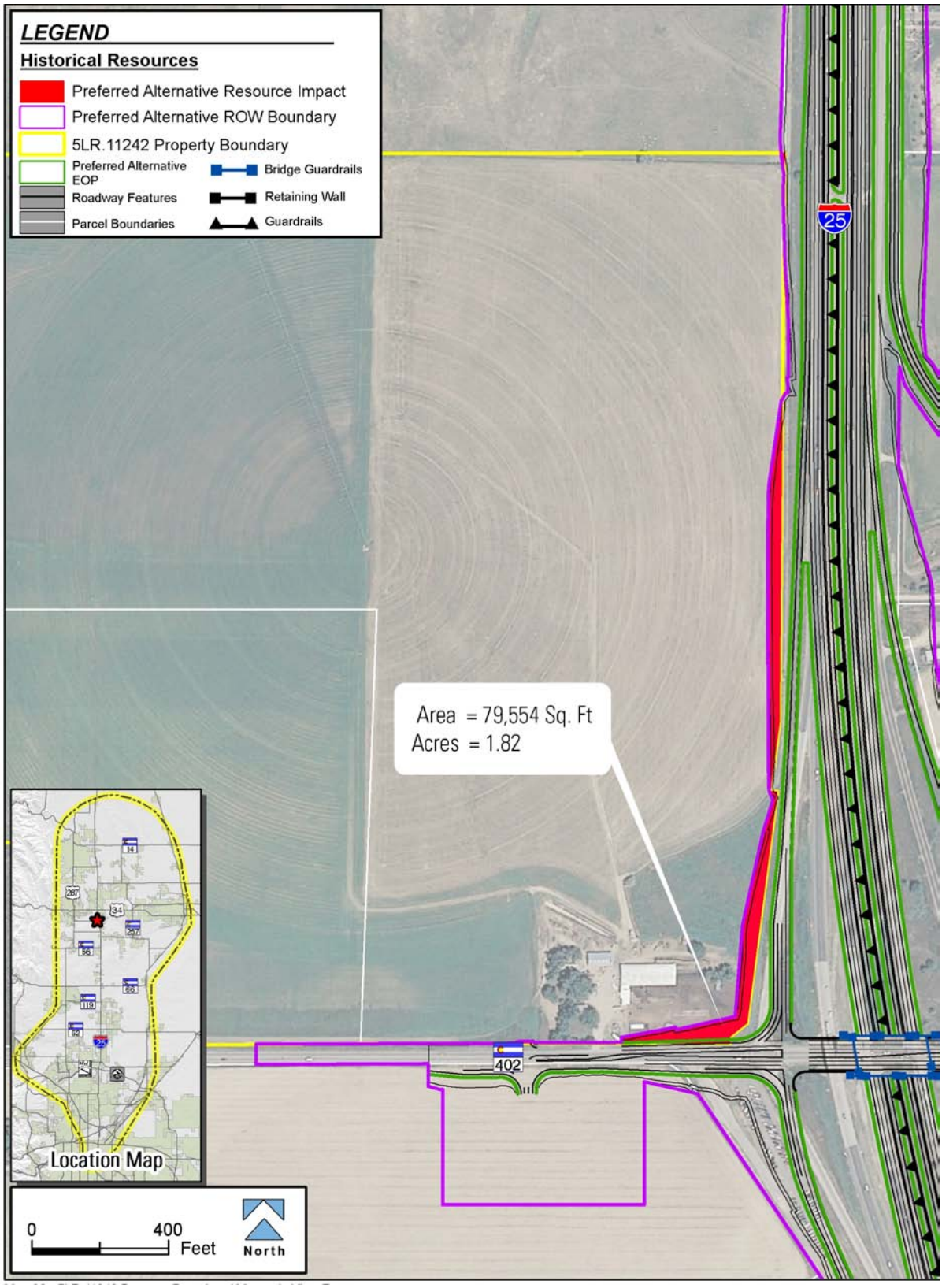
Another direct impact would occur near the farmhouse as a result of widening along the north edge of SH 402 to add turn and through lanes at the off-ramp. The new width of roadway along SH 402 would convert a maximum of 100 feet of farm property at the intersection with the southbound off-ramp, tapering off near the driveway to the farmhouse. The highway overpass and ramp intersections would be approximately 22 feet above the highway at the bridge similar to the existing interchange configuration. However, the Preferred Alternative design necessitates extending the slope from the elevated overpass and ramp intersections westward to the existing grade of SH 402 closer to the historic farm house than is the case with the existing interchange configuration.

A total area of 1.82 acres of land would be converted from open farmland to paved roadway and fill slopes within the historic farm boundary. This area amounts to approximately 1.3 percent of the 136.22-acre farm. No historic buildings would be directly impacted by these transportation improvements (see **Figure 3.15-59**). However, the presence of the existing I-25 highway ramps and interchange already introduce modern elements into this agricultural setting. Under the Preferred Alternative, the fill slopes and ramps would be moved closer to the eastern edge of the farm, and would be slightly taller than the existing slopes, ramps and overpass. Another change would be construction of a proposed new park and ride parking lot on the south side of SH 402 near the farm.

A small informal parking area currently exists on the west side of the southbound I-25 access from SH 402. This parking area would be replaced with a park and ride lot on the south side of SH 402 directly south of the Mountain View Farm. This would be an indirect effect in the visual landscape.

Traffic noise generated by I-25 would decrease three decibels because the highway would be re-aligned to the east, away from the farmhouse. Although the new southbound off-ramp would be built on a new alignment closer to and elevated above the farmhouse, noise from existing traffic and the closer ramp would not substantially alter the agricultural setting or diminish the architectural characteristics that render the property NRHP-eligible.

Figure 3.15-59 5LR.11242 (Mountain View Farm) – Preferred Alternative



A temporary construction easement may be required along the eastern edge of the property for to allow haul roads, construction access, and/or staging areas to facilitate roadway widening and slope building. No permanent impacts would be anticipated from this temporary construction activity on the farmland property, and no farm structures would be affected. Construction-related noise generated by construction equipment and trucks would be temporary in nature and would not permanently affect the character of the farm setting. Thus, indirect effects caused by temporary construction activities are not expected to substantially diminish the function, character, or attributes that render the farm or farm buildings NRHP-eligible.

The impacts associated with the Preferred Alternative would occur along the eastern edge of the farm adjacent to I-25 where the original integrity of the farm was compromised with the highway's intrusion on the visual landscape some 40 years ago. There would be no materially different visual perception of the farm from the Preferred Alternative. The farm buildings would not be directly affected, agricultural production would continue and the farm would continue to convey significance in terms of the lands' association with early agricultural development in Larimer County. CDOT's determination is that the farm was still significant in 2006, in spite of the changes to the setting, feeling and association. The farm would continue on as it was in 2006 except for the removal of 1.82 acres in a thin strip of land along portions of the east and south borders of the farm. The land in the far southeast corner of the property is being used as a cattle feed lot and pasture. To the north of the pasture, the land is being used to produce grain. Air photos from previous years show that parts of the land on this farm have been irrigated with center pivot irrigation. A concrete-lined irrigation ditch lateral is located along the east side of the property in the take strip. The land that would be taken along the south property has recently been cropped with grains.

The visual representations presented on the following two pages illustrate the existing settings on the farm and the change with the Preferred Alternative.

Modifications to the I-25/SH 402 interchange as a result of this project will not be the driving force for indirect or cumulative effects in this area. The indirect effects from the visual changes resulting from SH 402 over vs. under I-25 would not spur development of this area but for this proposed project. There has been an interstate interchange providing access to this area for about 50 years. The character of the area has remained agricultural over these past five decades. Moving an off-ramp slightly west and changing the crossing of SH 402 from over the highway to under the highway would not force change the character of this area.

FHWA, FTA and CDOT have determined that the loss of an additional 1.82 acres of land for construction of the Preferred Alternative would result in no adverse effect to this farm because the characteristics that define the integrity of the rural landscape would not be compromised. The location, design, materials and workmanship of the farm would remain the same. The Preferred Alternative would not affect any of the farm buildings nor would the setting be affected. The mountains to the west of the farm continue to be a key element of its historic setting. The interstate highway on the east has been there for over forty years and was a part of the setting when the property was determined eligible for the NRHP. The feeling would remain one of an active farm. The association is still strong as it is clear that this is still an active farm. The Mountain View Farm was determined eligible under Criterion A for its association with 20th century Larimer County farming. That association would not change as a result of implementation of the Preferred Alternative.

Mountain View Farm Looking South

Mountain View Farm – view looking south showing existing setting along eastern property boundary with barm of right side of photo (house is west of barn, out of frame).

Mountain View Farm – view looking south with visual representation of the Preferred Alternative. (Slope shown in brown to be revegetated with native grass.

Mountain View Farm Looking Northeast

Mountain View Farm – view looking northeast showing existing setting along southern property boundary.

Mountain View Farm – view looking northeast with visual representation of the Preferred Alternative.

SH 60 TO E-470

5WL.5204 (Bashor Barn)

Resource Description: This property is located at 3807 Weld CR 48 and contains an historic barn that was owned by the Bashor family for nearly 50 years, from 1928 to 1977. Belva Bashor was the granddaughter of Peter Turner, whose homestead became the town of Berthoud.

Eligibility Determination: The historic Bashor barn retains very good integrity and is an important example of agricultural architecture. The Bashor barn therefore qualifies for inclusion on the NRHP under Criterion C.

Effect Determination – Package A: Under Package A, CR 48 would be widened 20 feet west of I-25 to allow construction of extra pavement and slopes and would taper to the existing roadway width near the Bashor property. The new roadway would be raised in elevation at the I-25 crossing, but would drop from an elevation of approximately 22 feet above the highway down to the existing roadway elevation within the vicinity of the historic Bashor barn.

No direct impacts would occur to the historic property. The change in width and elevation of CR 48 would not diminish or alter the architectural qualities which render the property NRHP-eligible. FHWA, FTA and CDOT have determined that the Package A improvements would result in *no historic properties affected* with respect to the Bashor barn.

Effect Determination – Package B: Impacts in this area under Package B are virtually identical to those associated with Package A. Under Package B, CR 48 is widened on the west side of I-25 and the elevation and roadway width tapers down to the elevation and width of the existing roadway in the vicinity of the historic Bashor barn. No direct or indirect impacts would occur to the historic property. FHWA, FTA and CDOT have determined that the Package B improvements would result in *no historic properties affected* with respect to the Bashor barn.

Effect Determination – Preferred Alternative: Under the Preferred Alternative, CR 48 would be widened 20 feet west of I-25 to allow construction of extra pavement and slopes and would taper to the existing roadway width near the Bashor barn. The new roadway would be raised in elevation at the I-25 crossing, but would drop from an elevation of approximately 22 feet above the highway down to the existing roadway elevation within the vicinity of the historic Bashor barn.

No direct impacts would occur to the historic property. The change in width and elevation of CR 48 would not diminish or alter the architectural qualities which render the property NRHP-eligible. FHWA, FTA and CDOT have determined that the Preferred Alternative improvements would result in *no historic properties affected* with respect to the Bashor barn.

5WL.5203 (Bein Farm)

Resource Description: The Bein Farm is located at 3766 CR 48, near the I-25 and SH 60 interchange. This property was owned by Fred Bein, a pioneer Berthoud stockman and farmer and one of the most widely-known residents of the Berthoud community until his death in 1933. The property contains a variety of farm buildings constructed in the late 19th century. The 1915 Map of Irrigated Farms of Northern Colorado showed that the Bein family owned 320 acres. The historic property boundary of this parcel was the land in the east half of Section 10, Township 4N, Range W68. An examination of additional historical maps and

directories shows that the land was still owned by Bein through 1956. Fred Bein was active in farming and stock- raising in northern Colorado. The current size of the remaining historic farm is 288 acres and it is still used for farming.

The production of sugar beets was the main reason this farm and many others in northern Colorado developed and this association is an important part of its agricultural history. Sugar beet production in this region started in 1901 with the opening of Great Western's first sugar beet processing facility in northern Colorado at Loveland. Sugar beet production in northern Colorado was strong for over 80 years, but declined significantly after the closure of the Great Western sugar plants in 1985. Since that time, much of the farmland in northern Colorado has been used to produce other crops. The Bein Farm has been producing irrigated crops. The continued association of the Bein farm with the sugar beet industry was lost in the mid-1980s when the Great Western sugar plants closed. In order for farms to continue their existence, they have to make modifications to adjust to many changing factors including weather, the agricultural markets and changes in surrounding land use. The Bein Farm, like most others, has undertaken many modifications including changes in crops produced to keep it in operation over the decades. In spite of these modifications over the decades, the farm still continues in production and is able to convey significance under Criterion A.

Eligibility Determination: The Bein Farm is eligible for the NRHP under Criterion A because of its important association with early ranching and farming in the Berthoud area during the late 19th century. The integrity of the agricultural setting of the Bein farm was compromised in the 1960s when I-25 was built adjacent to its eastern border. This alteration has affected the feeling and association by the introduction of an interstate highway as a modern non-agricultural element. The loss of integrity associated with the development of the highway occurred over 40 years ago. Those impacts were evident when the property was determined eligible for the NRHP on August 19, 2007. At that time, the assessment was that the farm buildings and associated farm land still had enough integrity to convey significance under Criterion A.

Effect Determination – Package A: This historic farm is located on the west side of the mainline of I-25, and on the southwest quadrant of the I-25/SH 60 interchange, both of which would be improved under Package A. Package A calls for the widening of I I-25 in this area to accommodate three general purpose lanes in each direction. The proposed wider highway template would require the acquisition and permanent conversion of a 120-foot-wide, 5,600 foot-long strip of cultivated farmland west of the existing southbound I-25 lanes into new highway and slopes.

West of I-25, SH 60 would be widened to provide for a safe transition from the interchange ramps to the existing roadway section. The new SH 60 roadway would consist of four general lanes and turning lanes at the interchange, tapering back to two general lanes on the west side of the existing driveway to the farm building complex.

The combined I-25 widening along the length of the Bein Farm, re-alignment of the southbound on-ramp from the SH 60 interchange, and the widening and reconfiguring of a tapered section of SH 60 on the west side of this interchange would cause direct impacts to 17.94 acres along the east and north edges of the property. This comprises approximately 6.2 percent of the historic farm's total 288.45 acres. No farm buildings would be directly impacted (see **Figure 3.15-60**).

There would be no change to the historic access to this property. The retaining wall along the southbound off-ramp is located on the opposite side of the interchange from the historic farm and would not result in an indirect impact to the property. This would not diminish the function, alignment, attributes, or setting that contribute to the historic integrity or render the farm NRHP-eligible. Please see the Effect Determination discussion under the Preferred Alternative for information regarding the projects effects to character-defining features associated with the farm.

The direct and indirect impacts to the historic farm building complex along SH 60 that would occur under Package A would not substantially diminish or alter characteristics that render the site eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that Package A would result in *no adverse effect* to the resource.

Effect Determination – Package B: Package B calls for the widening of I-25 in this area to accommodate two general purpose lanes plus two barrier-separated managed lanes in each direction. The resulting direct impacts from widening of I-25 are similar to Package A, but require a modified southbound I-25 on-ramp to connect with the wider TEL section in Package B.

Impacts resulting from modifications to SH 60 are the same as Package A. Total direct impacts to the farm would be 20.04 acres along the east and north edges of the property, comprising approximately seven percent of the historic farm's total 288.45 acres. No farm buildings would be directly impacted (see **Figure 3.15-61**). Please see the Effect Determination discussion under the Preferred Alternative for information regarding the projects effects to character-defining features associated with the farm.

Indirect effects would be the same as with Package A.

The direct and indirect impacts to the historic farm building complex along SH 60 that would occur under Package B would not substantially diminish or alter characteristics that render the site eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that Package B would result in *no adverse effect* to the resource.

Effect Determination – Preferred Alternative: This historic farm is located on the west side of the mainline of I-25, and on the southwest quadrant of the I-25/SH 60 interchange, both of which would be improved under the Preferred Alternative. The Preferred Alternative calls for the widening of I-25 in this area to accommodate three general purpose lanes and one TEL in each direction. The proposed wider highway template would require the acquisition and permanent conversion of a strip of cultivated farmland west of the existing southbound I-25 lanes into the transportation infrastructure.

Figure 3.15-60 5WL.5203 (Bein Farm) – Package A

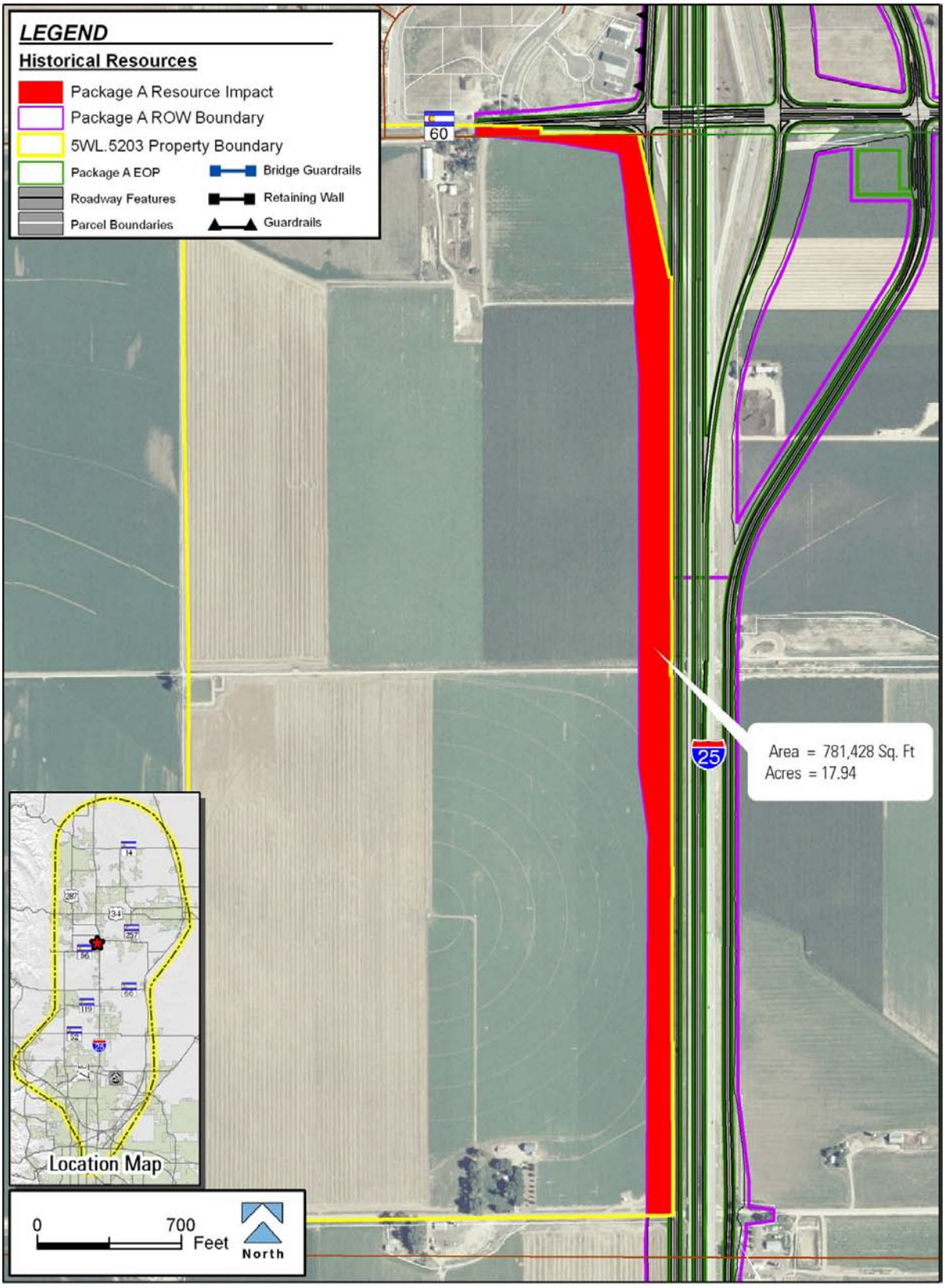
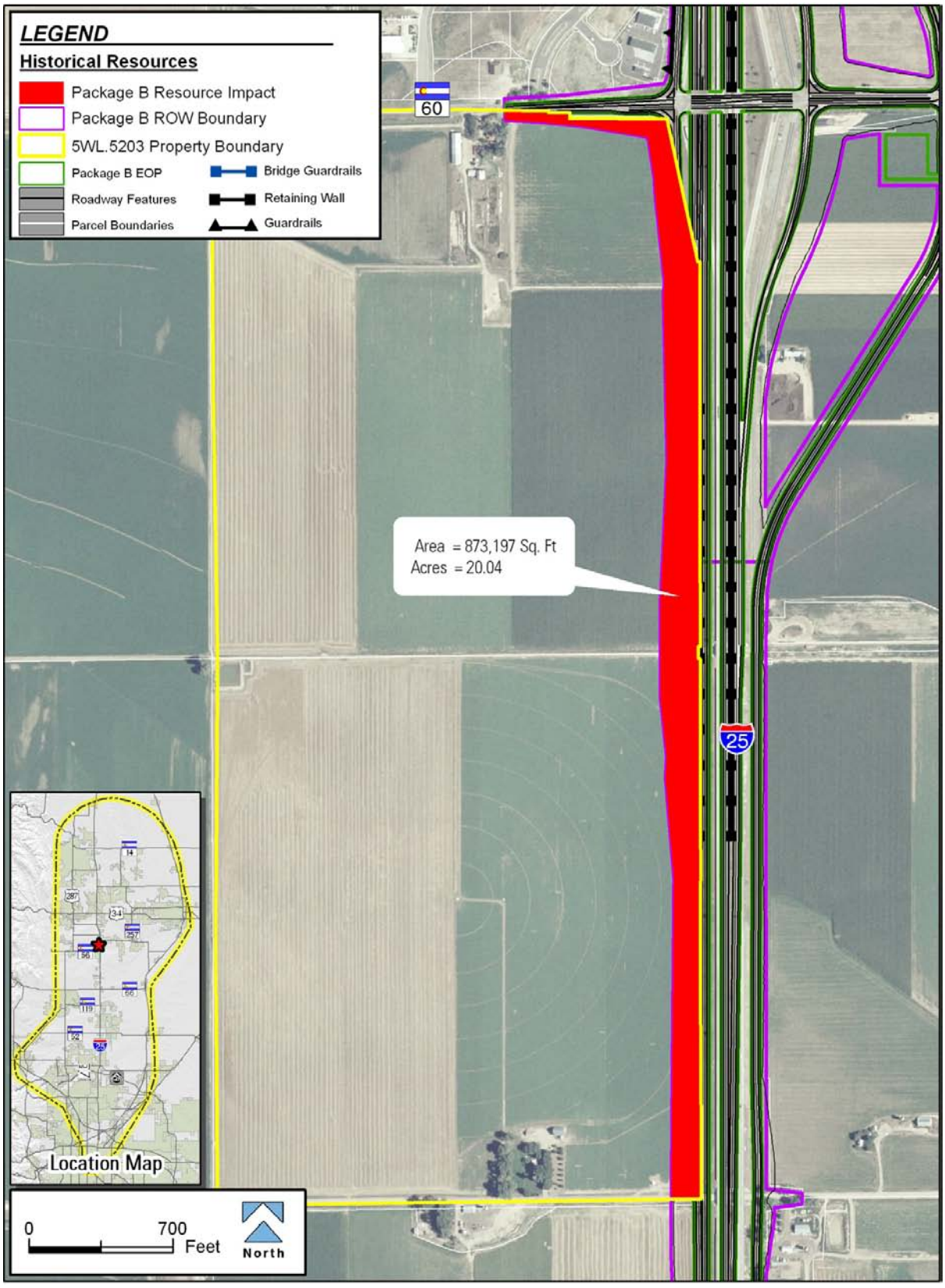


Figure 3.15-61 5WL.5203 (Bein Farm) – Package B



West of I-25, SH 60 would be widened to provide for a safe transition from the interchange ramps to the existing roadway section. The new SH 60 roadway would consist of four general lanes and turning lanes at the interchange, tapering back to two general lanes on the west side of the existing driveway to the farm building complex.

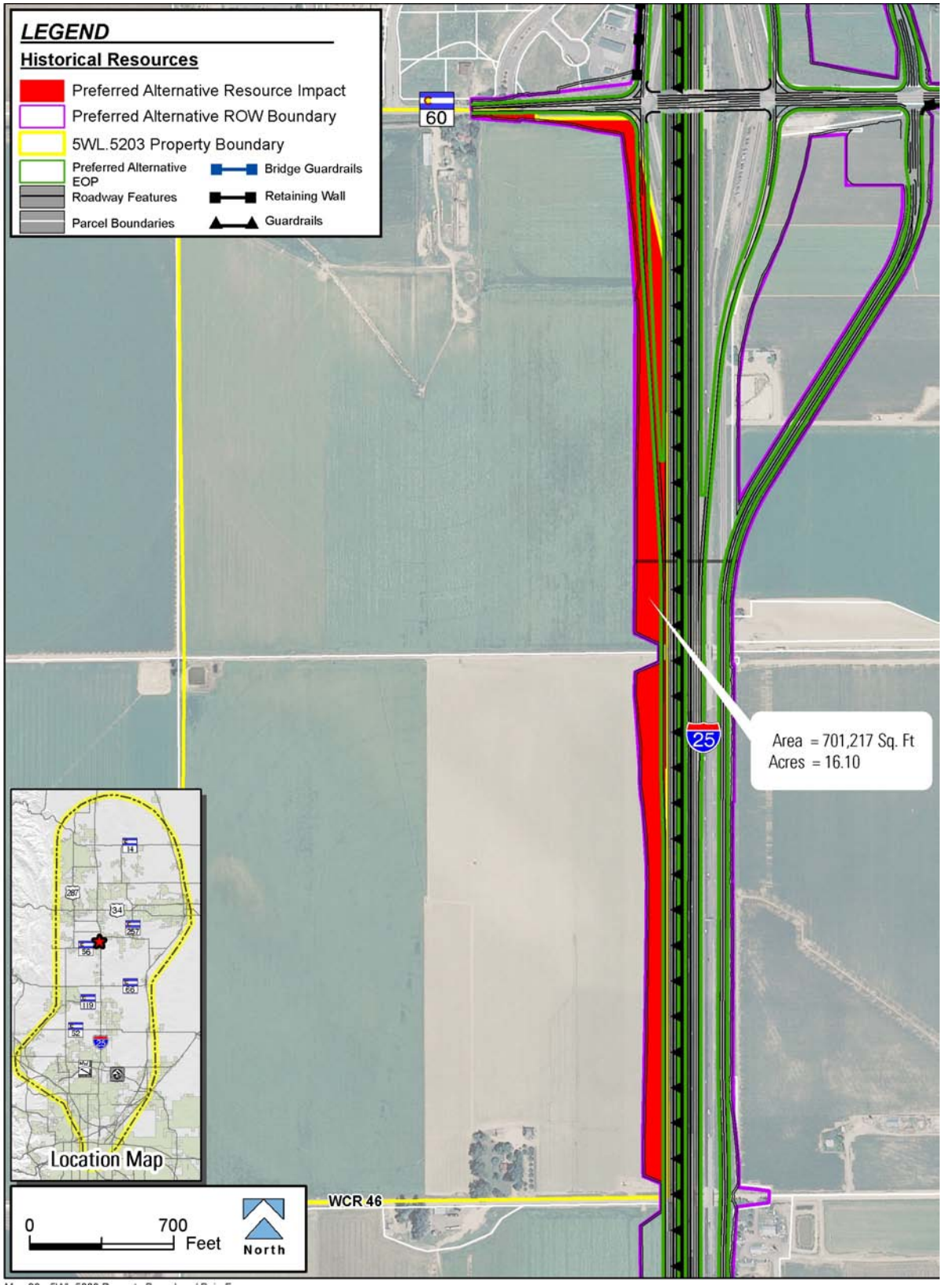
The combined I-25 widening along the length of the Bein Farm, re-alignment of the southbound on-ramp from the SH 60 interchange, and the widening and reconfiguring of a tapered section of SH 60 on the west side of this interchange would cause direct impacts to 16.10 acres along the east and north edges of the property. This comprises approximately 5.6 percent of the farm's total 288.45 acres. No farm buildings would be directly impacted (see **Figure 3.15-62**).

There would be no change to the historic access to this property. The retaining wall along the southbound off-ramp is located on the opposite side of the interchange from the historic farm and would not result in an indirect impact to the property.

The impacts associated with the Preferred Alternative would occur along the eastern edge of the farm adjacent to I-25 where the original integrity of the farm was compromised with the highway's intrusion on the visual landscape some 40 years ago. There would be no materially different visual perception of the farm from the Preferred Alternative. The farm buildings would not be directly affected, agricultural production would continue and the farm would continue to convey significance in terms of its association with early agricultural development in Weld County. The farm would continue on as it was in 2007 when determined eligible for the NRHP except for the removal of approximately 16.10 acres in a strip of land along portions of the north and east borders of the farm. In recent growing seasons, the Bein farm land was irrigated cropland. The center pivot irrigation system sits on the property today. The land was planted to the edge of their property which abuts the I-25 right-of-way on the east and the CR 38 right-of-way on the north. All of the 16.10 acres that are to be taken for the Preferred Alternative are currently used as irrigated cropland. The Bein Farm, in spite of a loss of these 16.10 acres of land for the improvement of I-25, would still convey significance under Criterion A.

FHWA, FTA and CDOT have determined that the loss of an additional 16.10 acres of land for construction of this project would result in *no adverse effect* to this farm because the characteristics that define the integrity of the rural landscape would not be compromised. The location, design, materials and workmanship of the farm would remain the same. The Preferred Alternative would not affect any of the farm buildings. The setting would not be affected by the Preferred Alternative. The mountains to the west of the farm continue to be a key element of its historic setting. The setting of the land to the north of the Bein farm has changed. What was once all agricultural land has been developed over the last decades into commercial and industrial development. The interstate highway on the east has been there for over forty years and was a part of the setting when the property was determined eligible for the NRHP. The feeling would remain one of an active farm established in the early part of the 20th century. The association is still strong as it is clear that this is still an active farm. The Bein Farm was determined eligible under Criterion A for its association with 20th century Weld County farming. That association would not change as a result of the Preferred Alternative.

Figure 3.15-62 5WL.5203 (Bein Farm) – Preferred Alternative



5WL.3149.1 (Handy/Home Supply Ditch Confluence)

Resource Description: The ditch crosses I-25 along the south edge of CR 48/SH 60 and is conveyed underneath the I-25 ramps and mainline highway lanes inside a 660-foot-long concrete culvert. The ditch segment is 2,456 feet long, 20 feet wide, earthen, 5 feet deep and has rip-rapped banks. Handy and Home Supply ditches combine to flow into a concrete diversion gate that funnels water under SH 60, west of I-25. The grade drops off steeply eastward from I-25 into 3 drop boxes.

Eligibility Determination: The entire Handy/Home Supply Ditch Confluence is NRHP-eligible under Criterion A for its important association with the development of water rights and agriculture in Weld County. Segment 5WL.3149.1 fails to support the integrity of the greater site because it has been modified by recent development.

Effects Determination – Package A: Package A would require modification of the grated culvert intake located west of the current southbound on-ramp to accommodate a new frontage road and widened SH 60/CR 48 intersection turning radius (see **Figure 3.15-63**). The outfall of the 660-foot-long culvert similarly would require a 50-foot-extension and modification to allow the redesigned northbound ramp intersection with the widened SH 60/CR 48.

Because the qualities that make the entire resource NRHP-eligible have already been compromised by modifications associated with construction of the I-25 and frontage road and Package A improvements are minor in relative extent, FHWA, FTA and CDOT therefore have determined that Package A would result in *no adverse effect* to the Handy/Home Supply Ditch Confluence.

Effects Determination – Package B: Package B would require modification of the grated culvert intake located west of the current southbound on-ramp to accommodate a new frontage road and widened SH 60/CR 48 intersection turning radius (see **Figure 3.15-63**). The outfall of the 660-foot-long culvert similarly would require a 50-foot-extension and modification to allow the redesigned northbound ramp intersection with the widened SH 60/CR 48.

Because the qualities that make the entire resource NRHP-eligible have already been compromised by modifications associated with construction of I-25 and the frontage road and Package B improvements are minor in relative extent, FHWA, FTA and CDOT therefore have determined that Package B would result in *no adverse effect* to the Handy/Home Supply Ditch Confluence.

Effects Determination – Preferred Alternative: The Preferred Alternative would require modification of the grated culvert intake located west of the current southbound on-ramp to accommodate a new frontage road and widened SH 60/CR 48 intersection turning radius (see **Figure 3.15-64**). The outfall of the 660-foot-long culvert similarly would require a 60-foot-extension and modification to allow the redesigned northbound ramp intersection with the widened SH 60/CR 48.

Because the qualities that make the entire resource NRHP-eligible have already been compromised by modifications associated with construction of the I-25 and frontage road and because the Preferred Alternative improvements are minor in relative extent, FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no adverse effect* to the Handy/Home Supply Ditch Confluence.

Figure 3.15-63 5WL.3149.1 (Handy/Home Supply Ditch Confluence)—Package A and B

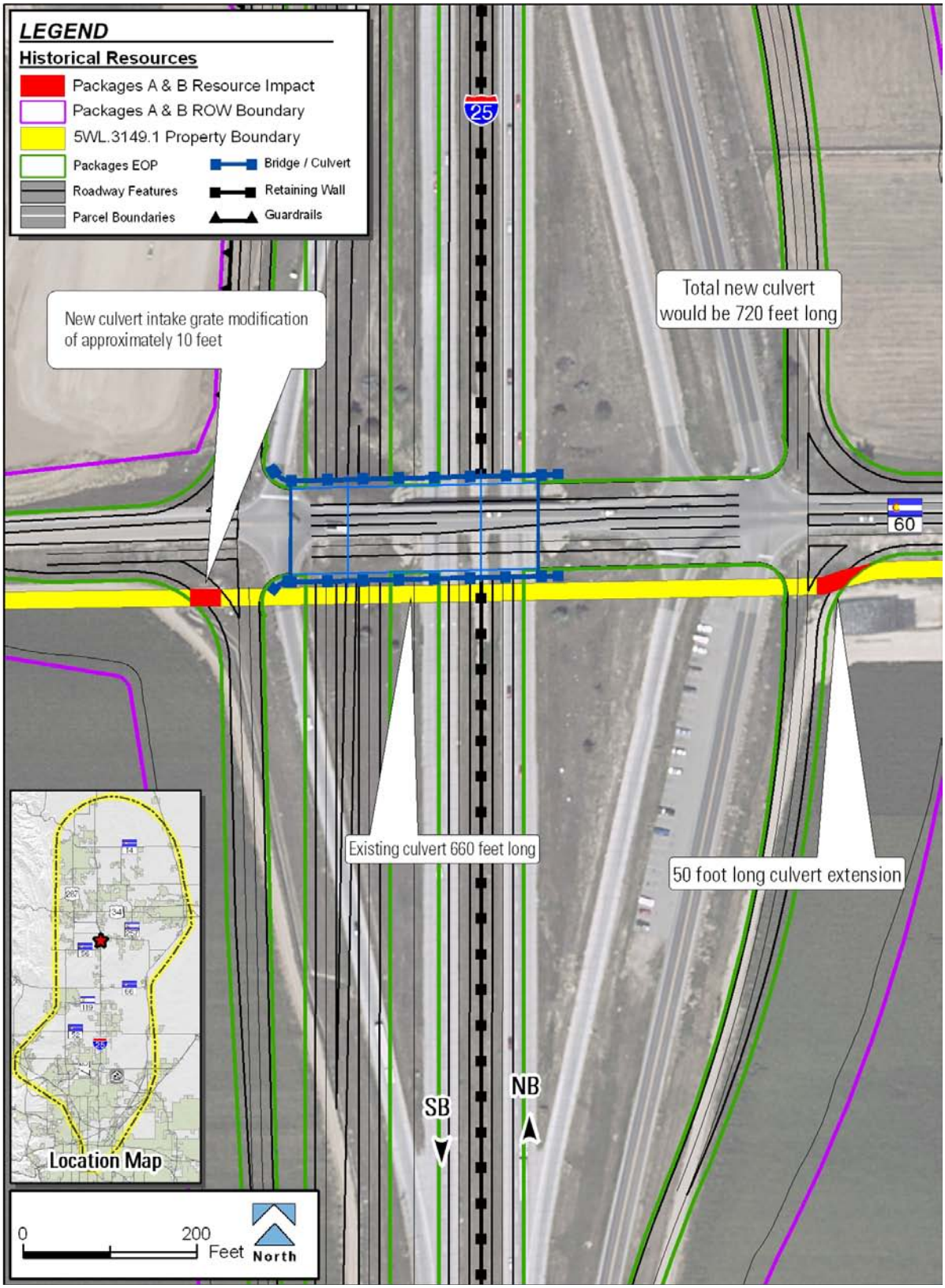
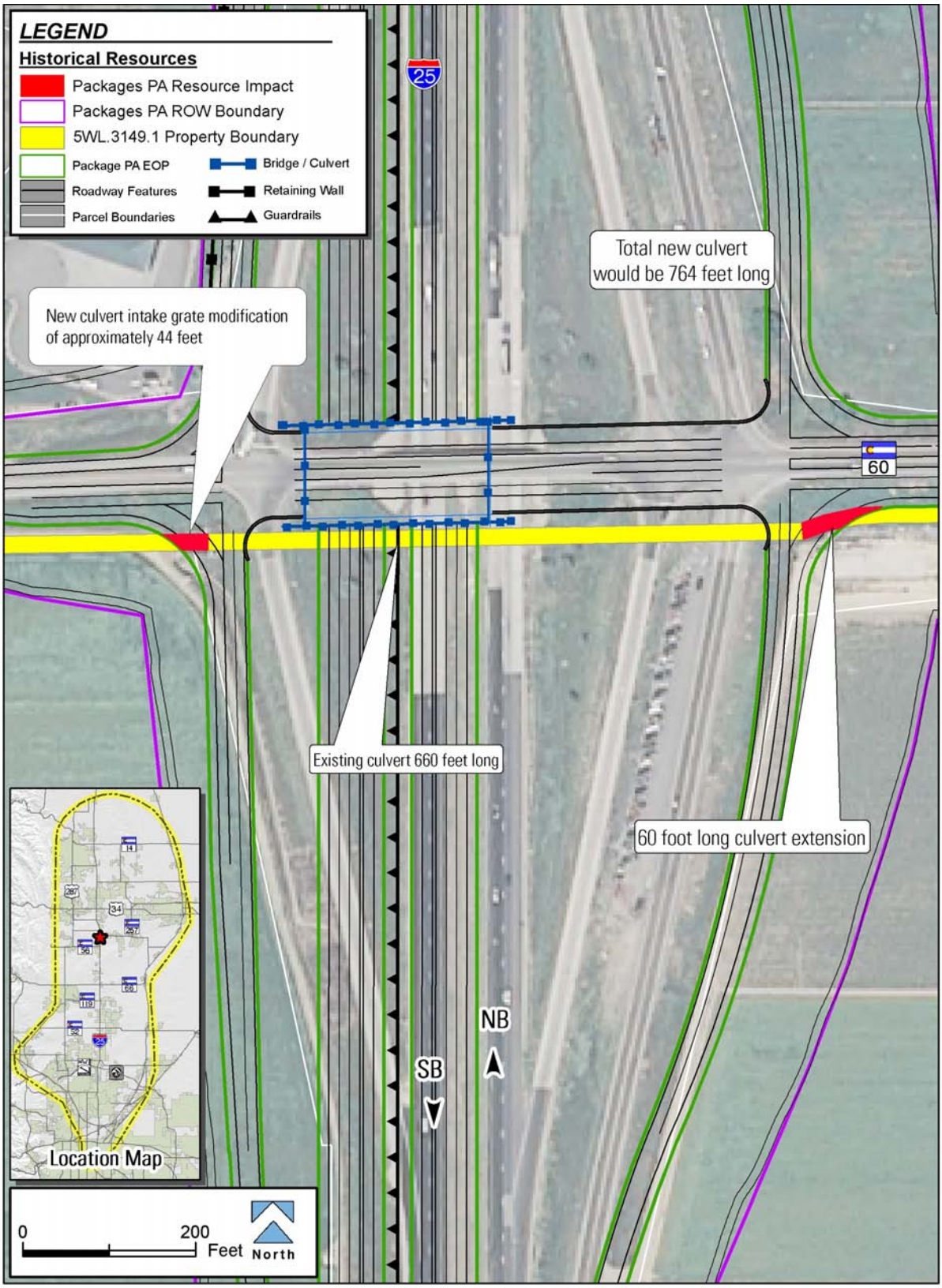


Figure 3.15-64 5WL.3149.1 (Handy/Home Supply Ditch Confluence)—Preferred Alternative



5WL.864 (Great Western Railway Buda Siding)

Resource Description: Buda Siding consists of the original beet scale house and platform scale that was built by the Great Western Railway (GWR) in 1903. The GWR was associated with the Great Western Sugar Company, which owned sugar factories in Colorado, including ones at Longmont and Loveland. Buda was a railroad "beet dump" or receiving and shipping station for the local farming community. It also served as a passenger ticket office.

Eligibility Determination: This site is eligible for the NRHP under Criterion A for its important association with the historic GWR and the sugar beet industry in Colorado.

Effect Determination – Package A: This site lies well outside the I-25 corridor improvements planned under Package A, and would not experience any direct or indirect impacts either to the rail siding or the associated sugar beet weigh station. FHWA, FTA and CDOT therefore have determined that Package A would result in *no historic properties affected* with respect to this historic resource.

Effect Determination – Package B: This site lies well outside the I-25 corridor improvements planned under Package B, and would not experience any direct or indirect impacts either to the rail siding or the associated sugar beet weigh station. FHWA, FTA and CDOT therefore have determined that Package B would result in *no historic properties affected* with respect to this historic resource.

Effect Determination – Preferred Alternative: This site lies well outside the I-25 corridor improvements planned under the Preferred Alternative, and would not experience any direct or indirect impacts either to the rail siding or the associated sugar beet weigh station. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative would result in *no historic properties affected* with respect to this historic resource.

5WL.2985 (Little Thompson River Bridge No. C-17-BN)

Resource Description: The historic Little Thompson River Bridge (CDOT Structure No. No.C-17-BN) is a steel, rigid connected camelback pony truss structure located on the frontage road adjacent to I-25 near the SH 56 and I-25 interchange. The structure was built across the Little Thompson River in 1938, prior to construction of I-25.

Little Thompson River Bridge

Eligibility Determination: This historic bridge is an intact, early example of a common bridge type, the camelback pony truss, and was listed on the NRHP under Criterion C in 2002.

Effect Determination – Package A:
This historic bridge carries the existing I-25 east frontage road over the Little Thompson River. The east frontage road would remain two lanes, but would be widened to improve shoulders north and south of this bridge, up to the bridge approach slabs. The historic bridge structure would be retained and utilized, and no physical changes to the bridge abutments, decking or truss structure would occur. Because the setting and use of the bridge would remain unaffected by this minor widening, no indirect effects to the property are expected.

FHWA, FTA and CDOT have determined that Package A would result in a finding of *no historic properties affected* with respect to this historic resource.

Effect Determination – Package B: Same as Package A. FHWA, FTA and CDOT have determined that Package B would result in *no historic properties affected* with respect to this historic resource.

Effect Determination – Preferred Alternative: Same as Package A. FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no historic properties affected* with respect to this historic resource.

5WL.5198 (Olson Farm)

Resource Description: This historic farm is located at 17820 East I-25 Frontage Road, near CR 38. The site contains various farm buildings, a reservoir, and farmland used by the Olson family who were early settlers in this area. The Ballinger Reservoir has an early water appropriation date from 1887 making it one of the early irrigation features in the area. The site boundary is based upon the historic boundary of the Olson Farm, and spans I-25. The boundary encompasses 155.37 acres, although 13.7 acres comprising the existing CDOT I-25 right-of-way is considered a noncontributing portion of the site.

The home was built in the early 1940s by Emil and Ethel Olson on a site just north of the Ballinger Reservoir, which is over 100 years old and has historically been used for irrigation and livestock watering. Emil and his parents came to the area on adjoining lands over 100 years ago where they engaged in farming. The family partnership raised wheat on approximately 6000 acres in the Frederick—Erie area during World War II as well as continuing to farm the family acreage (wheat, corn, beets, alfalfa, as well as feeding cattle) near Mead.

After the 1950's drought and devastating prices, Emil and Ethel's son, Gilman, mortgaged the farm, invested in his good friend's road building business, and went to work full-time for that construction company. After that time Gilman's sons Gary and Roger managed and worked the farm summers, weekends and after school. I-25 was constructed alongside the farm in 1960-61. This was a major event since the freeway actually passed through and displaced the entire family farm headquarters where Emil and Ethel lived on the southwest corner of the intersection of Hwy 87 (I-25) and WCR 38. The farm buildings that were of value were moved to various other farms and Emil and Ethel moved to Longmont in 1958, as retired farmers traditionally did in those days. Their house was moved, one mile south and half mile east, where it was again remodeled and still stands today. Their barn was moved to the farmstead at 17820 I-25 Access Road.

Gilman and his wife Margaret subsequently acquired adjacent lands on the west side of I-25 which have been developed into a residential subdivision. Their sons, Roger and Gary Olson, followed business career paths. They have stayed involved in the farms, through not actively farming, as the farms are now rented to others.

The integrity of the agricultural setting of the Olson Farm was compromised in the 1960s when I-25 was built through the center of the historic farm boundaries. This alteration has affected the feeling and association by the introduction of an interstate highway as a modern non-agricultural element.

Eligibility Determination: The loss of integrity associated with the development of the highway occurred over 40 years ago. Those impacts were evident when the property was determined eligible for the NRHP on August 19, 2007. At that time, the assessment was that the farm was significant for the Ballinger Reservoir on the property which has an early water appropriation date making it one of the early water/irrigation features in the area. The farm was assessed as significant under Criterion A for its role in the agricultural development of Weld County.

Effect Determination – Package A: Under Package A, I-25 would be re-aligned and reconfigured for three general purpose lanes in each direction. The existing I-25 east frontage road would stay in its present alignment, including its crossing of CR 38, but the area needed for the frontage road turning lanes and paved shoulders would be widened along the west edge of the eastern portion of the Olson Farm property. Direct impacts to this portion of the site would be confined to a strip of land 2,740 feet long, and approximately 110 feet wide at CR 38 at the north end of the property and 30 feet wide at the south end. This impact corresponds to the new toe of slope for the east frontage road which would bury the farmland currently located adjacent to the frontage road. A retaining wall would be installed along the edge of the frontage road to prevent direct impacts to the Ballinger Reservoir (a contributing feature of the NRHP-eligible farm) located mid-way along the east side of the frontage road. A total of 3.99 acres of the eastern portion of the site would be subject to direct impacts under Package A (see **Figure 3.15-65**).

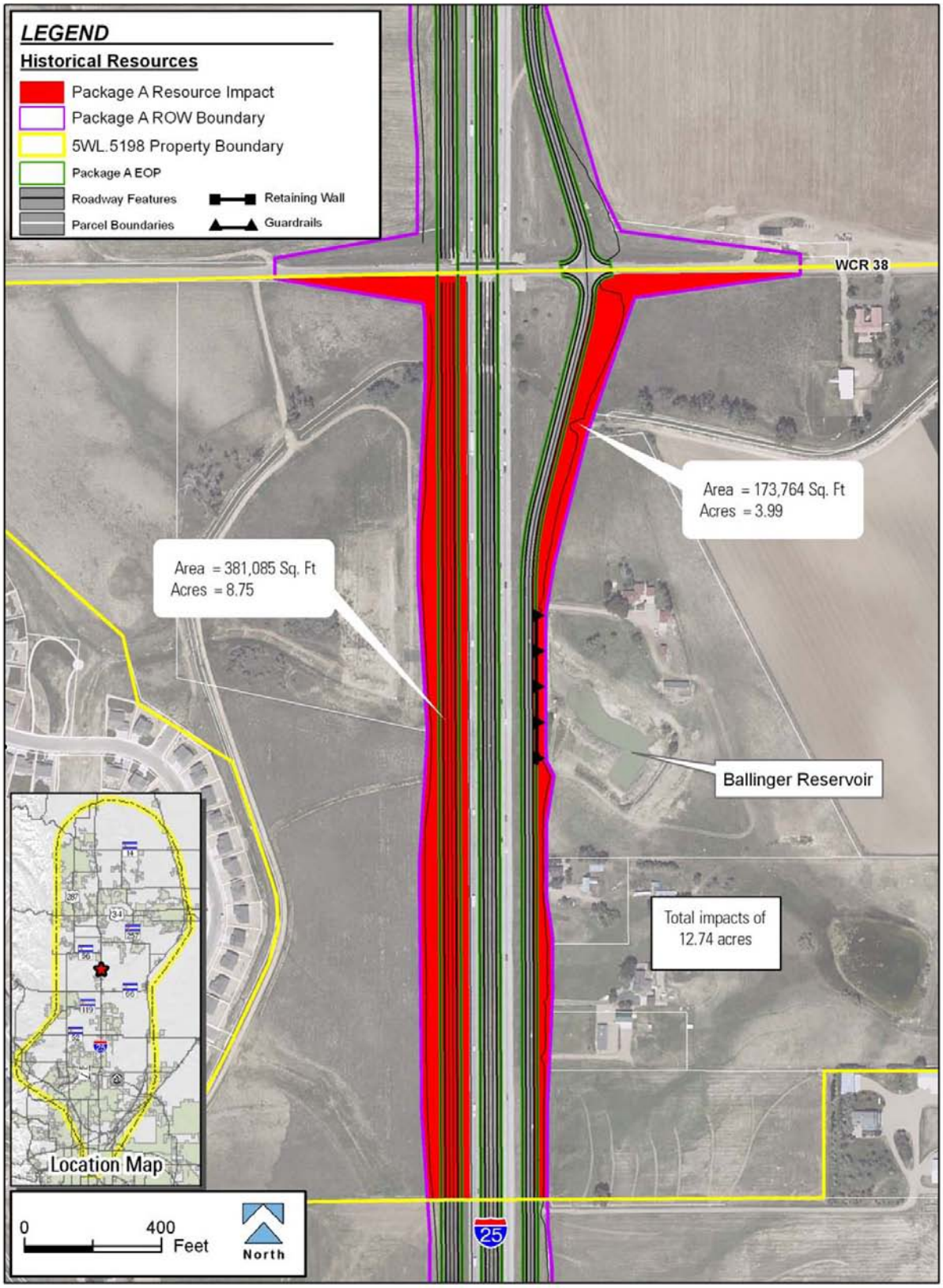
A strip of farmland measuring approximately 140 feet wide and 2,740 feet long located west of I-25, would be buried below pavement and fill slopes for the widened southbound I-25 lanes. This would result in 8.75 acres impacted due to the western re-alignment and widening of the I-25 roadways.

The total area subject to direct impacts under Package A is 12.74 acres, which comprises approximately nine percent of the total site area of 141.67 acres.

Increased highway and frontage road traffic resulting from Package A improvements would generate noise levels one decibel more than the No-Action Alternative. This increase in noise is barely perceptible and would not affect the characteristics which have rendered the property NRHP-eligible. Since the 1960's when I-25 was constructed, modern transportation elements have bisected the historic farm. Modern residential subdivisions have recently been constructed adjacent to the western property boundary. The additional I-25 and frontage road widening, installation of a new retaining wall near Ballinger Reservoir, and modification of CR 38 overpass would increase the amount of intrusive transportation elements within the property boundary leading to an indirect effect on the historic property, however; these transportation improvements would not substantially diminish the historic setting which renders this property NRHP-eligible.

Temporary effects due to installation of the new bridge across I-25, roadway widening and the retaining wall at Ballinger Reservoir would likely require a temporary easement on portions of the historic property for equipment access, haul roads and other construction activities. The farm would remain operational and measures to protect the property from erosion, dust and water-borne sediment dispersal would be implemented. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance. Please see the Effect Determination discussion under the Preferred Alternative for information regarding the projects effects to character-defining features associated with the farm.

Figure 3.15-65 5WL.5198 (Olson Farm) – Package A



Due to the site's existing bisection by the wide I-25 corridor, and the lack of direct impacts to the contributing historic farm buildings and reservoir, FHWA, FTA and CDOT have determined that Package A would result in *no adverse effect* to the Olson Farm.

Effect Determination – Package B: Under Package B, I-25 would be re-aligned and reconfigured for two general purpose lanes plus one buffer-separated lane in each direction. Direct impacts to the site under Package B are similar in nature to those associated with Package A. Direct impacts to this portion of the site would be confined to a strip of land 2,740 feet long, and approximately 120 feet wide at CR 38 at the north end of the property and 30 feet wide at the south end. This impact corresponds to the new toe-of-slope for the east frontage road which would bury the farmland currently located adjacent to the frontage road. A retaining wall would be installed along the edge of the frontage road to prevent direct impacts to the Ballinger Reservoir. A total of 3.99 acres of the eastern portion of the site would be subject to direct impacts under Package B (see **Figure 3.15-66**).

A strip of farmland measuring approximately 145 feet wide and 2,740 feet long located west of I-25, would be buried below pavement and fill slopes for the widened southbound I-25 lanes. This would result in 8.82 acres impacted due to the western re-alignment and widening of the I-25 roadways.

The total area subject to direct impacts under Package B is 12.81 acres, which comprises approximately nine percent of the total site area of 141.67 acres. Indirect impacts would be the same as Package A. Please see the Effect Determination discussion under the Preferred Alternative for information regarding the projects effects to character-defining features associated with the farm. Due to the site's existing bisection by the wide I-25 corridor, and the lack of direct impacts to the contributing historic farm buildings and reservoir, FHWA, FTA and CDOT have determined that Package B would result in *no adverse effect* to the Olson Farm.

Effect Determination – Preferred Alternative: Under the Preferred Alternative, I-25 would be re-aligned and reconfigured for three general purpose lanes and one TEL in each direction. The existing I-25 east frontage road would stay in its present alignment, including its crossing of CR 38, but the area needed for the frontage road turning lanes and paved shoulders would be widened along the west edge of the eastern portion of the Olson Farm property. Direct impacts to this portion of the site would be confined to a small strip of land at WCR 38 at the north end of the property. This impact corresponds to the new toe of slope for the east frontage road which would bury the land currently located adjacent to this portion of the frontage road. A retaining wall would be installed along the edge of the frontage road to prevent direct impacts to the Ballinger Reservoir (a contributing feature of the NRHP-eligible farm) located mid-way along the east side of the frontage road. A total of 0.66 acre of the eastern portion of the site would be subject to direct impacts under the Preferred Alternative (see **Figure 3.15-67**).

A strip of farmland located west of I-25, would be buried below pavement and fill slopes for the widened southbound I-25 lanes. This would result in 3.97 acres impacted due to the western re-alignment and widening of the I-25 roadways.

The total area subject to direct impacts under the Preferred Alternative is 4.63 acres, which comprises approximately three percent of the total site area of 141.67 acres. These 4.63 acres are not a character-defining part of this farm. The strip of land on the west boundary of the property is land adjacent to the I-25 frontage road. That land is currently used for hay production. It is part of a small plot of land that separates the subdivision developed by the

Figure 3.15-66 5WL.5198 (Olson Farm) – Package B

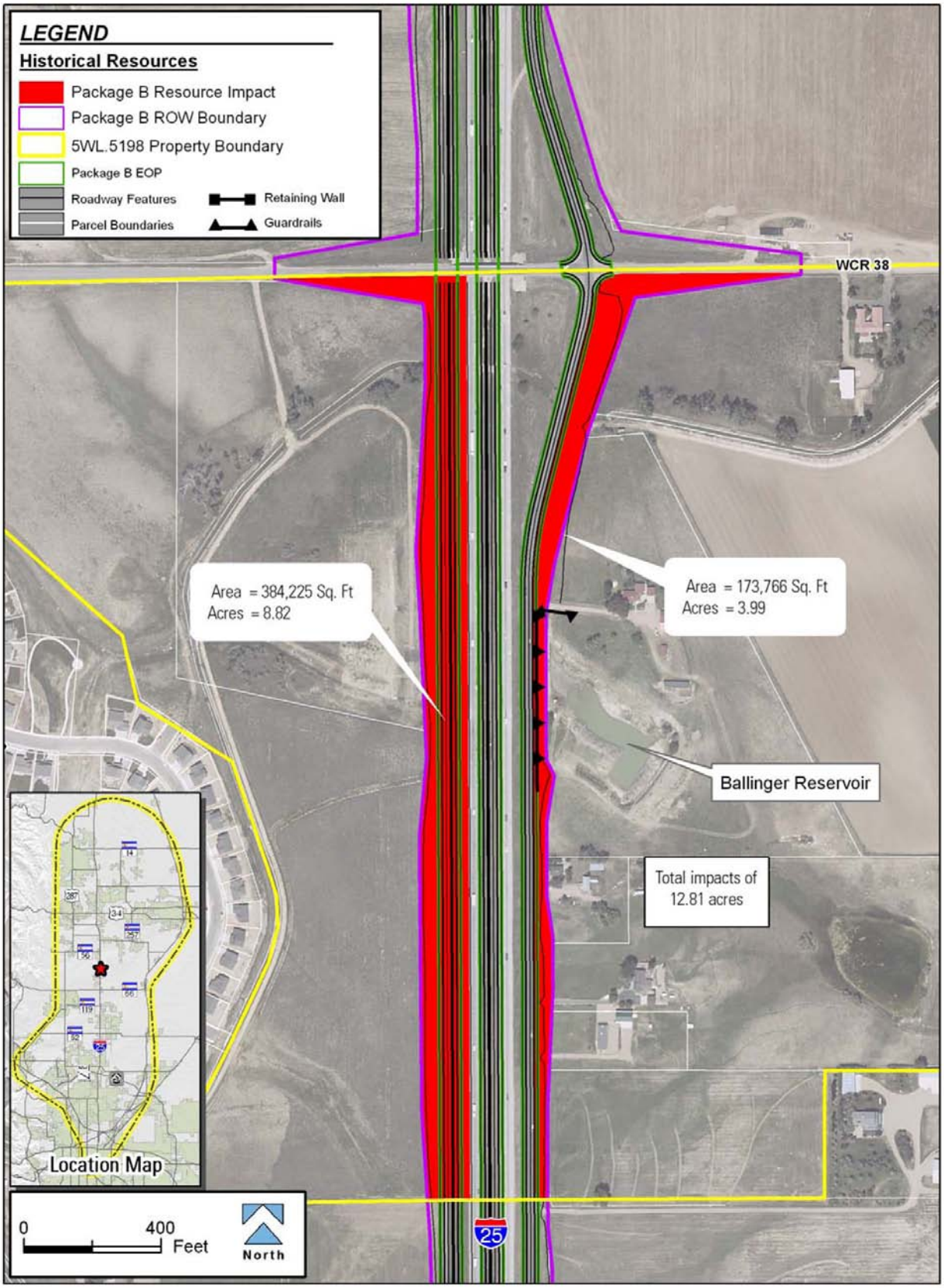
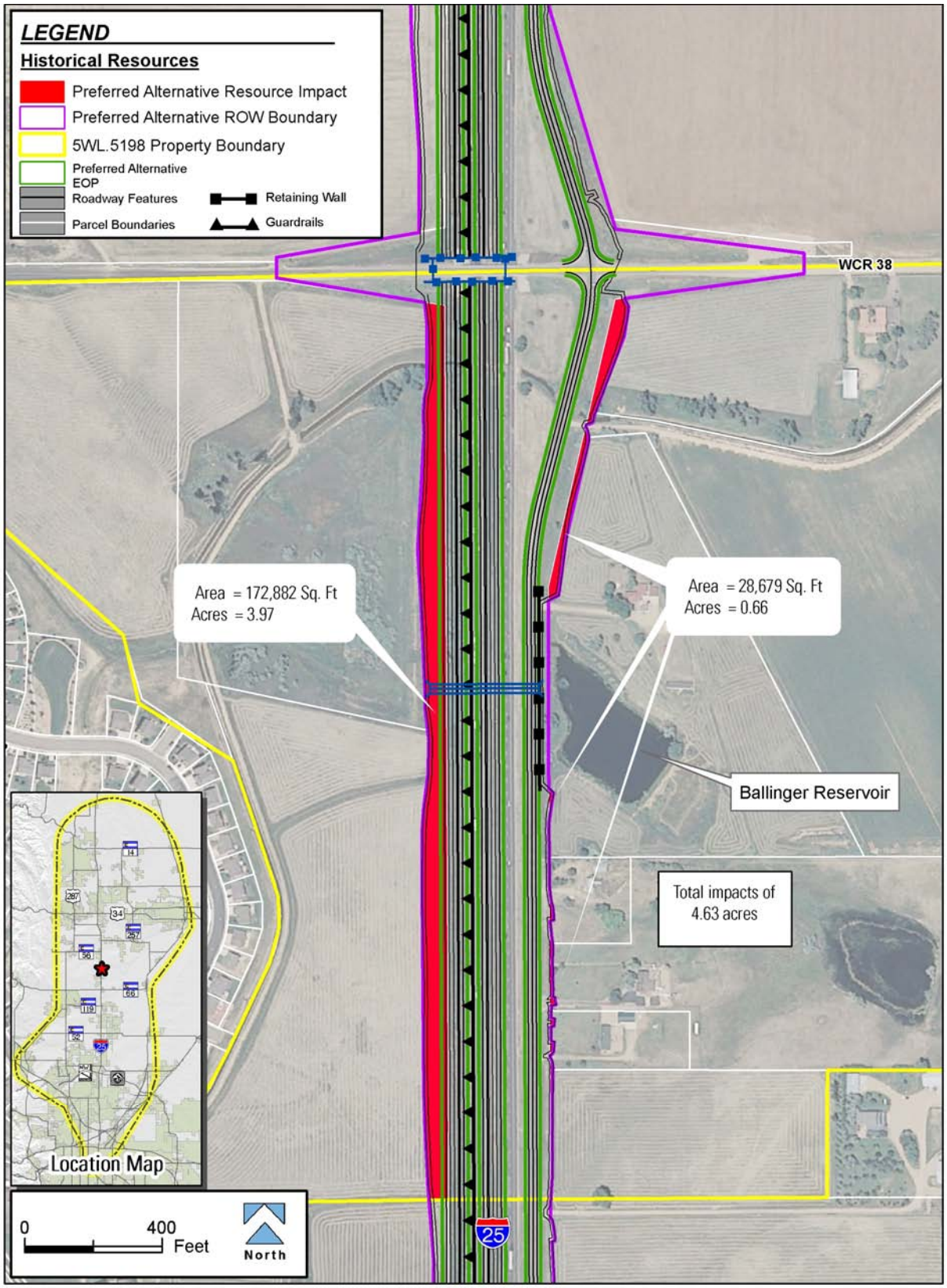


Figure 3.15-67 5WL.5198 (Olson Farm) – Preferred Alternative



Olson's from I-25. The strip of land on the east side of the East I-25 Frontage Road, north of the Olson house, is currently vacant. It appears it was a pasture at one time. The remaining strip of land on the east side of I-25 is part of the front lawns of several non-historic rural residences.

Increased highway and frontage road traffic resulting from the Preferred Alternative improvements would generate noise levels two decibels more than the No-Action Alternative. This increase in noise is barely perceptible and would not affect the characteristics which have rendered the property NRHP-eligible. Since the 1960's when I-25 was constructed, modern transportation elements have bisected the historic farm. The Olson's have developed modern residential subdivisions adjacent to the existing western property boundary. The additional I-25 and frontage road widening, installation of a new retaining wall near Ballinger Reservoir, and modification of CR 38 overpass would increase the amount of intrusive transportation elements within the property boundary leading to an indirect effect on the historic property, however; these transportation improvements would not affect the historic association of this property with the agricultural development of Weld County which renders this property NRHP-eligible.

Temporary effects due to installation of the new bridge across I-25, roadway widening and the retaining wall at Ballinger Reservoir would likely require a temporary easement on portions of the historic property for equipment access, haul roads and other construction activities. The farm would remain operational and measures to protect the property from erosion, dust and water-borne sediment dispersal would be implemented. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

The setting and feeling of this property have been changed with the 1960s development of I-25 through the center of the farm's historic boundary. The association with agriculture still exists. FHWA, FTA and CDOT have determined that the Preferred Alternative would result in no adverse effect to the resource because the land to be taken on the east side of I-25 is not being used for agricultural purposes and there would be no direct effect to the Ballinger Reservoir. The land on the west side of I-25 is serving as a buffer between a subdivision and the Interstate. In addition, the Olson family has developed a subdivision on part of the farmland and hopes to develop more in the future and they are now renting their land out to others for farming.

5WL.1978 (Rademacher/Hilgers Residence)

Resource Description: The Rademacher/Hilgers residence is located at 3865 SH 66. This property contains a Craftsman Style house built in 1920 that remains largely intact.

Eligibility Determination: This early 20th century farmhouse retains very good integrity, and is an important example of Craftsman Style residential architecture in a rural setting in Weld County. The property qualifies for the NRHP under Criterion C.

Effect Determination – Package A: Under Package A, I-25 would be reconfigured for three general purpose lanes in each direction. The existing I-25 ramps would be rebuilt under a currently planned and programmed interchange project. There would be no changes to ramp widths or alignments, thus there would be no direct impacts to the historic property by future I-25 mainline improvements associated with Package A.

Due to the lack of direct and indirect impacts to the historic farmhouse and the qualities that render it NRHP-eligible, FHWA, FTA and CDOT have determined that Package A would result in *no historic properties affected* with respect to the Rademacher/Hilgers Residence.

Effect Determination – Package B: Under Package B, I-25 would be re-aligned and reconfigured for two general purpose lanes plus one buffer-separated lane in each direction. All widening and lane additions would be constructed within the center median of the existing I-25 footprint. The existing I-25 ramps would be rebuilt under a currently planned and programmed interchange project. There would be no changes to ramp widths or alignments, thus there would be no direct impacts to the historic property by future I-25 mainline improvements associated with Package B.

Due to the lack of direct and indirect impacts to the historic farmhouse and the qualities that render it NRHP-eligible, FHWA, FTA and CDOT have determined that Package B would result in *no historic properties affected* with respect to the Rademacher/Hilgers Residence.

Effect Determination – Preferred Alternative: Under the Preferred Alternative, I-25 would be re-aligned and reconfigured for three general purpose lanes plus one buffer-separated TEL in each direction. All widening and lane additions would be constructed within the center median of the existing I-25 footprint. The existing I-25 ramps would be rebuilt under a currently planned and programmed interchange project. There would be no changes to ramp widths or alignments, thus there would be no direct impacts to the historic property by future I-25 mainline improvements associated with the Preferred Alternative.

Due to the lack of direct and indirect impacts to the historic farmhouse and the qualities that render it NRHP-eligible, FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no historic properties affected* with respect to the Rademacher/Hilgers Residence.

5WL1975.1 (Last Chance Ditch)

Resource Description: This 1.04 mile-long segment of the Last Chance Ditch generally runs perpendicular to I-25 and crosses the frontage road and highway. The entire earthen ditch is approximately five miles long. Its channel is approximately 10 feet wide. This historic ditch is currently conveyed beneath I-25 and the east frontage road in CBCs. Recently, the original ditch east of I-25 was realigned. The levees and banks along both sides of the ditch areas are covered with grass and sparse riparian vegetation. The surrounding area includes agricultural and residential development.

Eligibility Determination: The Last Chance Ditch was officially determined eligible for the NRHP by OAHP in 2003. The entire ditch (5WL.1975) is eligible under Criterion A for its important association with the development of water rights and agriculture in Weld County. Although this ditch segment (5WL.1975.1) has recently been realigned east of I-25, the integrity of location and design remains pristine within the protected rural setting of St. Vrain State Park on the west side of I-25. The segment within the project APE (5WL.1975.1) retains sufficient integrity of location, setting, feeling, and use to support the eligibility of the entire linear resource.

Effect Determination – Package A: Under Package A, the existing I-25 template would be maintained in this area. The existing box culverts would not require replacement or modification, and no direct or indirect impacts to the ditch would occur. FHWA, FTA and CDOT

therefore have determined that Package A would result in *no historic properties affected* with respect to this historic resource.

Effect Determination – Package B: In this area, I-25 would be widened to the median to contain a new template consisting of three general purpose lanes plus one buffer-separated managed lane. The existing east frontage road would be realigned to the east. The proposed transportation improvements in this area would not require replacement or modification of the existing box culverts, and no direct or indirect impacts to the ditch would occur under Package B. FHWA, FTA and CDOT therefore have determined that Package B would result in *no historic properties affected* with respect to this historic resource.

Effect Determination – Preferred Alternative: In this area, I-25 would be widened to the middle to contain a new template consisting of three general purpose lanes plus one buffer-separated TEL. The existing east frontage road would be realigned to the east. The proposed transportation improvements in this area would not require replacement or modification of the existing box culverts, and no direct or indirect impacts to the ditch would occur under the Preferred Alternative. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative would result in *no historic properties affected* with respect to this historic resource.

5WL.1974.1 (Rural Ditch)

Resource Description: The entire Rural Ditch is approximately 4 miles long. Two segments of the ditch are present within the APE (see **Figure 3.15-68**). Segment 5WL.1974.1 crosses I-25 diagonally from southwest to northeast immediately north of SH 119, passing under SH 119 and I-25 in two existing culverts. The segment length is 3,327 feet, and is a 10 feet wide earthen ditch.

Segment 5WL.1974.3 of the historic Rural Ditch crosses northwest to southeast within the project area. This segment (5WL.1974.3) intercepts waters of Idaho Creek at the southwest edge of the APE. The excavated 5-foot-deep, earthen ditch segment is 1,253 feet long and 20 feet wide. Both banks of the ditch areas are covered with grass. The surrounding area is rural in character.

Eligibility Determination: The entire ditch (5WL.1974) was determined to be not eligible in 1993. The entire Rural Ditch is recommended as eligible for the NRHP under Criterion A because of its important association with the development of water rights and agriculture in northeastern Colorado. The 5WL.1974.3 follows the original historic alignment of the ditch, and therefore supports the eligibility of the entire linear resource. The segment 5WL.1974.1 is modified by adjacent development and road crossings at SH 119 and I-25 and does not support eligibility of the entire resource.

Effects Determination:

In order to determine the effect to the entire linear resource, impacts to each of the segments passing through the project APE were assessed. These impact assessments are presented below, followed by a determination of effect to the entire Rural Ditch.

Impacts to segment 5WL.1974.3 – Package A: The proposed new commuter rail line would pass in a northwest-southeast alignment across this historic ditch segment. Approximately 130 feet of open ditch would need to be placed in a culvert beneath the new railroad embankment, ballast, bed and tracks (see **Figure 3.15-69**).

Figure 3.15-68 5WL.1974 (Rural Ditch) — Segments Intersecting Project APE

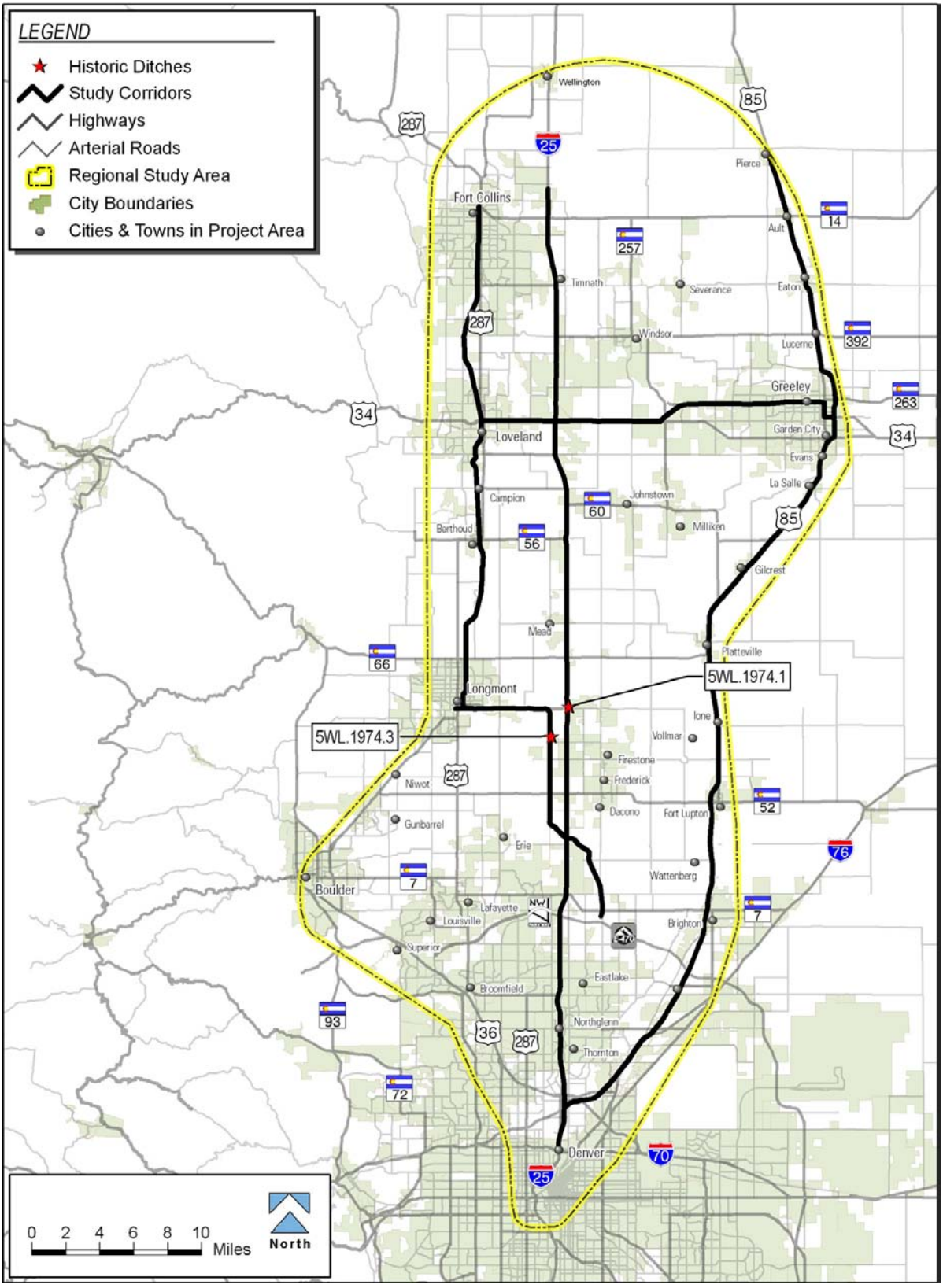
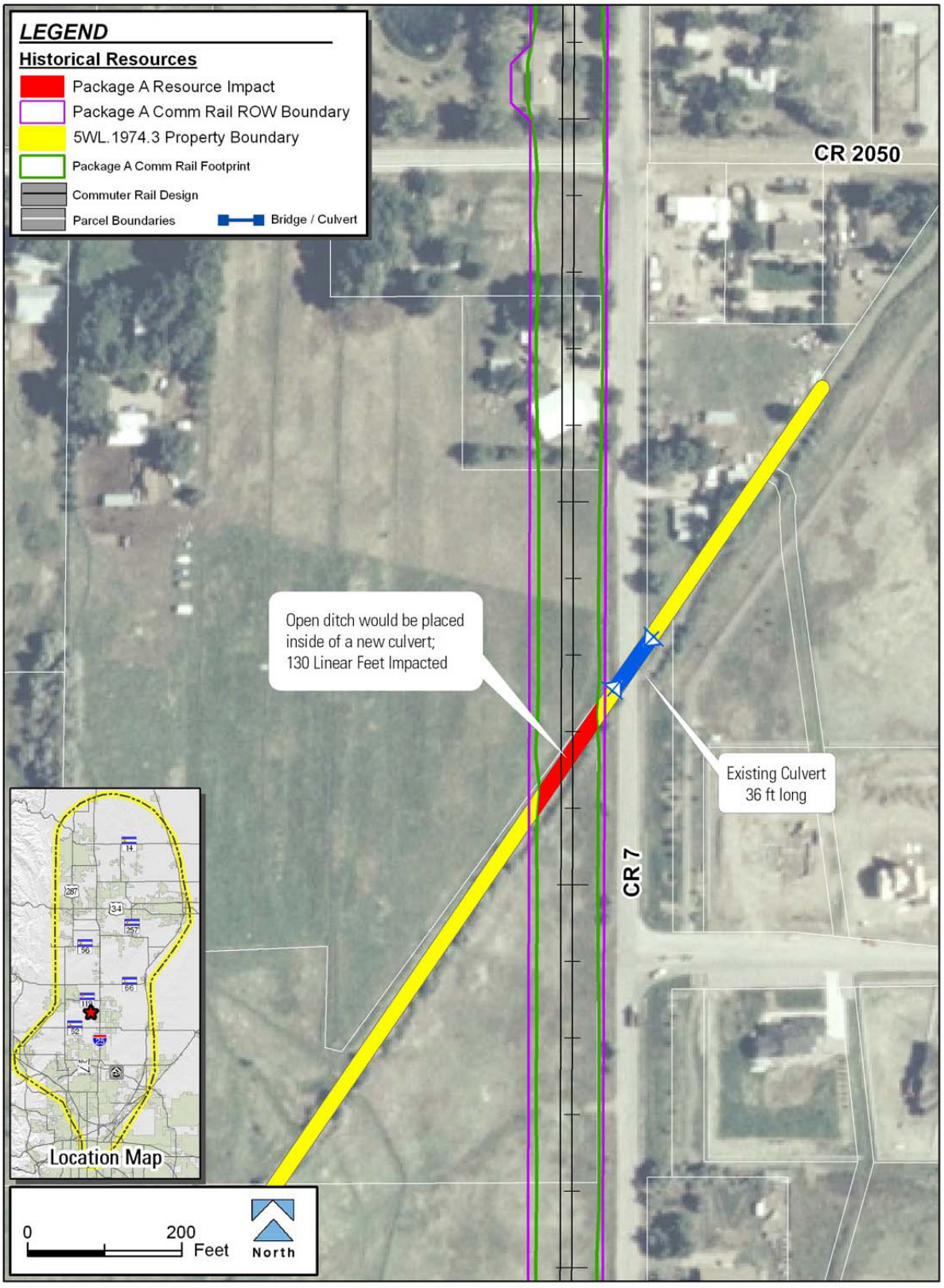


Figure 3.15-69 5WL.1974.3 (Rural Ditch) – Package A



Installation of the new culvert would likely require temporary use of the historic property for equipment access and minor construction activities. The ditch would remain operational and irrigation water would be protected from encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

Installation of the new culvert would likely require temporary use of the historic property for equipment access and minor construction activities. The ditch would remain operational and irrigation water would be protected from encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance. Although the segment of open ditch would be placed in a culvert, this change affects only a very small percentage of the overall linear resource.

Impacts to segment 5WL.1974.3 – Preferred Alternative: The proposed new commuter rail line would pass in a northwest-southeast alignment across this historic ditch segment. Approximately 108 feet of open ditch would need to be placed in a culvert beneath the new railroad embankment, ballast, bed and tracks (see **Figure 3.15-70**).

Installation of the new culvert would likely require temporary use of the historic property for equipment access and minor construction activities. The ditch would remain operational and irrigation water would be protected from encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

Although the segment of open ditch would be placed in a culvert, this change affects only a very small percentage of the overall linear resource.

Impacts to segment 5WL.1974.1 – Package A: The ditch is in a non-improvement component of Package A and results in no impacts.

Impacts to segment 5WL.1974.1 – Package B: Under Package B modifications to the center median of the highway would incorporate new BRT lanes in this area. Because the ditch is already conveyed underneath the area of highway there would be no additional impact to the ditch segment. Because the ditch already lacks integrity of alignment and setting, no additional indirect impacts are expected to result from the installations planned by Package B.

Impacts to segment 5WL.1974.1 – Preferred Alternative: Under the Preferred Alternative modifications to the center median of the highway would incorporate new TELs in this area. Because the ditch is already conveyed underneath the area of highway there would be no additional impact to the ditch segment. Because the ditch already lacks integrity of alignment and setting, no additional indirect impacts are expected to result from the installations planned by Preferred Alternative.

Summary Effects Determination:

Package A: Under Package A 130 feet of open ditch would be placed inside a culvert at one segment locality. Temporary construction impacts would occur during culvert installation and highway construction activity. Because the physical integrity of the channel of the ditch segment has previously been compromised by placing it in a culvert, FHWA, FTA and CDOT have determined that the Package A improvements would result in *no adverse effect* with respect to the historic resource 5WL.1974 (Rural Ditch).

Package B: Because no direct or indirect impacts are expected to result from the installations planned by Package B, FHWA, FTA and CDOT have determined that the Package B improvements would result in *no historic properties affected* with respect to the historic resource 5WL.1974 (Rural Ditch).

Preferred Alternative: Under the Preferred Alternative 108 feet of open ditch would be placed inside a culvert at one segment locality. Temporary construction impacts would occur during culvert installation and highway construction activity. Because the physical integrity of the channel of the ditch segment has been previously compromised by placing it in a culvert, FHWA, FTA and CDOT have determined that the the Preferred Alternative improvements would result in *no adverse effect* with respect to the historic resource 5WL.1974 (Rural Ditch).

5WL.3146.1 (Flume Ditch)

Resource Description: The ditch crosses under I-25 in a CBC at MP 239.15, about 1 mile south of SH 119. The earthen ditch runs through a business park and has been recently dredged and banks burned. The segment is 1,371-foot-long and 10 feet wide.

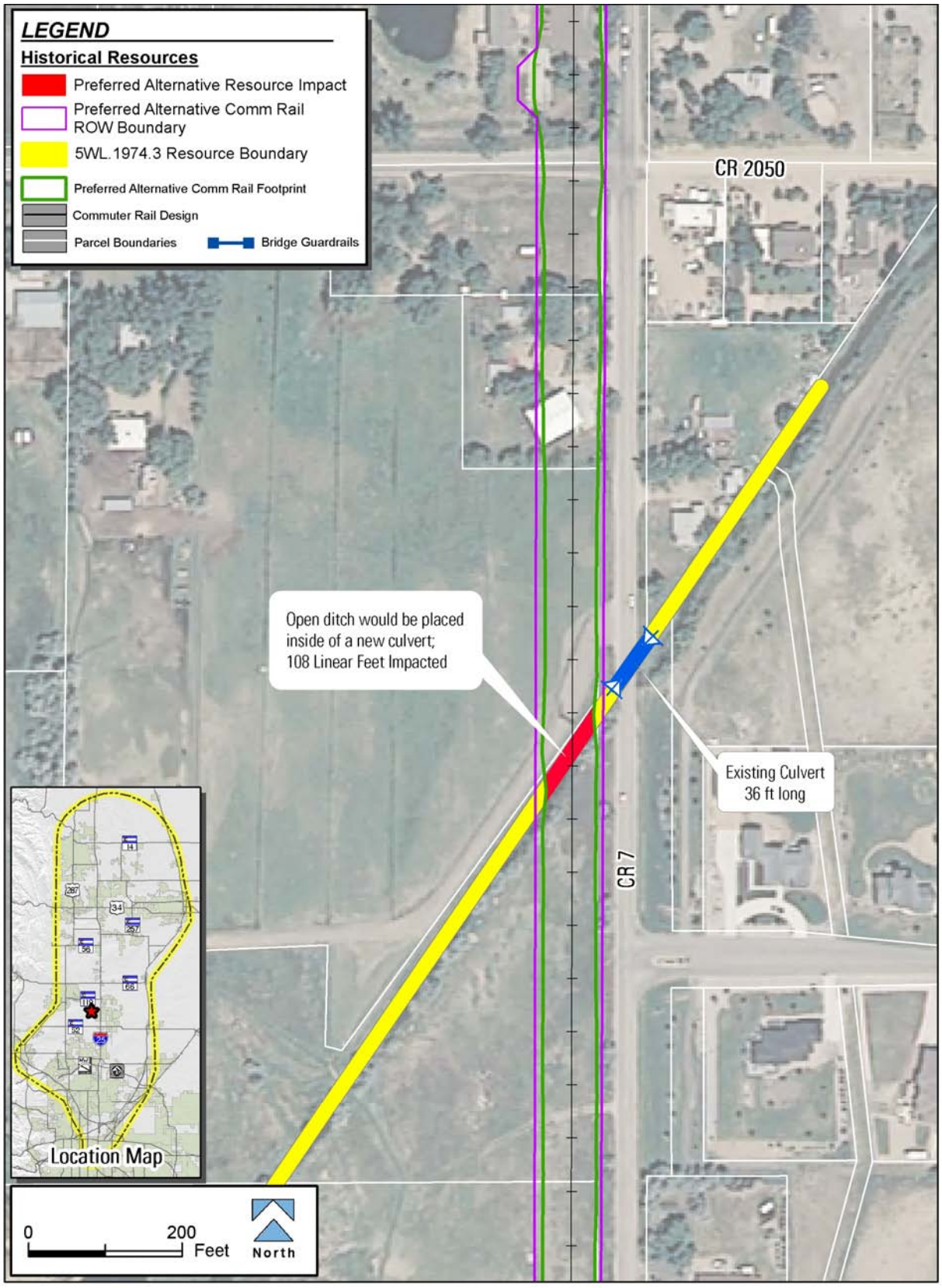
Eligibility Determination: In 2001 SHPO agreed that the Rural Ditch is not NRHP-eligible.

Effects Determination – Package A: The ditch is in a non-improvement component of Package A and would not have impacts.

Effects Determination – Package B: Under Package B modifications to the center median of the highway would incorporate new BRT lanes in this area. Because the ditch is already conveyed underneath the area of highway there would be no additional impact to the ditch segment. Because the ditch already lacks integrity of alignment and setting, no additional indirect impacts are expected to result from the installations planned by Package B.

Effects Determination – Preferred Alternative: Under the Preferred Alternative modifications to the center median of the highway would incorporate new TELs in this area. Because the ditch is already conveyed underneath the area of highway there would be no additional impact to the ditch segment. Because the ditch already lacks integrity of alignment and setting, no additional indirect impacts are expected to result from the installations planned by the Preferred Alternative.

Figure 3.15-70 5WL.1974.3 (Rural Ditch) – Preferred Alternative



5WL.1970 (Lower Boulder Ditch)

Resource Description: The overall length of the Lower Boulder Ditch is 19 miles. It was originally built in 1859, but was widened in 1954 (see **Figure 3.15-71**). A significant portion of the ditch (5WL.1970.1) runs within the project corridor and crosses under I-25 in a 490-foot-long CBC, 3,500 feet north of SH 52. The 1.3 mile long earthen ditch has steep pitched banks, is 26 feet wide and 6 feet deep. Banks are grass covered except at culvert faces where it is rip-rapped. The area has parallel access roads along both banks and several pump jacks nearby.

Segment 5WL.1970.7 generally runs perpendicular to and crosses under WCR 7. Segment 5WL.1970.7 of the earthen irrigation ditch is approximately 31 feet wide, 12 feet deep and 574 feet long. The portion of the ditch that crosses under County Road 7 conveys the ditch in a culvert. Grass and riparian growth exists along both banks of the ditch in many areas. The surrounding area is rural in character.

Eligibility Determination: The Lower Boulder Ditch (5WL.1970) was determined to be eligible for the NRHP in 1993 under Criterion A for its important association with the development of water rights and agriculture in Weld County. Segment 1970.7 of the ditch within the APE retains sufficient integrity of location, setting, feeling, and use to support the eligibility of the entire linear resource. Segment 5WL.1970.1 has been modified and no longer retains the qualities that support the eligibility of the entire resource.

Effects Determination:

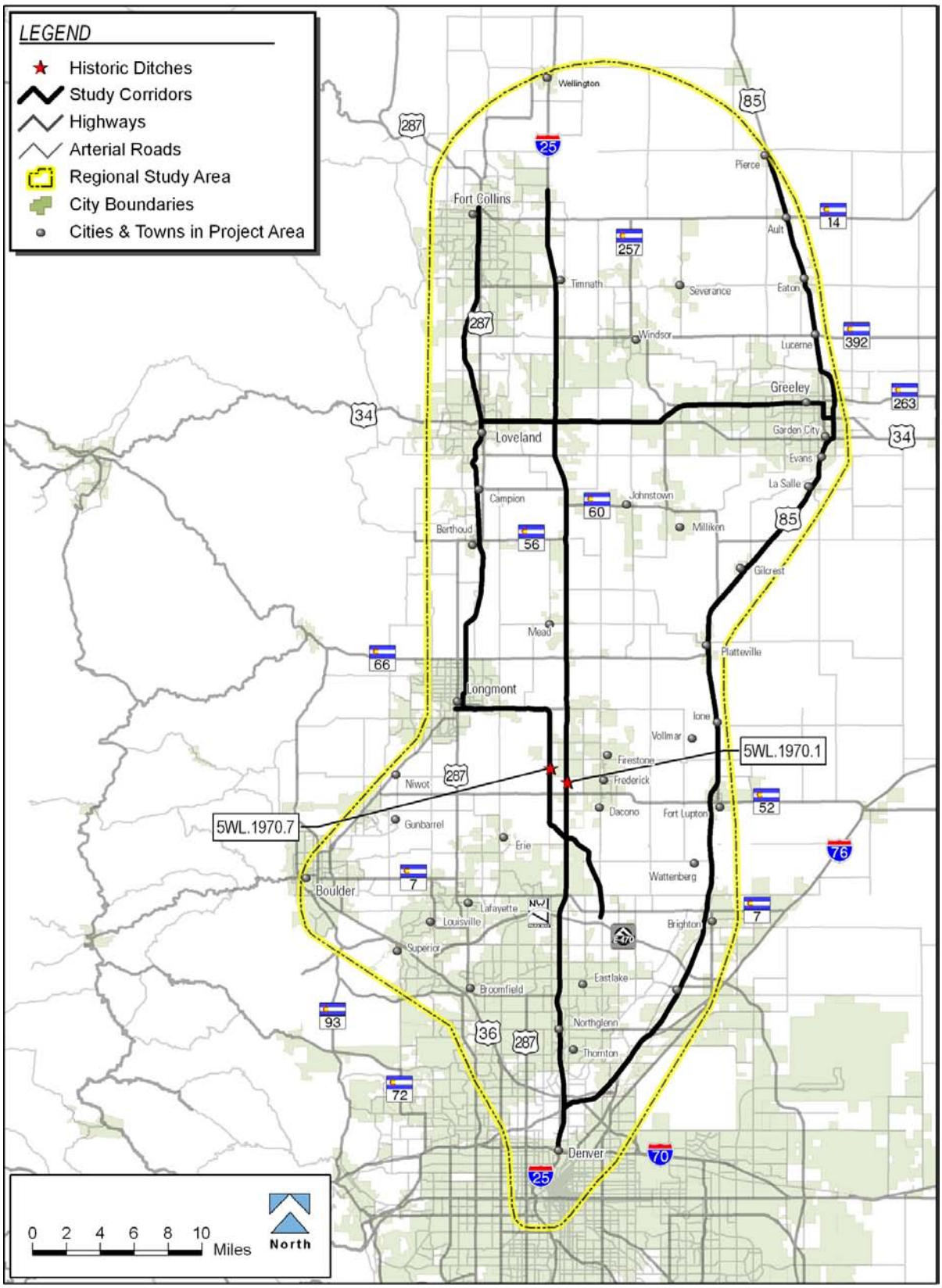
In order to determine the effect to the entire linear resource, impacts to each of the segments passing through the project APE were assessed. These impact assessments are presented below, followed by a determination of effect to the entire Lower Boulder Ditch.

Impacts 5WL.1970.1 – Package A: The ditch is in a non-improvement component of Package A and results in no impact.

Impacts 5WL.1970.1 – Package B: Under Package B, modifications to the center median of the highway would incorporate new BRT lanes and a transit station and parking facility in this area. Because the ditch is already conveyed underneath the area of highway and station improvements, there would be no additional impact to the ditch segment. A parking facility and water quality basin would be located south of the existing ditch alignment and would not cause any direct impact. Because the ditch already lacks integrity of alignment and setting, no additional indirect impacts are expected to result from the installations planned by Package B.

Impacts 5WL.1970.1 – Preferred Alternative: Under the Preferred Alternative, modifications to the center median of the highway would incorporate new TELs. Because the ditch is already conveyed underneath the area of highway improvements, there would be no additional impact to the ditch segment. A water quality basin would be located south of the existing ditch alignment and would not cause any direct impact. Because the ditch already lacks integrity of alignment and setting, no additional indirect impacts are expected to result from the installations planned by the Preferred Alternative.

Figure 3.15-71 5WL.1970 (Lower Boulder Ditch)—Segments Intersecting Project APE



Impacts 5WL.1970.7 – Package A: This historic ditch segment passes beneath WCR 7 via a culvert, and the proposed new commuter rail corridor closely follows the west side of this road. The new railroad line would cross the east-west trending ditch segment via a new bridge structure, the piers of which would be placed outside the limits of this irrigation channel (see **Figure 3.15-72**). The presence of the new bridge would not substantially affect the setting or attributes which render the ditch historic.

Impacts 5WL.1970.7 – Preferred Alternative: This historic ditch segment passes beneath WCR 7 via a culvert, and the proposed new commuter rail corridor closely follows the west side of this road. The new railroad line would cross the east-west trending ditch segment via a new bridge structure, the piers of which would be placed outside the limits of this irrigation channel (see **Figure 3.15-73**). The presence of the new bridge would not substantially affect the setting or attributes which render the ditch historic.

Summary Effects Determination:
Package A: A new bridge at WCR 7 would create approximately 35 feet of new overhead coverage of the ditch. Temporary construction impacts would occur during bridge construction. Because the physical integrity of the channel of the ditch segment would not be compromised by construction of the bridge, FHWA, FTA and CDOT have determined that the Package A transit improvements would result in *no adverse effect* to the historic resource 5LR.1970 (Lower Boulder Ditch).

Package B: There would be no direct or indirect impacts resulting from Package B improvements. FHWA, FTA and CDOT have determined that Package B would result in *no historic properties affected* with respect to the Lower Boulder Ditch (5WL.1970).

Preferred Alternative: A new bridge at WCR 7 would create approximately 35 feet of new overhead coverage of the ditch. Temporary construction impacts would occur during bridge construction. Because the physical integrity of the channel of the ditch segment would not be compromised by construction of the bridge, FHWA, FTA and CDOT have determined that the Preferred Alternative transit improvements would result in *no adverse effect* to the historic resource 5LR.1970 (Lower Boulder Ditch).

Figure 3.15-72 5WL.1970.7 (Lower Boulder Ditch) – Package A

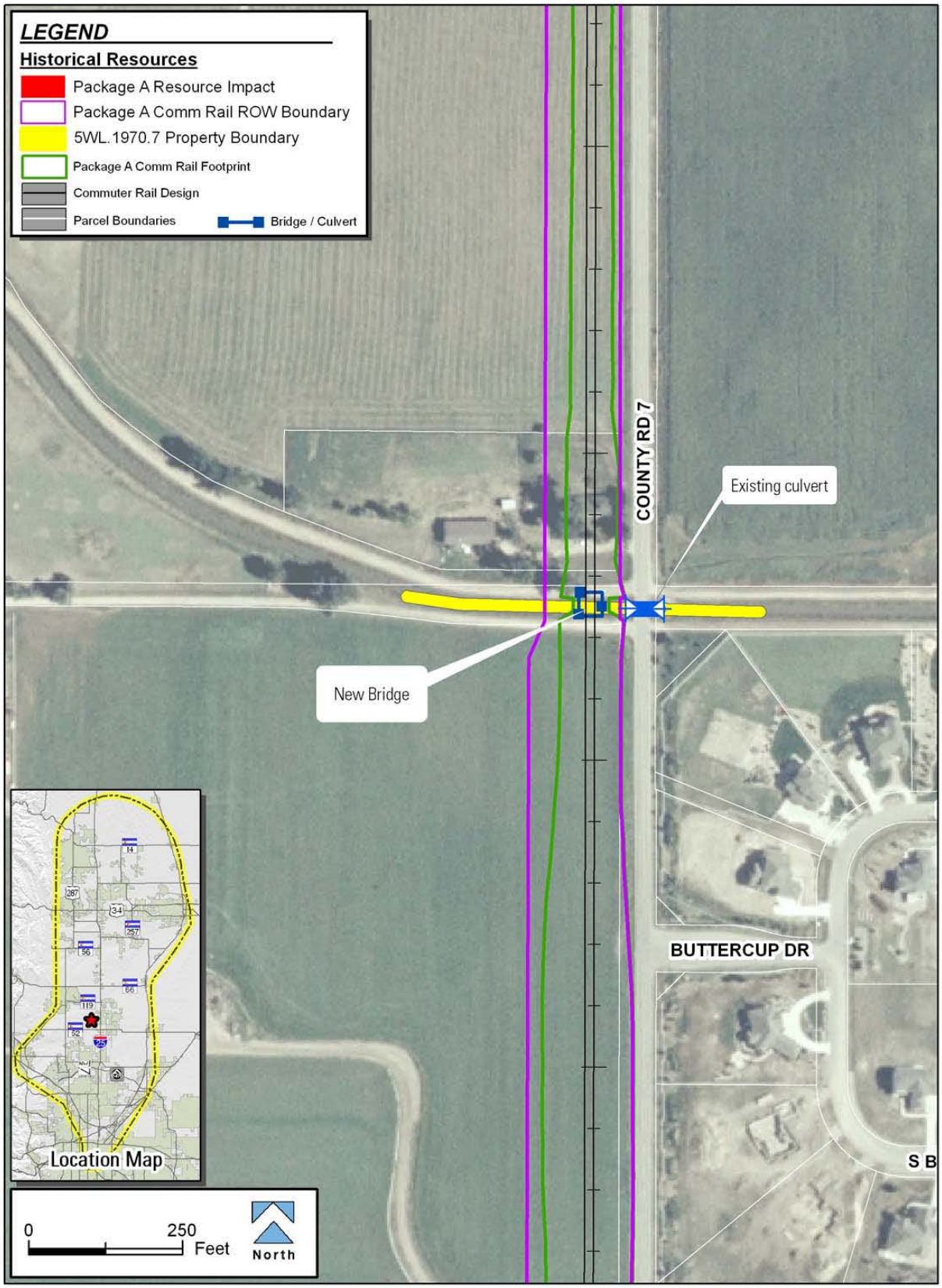
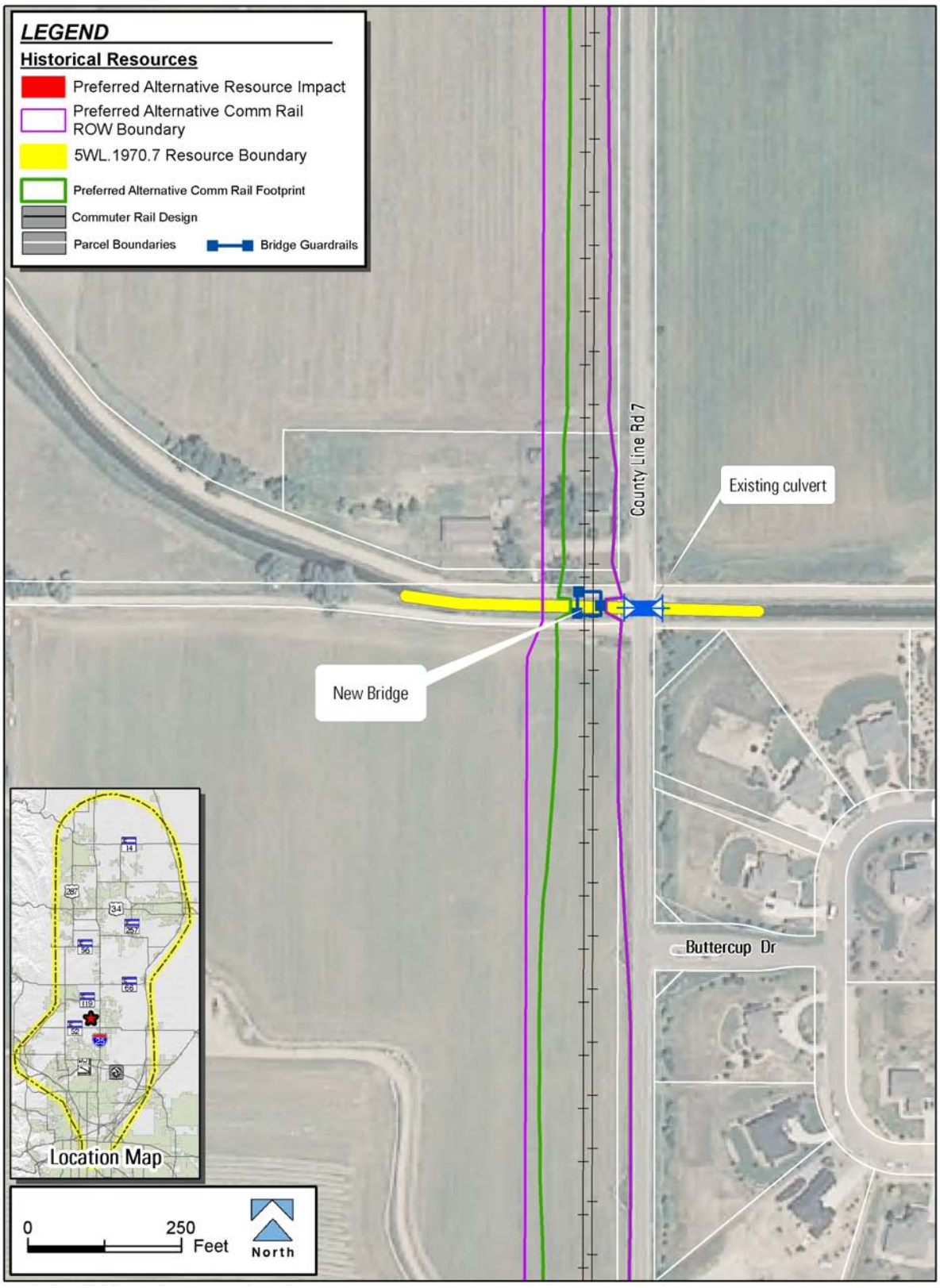


Figure 3.15-73 5WL.1970.7 (Lower Boulder Ditch) – Preferred Alternative



5WL.1966, 5BF.72, 5BF.76, 5AM.457 (Bull Canal/Standley Ditch)

Resource Description: The entire Bull Canal/Standley Ditch is approximately 44 miles long and runs through Adams, Broomfield, and Weld Counties. The ditch was originally built in 1907. Several segments of the Bull Canal/Standley Ditch are within the APE (see **Figure 3.15-74**).

Segment 5WL.1966.1 generally follows a serpentine course adjacent to the east side of I-25 and crosses the highway and the frontage road in multiple locations. The concrete-lined ditch is approximately 20 feet wide. The portion of the ditch that crosses under I-25 and the frontage road was altered and conveyed under the roadways in CBCs when the highway was constructed in the 1960s. Segment (5WL.1966.1) is 3,524 feet (0.67 miles) long. Well-developed willow growth exists along the south levee of the ditch in some areas. The surrounding area includes industrial and residential development. Weld County segments 5WL.1966.11 and 5WL.1966.8 cross the APE at the proposed commuter rail alignment. These segments each contain the 60-foot-wide concrete lined channel running through a rural setting. Segment 5WL.1966.8 is a 607-foot-long segment of the Bull Ditch that follows a gently curving alignment from west to northeast through the project area.

The Broomfield County portion of ditch within the APE includes 20-foot-wide segments 5BF.72.1, 5BF.72.2, 5BF.72.3, and 5BF.76.2. Each concrete-lined segment crosses under existing I-25 and the frontage road through modern CBCs. Segment 5BF.72.1 is 1,439 feet (0.27 mile) long. Sparse riparian growth of large mature trees exists along both banks of the ditch in many areas. The surrounding area includes agricultural and residential development. Segment 5BF.72.2 is 1,023 feet (0.2 mile) long with grassy vegetation lining the ditch levees. Segment 5BF.72.3 is 3,392 feet (0.64 mile) long. The latter two segments traverse areas characterized by industrial and residential development.

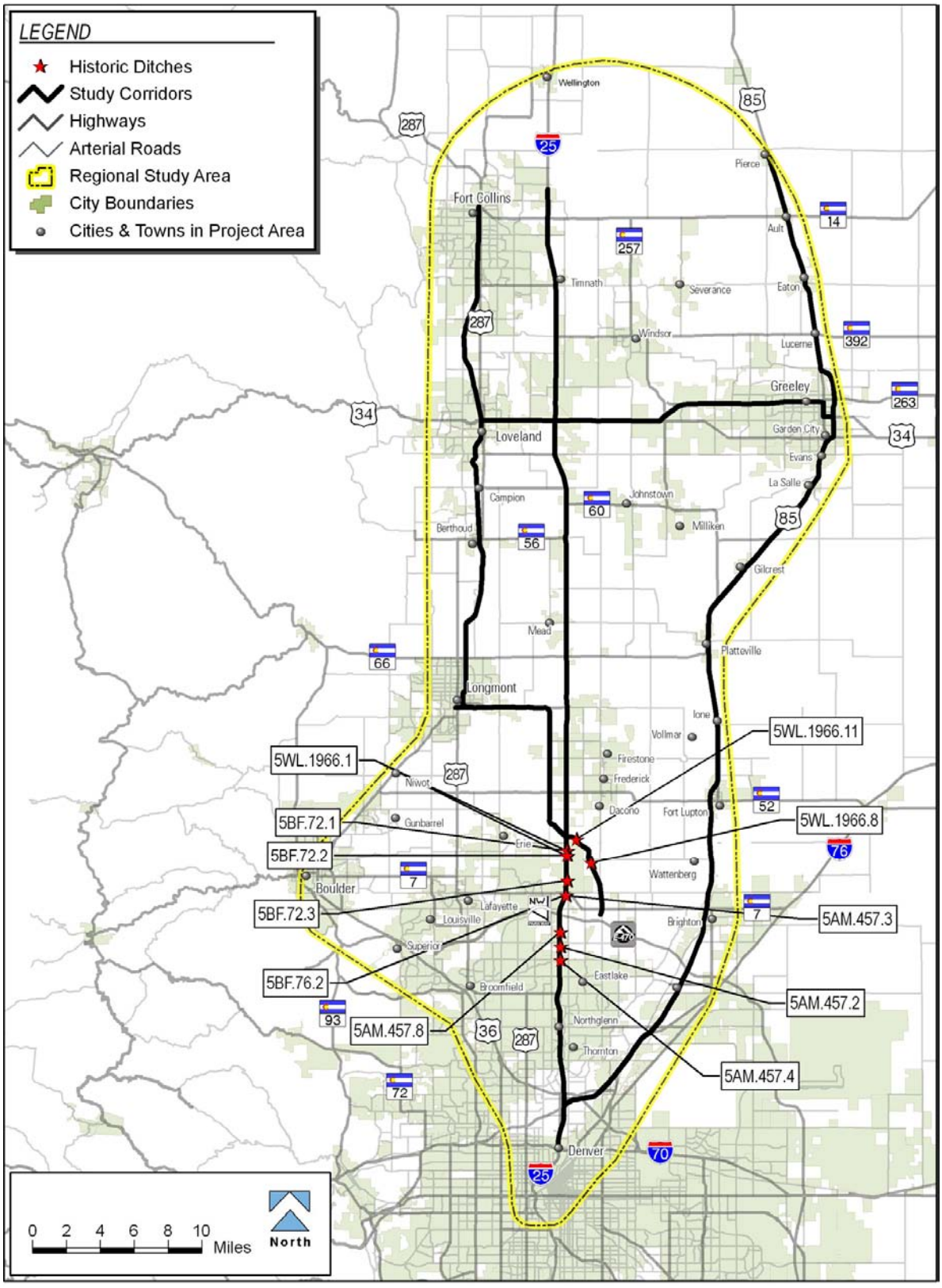
Segment 5BF.76.2 is 2,172 feet long and approaches SH 7, then turns south crossing both SH 7 and I-25. The ditch where exposed is earthen with rip-rapped banks and is about 15 feet wide. The ditch has been extensively realigned by recent commercial development to remove the entire ditch loop north of SH 7 and is now buried in a pipe for its length parallel to SH 7 and crosses south underneath SH 7 via a bridge. This segment of the ditch ends at the foot of the I-25 southbound on-ramp. The Broomfield segments traverse areas characterized by industrial and residential development.

The Adams County segments include 5AM.457.2, 5AM.457.3, 5AM.457.4, and 5AM.457.8. Segment 5AM.457.2 is approximately 35-feet wide and 3,685 feet (0.7 mile) long. This segment crosses under existing I-25 and the frontage road via modern CBCs. Heavy riparian growth exists along both banks of the ditch in many areas. The surrounding land now supports mixed development. Remaining segments 5AM.457.3, 5AM.457.4, and 5AM.457.8 cross I-25 and the frontage roads inside culverts installed when I-25 was constructed in the 1960s.

Segment 5AM.457.3 runs east of I-25 near the base of the northbound off-ramp for SH 7. The ditch runs underneath I-25 in a 330-foot-long CBC. The segment appears briefly on the surface at the opening of the CBC directly east of I-25 and immediately disappears below ground to cross underneath the Larkridge Shopping Center.

Segment 5AM.457.4 of the ditch is located west of I-25 and south of West136th Avenue. Most of the ditch segment has been abandoned and the ditch has been realigned at a point further west of I-25 out of the APE. A portion of the abandoned segment has been obliterated by new commercial construction at the site.

Figure 3.15-74 5WL.1966, 5BF.72, 5BF.76, 5AM.457 (Bull Canal/Standley Ditch) Segments Intersecting Project APE



Segment 457.8 is no longer functional and has been abandoned. This segment is located east of I-25 near MP 226.8. This 1,585-foot-long, 26-foot-wide concrete lined looping ditch segment has been abandoned and no longer functions for irrigation. Weeds and rushes fill the abandoned channel floor and the concrete lining of the bank is cracked and settled in many places.

Eligibility Determination: The entire Bull Canal/Standley Ditch was a part of the ambitious, corporate-developed Standley Lake Irrigation System developed in the early 20th Century. The canal is eligible for listing on the NRHP under Criterion A because of its important association with the development of water rights and agriculture in northeastern Colorado, and under Criterion C as an important example of irrigation engineering in the region. Segments 5WL.1966.11 and 5WL.1966.8 also include good examples of concrete siphons which represent a distinctive method of hydraulic engineering that add to the canal's significance under Criterion C. Segments 5WL.1966.1, 5WL.1966.11, 5BF72.1, 5BF.72.2, 5BF.72.3, and 5AM457.1 within the project APE retain sufficient integrity of location, setting, feeling, and use to support the eligibility of the entire linear resource. Resources 5BF.76.2, 5AM.457.3, 5AM.457.4, and 5AM.457.8 were found to lack sufficient integrity to support the eligibility of the entire linear resource.

Effect Determination:
In order to determine the effect to the entire linear resource, impacts to each of the segments passing through the project APE were assessed. These impact assessments are presented below, followed by a determination of effect to the entire Bull Canal/Standley Ditch.

Impacts to segment 5WL.1966.1 – Package A: This historic canal is currently conveyed beneath I-25 and the east frontage road in two places through modern CBCs. Under Package A, the existing I-25 template would be maintained in this area. The existing box culverts would not require replacement or modification, and no direct or indirect impacts to the canal would occur.

Impacts to segment 5WL.1966.1 – Package B: In this area, I-25 would be widened to the median to contain a new template consisting of three general purpose lanes plus one buffer-separated managed lane in each direction. The existing east frontage road would be realigned farther to the east. The proposed transportation improvements in this area would not require replacement or modification of the existing box culverts, and no direct or indirect impacts to the canal would occur under Package B.

Impacts to segment 5WL.1966.1 – Preferred Alternative: In this area, I-25 would be widened to the median to contain a new template consisting of three general purpose lanes plus one TEL in each direction. The proposed transportation improvements in this area would not require replacement or modification of the existing box culverts, and no direct or indirect impacts to the canal would occur under the Preferred Alternative.

Impacts to segment 5BF.72.1 – Package A: This historic canal is conveyed beneath I-25 and the east frontage road through modern CBCs. Under Package A, the I-25 template would be reconfigured to provide four general purpose lanes in each direction. The proposed transportation improvements in this area would not require replacement or modification of the existing box culverts, and no direct or indirect impacts to the canal would occur under Package A.

Impacts to segment 5BF.72.1 – Package B: This historic canal is conveyed beneath I-25 and the east frontage road through modern CBCs. In this area, I-25 would be widened to the median

to provide a new template consisting of three general purpose lanes plus one buffer-separated managed lane in each direction. The existing east frontage road would be retained. The proposed transportation improvements in this area would not require replacement or modification of the existing box culverts, and no direct or indirect impacts to the canal would occur under Package B.

Impacts to segment 5BF.72.1 – Preferred Alternative: This historic canal is conveyed beneath I-25 and the east frontage road through modern CBCs. In this area, I-25 would be widened to the median to provide a new template consisting of three general purpose lanes plus one TEL in each direction. The existing east frontage road would be retained. The proposed transportation improvements in this area would not require replacement or modification of the existing box culverts, and no direct or indirect impacts to the canal would occur under the Preferred Alternative.

Impacts to segment 5BF.72.2 – Package A: This historic canal is conveyed beneath I-25 and the east frontage road through modern CBCs. Under Package A, the existing I-25 template would be maintained in this area. The existing box culverts would not require replacement or modification, and no direct or indirect impacts to the canal would occur.

Impacts to segment 5BF.72.2 – Package B: This historic canal is conveyed beneath I-25 and the east frontage road through modern CBCs. In this area, I-25 would be widened to the median to provide a new template consisting of three general purpose lanes plus one buffer-separated managed lane in each direction. The existing east frontage road would be retained. The proposed transportation improvements in this area would not require replacement or modification of the existing box culverts, and no direct or indirect impacts to the canal would occur under Package B.

Impacts to segment 5BF.72.2 – Preferred Alternative: This historic canal is conveyed beneath I-25 and the east frontage road through modern CBCs. In this area, I-25 would be widened to the median to provide a new template consisting of three general purpose lanes plus one TEL in each direction. The existing east frontage road would be retained. The proposed transportation improvements in this area would not require replacement or modification of the existing box culverts, and no direct or indirect impacts to the canal would occur under the Preferred Alternative.

Impacts to segment 5BF.72.3—Package A: This historic canal is conveyed beneath I-25 and the east frontage road through modern CBCs. In this area, I-25 would be widened to the median to provide a new template consisting of four general purpose lanes in each direction. The existing east frontage road would be retained. The proposed transportation improvements in this area would not require replacement or modification of the existing box culverts, and no direct or indirect impacts to the canal would occur under Package A.

Impacts to segment 5BF.72.3—Package B: This historic canal is conveyed beneath I-25 and the east frontage road through modern CBCs. In this area, I-25 would be widened to the median to provide a new template consisting of four general purpose lanes in each direction. The existing east frontage road would be retained. The proposed transportation improvements in this area would not require replacement or modification of the existing box culverts, and no direct or indirect impacts to the canal would occur under Package B.

Impacts to segment 5BF.72.3 – Preferred Alternative: This historic canal is conveyed beneath I-25 and the east frontage road through modern CBCs. In this area, I-25 would be

widened to the median to provide a new template consisting of three general purpose lanes plus one TEL in each direction. The existing east frontage road would be retained. The proposed transportation improvements in this area would not require replacement or modification of the existing box culverts, and no direct or indirect impacts to the canal would occur under the Preferred Alternative.

Impacts to segment 5BF.76.2 – Package A: Package A would require putting the 750-foot-long remainder of the ditch located between the SH 7 pipe outfall and the existing I-25 CBC in a buried culvert (see **Figure 3.15-75**).

Impacts to segment 5BF.76.2 – Package B: Package B would require putting the 750-foot-long remainder of the ditch located between the SH 7 pipe outfall and the existing I-25 CBC in a buried culvert (see **Figure 3.15-75**).

Impacts to segment 5BF.76.2 – Preferred Alternative: The Preferred Alternative would require putting 615 feet of the ditch located between the SH 7 pipe outfall and the existing I-25 CBC in a buried culvert. West of the SH 7 outfall the ditch would be capped for a short distance where it runs adjacent to SH 7 (see **Figure 3.15-76**).

Impacts to segment 5AM.457.2 – Package A: This historic canal is conveyed beneath I-25 and the east frontage road through modern CBCs. Under Package A, the existing I-25 template would be maintained in this area. The existing box culverts would not require replacement or modification, and no direct or indirect impacts to the canal would occur.

Impacts to segment 5AM.457.2 – Package B: This historic canal is conveyed beneath I-25 and the east frontage road through modern CBCs. Under Package B, the I-25 template would consist of three general purpose lanes plus one buffer-separated managed lane. The portion of the ditch that currently crosses under the highway and frontage roads is conveyed inside a CBC. The new roadway would be contained within the current roadway template and no new disturbance would occur to areas of the ditch located outside the existing culverts. The integrity of that portion of the historic canal to be placed in a culvert has already been compromised by original construction of I-25 in the 1960s, and no new direct or indirect impacts would occur.

Impacts to segment 5AM.457.2 – Preferred Alternative: This historic canal is conveyed beneath I-25 and the east frontage road through modern CBCs. Under the Preferred Alternative, the I-25 template would consist of three general purpose lanes plus one TEL in each direction. The portion of the ditch that currently crosses under the highway and frontage roads is conveyed inside a CBC. The new roadway would be contained within the current roadway template and no new disturbance would occur to areas of the ditch located outside the existing culverts. The integrity of that portion of the historic canal to be placed in a culvert has already been compromised by original construction of I-25 in the 1960s, and no new direct or indirect impacts would occur under the Preferred Alternative.

Impacts to segment 5AM.457.3 – Package A: Package A would result in placing an additional 100 feet of open ditch into a culvert extension east of the I-25 northbound off-ramp (see **Figure 3.15-75**).

Impacts to segment 5AM.457.3 – Package B: Package B would result in placing an additional 100 feet of open ditch into a culvert extension east of the I-25 northbound off-ramp (see **Figure 3.15-75**).

Figure 3.15-75 5BF.76.2 and 5AM.457.3 (Bull Canal/Standley Ditch) – Packages A & B

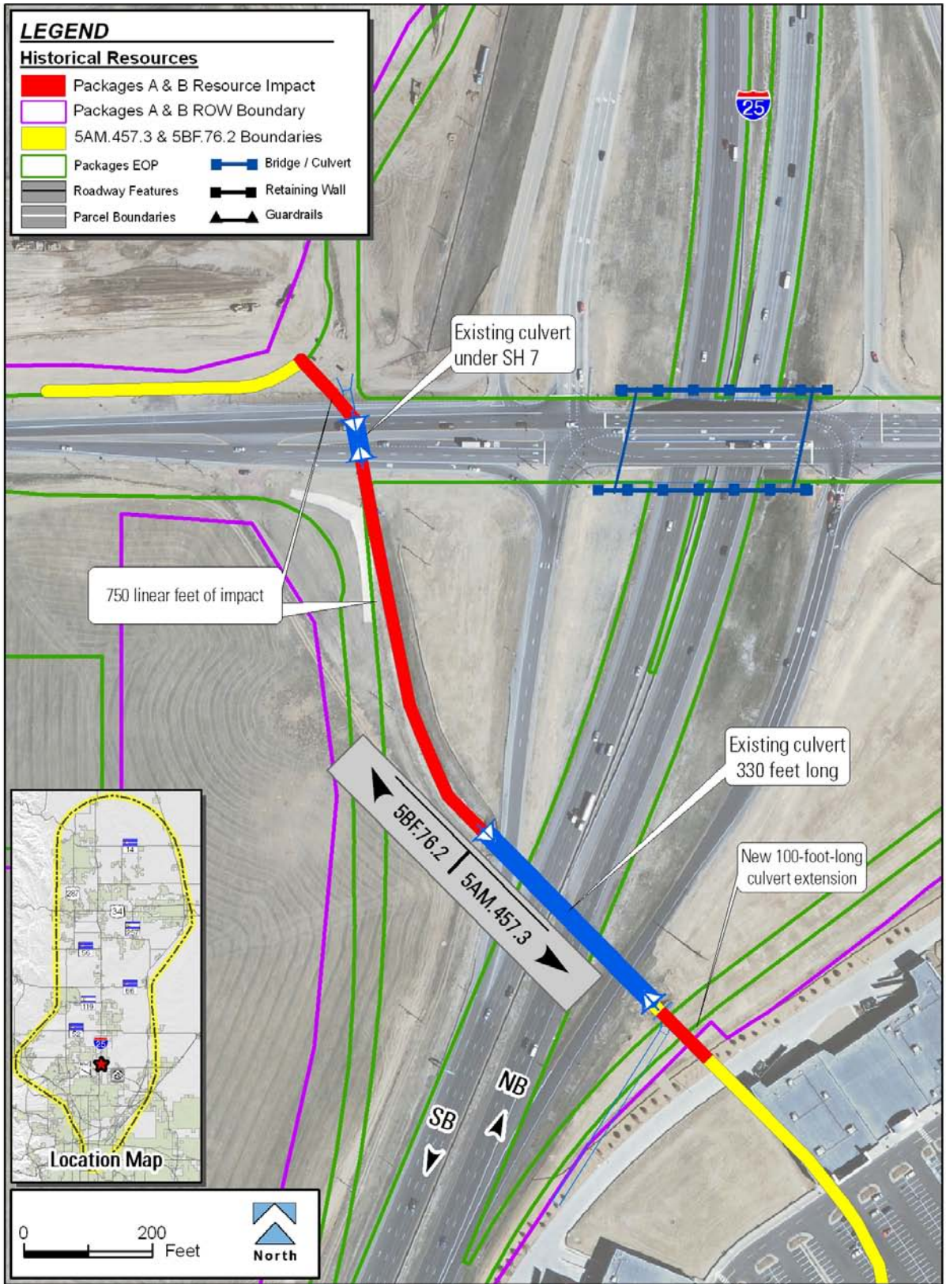
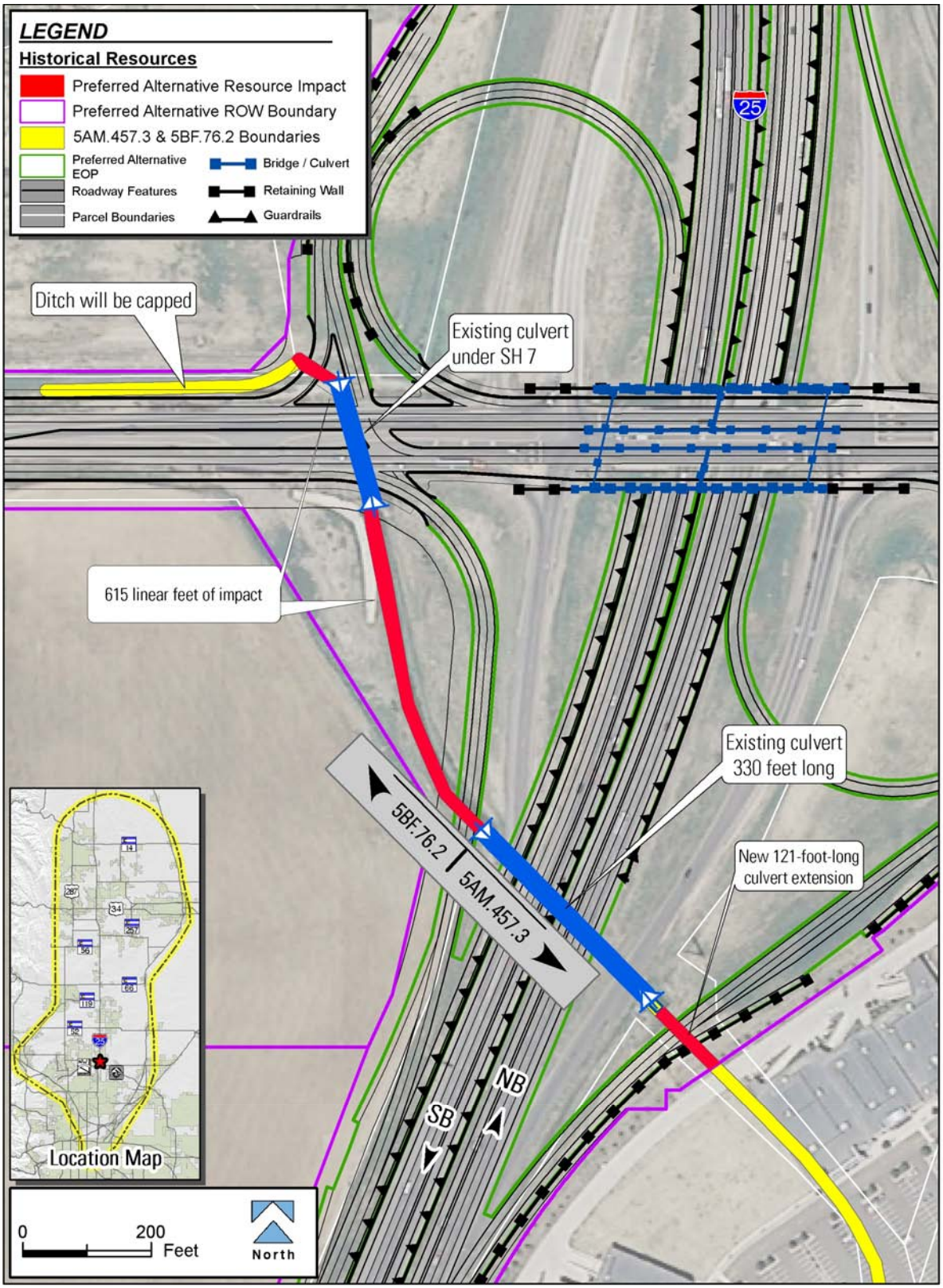


Figure 3.15-76 5BF.76.2 and 5AM.457.3 (Bull Canal/Standley Ditch) – Preferred Alternative



Impacts to segment 5AM.457.3 – Preferred Alternative: The Preferred Alternative would result in placing an additional 121 feet of open ditch into a culvert extension east of the I-25 northbound off-ramp (see **Figure 3.15-76**).

Impacts to segment 5AM.457.4 – Package A: The ditch is in an area where no improvements are planned on I-25 in Package A. A permanent water quality basin is planned in proximity to the ditch but would not result in a direct impact to this feature.

Impacts to segment 5AM.457.4 – Package B: Highway widening of I-25 resulting from Package B would not result in direct impacts to this ditch. A permanent water quality basin is planned in proximity to the ditch but would not result in a direct impact to this feature. There would be no temporary construction impacts to this feature.

Impacts to segment 5AM.457.4 – Preferred Alternative: Highway widening of I-25 resulting from the Preferred Alternative would not result in direct impacts to this ditch. A permanent water quality basin is planned in proximity to the ditch but would not result in a direct impact to this feature. There would be no temporary construction impacts to this feature as a result of the Preferred Alternative.

Impacts to segment 5AM.457.8 – Package A: The ditch is in a non-improvement component of Package A and results in no impacts to the ditch.

Impacts to segment 5AM.457.8 – Package B: Package B improvements do not encroach on the ditch. Temporary construction impacts would be avoided at this site.

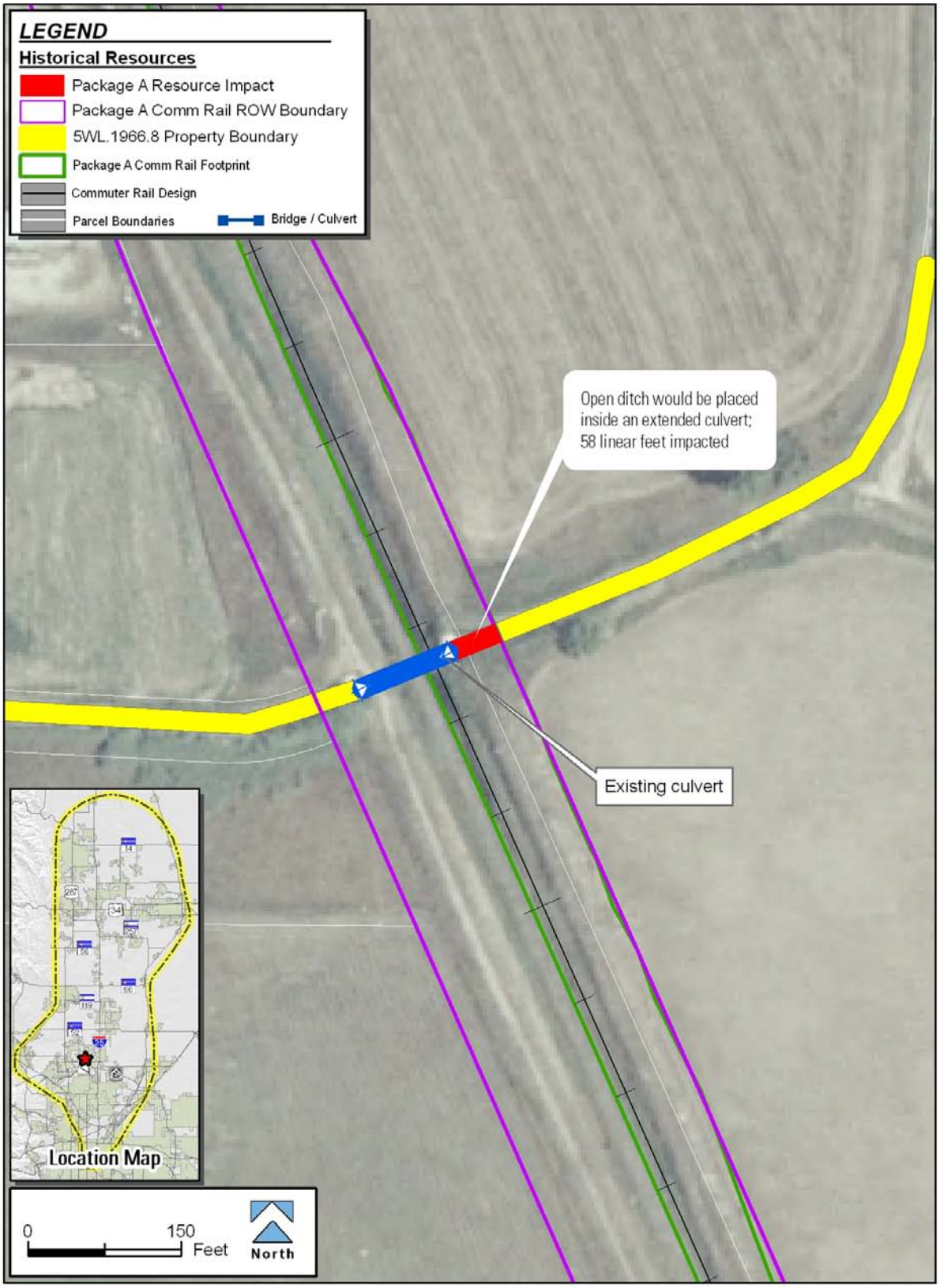
Impacts to segment 5AM.457.8 – Preferred Alternative: The Preferred Alternative improvements do not encroach on the ditch. Temporary construction impacts would be avoided under the Preferred Alternative at this site.

Impacts to segment 5WL.1966.11 – Package A: The proposed new commuter rail line would pass in a northwest-southeast alignment across this historic ditch segment. The new rail line would closely parallel an existing active rail line through this area. The historic ditch has already been placed in a culvert beneath the existing railroad grade. The existing culvert would be left in place and no culvert extension should be necessary to accommodate the new additional rail line. No direct or indirect impacts would therefore occur.

Impacts to segment 5WL.1966.11 – Preferred Alternative: The proposed new commuter rail line would pass in a northwest-southeast alignment across this historic ditch segment. The new rail line would be constructed on an existing railroad grade through this area. The historic ditch has already been placed in a culvert beneath the existing railroad grade. The existing culvert would be left in place and no culvert extension should be necessary to accommodate the new rail line. Therefore, no direct or indirect impacts would occur as a result of the Preferred Alternative.

Impacts to segment 5WL.1966.8 – Package A: In the vicinity of this historic ditch, the proposed new commuter rail line would run closely parallel to the east side of an existing active rail line. The historic ditch has already been placed in a culvert beneath the existing railroad grade. The existing culvert would be left in place and approximately 58 feet of open ditch would be placed in a new culvert extending beneath the proposed new commuter rail line (see **Figure 3.15-77**). Although a small segment of open ditch would be placed in a culvert, this change affects only a very small percentage of the entire linear resource.

Figure 3.15-77 5WL.1966.8 (Bull Ditch segment of the Bull Canal/Standley Ditch) – Package A



Impacts to segment 5WL.1966.8 –Preferred Alternative: In the vicinity of this historic ditch, the proposed new commuter rail line would be constructed on an existing railroad grade. The historic ditch has already been placed in a culvert beneath the existing railroad grade. The existing culvert would be left in place and no culvert extension should be necessary to accommodate the new rail line. Therefore, no direct or indirect impacts would occur as a result of the Preferred Alternative (see **Figure 3.15-78**).

Summary Effect Determination:

Package A: A total of 908 linear feet of open ditch would be impacted. Approximately 850 feet of ditch would be placed inside two culverts at the I-25 and SH 7 interchange where much of the ditch has already been realigned and runs through existing culverts (BF.76.2 and 5AM.457.3). An additional 58 feet of open ditch (5WL.1966.85) would be placed inside an extended culvert along the commuter rail. Temporary construction impacts would occur during culvert installation and highway construction activity at that location. No other direct or indirect impacts would occur to the remaining seven segments. FHWA, FTA and CDOT have determined that the Package A improvements would result in no adverse effect to the historic Bull Canal/Standley Ditch (5WL.1966, 5BF.72, 5BF.76, and 5AM.457).

Package B: A total of 850 feet of open ditch would be placed inside a culvert at one segment locality (5BF.76.2 and 5AM.457.3). Impacts would be identical to Package A. Temporary construction impacts would occur during culvert installation and highway construction activity at that location. No other direct or indirect impacts would occur to the remaining seven segments. FHWA, FTA and CDOT have determined that Package B improvements would result in no adverse effect to the historic Bull Canal/Standley Ditch (5WL.1966, 5BF.72, 5BF.76, and 5AM.457).

Preferred Alternative: A total of 908 linear feet of open ditch would be impacted. Approximately 736 feet of ditch would be placed inside two culverts at the I-25 and SH 7 interchange. West of these culverts another section of the ditch would be capped as it runs adjacent to SH 7 on the north side of the roadway. In this area much of the ditch has already been realigned and it currently runs through existing culverts beneath I-25 and its ramps as well as SH 7. As a result of these previous alterations, segment 5BF.76.2, was found to lack sufficient integrity to support the eligibility of the entire linear resource. Temporary construction impacts would occur during culvert installation and highway construction activity at that location. No other direct or indirect impacts would occur to the remaining seven segments. As a result of the impacted segments lack of integrity to support the eligibility of the entire resource, FHWA, FTA and CDOT have determined that the Preferred Alternative improvements would result in no adverse effect to the historic Bull Canal/Standley Ditch (5WL.1966, 5BF.72, 5BF.76, and 5AM.457).

Figure 3.15-78 5WL.1966.8 (Bull Ditch Segment of the Bull Canal/Standley Ditch) – Preferred Alternative

5AM.1291.3 (Farmers Highline Canal/Niver Canal)

Resource Description: This historic canal segment runs perpendicular to, and crosses, I-25. The earthen ditch is approximately 20 feet wide. The portion of the ditch that crosses under the highway was altered when I-25 was built in the 1960s, when the canal channel was placed under a 38-foot-long bridge. The entire ditch is approximately 40 miles long. The documented segment in the project APE (5AM.1291.3) is 2,234 feet long. Grassy vegetation with sparse riparian growth exists along both banks of the ditch in many areas. The surrounding area includes residential development.

Eligibility Determination: The entire length of the canal (5AM.1291) in Adams County is eligible for the NRHP under Criterion A for its important association with the development of water rights and agriculture in Adams County. The canal has been in operation for over 100 years. The segment within the project APE (5AM.1291.3) retains sufficient integrity of location, setting, feeling, and use to support the eligibility of the entire linear resource.

Effect Determination – Package A: I-25 currently passes over this historic canal via an existing 123-foot-wide by 38-foot-long bridge structure. Under Package A, the existing I-25 template would be maintained in this area. The existing bridge would not require replacement or modification, and no direct or indirect impacts to the canal would occur. FHWA, FTA and CDOT therefore have determined that Package A would result in *no historic properties affected* with respect to this historic resource.

Effect Determination – Package B: Under Package B, the existing bridge over the historic canal would be replaced with a new 73-foot-long, 210-foot-wide pre-cast pre-stressed girder bridge, to carry a new template consisting of three general purpose lanes plus one buffer-separated managed lane. The bridge piers would be placed outside the limits of the historic canal, and no direct or indirect impacts would occur. FHWA, FTA and CDOT therefore have determined that Package B would result in *no historic properties affected* with respect to this historic resource.

Effect Determination – Preferred Alternative: Under the Preferred Alternative, the existing bridge over the historic canal would be replaced with a new 73-foot-long, 210-foot-wide pre-cast pre-stressed girder bridge, to carry a new template consisting of three general purpose lanes plus one buffer-separated TEL in each direction. The bridge piers would be placed outside the limits of the historic canal, and no direct or indirect impacts would occur. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative would result in *no historic properties affected* with respect to this historic resource.

5WL.322 (White-Plumb Farm)

Resource Description: The White-Plumb Farm was established in the late 1800s. It is located at 955 39th Avenue in Greeley. The homestead was originally part of a 160-acres Timber Culture Act claim acquired in 1881 by Civil War veteran Charles White. The Plumb family moved to the farm in 1923 and lived there until 1997. This farm has been designated a Centennial Farm by the Colorado Historical Society.

Eligibility Determination: Based on its important association with agriculture in Weld County during the 19th century, this homestead is eligible for listing on the NRHP under Criterion A.

Effect Determination – Package A: None of the proposed improvements associated with Package A are close to this historic property, and no direct or indirect impacts would occur.

FHWA, FTA and CDOT therefore have determined that Package A would result in *no historic properties affected* with respect to this historic resource.

Effect Determination – Package B: None of the proposed improvements associated with Package B are close to this historic property, and no direct or indirect impacts would occur. FHWA, FTA and CDOT therefore have determined that Package B would result in *no historic properties affected* with respect to this historic resource.

Effect Determination – Preferred Alternative: None of the proposed improvements associated with the Preferred Alternative are close to this historic property, and no direct or indirect impacts would occur. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative would result in *no historic properties affected* with respect to this historic resource.

E-470 TO US 36

5AM.2073 (North Glenn First Filing)

Resource Description: This historic post-World War II residential subdivision (5AM.2073) is located on the east side of I-25. It is bounded on the south by East 104th Avenue and on the east by Washington Street. It is significant as an integral and important element of the master planned community of Northglenn. North Glenn was developed by the Perl-Mack Construction Company, aided by the Denver-based planning firm of Harman, O'Donnell, Henninger and Associates, and was envisioned as serving a population of 15,000 with balanced areas for housing, school, parks, churches, shopping centers, municipal facilities, and light industry. The original plan for Northglenn included five interconnected neighborhoods containing single-family dwellings on 1,526 acres. The residential neighborhoods featured winding streets designed for privacy and child safety. The North Glenn First Filing was the first of the neighborhood areas to be laid out and filled with houses. Homes in the North Glenn development were recognized in the late 1950s and the early 1960s with awards for quality design, planning, and comfort. The North Glenn First Filing contains approximately 183 single family dwellings constructed shortly after the subdivision was platted in April 1959. The majority of these dwellings are single story brick or brick veneer-clad Ranch-style houses with attached garages.

Eligibility Determination: The North Glenn First Filing subdivision is considered eligible for the NRHP under Criterion A as a major element in the award winning, master planned self-sufficient community of Northglenn (Note: the 1959 subdivision plat identifies the development as "North Glenn" even though the entire community was originally called "Northglenn"). This subdivision is also associated with a historically significant trend of post-World War II urban growth in the Denver metropolitan area.

Effect Determination – Package A: Under Package A, no changes are planned through this portion of I-25. No direct impacts would therefore occur.

Noise levels caused by I-25 highway traffic would increase one to two decibels in the future but would not reach impact levels. Much of the subdivision is located away from the mainline highway lanes, closer to I-25 entrance ramps associated with the interchange at 104th Avenue. The subdivision would experience lower noise levels than areas located immediately adjacent to the I-25 travel lanes. An existing noise wall extends south from

112th Avenue to almost 104th Avenue into the First Filing area and ends at the end of the northbound entrance ramp. Noise impacts would not be great enough to diminish the qualities that make the subdivision historically significant.

FHWA, FTA and CDOT therefore have determined that the Package A improvements would result in *no adverse effect* to this historic resource.

Effect Determination – Package B: Under Package B, managed lanes would be incorporated within the center of a widened I-25 highway footprint within the existing CDOT right-of-way. To accommodate stormwater and municipal separate stormwater sewer system (MS4) requirements, a sediment pond would be placed between the I-25 pavement and the subdivision boundary. No direct impacts would result from these improvements. Indirect effects (primarily noise) are the same as with Package A.

FHWA, FTA and CDOT have determined that the Package B improvements would result in *no adverse effect* to this historic resource.

Effect Determination – Preferred Alternative: Under the Preferred Alternative, managed lanes would be incorporated within the center of a widened I-25 highway footprint within the existing CDOT right-of-way. No direct impacts would result from these improvements.

Noise levels caused by I-25 highway traffic would increase two decibels in the future but would not reach impact levels. Much of the subdivision is located away from the mainline highway lanes, closer to I-25 entrance ramps associated with the interchange at 104th Avenue. The subdivision would experience lower noise levels than areas located immediately adjacent to the I-25 travel lanes. An existing noise wall extends south from 112th Avenue to almost 104th Avenue into the First Filing area and ends at the end of the northbound entrance ramp. Noise impacts would not be great enough to diminish the qualities that make the subdivision historically significant.

FHWA, FTA and CDOT therefore have determined that the Preferred Alternative improvements would result in *no adverse effect* to this historic resource.

5AM.2074 (North Glenn Second Filing)

Resource Description: This historic post-World War II residential subdivision (5AM.2074) is located on the east side of I-25 and lies directly north of the North Glenn First Filing subdivision. The Second Filing subdivision is bounded on the east by Washington Street and on the north by East 112th Avenue. It is significant as an integral and important element of the master planned community of Northglenn, developed in 1959 by the Perl-Mack Construction Company, aided by the Denver-based planning firm of Harman, O'Donnell, Henninger and Associates, and was envisioned as serving a population of 15,000 with balanced areas for housing, school, parks, churches, shopping centers, municipal facilities, and light industry. The original plan for Northglenn included five interconnected neighborhoods containing single-family dwellings on 1,526 acres. The residential neighborhoods featured winding streets designed for privacy and child safety. The North Glenn First Filing was the first of the neighborhood areas to be laid out and filled with houses. Homes in the North Glenn development were recognized in the late 1950s and the early 1960s with awards for quality design, planning, and comfort. The North Glenn Second Filing contains approximately 882 single family dwellings constructed shortly after the subdivision was platted in June, 1959.

Eligibility Determination: The North Glenn First Filing subdivision is considered eligible for the NRHP under Criterion A as a major element in the award winning, master planned self-sufficient community of Northglenn (Note: the 1959 subdivision plat identifies the development as "North Glenn" even though the entire community was originally called "Northglenn"). This subdivision is also associated with a historically significant trend of post-World War II urban growth in the Denver metropolitan area.

Effect Determination – Package A: Under Package A, improvements are planned through this portion of I-25. No direct impacts would therefore occur.

Noise levels caused by I-25 highway traffic would increase one to two decibels in the future and would reach impact levels in the No-Action Alternative as well as Package A; however, the Second Filing area is currently protected from excessive noise by noise barriers located along I-25. Additionally, a new noise wall is recommended to extend north of the Second Filing area.

FHWA, FTA and CDOT have determined that the Package A improvements would result in *no adverse affect* to this historic resource.

Effect Determination – Package B: Under Package B, managed lanes would be incorporated within the center of a widened I-25 highway footprint within the existing CDOT right-of-way. To accommodate stormwater and MS4 requirements, sediment ponds would be placed selectively in areas situated between I-25 pavement and the subdivision boundary. No direct impacts would occur.

Noise levels caused by I-25 highway traffic would increase one to two decibels in the future and would reach impact levels in the No Action Alternative as well as Package B; however, the Second Filing area is currently protected from excess noise by noise barriers located along I-25. Additionally, a new noise wall is recommended farther north of the Second Filing area. These noise impacts would not substantially diminish the qualities that make the subdivision NRHP-eligible. The visual impact of the sediment ponds would not indirectly affect neighboring homes enough to diminish the qualities that render this subdivision NRHP-eligible.

FHWA, FTA and CDOT have determined that the Package B improvements would result in *no adverse affect* to this historic resource.

Effect Determination – Preferred Alternative: Under the Preferred Alternative, managed lanes would be incorporated within the center of a widened I-25 highway footprint within the existing CDOT right-of-way. To accommodate stormwater and MS4 requirements, sediment ponds would be placed selectively in areas situated between I-25 pavement and the subdivision boundary. No direct impacts would occur.

Noise levels caused by I-25 highway traffic would increase one to two decibels in the future and would reach impact levels in the No-Action Alternative as well as the Preferred Alternative; however, the Second Filing area is currently protected from excess noise by noise barriers located along I-25. Additionally, a new noise wall is recommended farther north of the Second Filing area. These noise impacts would not substantially diminish the qualities that make the subdivision NRHP-eligible. The visual impact of the sediment ponds would not indirectly affect neighboring homes enough to diminish the qualities that render this subdivision NRHP-eligible.

FHWA, FTA and CDOT have determined that the Preferred Alternative improvements would result in *no adverse affect* to this historic resource.

3.15.2.4 Package A and Preferred Alternative Transit Components

The transit components of Package A and the Preferred Alternative would generally affect historic resources due to the location of commuter rail improvements. Specific consequences related to each transit component are described below.

Commuter Rail: Fort Collins to Longmont

Within this segment the alignment follows the existing BNSF Railroad alignment. Between the north end of the regional study area and the Colorado State University (CSU) station, the existing track would be used. Under Package A, there would be one additional set of tracks to the east within the existing railroad right-of-way from CSU in Fort Collins south to North Longmont. Under the Preferred Alternative, there would be four areas where passing track would be constructed adjacent to the existing track totaling approximately 10.5 miles. Additionally, a maintenance road would be constructed adjacent to the rail line in areas where there is no existing parallel road. There are 15 historic properties in this component of commuter rail.

5LR.11330 (Public Service Company of Colorado – Fort Collins Substation)

Resource Description: This structure, located at 128 W. Prospect Road in Fort Collins, was built in the 1920s. It represents the first generation of power facility construction after Public Service Company consolidated their control over delivery and transmission across Colorado.

Eligibility Determination: This structure is significant under Criterion A for its role in distribution of electrical power to Fort Collins and the Colorado State University campus. It is also architecturally significant (Criterion C) as a good example of an early twentieth century power facility.

Effect Determination – Package A: There would be no direct effect to this property (see **Figure 3.15-79**). Indirect effects include a change the visual environment due to the construction of a retaining wall that would be built on the adjacent railroad right-of-way. There would also be additional train traffic on the nearby railway tracks under Package A, creating minor noise and vibration increases over current levels, but not to a level that would impair the architectural qualities of this commercial/industrial building. Noise levels are expected to increase 1dBA over existing conditions.

The proposed transportation improvements would not substantially diminish or alter the architectural or setting characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that Package A commuter rail improvements would result in *no adverse effect* to the resource.

Effect Determination – Preferred Alternative: There would be no direct effect to this property (see **Figure 3.15-80).** Indirect effects include additional train traffic on the nearby railway tracks under the Preferred Alternative, creating minor noise and vibration increases over current levels, but not to a level that would impair the architectural qualities of this commercial/industrial building. Noise levels are expected to increase 1 dBA over existing conditions.

The proposed transportation improvements would not substantially diminish or alter the architectural or setting characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative commuter rail improvements would result in *no adverse effect* to the resource

Figure 3.15-79 5LR.11330 (Public Service Company of Colorado-Fort Collins Sub-Station)—Package A

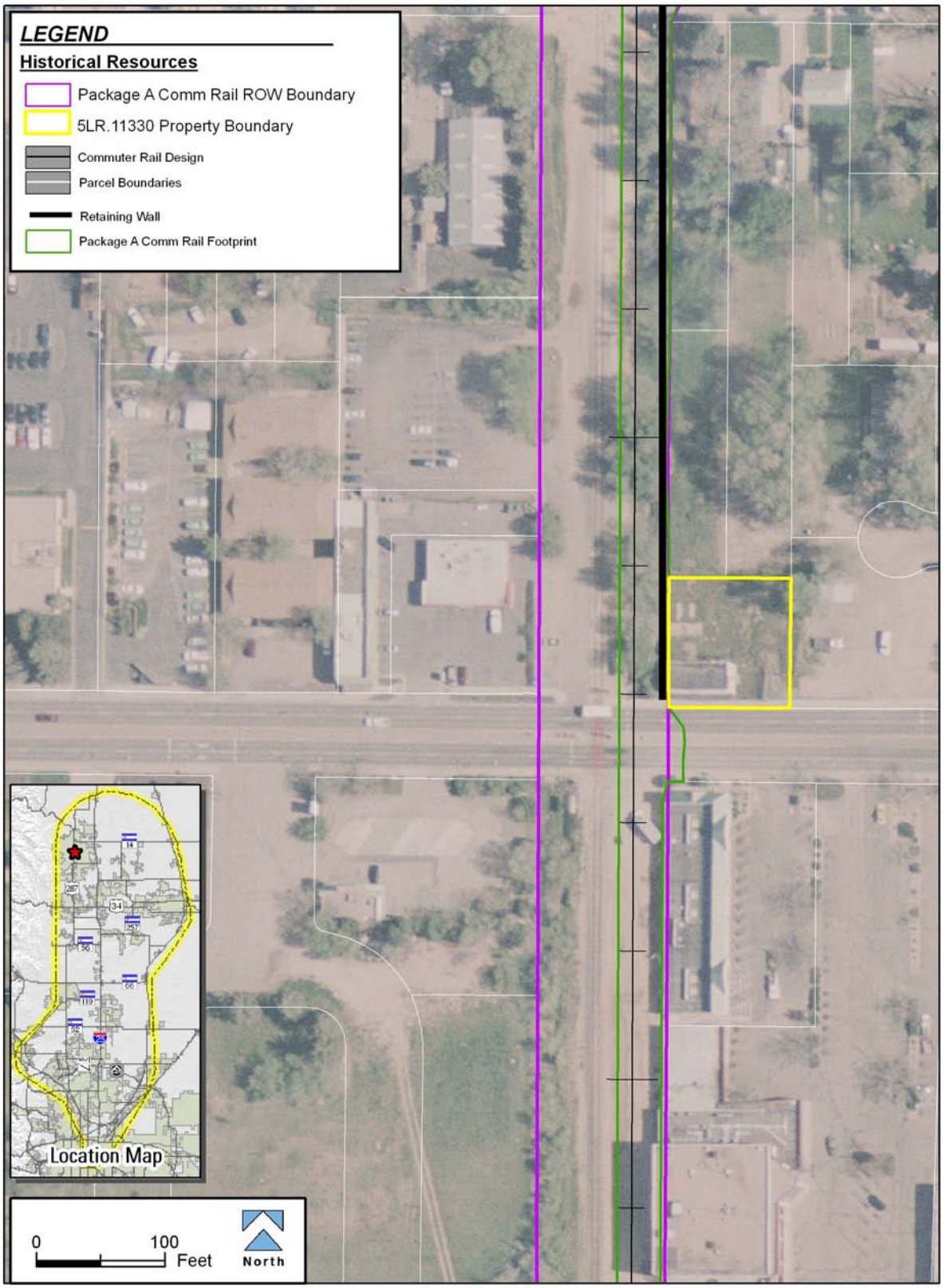


Figure 3.15-80 5LR.11330 (Public Service Company of Colorado-Fort Collins Substation)—Preferred Alternative

5LR.10819.2 (Larimer County Canal No. 2)

Resource Description: The Larimer County Canal No.2 was constructed in 1873. The 3,204-foot segment crosses underneath the existing BNSF railroad south of Drake Road in Fort Collins. The ditch then turns south, parallel to the railroad for a distance of 2,731 feet before returning to an easterly course. The ditch is in part concrete lined, and has been extensively realigned and portions placed inside a pipe along the railway.

Eligibility Determination: The ditch segment 5LR.10819.2 no longer retains its integrity of location and therefore does not support the eligibility of the entire linear resource.

Effect Determination – Package A: The existing 25-foot-wide bridge would be extended east approximately 15 feet over open ditch to accommodate new track for Package A commuter rail (see **Figure 3.15-81**). Because the qualities that make the entire resource NRHP-eligible have already been compromised by construction of the BNSF railroad and Package A modifications are minor in relative extent, FHWA, FTA and CDOT therefore have determined that Package A would result in no adverse effect to the Larimer County Canal No.2.

Effect Determination—Preferred Alternative: The Preferred Alternative in this location would include the commuter rail service to be added and carried over the historic ditch on the existing 25-foot-wide bridge (see **Figure 3.15-82**). FHWA, FTA and CDOT therefore have determined that the Preferred Alternative would result in *no adverse effect* to the Larimer County Canal No. 2.

5LR.10681.1 (New Mercer Ditch)

Resource Description: The New Mercer Ditch (5LR.10681) was constructed in 1870 and is one of the oldest ditches in the Fort Collins area. The entire ditch is 15.6 miles long. This segment is a 1.1 mile long unlined ditch. Where intact, the ditch is 26 feet wide and 10 feet deep. The original ditch crossed under the railroad but in the mid 1980s it was realigned to run west of the BNSF Railroad between Horsetooth and Harmony Roads. The ditch now crosses underneath the railroad in a corrugated steel pipe south of Harmony Road and discharges into Mail Creek

Eligibility Determination: The entire ditch is NRHP-eligible under Criterion A because of its important role in the irrigation and agricultural history of the area and remains in use today. Segment 10681.1 has been realigned and modified by culverts so that it no longer retains qualities that support the eligibility of the entire resource.

Effects Determination – Package A: No portion of the ditch would be impacted by the commuter rail improvements in Package A, therefore, FHWA, FTA and CDOT have determined that Package A would result in *no historic properties affected*.

Effects Determination – Preferred Alternative: No portion of the ditch would be impacted by the commuter rail improvements in the Preferred Alternative, therefore, FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no historic properties affected*.

Figure 3.15-81 5LR.10819.2 (Larimer County Canal No.2) – Package A

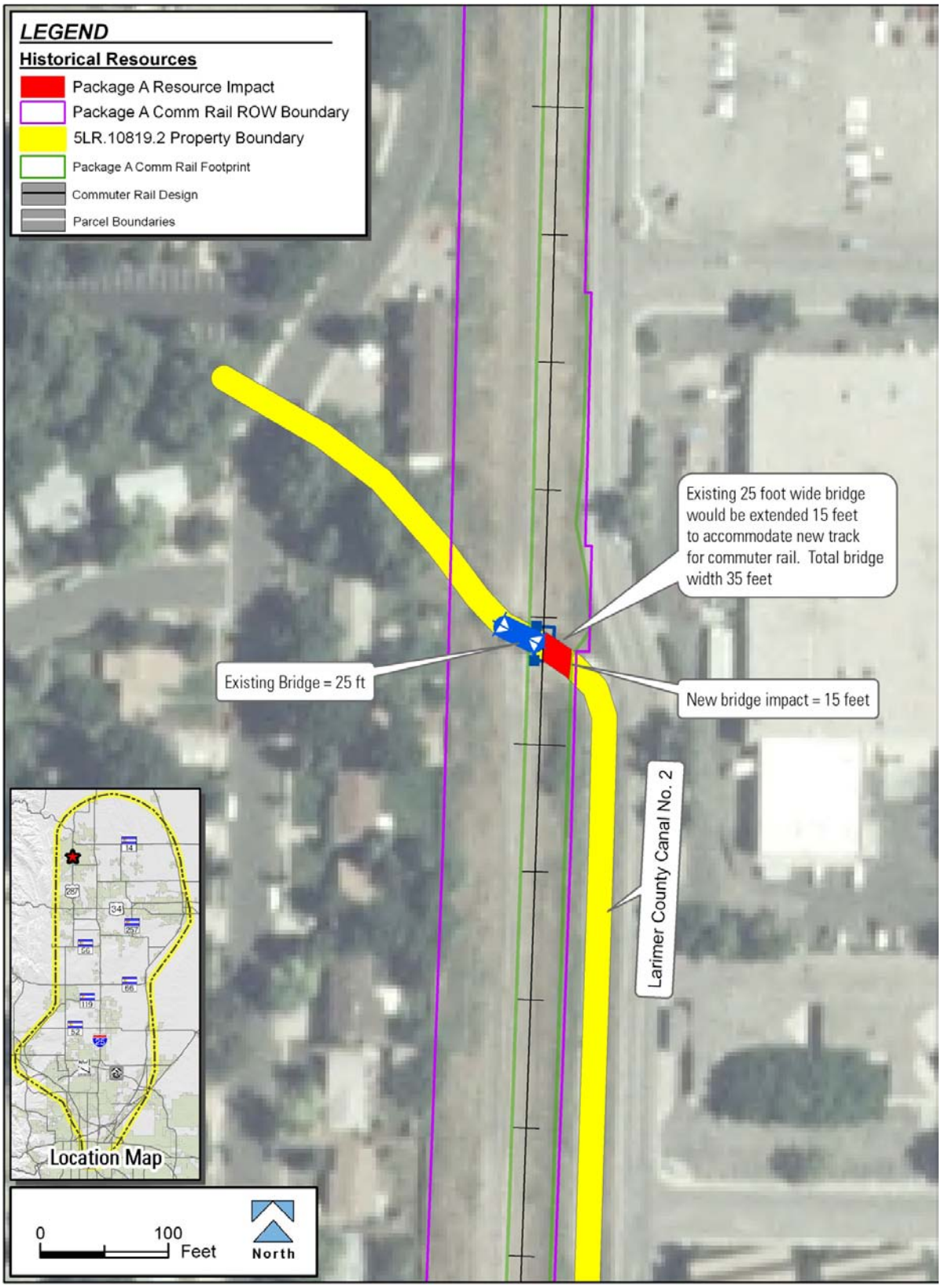
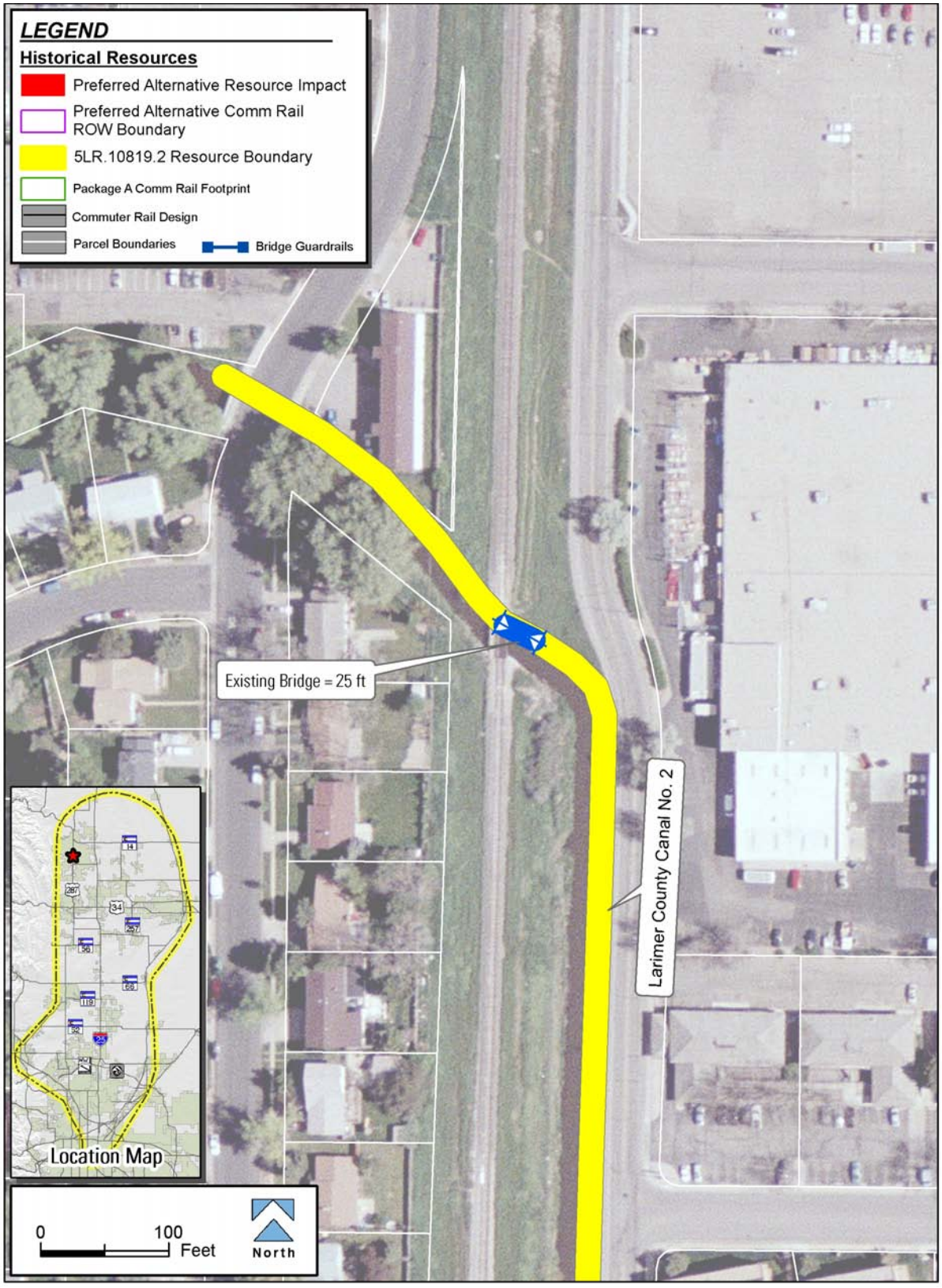


Figure 3.15-82 5LR.10819.2 (Larimer County No. 2) – Preferred Alternative



5LR.488 (Colorado and Southern Railway Depot / Loveland Depot)

Resource Description: The Loveland Depot is located at 405 – 409 Railroad Ave. in Loveland. It was built in 1902 by the Colorado and Southern Railway Company which was the successor, in 1898, to the Colorado Central Railroad which originally laid tracks through Loveland in 1877. Loveland, an agricultural community, was dependent on the railroad for its economic survival and the depot was critical for efficient movement of freight and passengers.

Eligibility Determination: This structure is significant under Criterion A for its role in rail transportation in northern Colorado. It is also architecturally significant under Criterion C as a good example of an turn-of-the-century depot.

Effect Determination – Package A: Although there would be direct effect to the property, there would be no direct effect to the structure (see **Figure 3.15-83**). A concrete platform would be built between the station and the tracks. The platform's dimension would be 27-foot wide by 350-foot long. This platform would encroach onto the depot parcel and would be located adjacent to the west side of the depot affecting 0.3 acre of the historic property. The construction of this platform adjacent to the depot is consistent with the historic use of the train depot and would provide a direct transition from the depot to the arriving and departing trains. This positioning of the platform would provide impetus for recapturing the original use of the structure as a train depot. The depot is currently used as a restaurant. Other indirect impacts would be additional train traffic on the nearby railway tracks under Package A, creating minor noise and vibration increases over current levels, but not to a level that would impair the architectural qualities of this handsome historic depot. Noise levels are expected to increase 5 dBA over existing conditions. This would not be a new or heightened condition from the historic times when the depot was operational and trains were frequently arriving and departing from this station.

The proposed transportation improvements would not substantially diminish or alter the architectural or setting characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that Package A commuter rail improvements would result in *no adverse effect* to the resource.

Effect Determination – Preferred Alternative: Under the Preferred Alternative there would be no direct effect to the property or to the structure (see **Figure 3.15-84**). All station construction would occur on the west side of the tracks opposite the existing depot, currently used as a restaurant. Indirect impacts would be additional train traffic on the nearby railway tracks under the Preferred Alternative, creating minor noise and vibration increases over current levels, but not to a level that would impair the architectural qualities of this historic depot. Noise levels are expected to increase 5 dBA over existing conditions. This would not be a new or heightened condition from the historic times when the depot was operational and trains were frequently arriving and departing from this station.

The Preferred Alternative improvements would not substantially diminish or alter the architectural or setting characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative would result in *no adverse effect* to the resource.

Figure 3.15-83 5LR.488 (Colorado and Southern Railway Depot/Loveland Depot) Package A

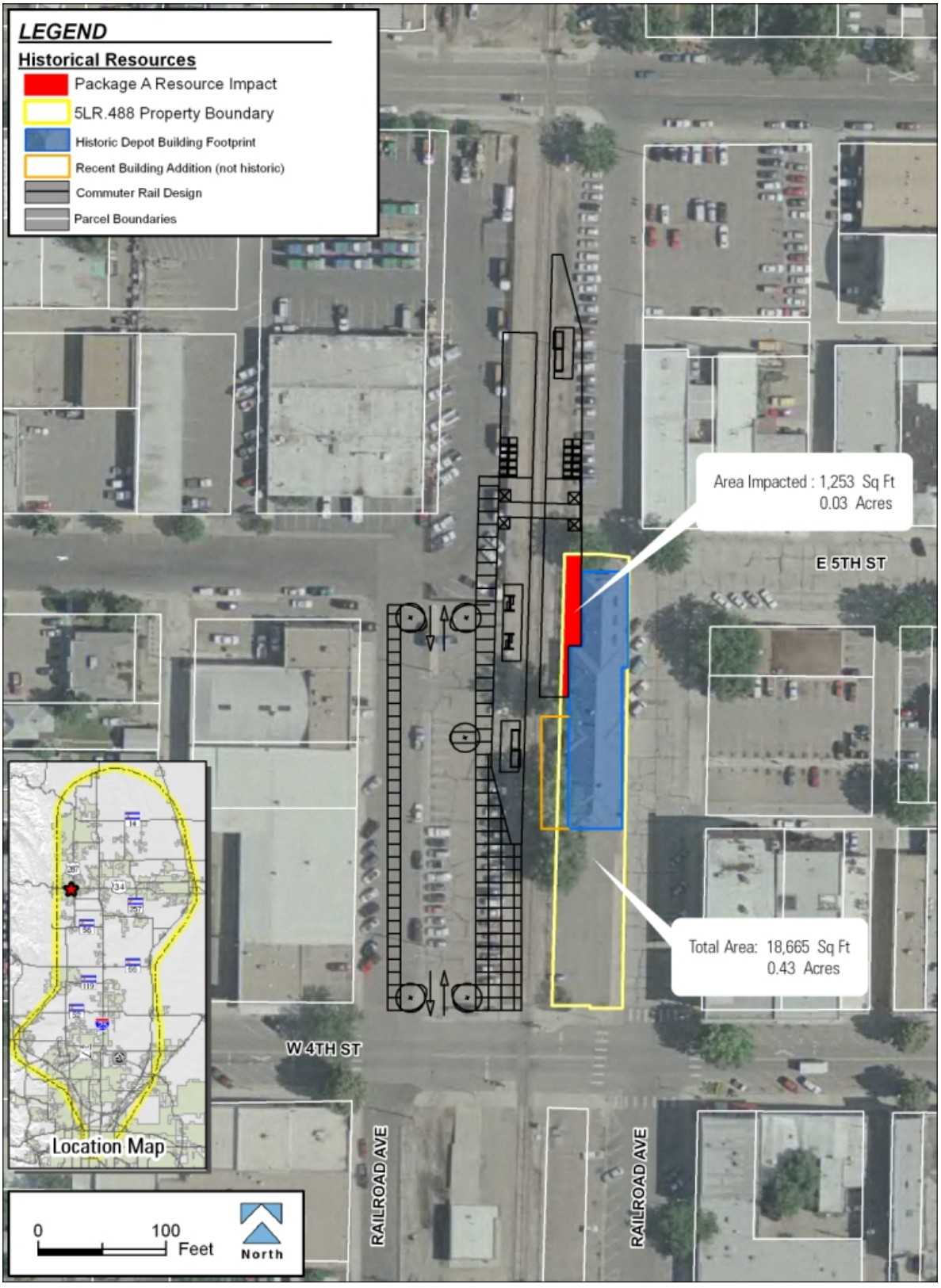
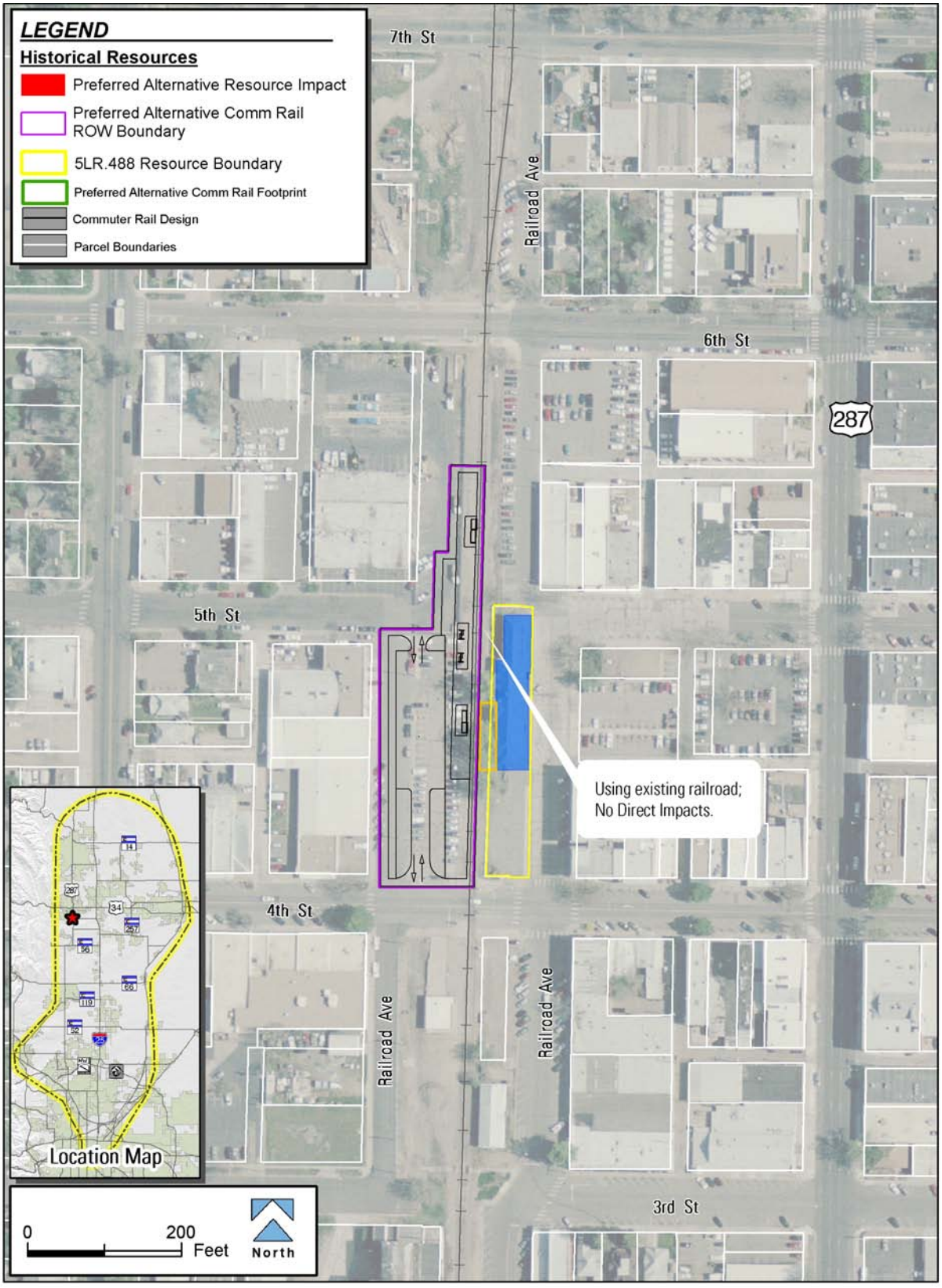


Figure 3.15-84 5LR.488 (Colorado and Southern Railway Depot/Loveland Depot) Preferred Alternative



5LR.1729.2 (Big Thompson Ditch)

Resource Description: The entire ditch (5LR.1729) is 10 miles long and is one of the oldest in the area. The 2,216-foot-long segment crosses the BNSF Railroad just north of SH 402 in Loveland. The ditch parallels the railroad for 485 feet before turning east and passing under the railroad in a CBC. The 6-foot-wide ditch is concrete lined and west of the railroad and unlined east of the BNSF.

Eligibility Determination: The ditch is NRHP-eligible due to its ties to the town of Loveland and the successful development of high plains irrigation under Criterion A. The ditch has been realigned and concrete-lined, compromising the historic integrity within the setting, and is non-supportive of the greater site.

Effects Determination – Package A: Under Package A, the new commuter rail track would be placed east and adjacent to the existing track (see **Figure 3.15-85**). At the existing BNSF crossing the ditch is conveyed underneath the railway in a 35-foot-long culvert pipe. This pipe would be extended 60 feet and the ditch would be realigned to accommodate the new track. Part of this length is to alter the ditch outfall from a perpendicular bend as it exits the railroad crossing to a smoother angled alignment, for the purpose of preventing ditch erosion during higher flows.

Because the qualities that make the entire resource NRHP-eligible have already been compromised by modifications associated with construction of the BNSF Railroad and Package A improvements are minor in relative extent, FHWA, FTA and CDOT therefore have determined that Package A would result in no adverse effect to the entire Big Thompson Ditch (5LR.1729).

Effects Determination—Preferred Alternative: Under the Preferred Alternative, a new maintenance road would be constructed east and adjacent to the existing track (see **Figure 3.15-86**). At the existing BNSF railroad crossing the ditch is currently conveyed underneath the railway in a 35-foot-long culvert pipe. The maintenance road would be constructed over this existing culvert and no extension to that culvert would be required. During construction of the maintenance road the ditch would remain operational and irrigation water would be protected from all sediment and physical encroachment by construction. All disturbances caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to the original condition and appearance

Because the qualities that make the entire resource NRHP-eligible have already been compromised by modifications associated with construction of the BNSF Railroad and the Preferred Alternative improvements are minor in relative extent, FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no adverse effect* to the entire Big Thompson Ditch (5LR.1729).

Figure 3.15-85 5LR.1729.2 (Big Thompson Ditch) – Package A

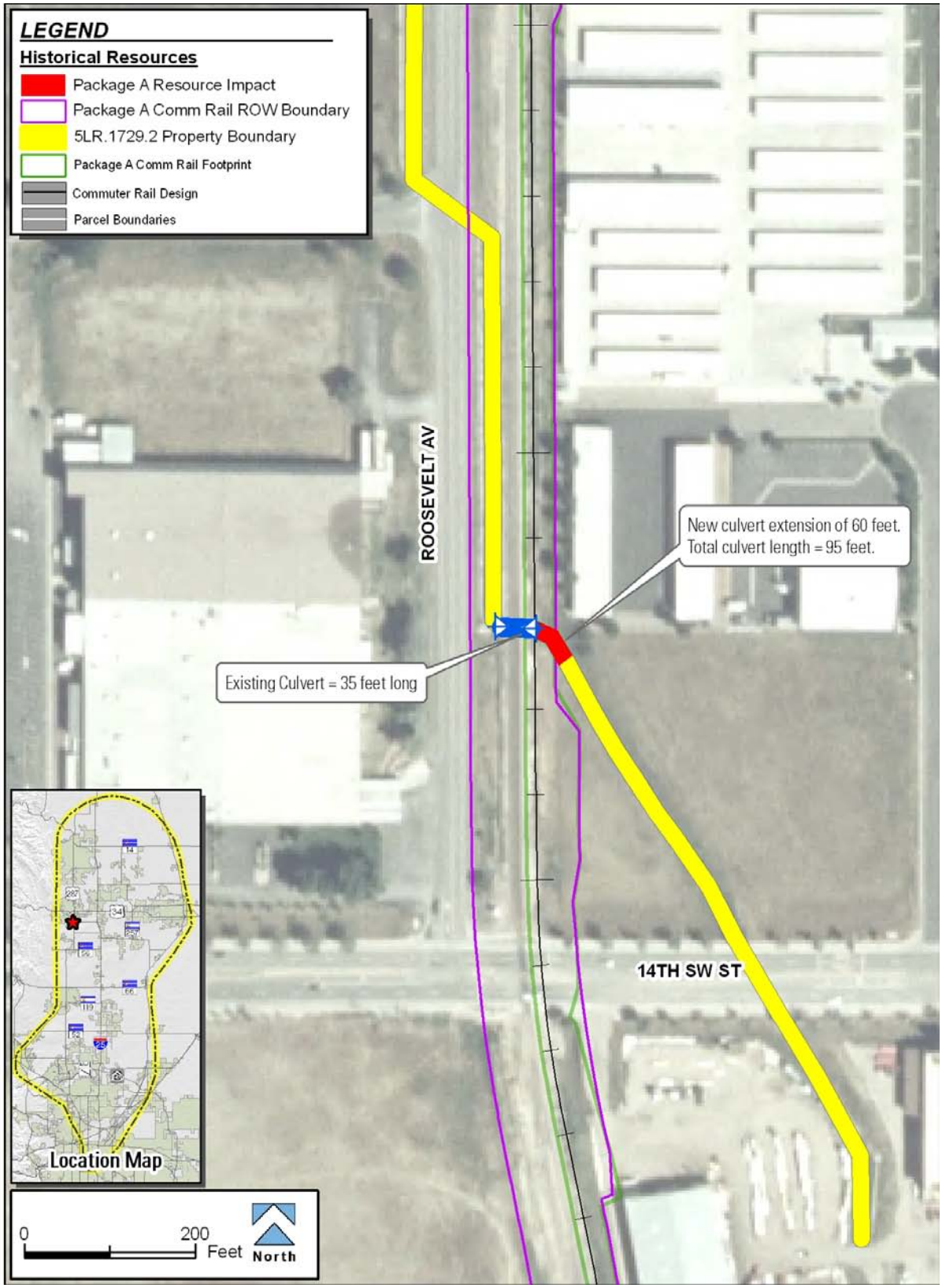
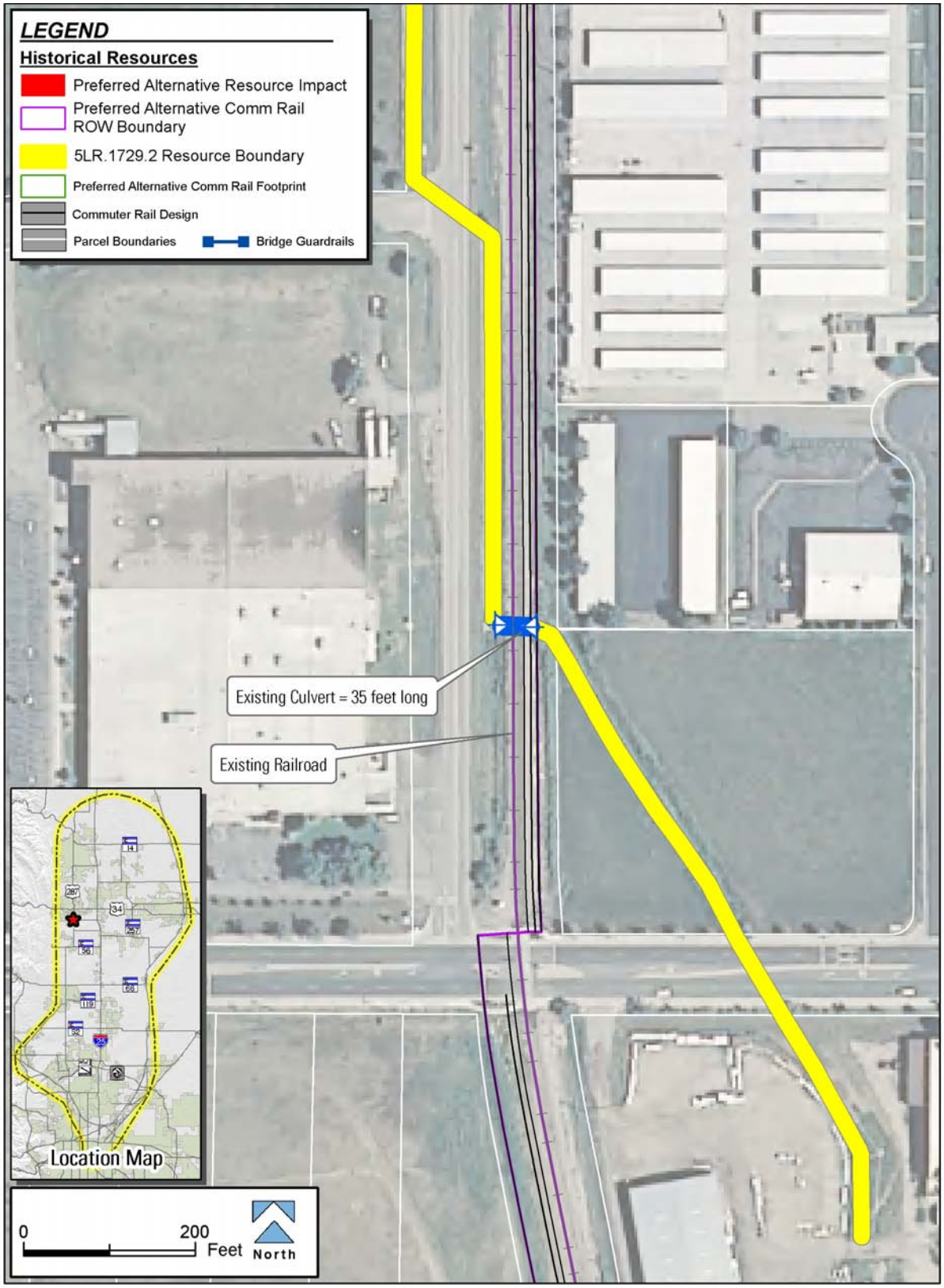


Figure 3.15-86 5LR.1729.2 (Big Thompson Ditch) – Preferred Alternative



5LR.12552 (Ludlow Brothers Property)

Resource Description: The Ludlow Brothers residence and commercial property is located at 205-207 S. 1st St. in Berthoud. The house on the property was built in 1904 and is a good representative example of vernacular construction built around the turn of the 20th century.

Eligibility Determination: In the summer of 2010, the Ludlow Brothers Residence was field assessed as eligible for inclusion on the NRHP under Criterion C as a representative example of vernacular construction built around the turn of the 20th century.

Effect Determination – Package A: Under Package A in the vicinity of the Ludlow Brothers Property the proposed commuter rail line would run on the existing rail alignment located on the western boundary of the property. A second rail line would be added to the east of the existing line however, a retaining wall will be constructed in order to prevent additional right-of-way from being acquired from the property. The house is located 500 feet to the east of the proposed additional rail line and therefore it would be subject to any direct or indirect effects that could diminish the architectural or setting characteristics that render this property eligible for the NRHP. FHWA, FTA and CDOT have determined that the Package A would result in *no historic properties affected* as it relates to the Ludlow Brothers property.

Effect Determination – Preferred Alternative: Under the Preferred Alternative in the vicinity of the Ludlow Brothers Property the proposed commuter rail service would run on the existing rail alignment located on the western boundary of the property. A second passing track would be constructed to the east of the existing line however; a retaining wall will be constructed in order to prevent additional right-of-way from being acquired from the property (see **Figure 3.15-87**). The house is located 500 feet to the east of the proposed additional rail line and therefore it would be subject to any direct or indirect effects that could diminish the architectural or setting characteristics that render this property eligible for the NRHP. FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no historic properties affected* as it relates to the Ludlow Brothers property.

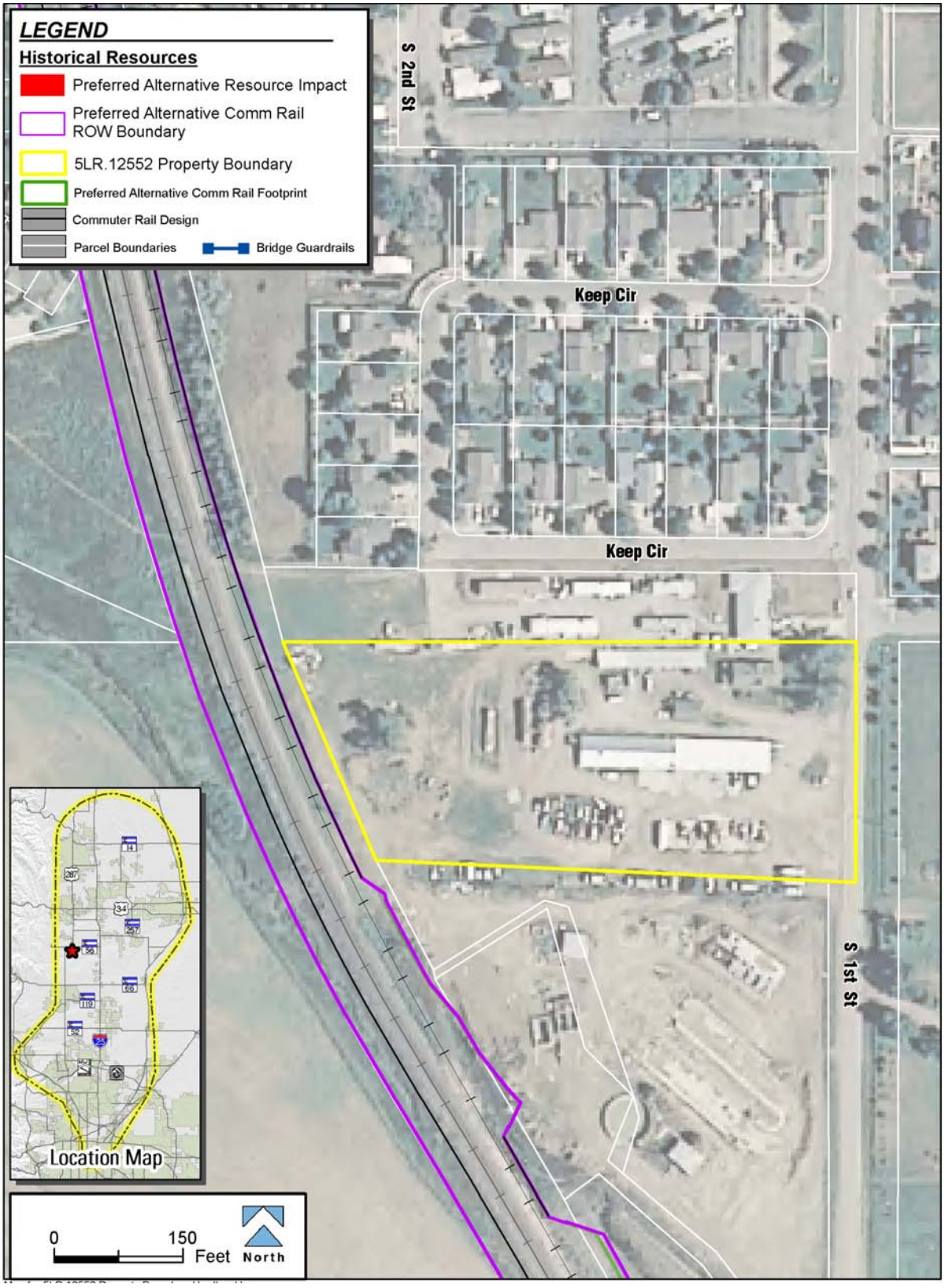
5LR.1710.1 (Handy Ditch)

Resource Description: This segment of the Handy Ditch crosses under the railway alignment. The entire ditch is approximately 24 miles long. The segment within the project APE (5LR.1710.1) is 2.9 miles long and 24 feet wide from bank to bank. Both banks are covered by heavy riparian growth in many areas. The surrounding area includes residential development.

Eligibility Determination: In 1993, the OAHP officially determined the Handy Ditch to be NRHP-eligible. The ditch is eligible under Criteria A for its important association with the development of water rights and agriculture in Larimer County. This segment (5LR.1730.1) retains sufficient integrity to support the eligibility of the entire linear resource.

Effect Determination – Package A: None of the proposed commuter rail improvements associated with Package A would cause changes to this historic property. Due to the lack of direct and indirect impacts, FHWA, FTA and CDOT have determined that the Package A transit improvements would result in *no historic properties affected* with respect to this historic resource.

Figure 3.15-87 5LR.2552 (Ludlow Brothers Property) – Preferred Alternative



Effect Determination—Preferred Alternative: Under the Preferred Alternative construction of the passing track and the required maintenance road would have a direct impact to the ditch (see **Figure 3.15-88**). Currently the historic ditch is carried beneath the existing track in a culvert. In order to construct the additional features a 55-foot-culvert extension would be required on the west side of the existing culvert and a 60-foot-culvert extension would be required on the east side. The portion of the ditch subject to direct impact by the Preferred Alternative commuter rail line is adjacent to a preexisting impacted section (crossing under the active rail line). This additional impact would not substantially diminish the qualities that make this resource NRHP eligible. Therefore FHWA, FTA and CDOT have determined that the Preferred Alternative transit improvements would result in *no adverse effect* to the Handy Ditch.

5BL.3449.2 (Supply Ditch)

Resource Description: The entire earthen ditch was constructed in 1861 and is approximately 22 miles long. The segment within the project APE (5LR.3449.2) is 100 feet long and follows its original historic alignment through the project area and is in good functional condition. This segment of the Supply Ditch crosses an active rail line in a culvert. Both banks are covered by heavy riparian growth in many areas. The surrounding area supports industrial and residential development.

Eligibility Determination: The Supply Ditch was determined to be NRHP-eligible by OAHP in 1992. The ditch is eligible under Criterion A for its important association with the development of water rights and agriculture in Boulder County. This segment (5BL.3449.2) retains sufficient integrity to support the eligibility of the entire linear resource.

Effect Determination – Package A: The historic Supply Ditch currently crosses an active railroad line via a culvert. Under Package A, the proposed commuter rail line would be aligned 20 feet north and parallel to the existing railroad. The elevated embankment carrying the new tracks and ballast would require an area approximately 65 feet wide. Thus, 65 feet of the open ditch would have to be placed in a new culvert beneath the new commuter rail line on the south side of the existing rail line (see **Figure 3.15-89**). The portion of the ditch subject to direct impact by the commuter rail line is in close proximity to a preexisting impacted section (crossing under the active rail line). This additional impact would not substantially diminish the qualities that make this resource NRHP eligible. The proposed modifications affect a relatively small section of the 22 mile-long linear resource. FHWA, FTA and CDOT have determined that the Package A transit improvements would result in *no adverse effect* to the entire Supply Ditch.

Effect Determination – Preferred Alternative: The historic Supply Ditch currently crosses an active railroad line via a culvert. Under the Preferred Alternative, the proposed commuter rail service would be added to the active rail line. However, a required maintenance road would be constructed on the north side of the existing rail line with fill slopes impacting approximately 46 linear feet of the historic ditch (see **Figure 3.15-90**). The portion of the ditch subject to direct impact by the maintenance road is in close proximity to a preexisting impacted section (crossing under the active freight rail line). This additional impact would not substantially diminish the qualities that make this resource NRHP eligible. The proposed modifications affect a relatively small section of the 22 mile-long linear resource. FHWA, FTA and CDOT have determined that the Preferred Alternative transit improvements would result in *no adverse effect* to the entire Supply Ditch.

Figure 3.15-88 5LR.1710.1 (Handy Ditch) – Preferred Alternative

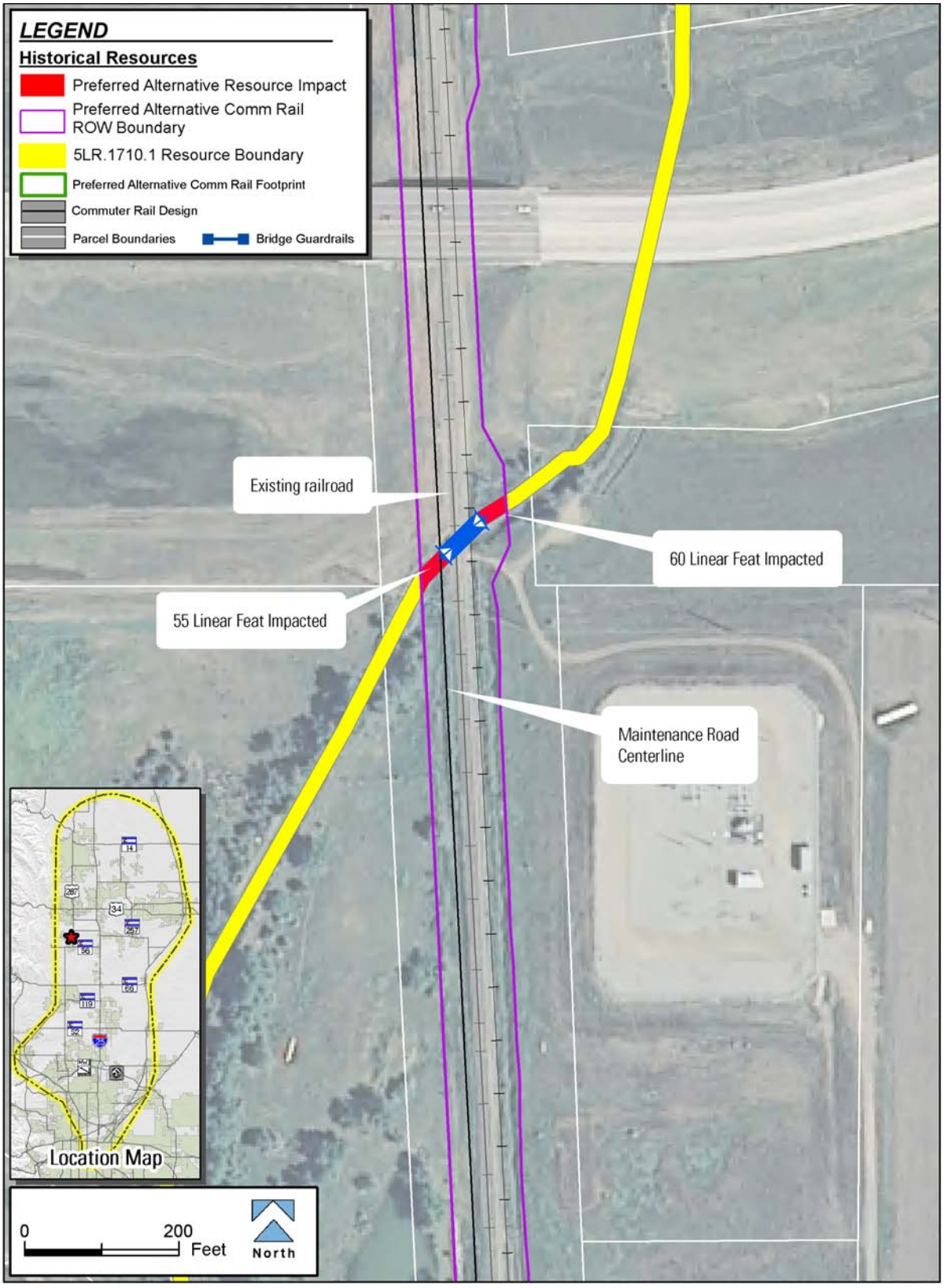


Figure 3.15-89 5BL.3449.2 (Supply Ditch) – Package A

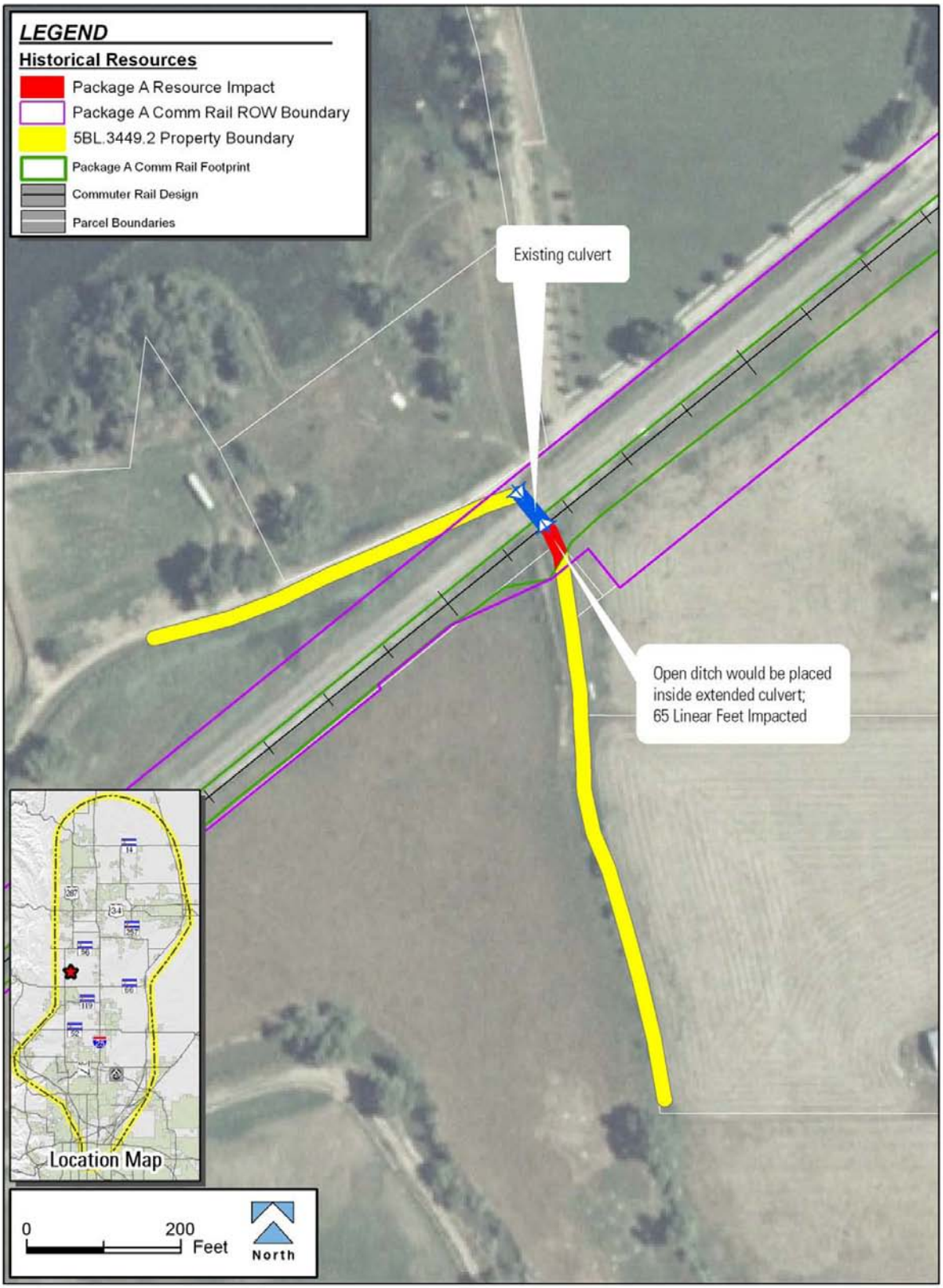
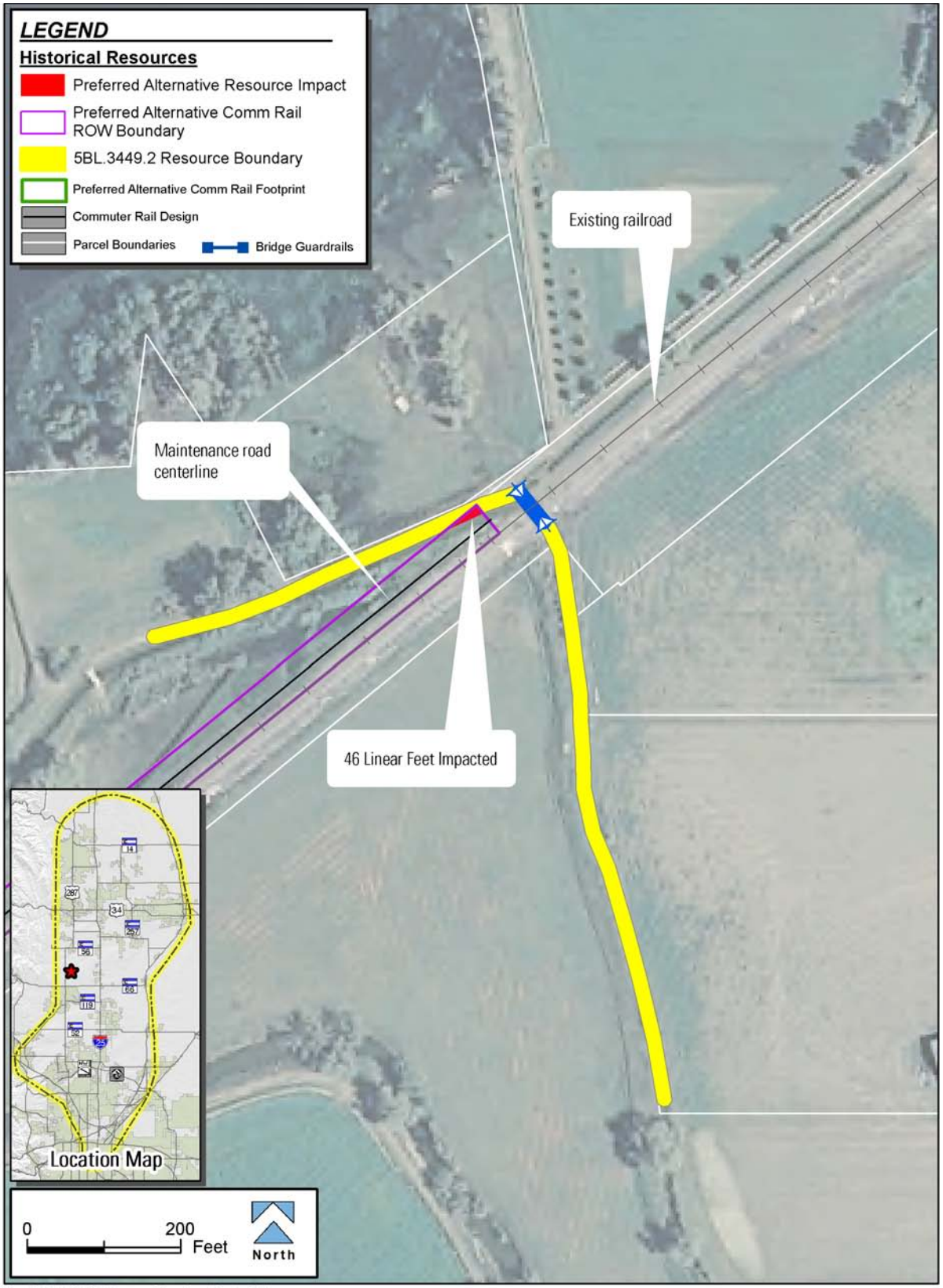


Figure 3.15-90 5BL.3449.2 (Supply Ditch)—Preferred Alternative



5BL.3114.28 (Highland Ditch)

Resource Description: This segment of the historic earthen Highland Ditch passes beneath the UPRR railway alignment via a bridge. The entire ditch is approximately 24.2 miles long. The segment within the project APE (5BL.3114.28) is 100 feet long. Both banks of the ditch are covered by riprap in many areas. Grass and riparian growth cover the ditch levees. The surrounding area supports rural residential development.

Eligibility Determination: In 1991, the OAHP officially determined the Highland Ditch to be NRHP-eligible under Criterion A for its important association with the development of water rights and agriculture in Boulder County. This segment (5BL.3114.28) retains sufficient integrity to support the eligibility of the entire linear resource.

Effect Determination – Package A: None of the proposed commuter rail improvements under Package A would cause changes to this historic property. Due to the lack of direct and indirect impacts, FHWA, FTA and CDOT have determined that the Package A transit improvements would result in *no historic properties affected* with respect to this historic resource.

Effect Determination—Preferred Alternative: None of the proposed commuter rail improvements under the Preferred Alternative would cause changes to this historic property. Due to the lack of direct and indirect impacts, FHWA, FTA and CDOT have determined that the Preferred Alternative transit improvements would result in *no historic properties affected* with respect to this historic resource.

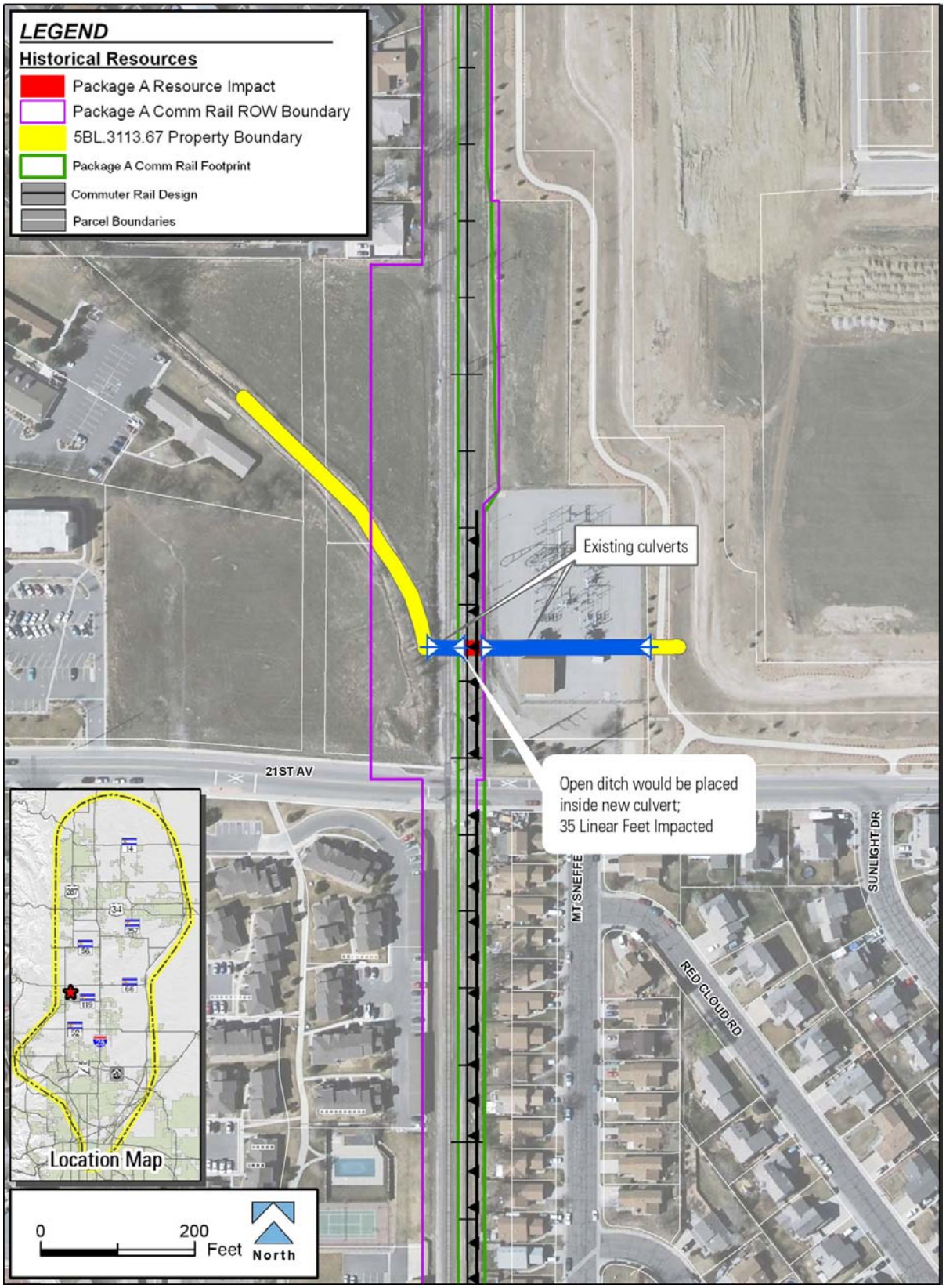
5BL.3113.67 (Rough & Ready Ditch)

Resource Description: This segment of the historic earthen Rough & Ready Ditch crosses under the active UPRR railway alignment via a concrete culvert. The entire ditch is approximately 16.5 miles long. The segment within the project APE (5BL.3113.67) is 100 feet long. This segment is the oldest portion of the ditch, with water appropriated in 1869. The ditch is 20 feet wide and 6 feet deep, is in good condition, and much of its length follows the historic alignment. At the east side of the railway crossing, the ditch is piped underground beneath a power substation. Well developed riparian growth exists along both banks of the ditch in many areas. The surrounding area supports rural residential development.

Eligibility Determination: In 1991, the OAHP officially determined the entire Rough & Ready Ditch (5BL.3113) to be NRHP-eligible under Criterion A for its important association with the development of water rights and agriculture in Boulder County. The segment within the project APE (5BL.3113.67) retains sufficient integrity to support the eligibility of the entire linear resource.

Effect Determination – Package A: The historic Rough & Ready Ditch currently crosses the active railroad line inside a modern concrete culvert. The proposed commuter rail line would be aligned 20 feet northeast and parallel to the existing railroad. The elevated embankment supporting the new tracks and ballast would require an area approximately 35 feet wide. Thus, 35 feet of the open ditch would have to be placed in a new culvert beneath the new commuter rail track and ballast on the south side of the existing rail line (see **Figure 3.15-91**).

Figure 3.15-91 5BL.3113.67 (Rough & Ready Ditch) – Package A



The portion of the ditch subject to direct impact by the commuter rail line is in close proximity to a preexisting impacted section (crossing under the active rail line). This additional impact would not substantially diminish the qualities that make this resource NRHP eligible. The proposed modifications affect a relatively small section of the 16.5 mile-long linear resource. FHWA, FTA and CDOT have determined that the Package A transit improvements would result in *no adverse effect* to the entire Rough & Ready Ditch.

Effect Determination – Preferred Alternative: The historic Rough & Ready Ditch currently crosses the active railroad line inside a modern concrete culvert. The proposed maintenance road associated with the commuter rail line would be aligned east and parallel to the existing railroad. The elevated embankment supporting the road would require an area approximately 35-feet wide. Thus, 35 feet of the open ditch would have to be placed in a new culvert beneath the maintenance road on the east side of the existing rail line (see **Figure 3.15-92**).

The portion of the ditch subject to direct impact by the Preferred Alternative is in close proximity to a preexisting impacted section (crossing under the active freight rail line). This additional impact would not substantially diminish the qualities that make this resource NRHP eligible. The proposed modifications affect a relatively small section of the 16.5 mile-long linear resource. FHWA, FTA and CDOT have determined that the Preferred Alternative transit improvements would result in *no adverse effect* to the entire Rough & Ready Ditch.

5BL.4832 (Oligarchy Ditch)

Resource Description: The entire earthen ditch is approximately 15.6 miles long. The ditch has been associated with Boulder County irrigation since its first appropriation date of 1861, which is among the oldest in the county. Two segments of the ditch cross the APE (see **Figure 3.15-93**). Segment 5BL.4832.28 crosses the active railway alignment in a culvert. This segment is 100 feet long, 21 feet wide and 6 feet deep. Both banks of the ditch are covered by heavy riparian growth in many areas. The surrounding area supports rural residential development.

A second Oligarchy Ditch segment (5BL.4832.26) follows a meandering course through the proposed commuter rail alignment. This segment in the project APE is one mile long. Well developed riparian growth exists along both banks of the ditch in some areas. The surrounding area supports semi-rural residential development.

Eligibility Determination: The Oligarchy Ditch is NRHP-eligible under Criterion A for its important association with the development of water rights and agriculture in Boulder County. The two segments located within the APE retain sufficient integrity to support the eligibility of the entire linear resource.

Effect Determination: In order to determine the effect to the entire linear resource, impacts to each of the segments passing through the project APE were assessed. These impact assessments are presented below, followed by a determination of effect to the entire Oligarchy Ditch (5LR.4832).

Figure 3.15-92 5BL.3113.67 (Rough & Ready Ditch) – Preferred Alternative

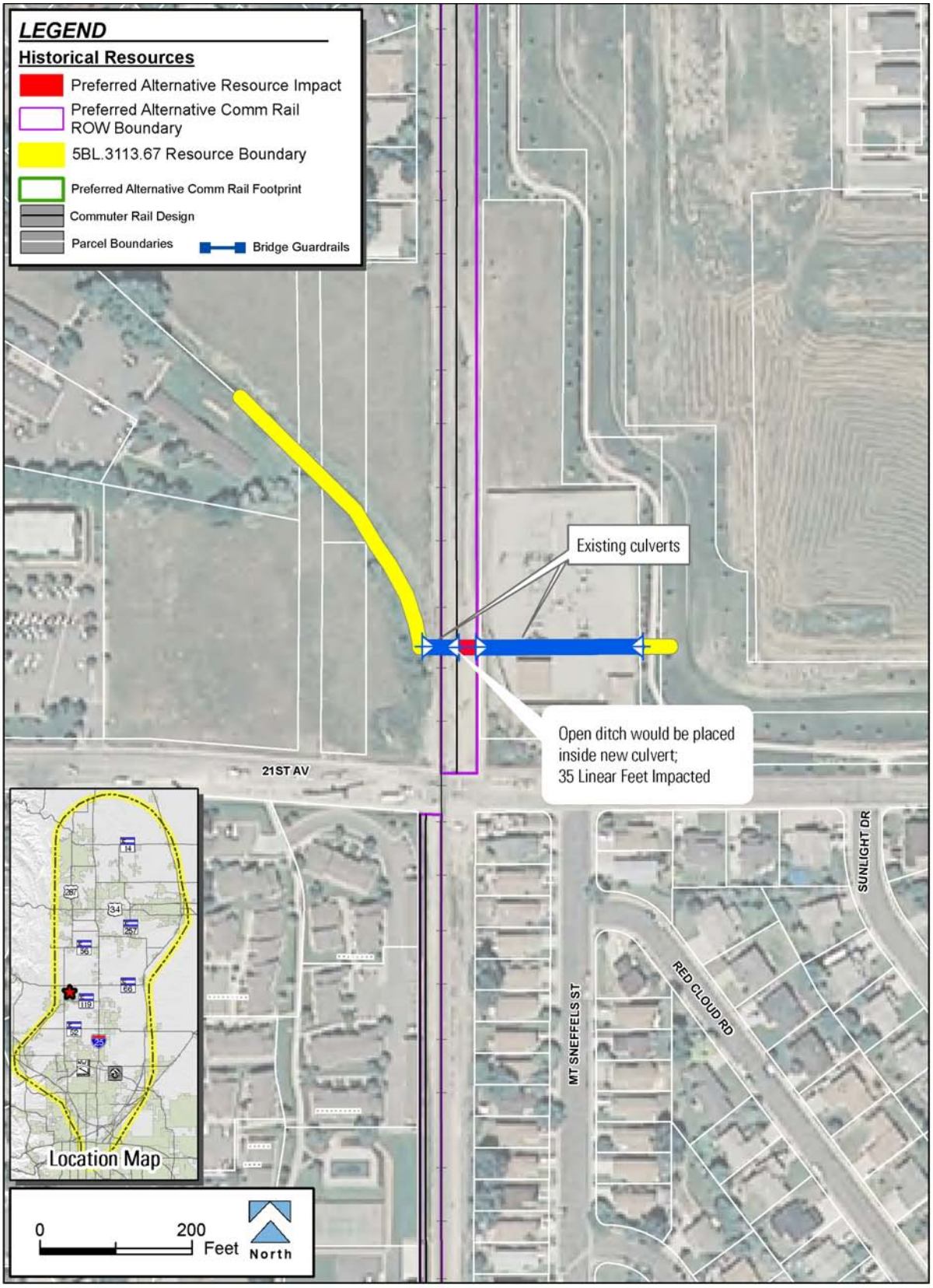
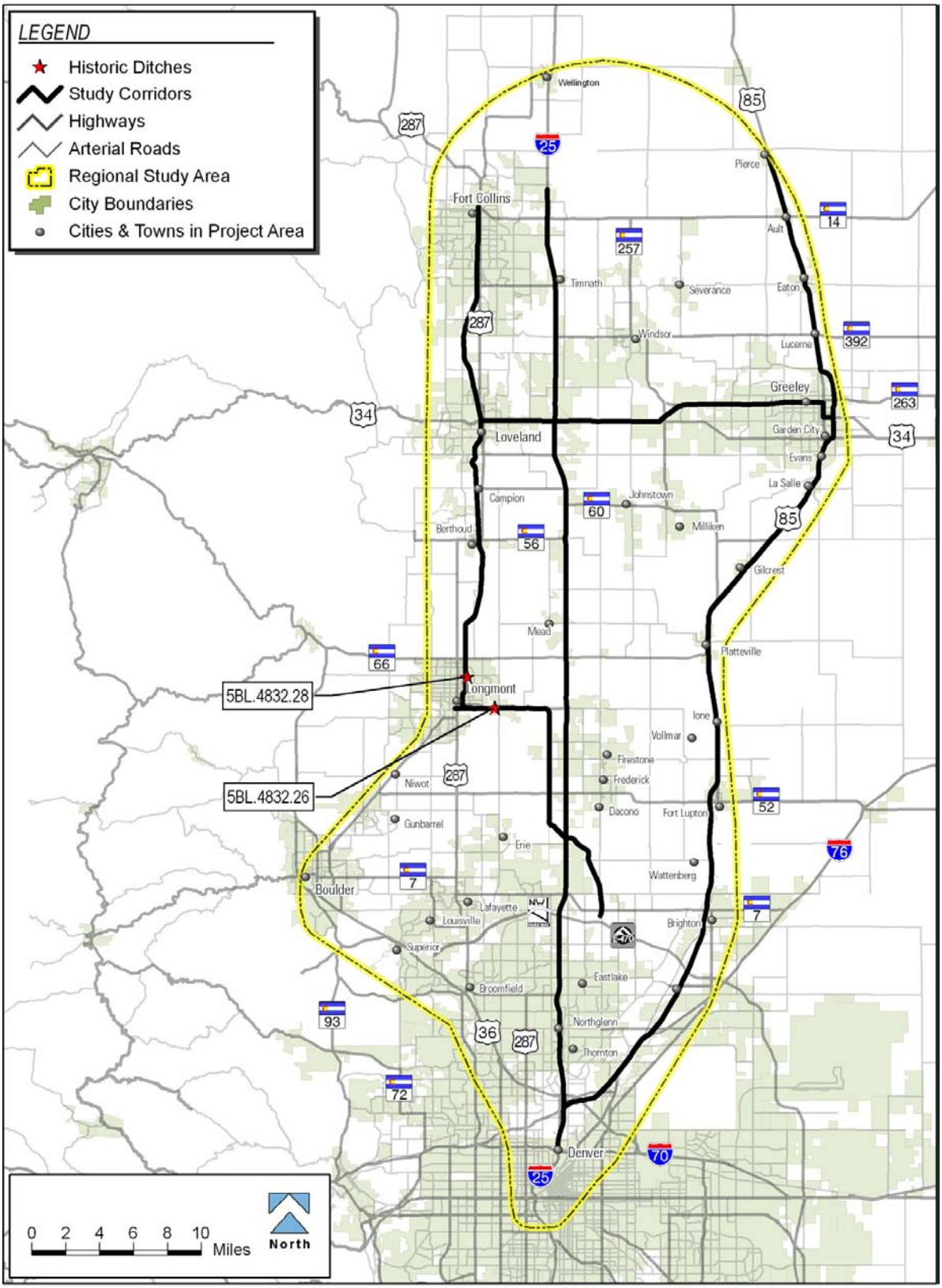


Figure 3.15-93 5BL.4832 (Oligarchy Ditch)—Segment Intersecting Project APE



Impacts to segment 5BL.4832.28 – Package A: The proposed commuter rail line under Package A would be aligned 20 feet northeast and parallel to the existing railroad. The new embankment supporting the tracks and ballast and ballast would require an area approximately 48 feet wide. Thus, the existing culvert that carries Oligarchy Ditch underneath the railway would be extended; impacting 48 feet of the open ditch that would have to be placed in a new culvert beneath the new commuter rail line on the south side of the existing rail line (see **Figure 3.15-94**). Although the physical integrity of the ditch segment would be compromised by placing a portion of it into a culvert, this change affects only a very small percentage of the overall linear resource.

Impacts to segment 5BL.4832.28 – Preferred Alternative: The proposed commuter rail line under the Preferred Alternative would include the addition of a passing track on the east side of the existing rail line and a maintenance road on the west side in this area. The new embankment supporting the tracks and ballast would require an area approximately 48 feet wide to the east and the embankment supporting the new roadbed would require an area approximately 16 feet on the west. Thus, the existing culvert that carries Oligarchy Ditch underneath the railway would be extended; impacting 64 linear feet of the open ditch that would have to be placed in a new culvert (see **Figure 3.15-95**). Although the physical integrity of the ditch segment would be compromised by placing a portion of it into a culvert, this change affects only a very small percentage of the overall linear resource.

Impacts to segment 5BL.4832.26 – Package A: Portions of this segment of the historic Oligarchy Ditch would pass through the proposed route of the new commuter rail line under Package A. The ditch meanders across this area, often running parallel to the planned railroad alignment. A segment of the ditch was realigned during construction of Ken Pratt Boulevard. (SH 119), with the old channel being covered up and a 1,200-foot-long portion of the ditch placed in a 1,200-foot-long culvert underneath 3rd Avenue and SH 119. The railway alignment follows a broad sweeping curve, and intersects the irregular course of the ditch west of 3rd Avenue. Because the ditch and railroad alignments generally run parallel, a 210-foot-long stretch of the open ditch would have to be bridged by a new railroad structure. A total length of 210 feet of open ditch would be spanned by a new bridge (see **Figure 3.15-96**). The resulting overhead cover would shade the portion of the ditch located underneath the bridge, but all structural support elements such as piers or abutments, would be placed outside of the historic boundary and would not result in a direct impact to the ditch. The physical setting of the ditch segment would not be substantially compromised by placing a portion of it underneath a bridge structure.

Impacts to segment 5BL.4832.26 – Preferred Alternative: Portions of this segment of the historic Oligarchy Ditch would pass through the proposed route of the new commuter rail line under the Preferred Alternative. The ditch meanders across this area, often running parallel to the planned railroad alignment. A segment of the ditch was realigned during construction of Ken Pratt Boulevard. (SH 119), with the old channel being covered up and a 1,200-foot-long portion of the ditch placed in a 1,200-foot-long culvert underneath 3rd Avenue and SH 119. The railway alignment follows a broad sweeping curve, and intersects the irregular course of the ditch west of 3rd Avenue. As a result a 61-foot-long stretch of the open ditch would have to be bridged by a new railroad structure. A total length of 61 feet of open ditch would be spanned by a new bridge (see **Figure 3.15-97**). The resulting overhead cover would shade the portion of the ditch located underneath the bridge, but all structural support elements such as piers or abutments, would be placed outside of the historic boundary and would not result in a direct impact to the ditch. The physical setting of the ditch segment would not be substantially compromised by placing a portion of it underneath a bridge structure.

Figure 3.15-94 5BL.4832.28 (Oligarchy Ditch) – Package A Commuter Rail

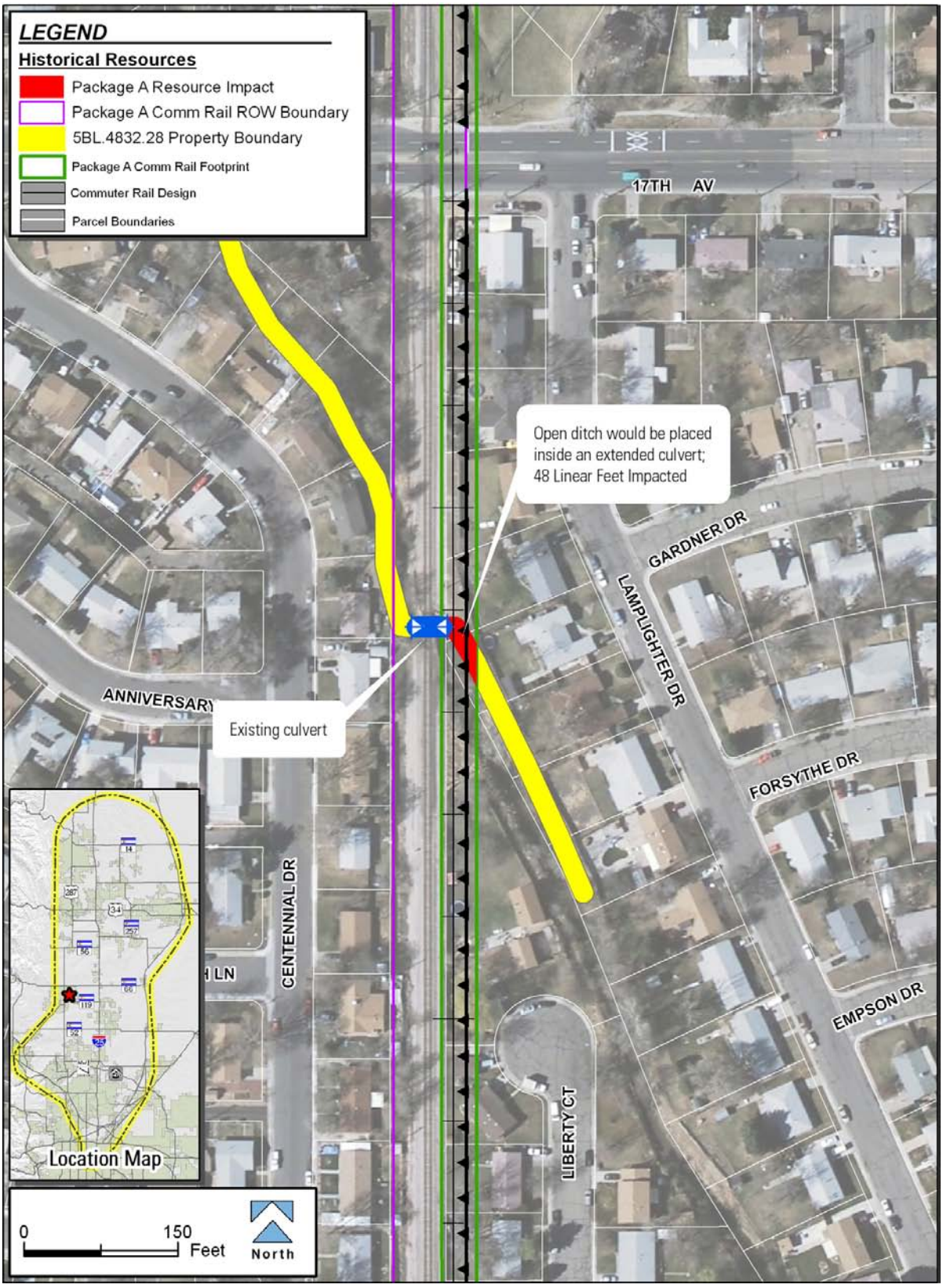


Figure 3.15-95 5BL.4832.28 (Oligarchy Ditch) – Preferred Alternative

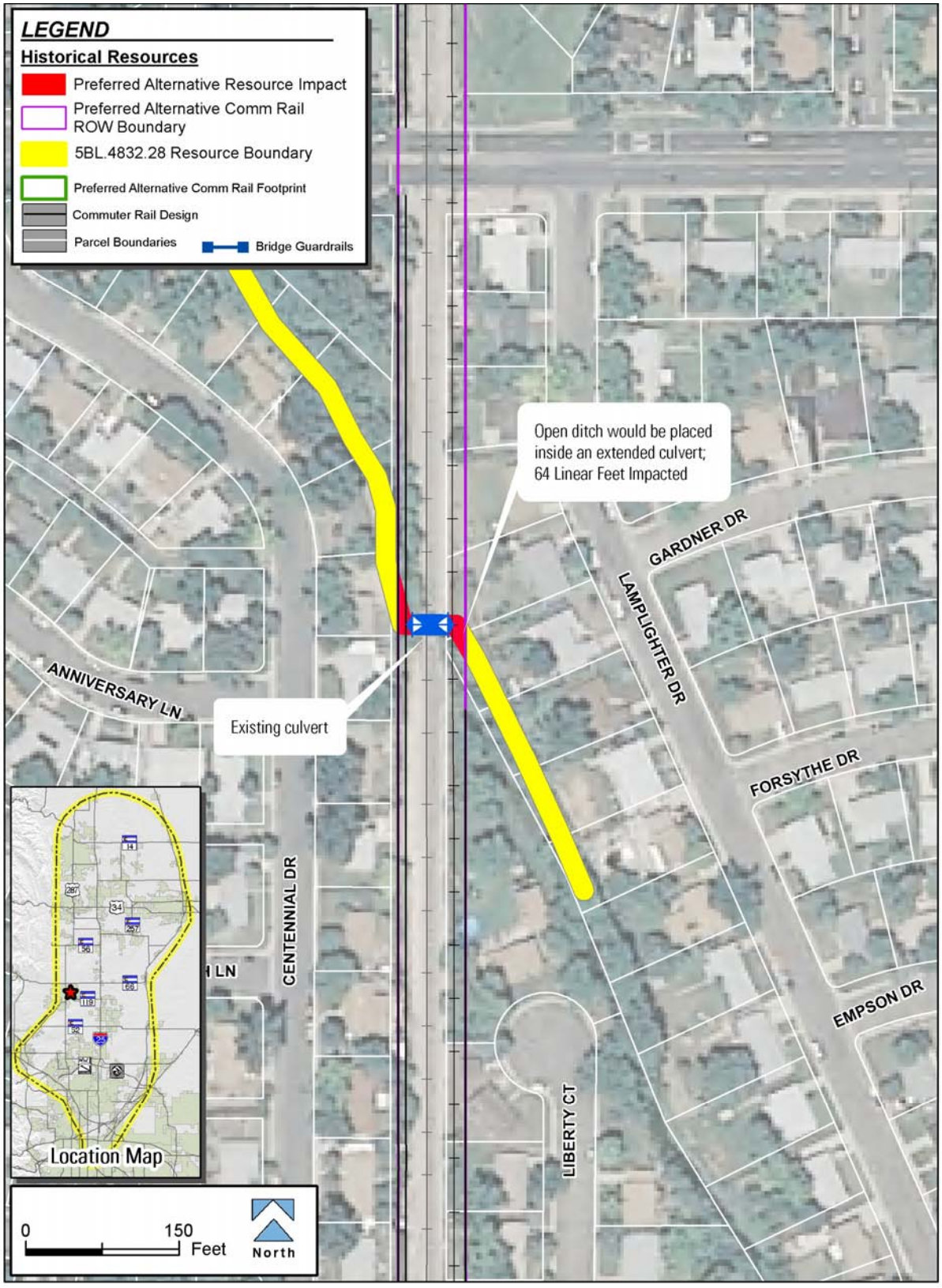


Figure 3.15-96 5BL.4832.26 (Oligarchy Ditch) – Package A Commuter Rail

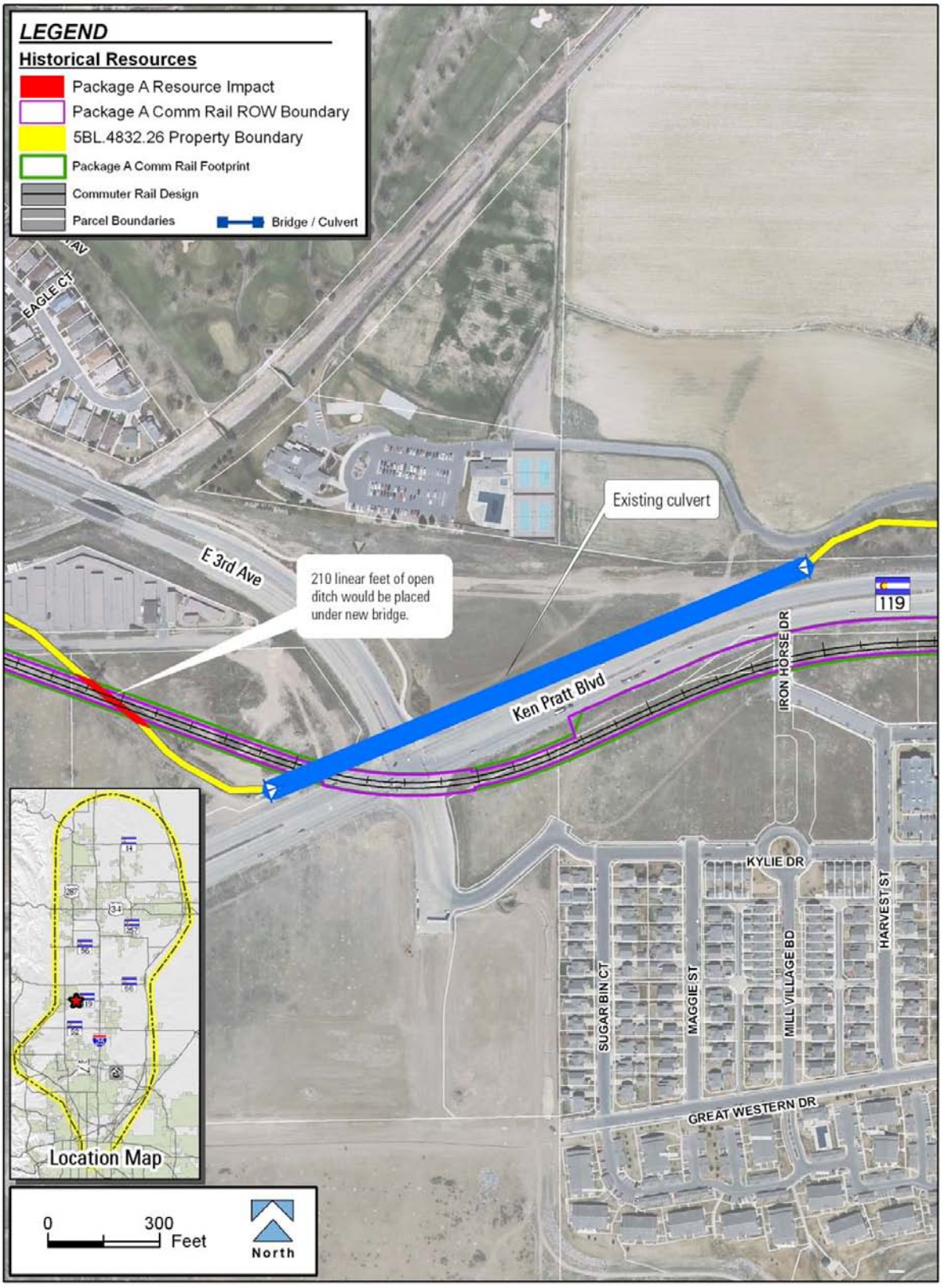
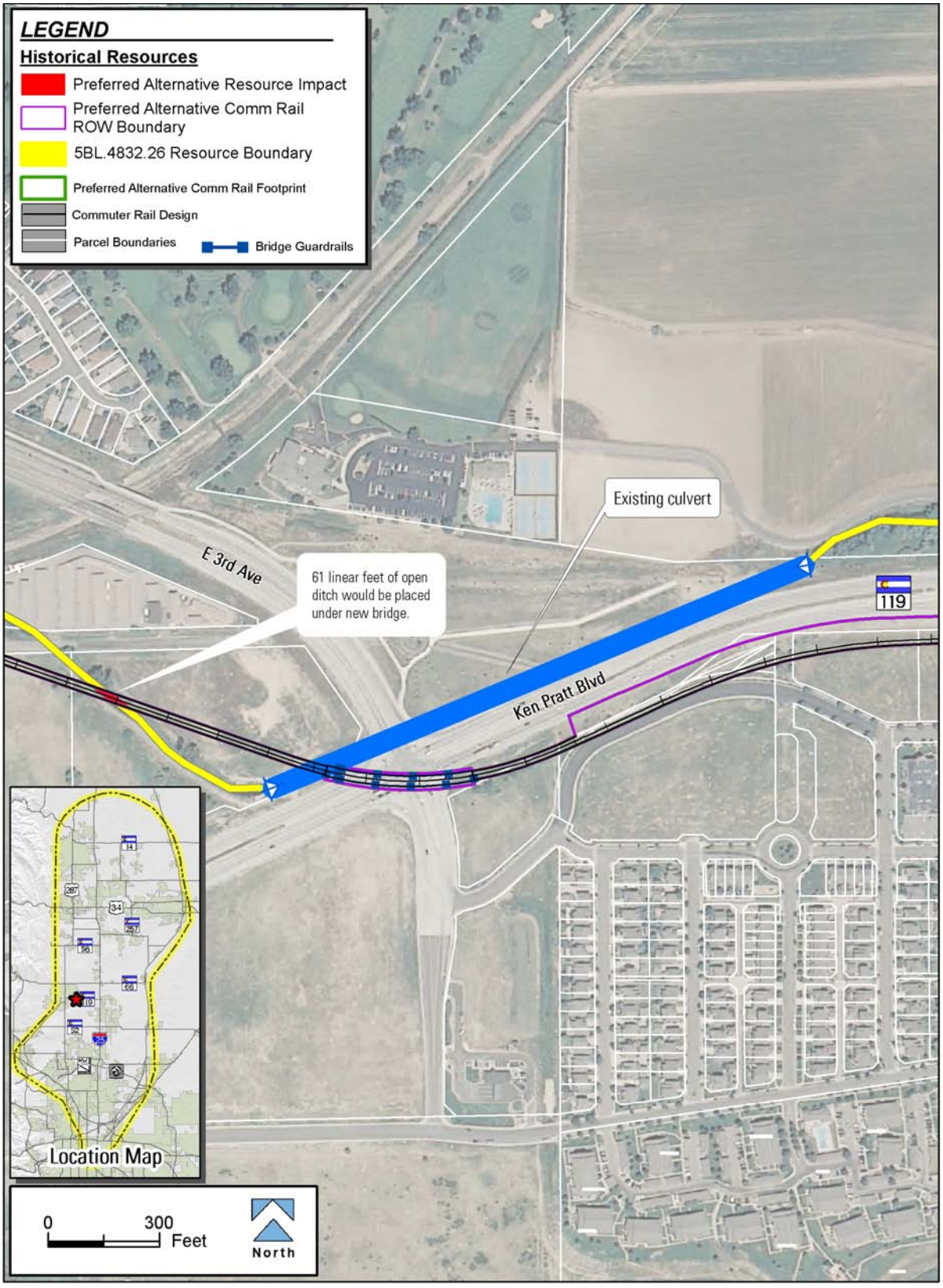


Figure 3.15-97 5BL.4832.26 (Oligarchy Ditch) – Preferred Alternative



Summary Effect Determination:

Package A: A cumulative total of 48 feet of open ditch would be placed inside a new culvert (5BL.4832.26) and 210 feet of open ditch would flow underneath a new bridge (5BL.4832.28). Temporary construction impacts would occur during culvert installation. Because the physical integrity of the ditch segment would not be substantially compromised by placing a portion of it inside a culvert and underneath a bridge structure, and these changes affect only a very small percentage of the overall linear resource, FHWA, FTA and CDOT have determined that the Package A commuter rail improvements would result in *no adverse effect* to the entire Oligarchy Ditch (5LR.4832).

Package B: There are no direct or indirect impacts to the resource resulting from improvements associated with Package B, therefore FHWA, FTA and CDOT have determined that Package B would result in *no historic properties affected* with respect to the entire Oligarchy Ditch.

Preferred Alternative: A cumulative total of 64 feet of open ditch would be placed inside a new culvert (5BL.4832.26) and 61 feet of open ditch would flow underneath a new bridge (5BL.4832.28). Temporary construction impacts would occur during culvert installation. Because the physical integrity of the ditch segment would not be substantially compromised by placing a portion of it inside a culvert and underneath a bridge structure, and these changes affect only a very small percentage of the overall linear resource, FHWA, FTA and CDOT have determined that the Preferred Alternative commuter rail improvements would result in *no adverse effect* to the entire Oligarchy Ditch (5LR.4832).

5BL.9163 (Kitely House)

Resource Description: The Kitely House is located at 846 Atwood Street in Longmont. The property was the home of Rae and Mary Kitely, who both made significant contributions to Longmont's history. Rae was the son of early Longmont pioneers and one of Longmont's most influential citizens. He was a lawyer, and a banker and served for 10 years as mayor of Longmont. The house is also significant for its association with Longmont's residential development from the early to mid 20th century. The house is architecturally notable as a good example of the Craftsman style of architecture.

Eligibility Determination: The property was initially surveyed in March 2003 and field assessed as eligible for inclusion on the NRHP under Criterion A for its association with Longmont's residential development, under Criterion B for its association with the Kitely's and under Criterion C as a good example of Craftsman architecture. It was re-evaluated in August 2010 and assessed as eligible under those same three criteria.

Effect Determination – Package A: The impacts associated with commuter rail under Package A would occur along the eastern edge of the property where a very small strip of land totaling 385 sq. ft. (0.01 acre) on the east edge of the property adjacent to the west side of the existing railroad tracks would be acquired for construction of a retaining wall that would prevent a more extensive acquisition from occurring. Removal of this strip of property would not have any impact on the historic association or architectural qualities of the house that make this property historic. Removal of this strip of land would not diminish the architectural or setting characteristics that render this property eligible for the NRHP. Therefore FHWA, FTA and CDOT have determined that the Package A improvements would result in no adverse effect to the resource.

Effect Determination – Preferred Alternative: The impacts associated with commuter rail under the Preferred Alternative would occur along the eastern edge of the property where a very small strip of land totaling 385 sq. ft. (0.01 acre) on the east edge of the property adjacent to the west side of the existing railroad tracks would be acquired for construction of a retaining wall that would prevent a more extensive acquisition from occurring. (see **Figure 3.15-98**). Removal of this strip of property would not have any impact on the historic association or architectural qualities of the house that make this property historic. Removal of this strip of land would not diminish the architectural or setting characteristics that render this property eligible for the NRHP. Therefore FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no adverse effect* to the resource.

5BL.10636 (Boggs Residence)

Resource Description: This residence, located at 122 8th Ave. in Longmont, was built in 1939. It was the home of a local carpenter, Joe Boggs and displays elements of the Mediterranean style including stucco walls and an arcaded porch.

Eligibility Determination: This structure is significant under Criterion C as a good example of an early twentieth century vernacular home with some Mediterranean style elements including an arcaded porch.

Effect Determination – Package A: There would be no direct effect to this property. The commuter rail alignment would stay on the existing single-track rail through this segment. Indirect effects include additional train traffic on the railway tracks under Package A, creating minor vibration increases over current levels, but not to a level that would impair the architectural qualities of this residential building. Noise levels are expected to be the same as existing conditions.

The proposed transportation improvements would not substantially diminish or alter the architectural or setting characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that Package A commuter rail improvements would result in *no adverse effect* to the resource.

Effect Determination – Preferred Alternative: There would be no direct effect to this property. The commuter rail alignment would remain within the existing rail right-of-way through this segment (see **Figure 3.15-99**). Indirect effects include additional train traffic on the railway tracks under the Preferred Alternative, creating minor vibration increases over current levels, but not to a level that would impair the architectural qualities of this residential building. Noise levels are expected to be the same as existing conditions.

The proposed transportation improvements would not substantially diminish or alter the architectural or setting characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative commuter rail improvements would result in *no adverse effect* to the resource.

Figure 3.15-98 5BL.9163 (Kitely House)—Preferred Alternative

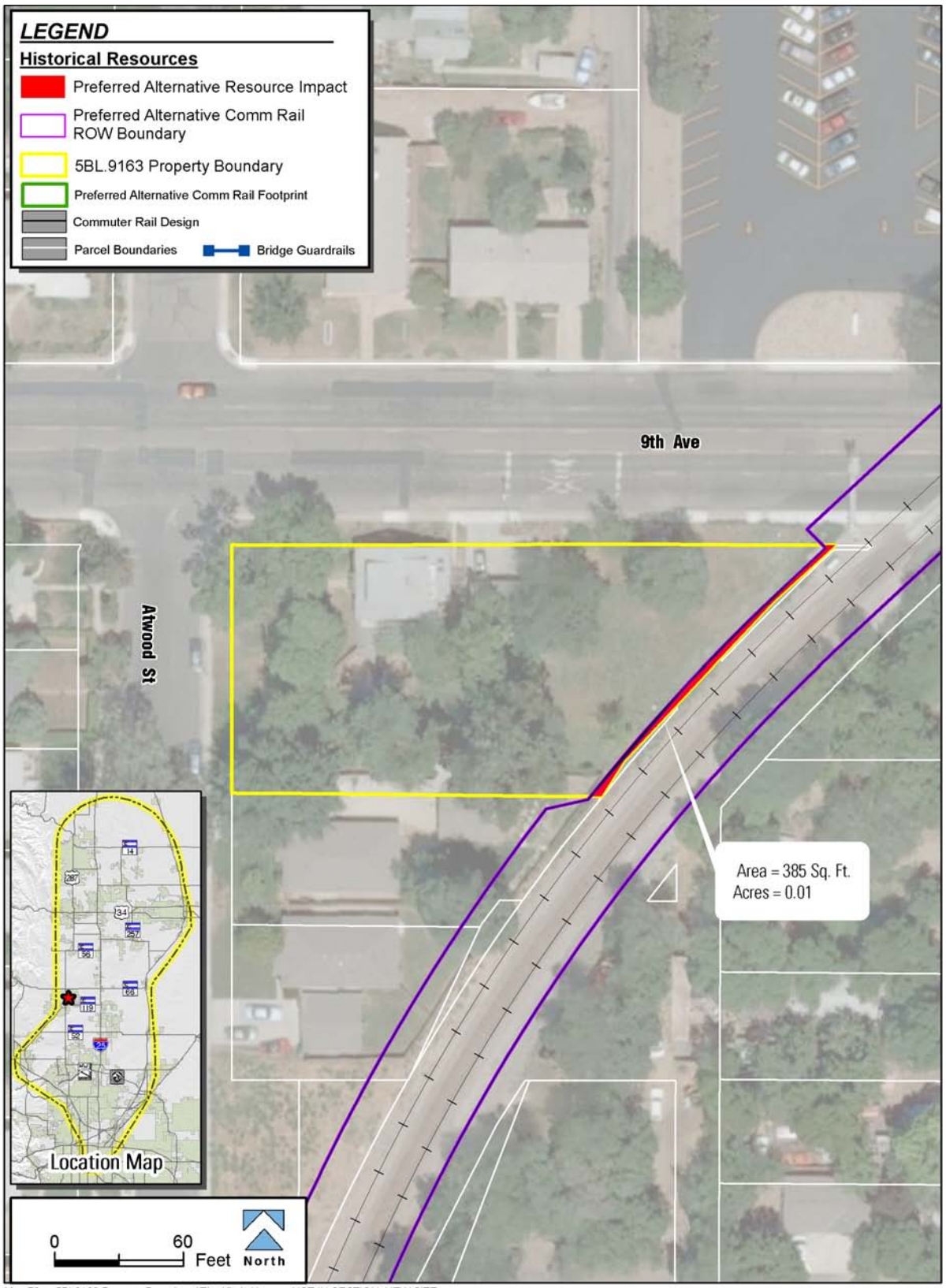
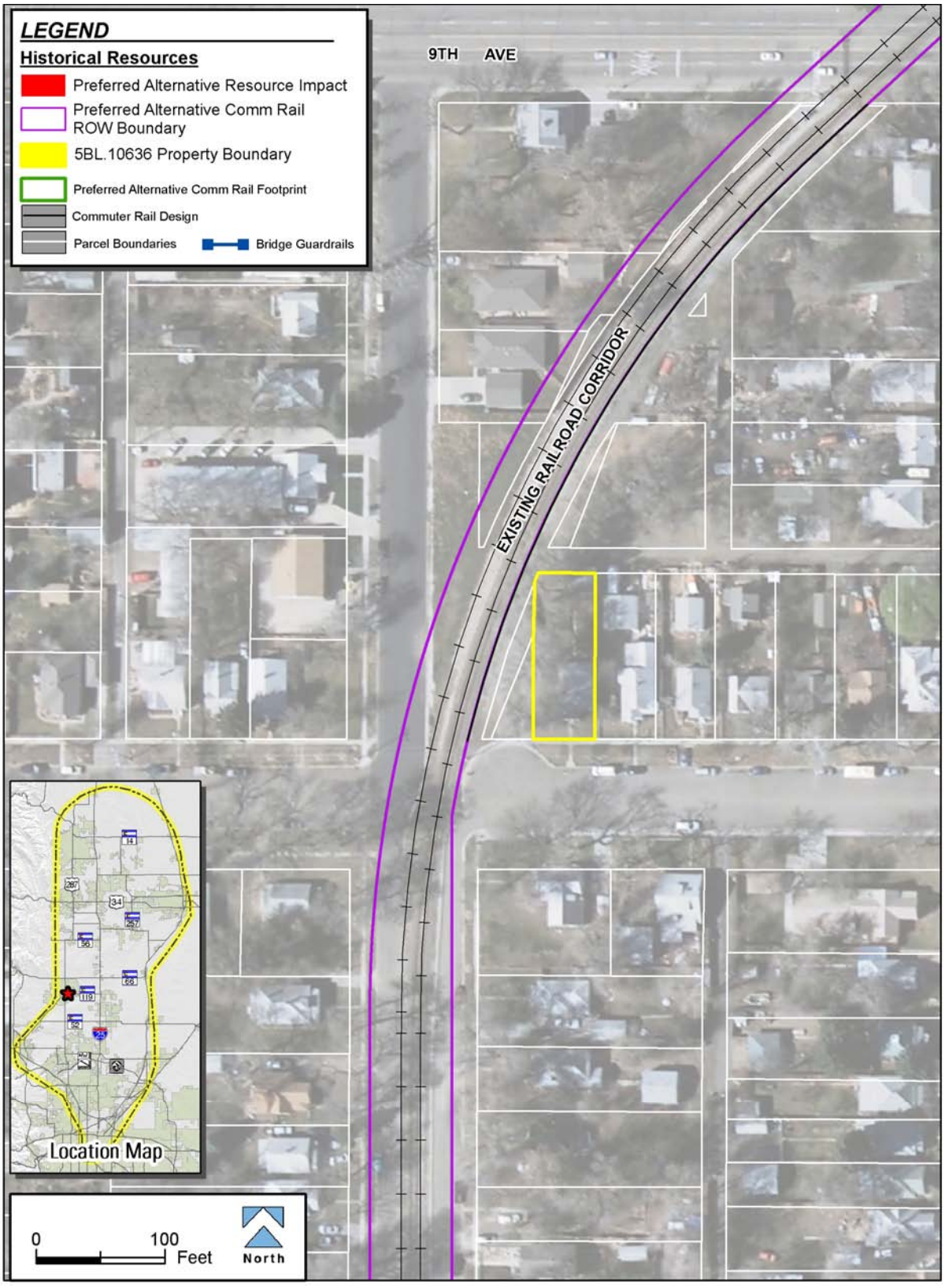


Figure 3.15-99 5BL.10636 (Boggs Residence) – Preferred Alternative



COMMUTER RAIL: LONGMONT TO FASTRACKS NORTH METRO

This segment uses the existing track in the area between downtown Longmont to SH 119. From that point for Package A, a new double-track rail alignment continues to the east along SH 119 and then south along the west side of WCR 7, then southeast along UPRR right-of-way to FasTracks North Metro. For the Preferred Alternative, the rail would be largely single-track with 5.2 miles of passing track located immediately west of I-25. There are 12 historic properties in this component of commuter rail.

5BL.1245 (Old City Electric Building)

Resource Description: The Old City Electric Building (5BL.1245) is located at 103 Main Street in Longmont. It is an excellent example of 1930s industrial architecture featuring large windows, an open plan and solid brick construction. This building served the city's power needs from 1931 to 1969. Longmont was one of the first cities in Colorado to develop a municipally owned electric generation plant.

Eligibility Determination: The Old City Electric Building is eligible for the NRHP under Criterion A for its significant role in the development of Longmont, and under Criterion C as an excellent, intact example of industrial architecture. This early power generation plant has also been designated as a Local Landmark by the City of Longmont.

Effect Determination – Package A: Construction of a new commuter railroad line alongside the existing freight rail line on the north side of 1st Avenue in Longmont would require acquisition of new right-of-way, including 0.85 acres of land containing this historic building. The building would need to be demolished or moved to a new location to accommodate the new commuter rail line tracks and associated construction activities (see **Figure 3.15-100**). This direct effect would result in the major reduction or loss of integrity of this resource, and FHWA, FTA and CDOT therefore have determined that an *adverse effect* to this resource would result. Details of mitigation for this effect are discussed under **Section 3.15.3**.

Effect Determination—Preferred Alternative: Since the Preferred Alternative would be single tracked through this area; there would be no direct impacts to the Old City Electric Building (see **Figure 3.15-101**). Indirect effects include additional train traffic on the railway tracks under the Preferred Alternative, creating minor vibration increases over current levels, but not to a level that would impair the architectural qualities of this residential building. Noise levels are expected to be the same as existing conditions.

The proposed transportation improvements would not substantially diminish or alter the architectural or setting characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative commuter rail improvements would result in *no adverse effect* to the resource.

Figure 3.15-100 5BL.1245 (Old City Electric Building)—Package A Commuter Rail

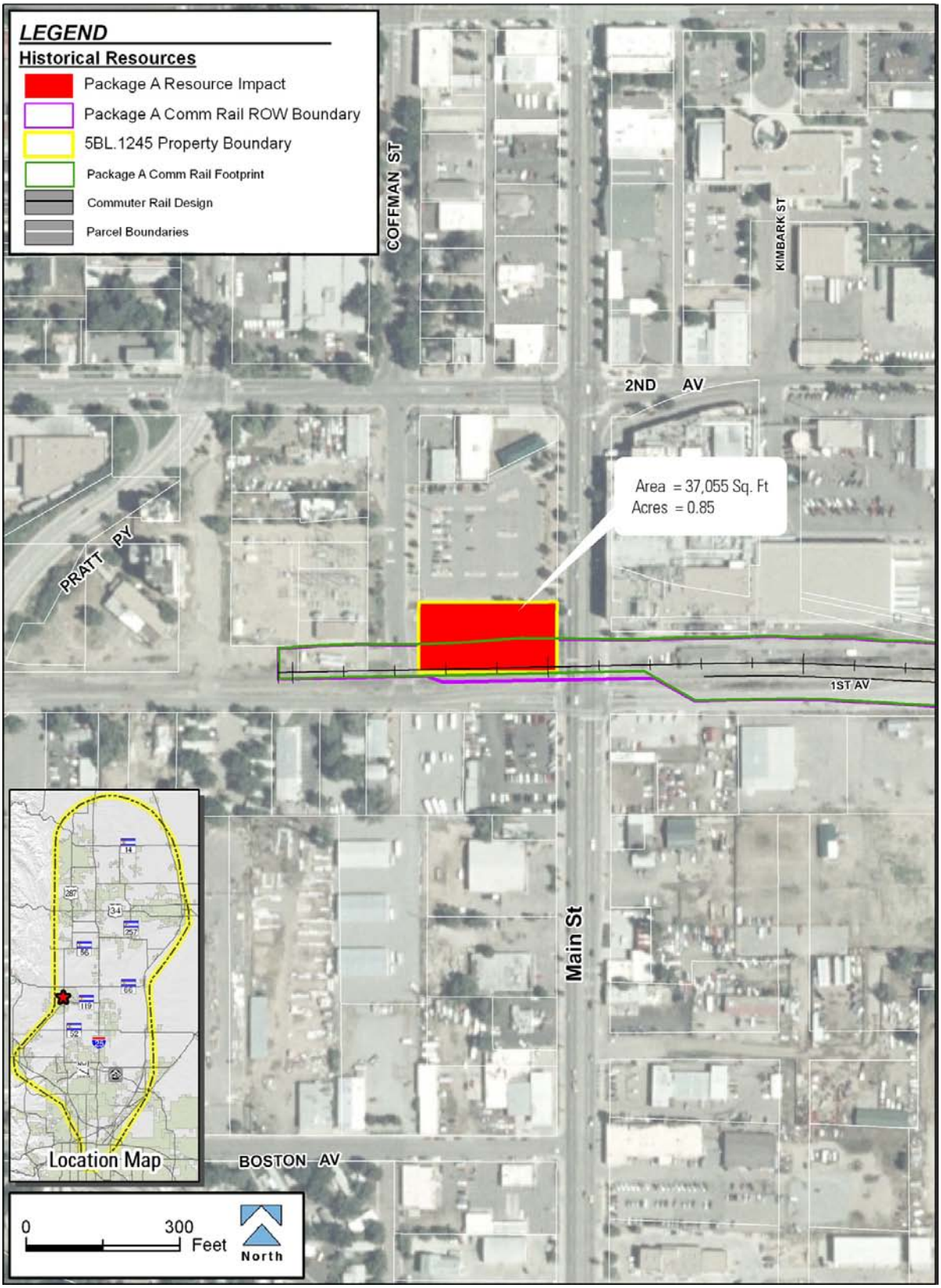
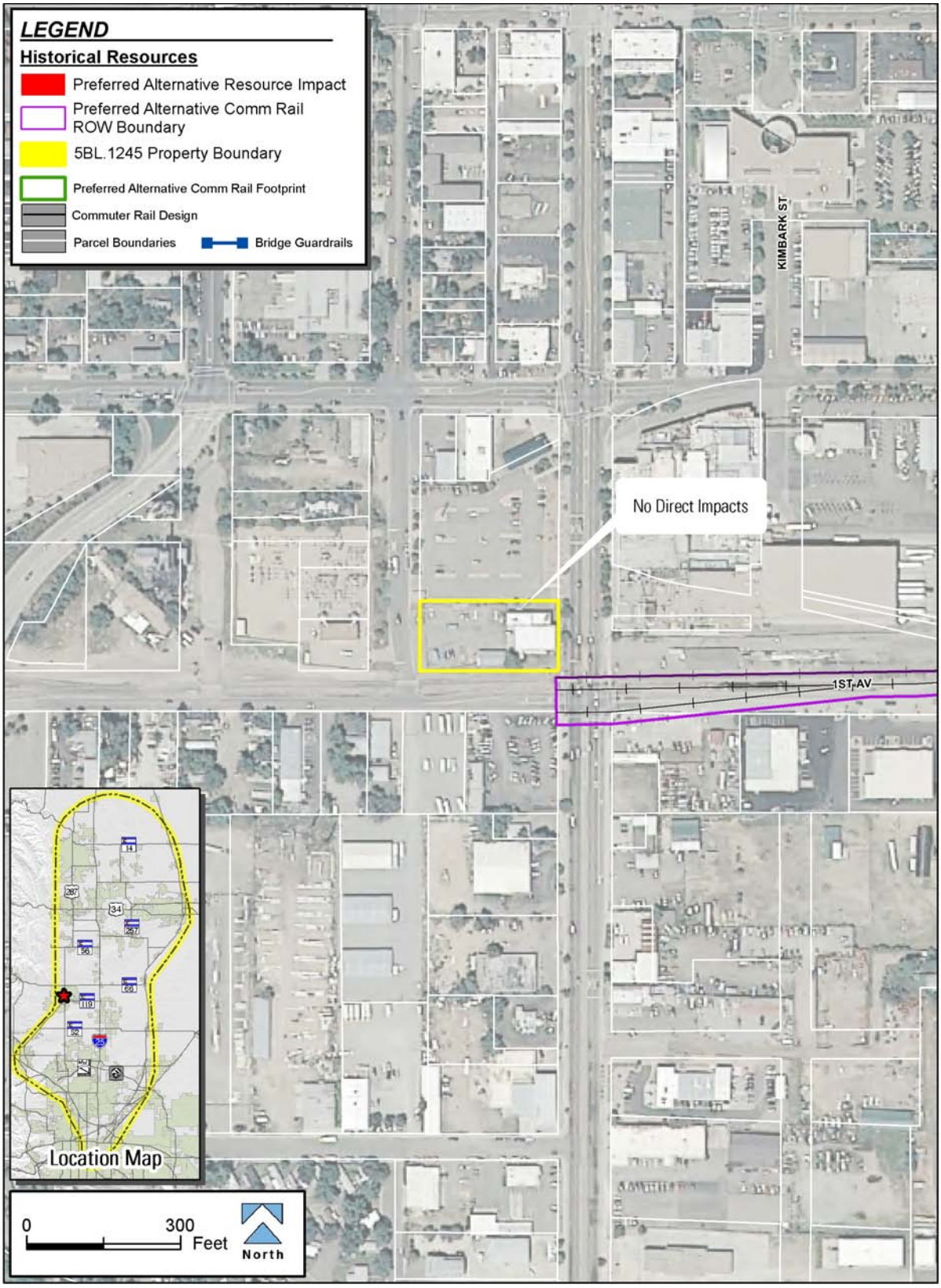


Figure 3.15-101 5BL.1245 (Old City Electric Building) – Preferred Alternative



5BL.1244 (Colorado & Southern/BNSF Depot)

Resource Description: The historic Colorado & Southern/BNSF Depot (5BL.1244) is located at 100 Main Street in Longmont. The depot was built in 1905. It is one of the two early railroad depots in Longmont and is one of the finest small masonry depots in the state. The depot is the only extant Richardsonian Romanesque style building in Longmont.

Colorado & Southern/BNSF Depot

Eligibility Determination: This depot (5BL.1244) is NRHP-eligible under Criterion A for its association with railroad transportation and its contribution to the development of Longmont. The building is also NRHP-eligible under Criterion C as an excellent and well preserved example of masonry railroad depot architecture in Colorado.

Effect Determination – Package A: Construction of a new commuter railroad line alongside the existing commercial rail line on the north side of First Avenue in Longmont would require acquisition of new right-of-way, including the 0.51 acre of land occupied by this historic building (see **Figure 3.15-102**). The building would need to be demolished or moved to another location to accommodate the new commuter rail tracks and associated construction activities. This direct effect would result in the major reduction or loss of integrity of this resource, and FHWA, FTA and CDOT therefore have determined that an *adverse effect* to this resource would result. Details of mitigation for this effect are discussed under **Section 3.15.3**.

Effect Determination – Preferred Alternative: Since the Preferred Alternative would be single tracked through this area; there would be no direct impacts to the Colorado & Southern/BNSF Depot (see **Figure 3.15-103**). Indirect effects include additional train traffic on the railway tracks under the Preferred Alternative, creating minor vibration increases over current levels, but not to a level that would impair the architectural qualities of this residential building. Noise levels are expected to be the same as existing conditions.

The proposed transportation improvements would not substantially diminish or alter the architectural or setting characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative commuter rail improvements would result in *no adverse effect* to the resource.

Figure 3.15-102 5BL.1244 (Colorado & Southern/BNSF Depot) – Package A

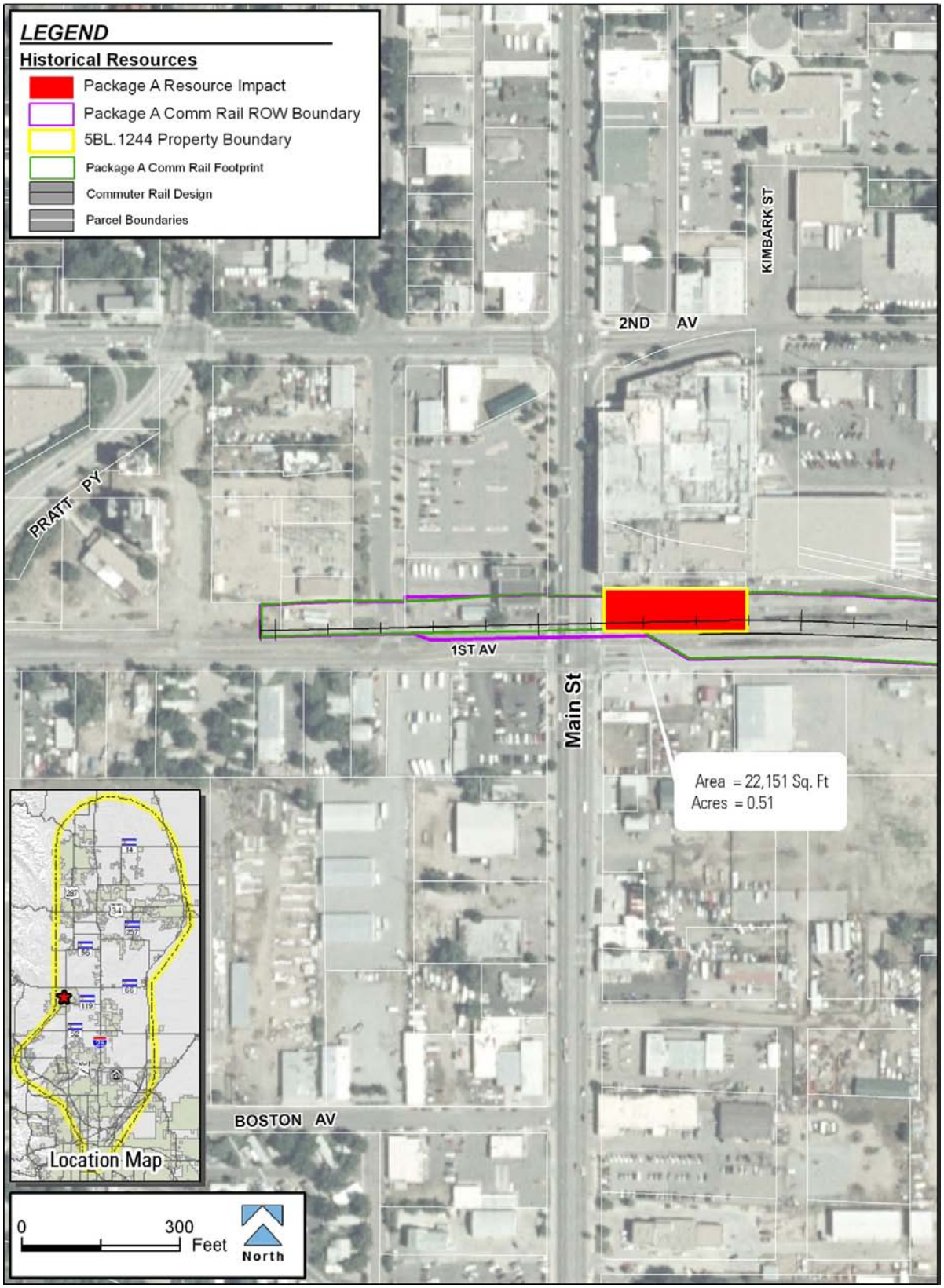
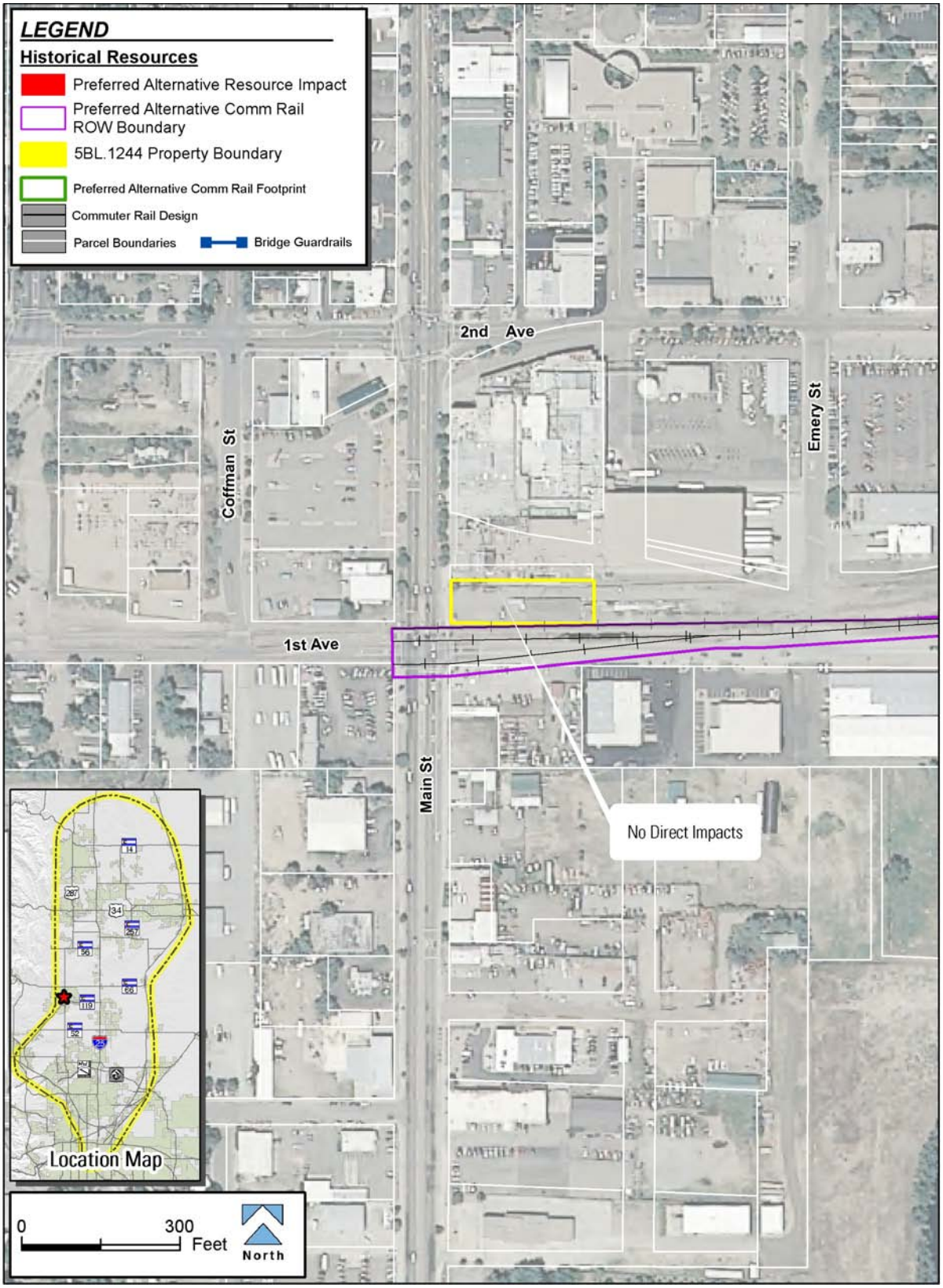


Figure 3.15-103 5BL.1244 (Colorado & Southern/BNSF Depot) – Preferred Alternative



5BL.513 (Great Western Sugar Factory)

Resource Description: The Great Western Sugar Factory is located at 11939 and 11801 Sugarmill Road in Longmont. This sugar beet processing factory was built in 1903 and operated into the 1970s. The 3.72 acre factory site contains several beet processing buildings as well as industrial features including storage silos located north of Sugarmill Road.

Eligibility Determination: The Great Western Sugar Factory (5BL.513) is eligible for the NRHP under Criterion A for its significant role in the very important sugar beet industry in Colorado, as well as its major contribution to the economic development of the Longmont area.

Effect Determination – Package A: Under Package A, proposed commuter rail improvements in the vicinity of the Great Western Sugar factory site include a station platform, park-and-ride lots, and a pedestrian walkway from the station platform to the south parking lot. The station platform intrudes slightly into the north edge of the sugar factory site, and the proposed pedestrian walkway extends from the platform through the northwestern corner of the property to access a proposed parking lot that would be located just west of the factory site. The design and cross-section of a typical commuter rail station is depicted in **Figure 3.15-15**. These direct impacts amount to 0.33 acre, or approximately nine percent of the 3.72-acre property. None of the buildings or other standing industrial features that contribute to the property's significance would be affected by these commuter rail facilities (see **Figure 3.15-104**).

There would be additional train traffic on the nearby railway tracks under Package A, creating minor noise and vibration increases over current levels, but no impacts. This would not be a new or heightened condition from the historic times when the factory was operational and relied on frequent train transport of beets and lime for sugar production, and shipment of finished sugar.

The proposed transportation improvements would not substantially diminish or alter the architectural or setting characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that Package A commuter rail improvements would result in *no adverse effect* to the resource.

Effect Determination – Preferred Alternative: Under the Preferred Alternative, proposed commuter rail improvements in the vicinity of the Great Western Sugar factory site include a station platform, and a park-and-ride lot all located on the north side of the existing rail line. As a result there would be no direct impacts to the Great Western Sugar factory historic site (see **Figure 3.15-105**).

There would be additional train traffic on the nearby railway tracks under the Preferred Alternative, creating minor noise and vibration increases over current levels, but no impacts. This would not be a new or heightened condition from the historic times when the factory was operational and relied on frequent train transport of beets and lime for sugar production, and shipment of finished sugar.

The proposed transportation improvements under the Preferred Alternative would not substantially diminish or alter the architectural or setting characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative commuter rail improvements would result in *no adverse effect* to the resource.

Figure 3.15-104 5BL.513 (Great Western Sugar Plant and Novartis Seeds/Syngenta Seeds)—Package A

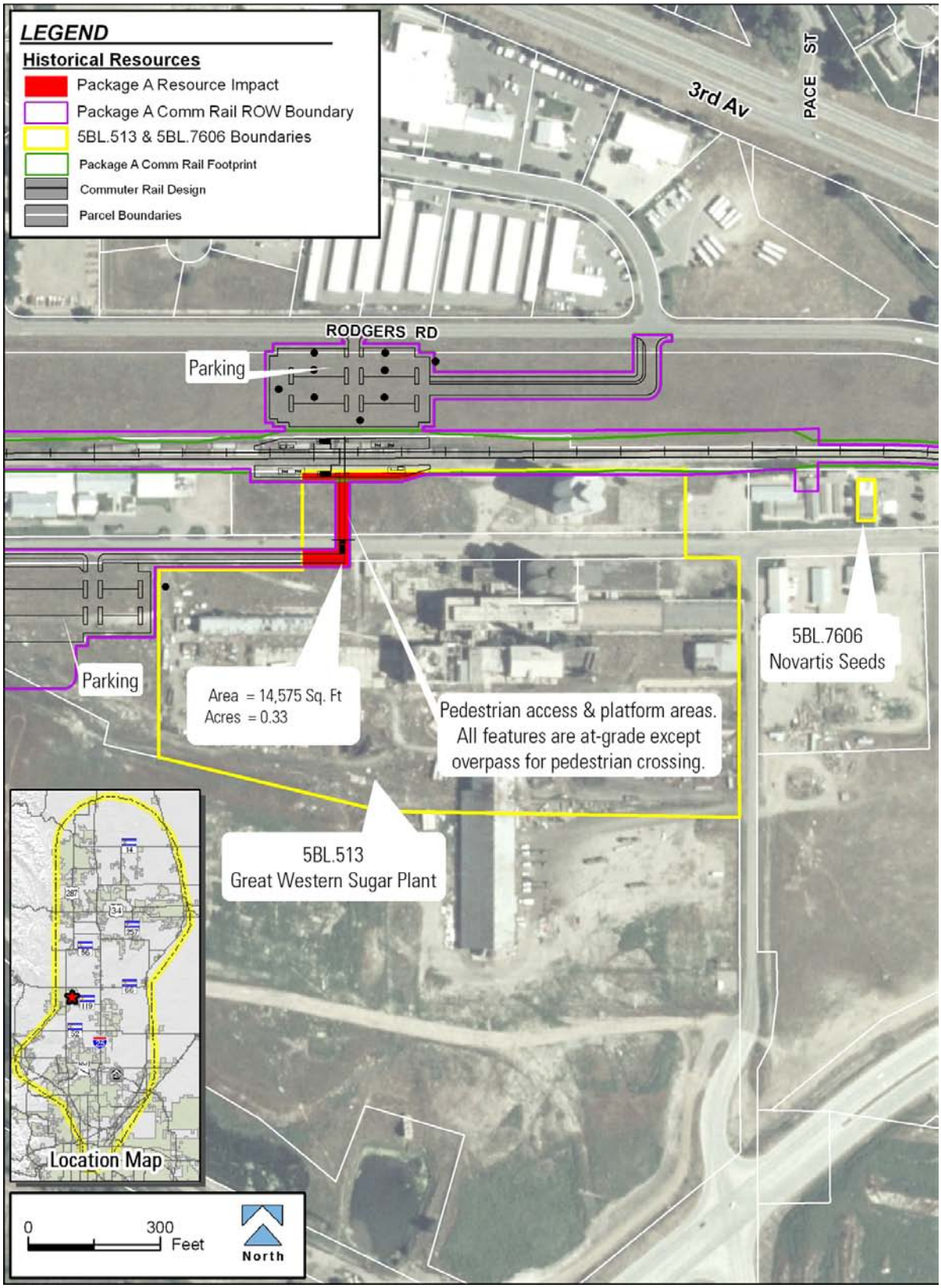
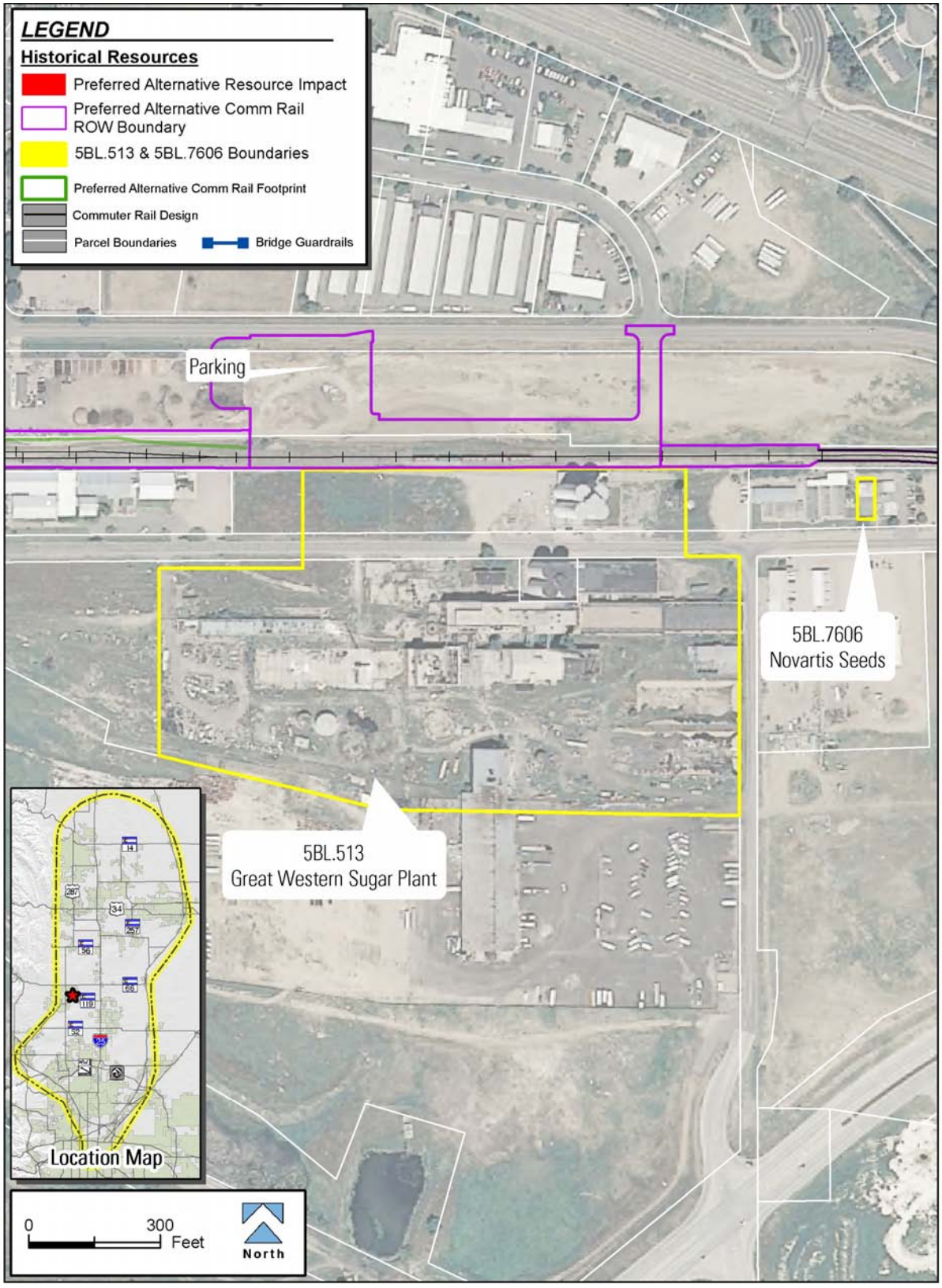


Figure 3.15-105 5BL.513 (Great Western Sugar Plant and Novartis Seeds/Syngenta Seeds)—Preferred Alternative



5BL.7606 (Novartis Seeds/Syngenta Seeds)

Resource Description: This large, one-story brick office building was constructed in 1951 near the Great Western Sugar factory in Longmont. The building is covered by a flat roof with wide overhanging eaves. Its façade is symmetrically arranged, with a central entry flanked by banks of nine casement windows. The building appears unaltered, and is a good example of International Style commercial architecture. The building is currently occupied by Novartis Seeds/Syngenta Seeds. Syngenta Seeds is a global leader in the agribusiness industry.

Eligibility Determination: The Novartis Seeds/Syngenta Seeds office in Longmont (5BL.7606) is eligible for the NRHP under Criterion C as a well preserved specimen of International Style commercial architecture in Colorado.

Effect Determination – Package A: Under Package A, proposed commuter rail improvements in the vicinity of the Novartis Seeds/Syngenta Seeds office building southwest of Longmont are limited to construction of a second, dedicated commuter rail track parallel to the existing standard gauge commercial rail line that runs in an east-west alignment a short distance north of the property. A passenger station with park-and-ride lot and platform would be located a short distance to the west, in the vicinity of the historic Longmont sugar factory (5BL.513). The 0.08 acre Novartis Seeds/Syngenta Seeds building site would not be directly impacted by the alternative (see **Figure 3.15-104**).

There would be additional train traffic on the nearby railway tracks under Package A, creating minor noise and vibration increases over current levels, but not to a level that would impair the architectural qualities of this commercial/industrial building. FHWA, FTA and CDOT therefore have determined that Package A would result in *no adverse effect* to the resource.

Effect Determination – Preferred Alternative: Under the Preferred Alternative, proposed commuter rail improvements in the vicinity of the Novartis Seeds/Syngenta Seeds office building southwest of Longmont are limited to adding train service to the existing standard gauge commercial rail line that runs in an east-west alignment a short distance north of the property. A passenger station with park-and-ride lot and platform would be located a short distance to the west, in the vicinity of the historic Longmont sugar factory (5BL.513). The 0.08 acre Novartis Seeds/Syngenta Seeds building site would not be directly impacted by the alternative (see **Figure 3.15-105**).

There would be additional train traffic on the nearby railway tracks under the Preferred Alternative, creating minor noise and vibration increases over current levels, but not to a level that would impair the architectural qualities of this commercial/industrial building. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative would result in *no adverse effect* to the resource.

5WL.5278 (William H. Dickens Farm)

Resource Description: The William H. Dickens farm (5WL.5278) is located at 545 SH 119 in Longmont. This farm is associated with one of the earliest settlers in the St. Vrain Valley, William H. Dickens. Dickens became a prominent area farmer and businessman, and was responsible for building the Dickens Opera House in Longmont. Dickens's step-father, Alonzo N. Allen, was the first Euro-American to settle in the St. Vrain drainage. The 155 acre farm includes a farmhouse, large barn and five outbuildings. The historic boundary includes land originally within the 1915 land boundary which is still being used for agriculture.

Eligibility Determination: This farm (5WL.5278) is NRHP-eligible under Criterion B for its association with the early St. Vrain Valley settler William H. Dickens. Additionally, the farm contains an intact example of a large wood frame barn with distinctive architectural features including a gabled front rain hood, narrow horizontal siding, which is eligible for the NRHP under Criterion C.

Effect Determination—Package A: Under Package A, none of the proposed commuter rail improvements along SH 119 would cause changes to this historic property. Due to the lack of direct and indirect impacts, FHWA, FTA and CDOT have determined that the Package A commuter rail improvements would result in *no historic properties affected* with respect to this historic resource.

Effect Determination—Preferred Alternative: Under the Preferred Alternative, none of the proposed commuter rail improvements along SH 119 would cause changes to this historic property. Due to the lack of direct and indirect impacts, FHWA, FTA and CDOT have determined that the Preferred Alternative commuter rail improvements would result in *no historic properties affected* with respect to this historic resource.

5WL.2877.1 (Union Reservoir Outlet Ditch/Coffin Spring Gulch Ditch)

Resource Description: The entire ditch is approximately 1.8 miles long. This segment of the ditch (5WL.2877.1) crosses the railroad along the south edge of SH 119. The portion of the ditch that crosses under the railway is placed in a culvert. The segment occurring within the project APE (5WL.2877.1) is 5,042 feet (0.95 mile) long. Both banks are covered by heavy riparian growth in many areas. The surrounding area supports semi-rural residential development.

Eligibility Determination: The Union Reservoir Ditch (5WL.2877.1) south of SH 119 was previously recorded in association with the Sandstone Ranch (5WL.712). The ditch was officially declared NRHP-eligible by OAHP in 1998 under Criterion A for its important association with the development of water rights and agriculture in Weld County. When re-evaluated for the North I-25 Draft EIS, the length of the ditch segment was extended northward across SH 119 to the northern edge of the North I-25 project corridor.

Effect Determination – Package A: Although a new dedicated commuter rail line would be constructed along the south edge of existing SH 119 in this area under Package A improvements, this historic ditch is already placed within a culvert beneath the proposed rail corridor where it is conveyed across SH 119 and thus would not be subject to additional direct impacts. The ditch exits the culvert at the south edge of the proposed new rail corridor. The proposed improvements along SH 119 would not cause changes to this historic property. Due to the lack of direct and indirect impacts, FHWA, FTA and CDOT have determined that Package A would result in *no historic properties affected* with respect to this historic resource.

Effect Determination – Preferred Alternative: Although a new dedicated commuter rail line would be constructed along the south edge of existing SH 119 in this area under the Preferred Alternative, this historic ditch is already placed within a culvert beneath the proposed rail corridor where it is conveyed across SH 119 and thus would not be subject to additional direct impacts. The ditch exits the culvert at the south edge of the proposed new rail corridor. The proposed improvements along SH 119 would not cause changes to this historic property. Due to the lack of direct and indirect impacts, FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no historic properties affected* with respect to this historic resource.

5WL.712 (Sandstone Ranch)

Resource Description: The Sandstone Ranch is located on SH 119 just east of Longmont. The ranch is associated with Morse Coffin, one of the early settlers in this area. Morse Coffin settled in Boulder County in 1859 and became a preeminent agriculturalist and co-founder of the first public school district in Colorado. The City of Longmont now owns the ranch property, which is now designated Sandstone Ranch Park. Portions of the former ranch have been altered recently by gravel mining, post-mining reclamation, and multi-use recreational development by the City of Longmont. The only intact ranchland in the northern portion of the property is a riparian corridor surrounding the Union Reservoir Outlet Ditch/ Coffin Spring Gulch Ditch (5WL.2877.1).

Eligibility Determination: The ranch was NRHP-listed in 1984 under Criteria A, B, and C. The Sandstone Ranch is eligible under Criterion A because of its important association with early settlement and agricultural development in Weld County. It is also eligible under Criterion B because of its direct association with Morse H. Coffin, an important historical figure, and under Criterion C because of the architectural significance of the Coffin farmhouse. The historic district boundary is currently being evaluated for re-definition to exclude the areas modified by construction of public recreational facilities and areas modified by gravel mining.

Effect Determination – Package A: Under Package A widening of SH 119 to accommodate the proposed commuter rail facilities would necessitate acquisition of new right-of-way within the extreme northern edge of the Sandstone Ranch. This land would be needed to provide space for the new commuter rail bed, tracks, and ballast. The area subject to direct impacts comprises 2.17 acres, or less than one percent of the entire 337.22-acre historic district. In addition to the small size of the impacted area, the northern portion of the site has lost most of its integrity due to recent development of sports fields by the City of Longmont (see **Figure 3.15-106**).

The historic ranch buildings are located too far away to be affected by noise and vibration impacts from passing trains. The commuter rail tracks would run along the edge of the northern portion of the site that has lost nearly all integrity. No indirect effects are expected which would harm the function, setting, atmosphere, or attributes that render this district NRHP-eligible.

The proposed transportation improvements would not substantially diminish or alter characteristics that render the property eligible for the NRHP. For all of these reasons, FHWA, FTA and CDOT have determined that Package A would result in *no adverse effect* to the resource.

Effect Determination – Preferred Alternative: Under the Preferred Alternative widening of SH 119 to accommodate one commuter rail track would necessitate acquisition of new right-of-way within the extreme northern edge of the Sandstone Ranch. This land would be needed to provide space for the new commuter rail bed, tracks, and ballast. The area subject to direct impacts comprises 1.45 acres, or less than one percent of the entire 337.22-acre site. In addition to the small size of the impacted area, the northern portion of the site has lost most of its integrity due to recent development of sports fields by the City of Longmont (see **Figure 3.15-107**).

Figure 3.15-106 5WL.712 (Sandstone Ranch) – Package A

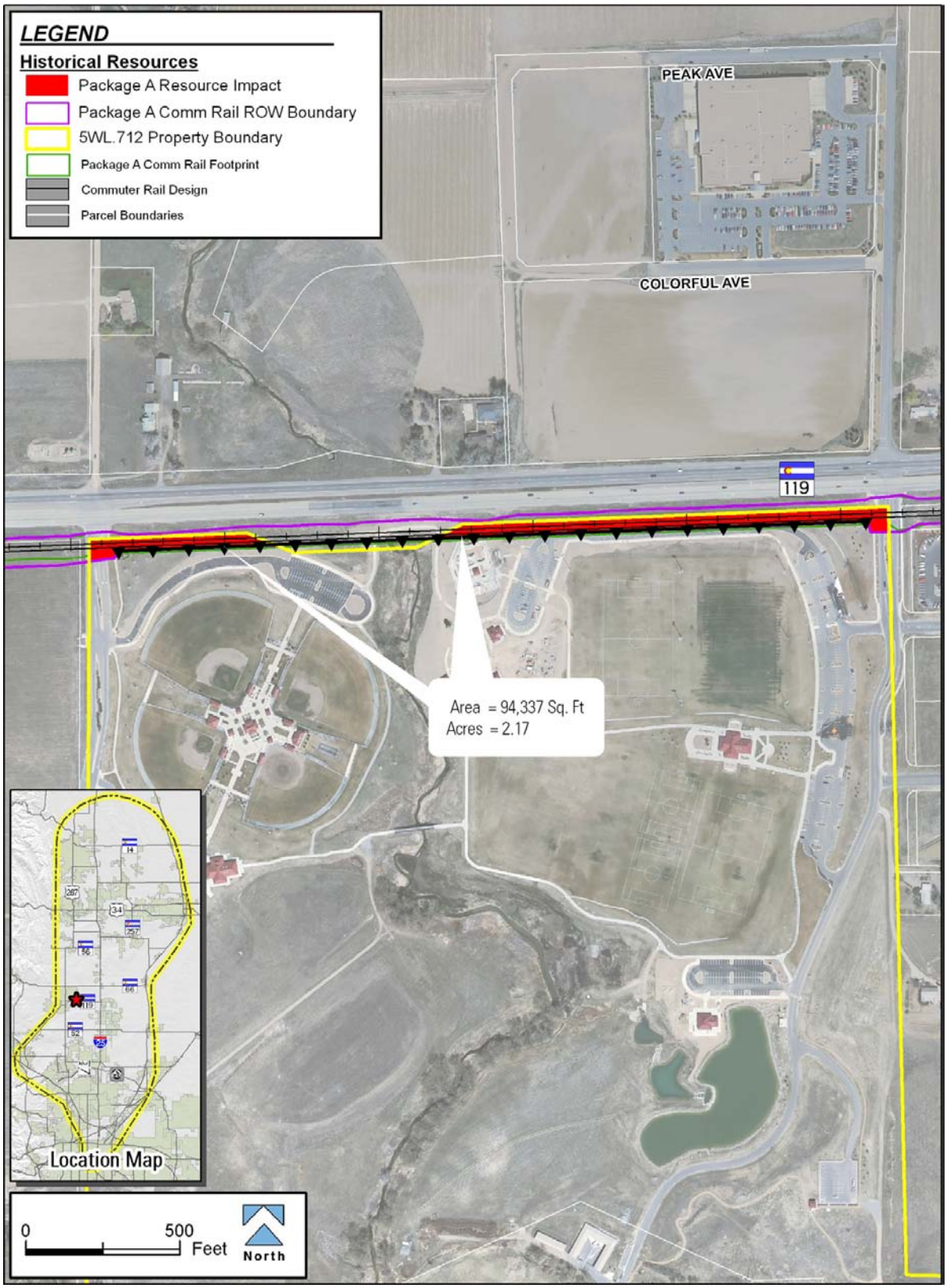
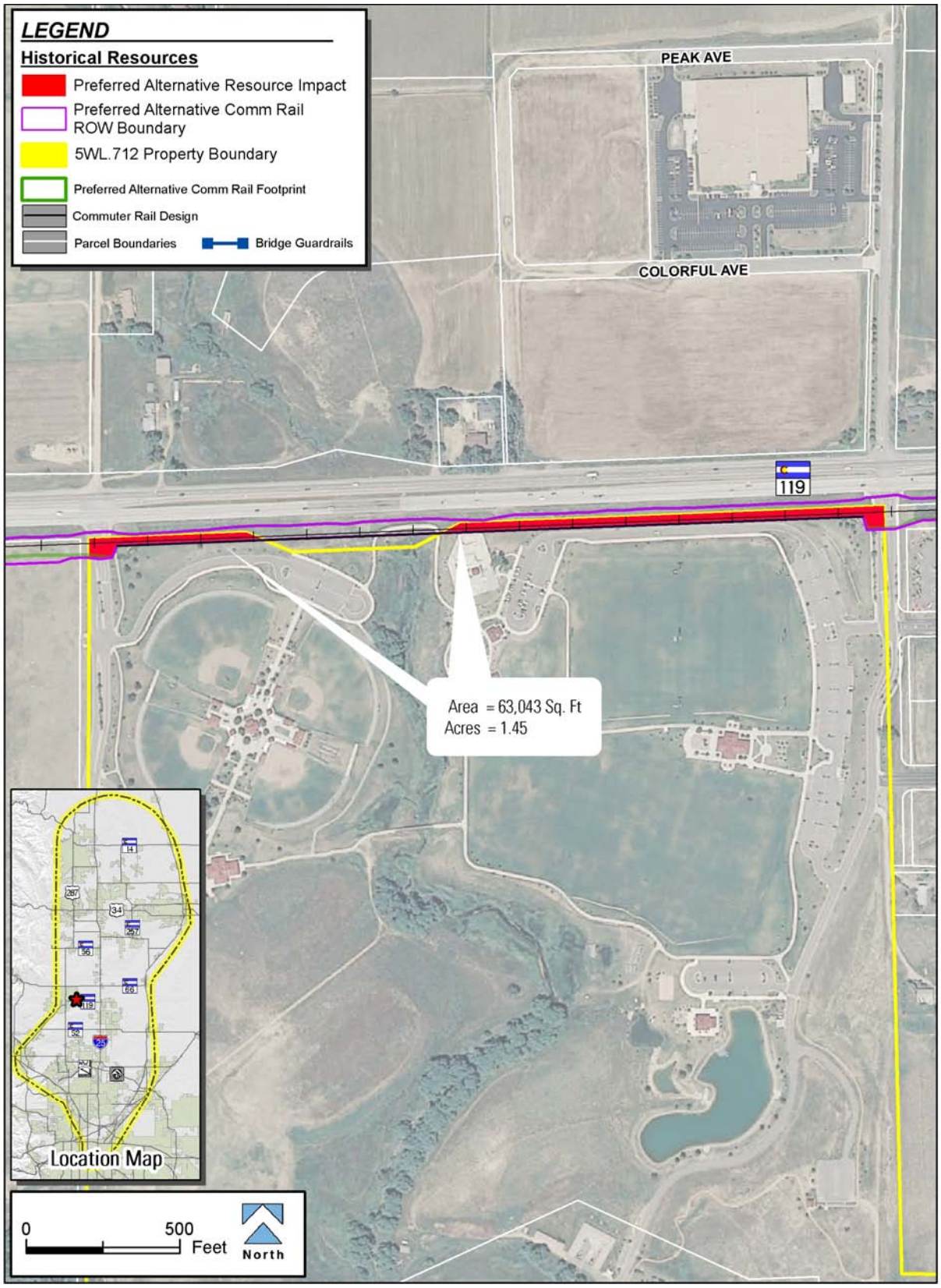


Figure 3.15-107 5WL.712 (Sandstone Ranch)—Preferred Alternative



The historic ranch buildings are located too far away to be affected by noise and vibration impacts from passing trains. The commuter rail tracks would run along the edge of the northern portion of the historic district that has lost nearly all integrity. No indirect effects are expected which would harm the function, setting, atmosphere, or attributes that render this district NRHP-eligible.

The proposed transportation improvements would not substantially diminish or alter characteristics that render the property eligible for the NRHP. For all of these reasons, FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no adverse effect* to the resource.

5WL.5461.1 (Boulder and Weld County Ditch)

Resource Description: The entire Boulder and Weld County Ditch is approximately five miles long and draws water from a head gate on Boulder Creek. The ditch was constructed in 1871and remains in use supplying irrigation water for agricultural use. The segment of the earthen irrigation ditch passing through the APE is approximately 684 feet (0.13 mile) long, 20-feet wide, and 6.5 feet deep. The surrounding land is rural in character.

Eligibility Determination: The Boulder and Weld County Ditch is eligible for the NRHP under Criterion A because of its important association with the early development of agriculture in Weld County. The segment of the ditch within the APE retains sufficient integrity of location, setting, feeling, and use to support the eligibility of the entire linear resource.

Effect Determination – Package A: In the vicinity of the Boulder and Weld County Ditch, the Package A commuter rail alignment closely parallels WCR 7, beneath which the ditch crosses in a culvert. The commuter rail design would include a new CBC to accommodate the historic ditch. Approximately 63 linear feet of the ditch would be directly impacted by being placed in a culvert beneath the commuter rail facility (see **Figure 3.15-108**).

Construction of the concrete culvert structure would likely require temporary access to the historic property for equipment access and culvert installation activities. The ditch would likely be diverted during demolition of the old culvert and installation of the replacement culvert, but would remain operational and irrigation water would be protected from encroachment by construction. All disturbance caused by construction equipment or activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

Although a portion of the open ditch would be placed in a culvert, this change affects only a very small percentage of the entire linear resource. FHWA, FTA and CDOT have determined that Package A commuter rail improvements would result in *no adverse effect* to the entire Boulder and Weld County Ditch.

Effect Determination – Preferred Alternative: In the vicinity of the Boulder and Weld County Ditch, the Preferred Alternative commuter rail alignment closely parallels WCR 7, beneath which the ditch crosses in a culvert. The commuter rail design would include a new CBC to accommodate the historic ditch. Approximately 63 linear feet of the ditch would be directly impacted by being placed in a culvert beneath the commuter rail facility (see **Figure 3.15-109**).

Figure 3.15-108 5WL.5461.1 (Boulder and Weld County Ditch) – Package A

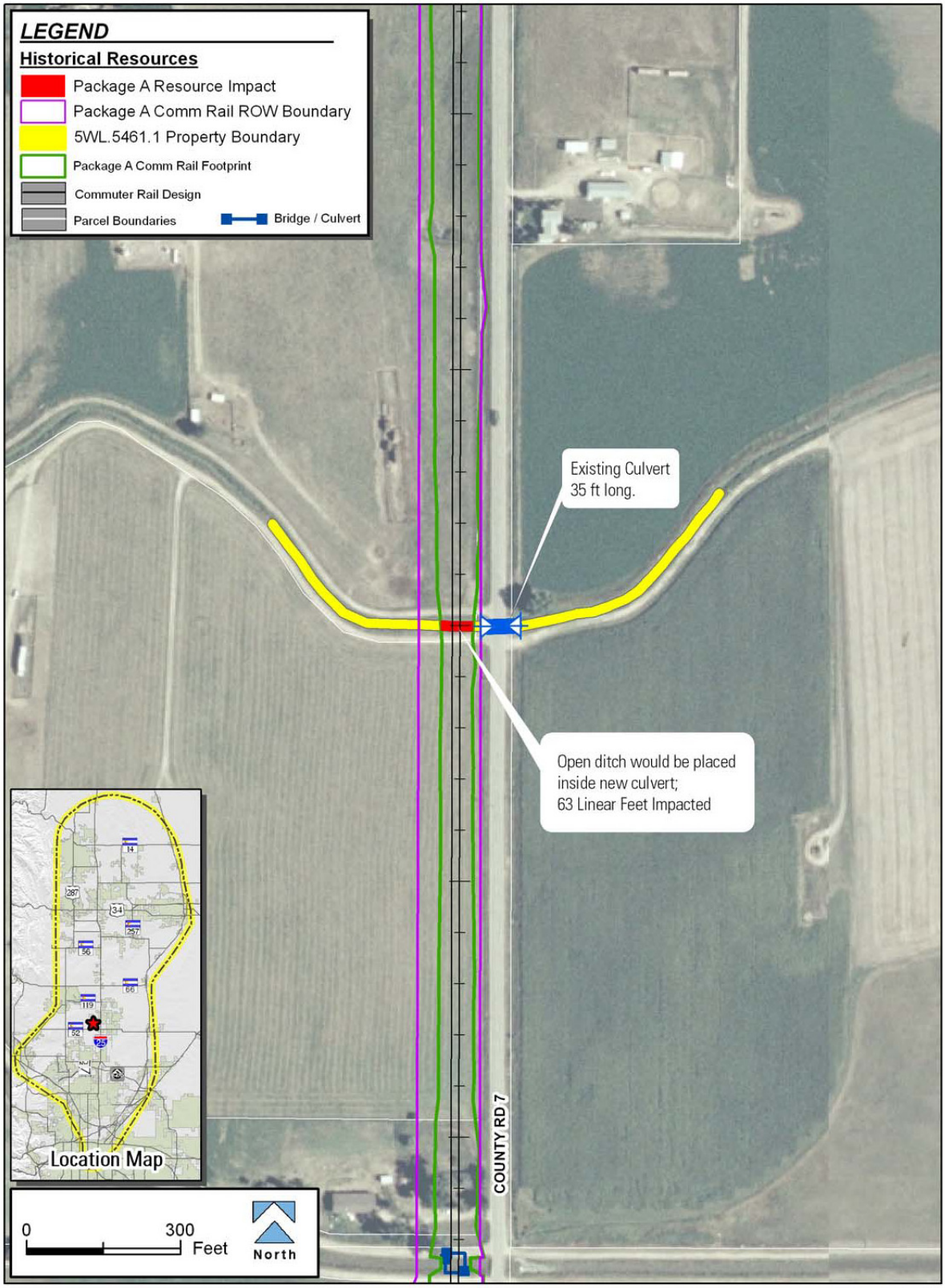
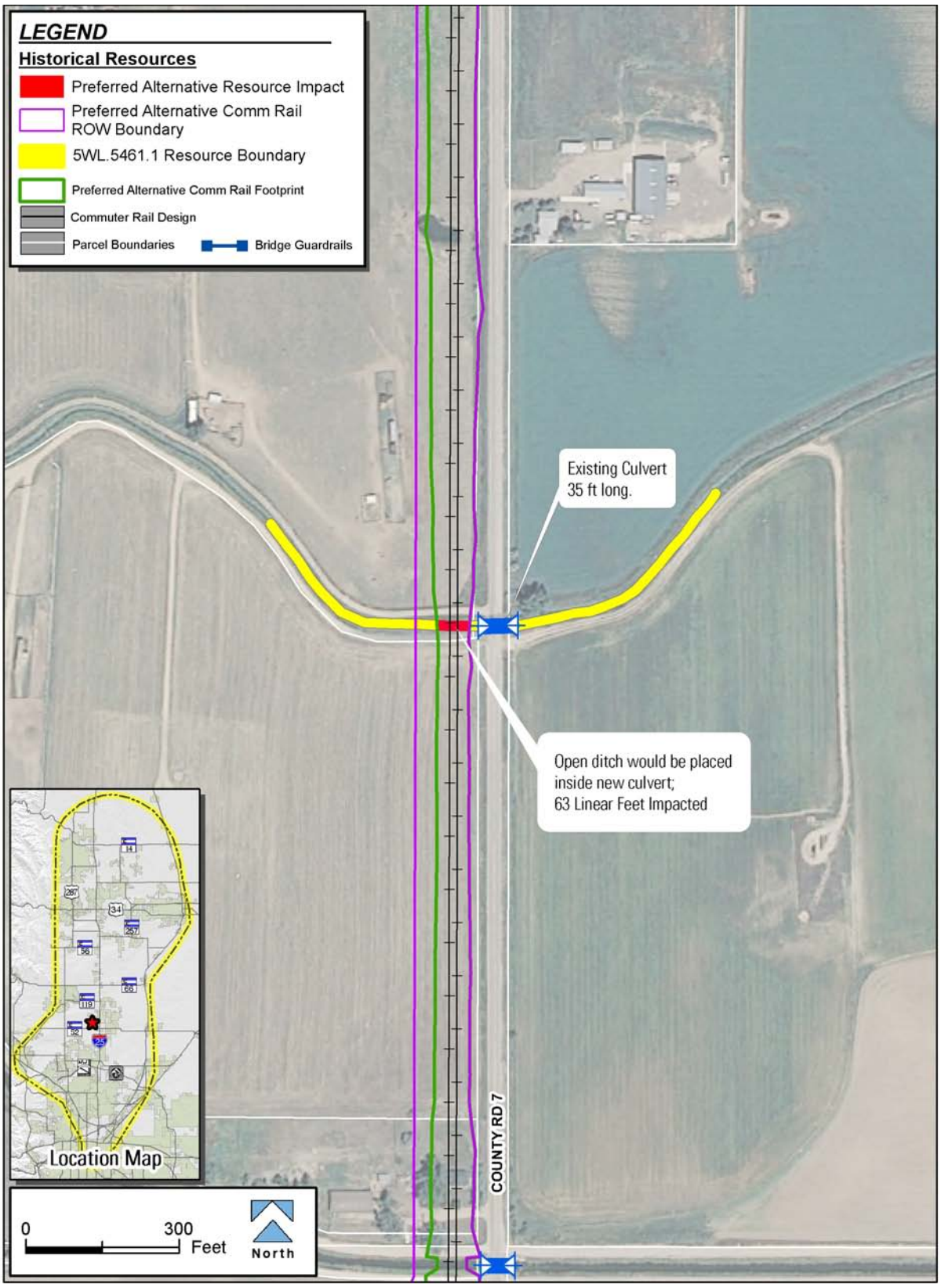


Figure 3.15-109 5WL.5461.1 (Boulder and Weld County Ditch) – Preferred Alternative



Construction of the concrete culvert structure would likely require temporary access to the historic property for equipment access and culvert installation activities. The ditch would likely be diverted during demolition of the old culvert and installation of the replacement culvert, but would remain operational and irrigation water would be protected from encroachment by construction. All disturbance caused by construction equipment or activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

Although a portion of the open ditch would be placed in a culvert, this change affects only a very small percentage of the entire linear resource. FHWA, FTA and CDOT have determined that the Preferred Alternative commuter rail improvements would result in no adverse effect to the entire Boulder and Weld County Ditch.

5WL.5263 (Hingley Farm)

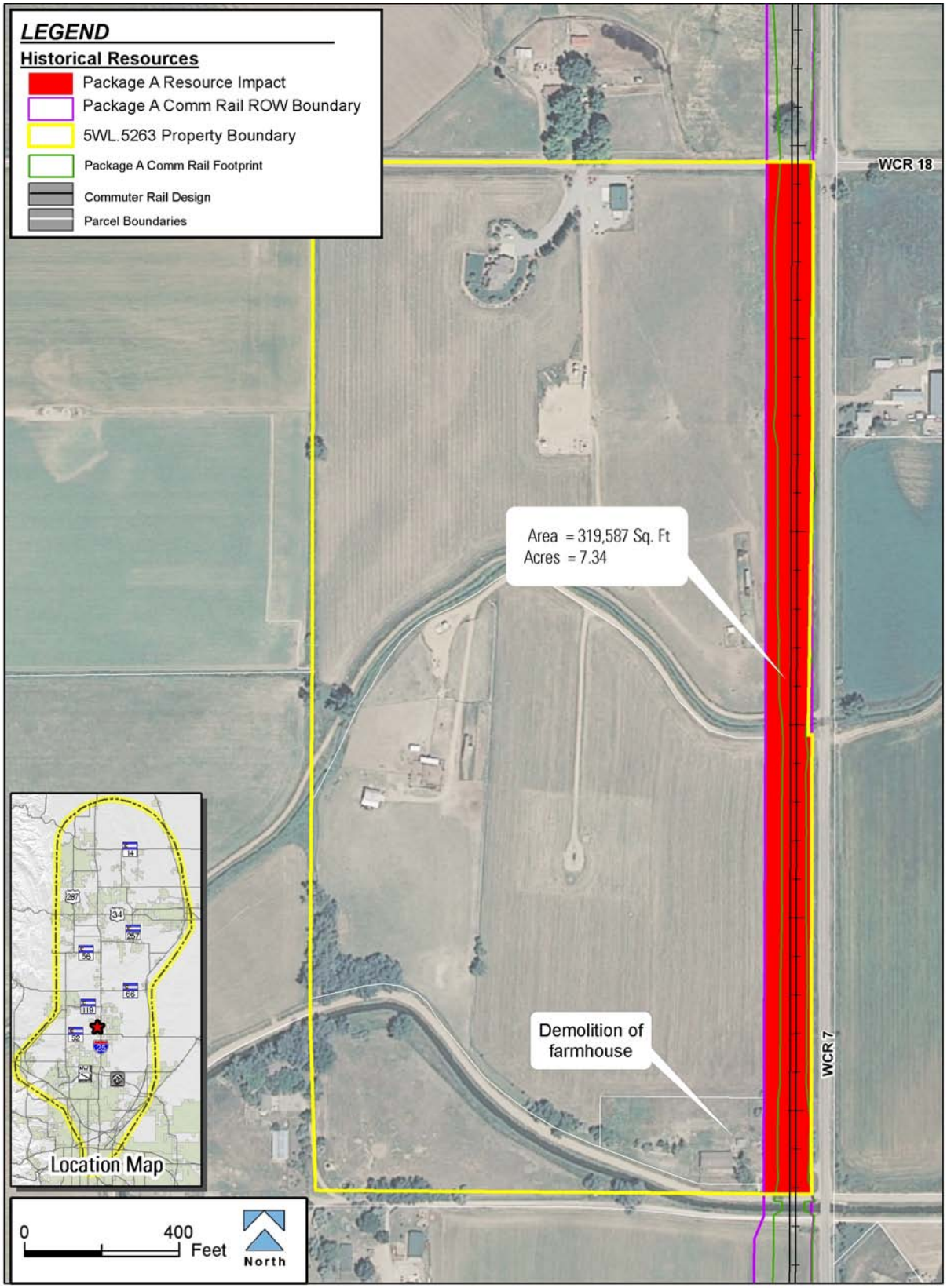
Resource Description: The farmstead is located at 7523 WCR 7 in Erie. This farm is a very intact example of a historic agricultural operation in Weld County. Built in 1900, the hipped roof farmhouse is an intact example of the Classic Cottage domestic architectural style in a rural context.

Eligibility Determination: This farmstead is eligible for the NRHP under Criterion A because of its important association with early settlement and agricultural development in Weld County and under Criterion C for its significance as an intact early farmhouse and farmstead.

Effect Determination – Package A: Proposed development of a new commuter rail alignment within a 125-foot-wide right-of-way corridor parallel to WCR 7 under Package A would cause direct impacts to this historic farm. A strip of land within the historic property, measuring 2,585 feet long and 125 feet wide, would be acquired and converted from agricultural to transportation use, placing a new railroad embankment, ballast and tracks over the acquired farmland. The area to be acquired comprises 7.34 acres, or approximately nine percent of the entire 81.35-acre historic property. An entirely new transportation feature would be introduced into the rural, agricultural setting. The proposed rail corridor passes through the original farmstead complex at the southeast corner of the property, and would require removal of the contributing, architecturally significant farmhouse (see **Figure 3.15-110**).

These direct and indirect effects would result in the major reduction or loss of integrity of this resource, and FHWA, FTA and CDOT therefore have determined that under Package A an *adverse effect* would result. Details of mitigation for this effect are discussed under **Section 3.15.3**.

Figure 3.15-110 5WL.5263 (Hingley Farm) – Package A



Effect Determination – Preferred Alternative: Proposed development of a new commuter rail alignment within a 125-foot-wide right-of-way corridor parallel to WCR 7 under the Preferred Alternative would cause direct impacts to this historic farm. A strip of land within the historic property would be acquired and converted from agricultural to transportation use, placing a new railroad embankment, ballast and tracks over the acquired farmland. Impacts are similar to those under Package A because of the need to construct passing track in this segment of the commuter rail line. The area to be acquired comprises 7.4 acres, or approximately nine percent of the entire 81.35-acre historic property. An entirely new transportation feature would be introduced into the rural, agricultural setting. The proposed rail corridor passes through the original farmstead complex at the southeast corner of the property, and would require removal of the contributing, architecturally significant farmhouse (see **Figure 3.15-111**).

These direct and indirect effects would result in the major reduction or loss of integrity of this resource, and FHWA, FTA and CDOT therefore have determined that under the Preferred Alternative an adverse effect would result. Details of mitigation for this effect are discussed under **Section 3.15.3**.

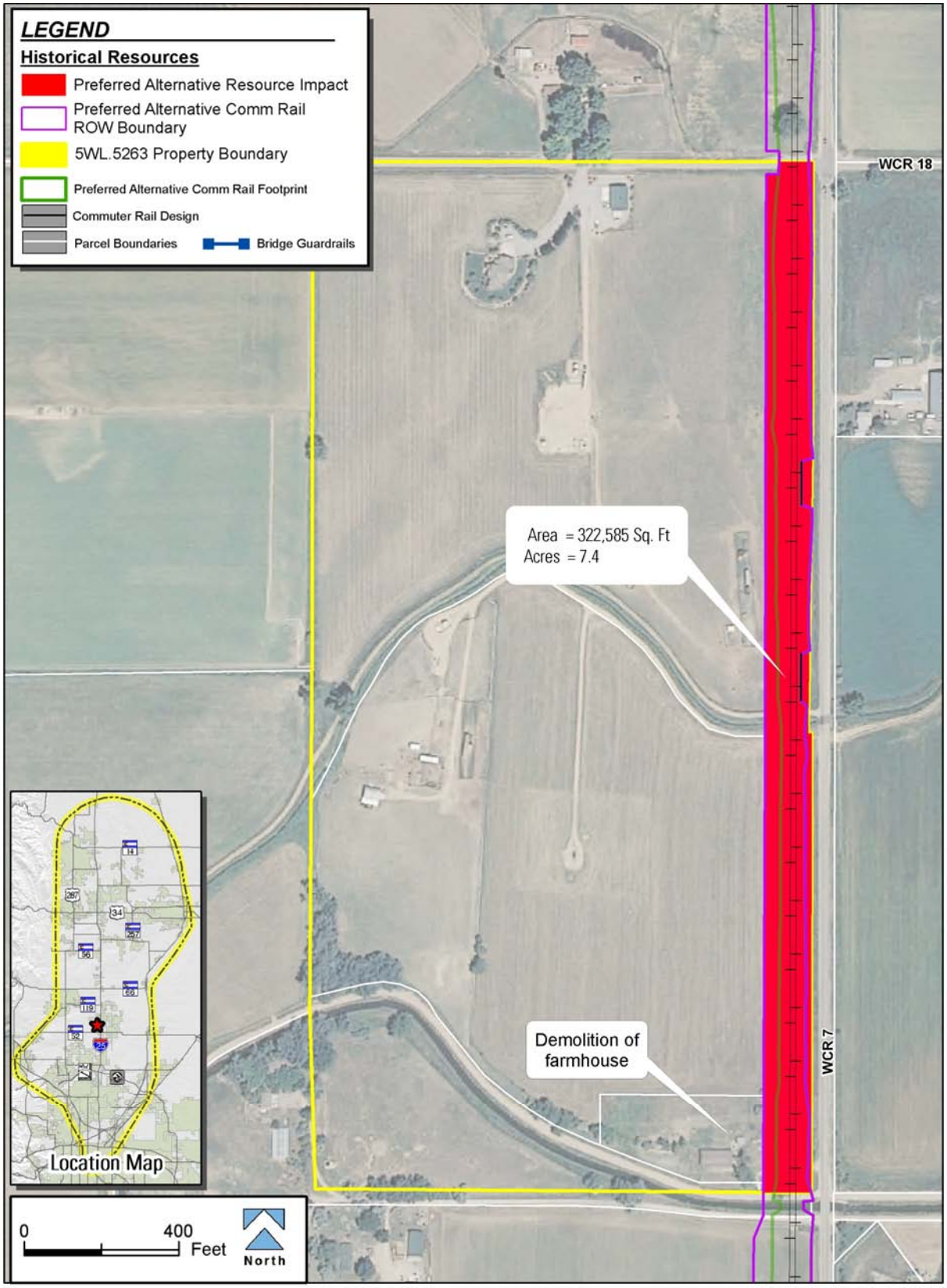
5WL.6564 (Jillson Farm)

Resource Description: The Jillson Farm is located at the intersection of WCR 7 and WCR 18 approximately one mile west of I-25 and three miles south of SH 119. The farm is significant as an important example of one of the northern Colorado farms from the late 19th century. It played an important role in the agricultural development and settlement of the region. The farm remains in the Jillson family after more than 120 years of continuous production. The house on the property is also architecturally significant as an excellent intact example of the Craftsman style with a wide, recessed porch, tapered supports and bracketed eaves.

The production of sugar beets was the main reason for the profitability of this farm and many others in northern Colorado and this association is an important part of its agricultural history. Sugar beet production in this region started in the early 1900s with the opening of Great Western's sugar beet processing facility in Longmont. Sugar beet production in northern Colorado was strong for over 80 years, but declined significantly after the closure of the Great Western sugar plants in 1985. Since that time, much of the farmland in northern Colorado has been used to produce other crops. The Jillson Farm, however, has continued to produce sugar beets. After Great Western closed its plants in 1985, Tate and Lyle, a British sugar company purchased Great Western's assets. They operated as Western Sugar Company until the late-1990s when they began to seek a buyer for their United States operations. In 2002, over 1000 sugar beet growers from Colorado, Wyoming, Nebraska and Montana pulled together and formed the Western Sugar Cooperative. The cooperative bought the Western Sugar Company from Tate and Lyle. They have five processing plants in the large four-state region of the sugar cooperative - - with two in Colorado at Greeley and Fort Morgan. The Jillson Farm is a part of the Western Sugar Cooperative and continues to produce sugar beets. They have produced sugar beets for over 100 years.

Eligibility Determination: In the summer of 2010, the Jillson Farm was field assessed as eligible for inclusion on the NRHP under Criterion A for its importance in the agricultural development and settlement of the region for more than 120 years. It was also assessed as eligible under Criterion C as a good intact example of a Craftsman style house.

Figure 3.15-111 5WL.5263 (Hingley Farm) – Preferred Alternative



Effect Determination – Package A: The Jillson farm includes 153 acres on the west side of WCR 7 and 80 acres on the east side. The impacts associated with Package A would occur along the western edge of WCR 7. A strip of 7.34 acres adjacent to the roadway would be needed for construction of the rail alignment. This strip of land goes roughly through the center of the farm which is currently bisected by the roadway. This part of the farm is currently used as pasture for the Jillson herd of about 70 cattle. The farm buildings would not be directly affected by this project as they are located approximately 500 feet west of WCR 7.

FHWA, FTA and CDOT have determined that the loss of 7.34 acres of land for construction of Package A would result in an adverse effect to this farm because of the introduction of railroad tracks and train traffic to a historic farm setting. Railroad tracks and trains have never been a part of the agricultural setting of the Jillson Farm. Not only would they provide a visual intrusion, but they would bring noise and train activity on a regular schedule to the farm. This would adversely affect the setting and feeling of the Jillson Farm. This project would not affect any of the farm buildings. The architecture of the house and the characteristics that define the integrity of the farm buildings would not be compromised. The location, design, materials and workmanship of the Craftsman style house and other farm buildings would remain the same. The association would still be strong as it is clear that this is still an active farm.

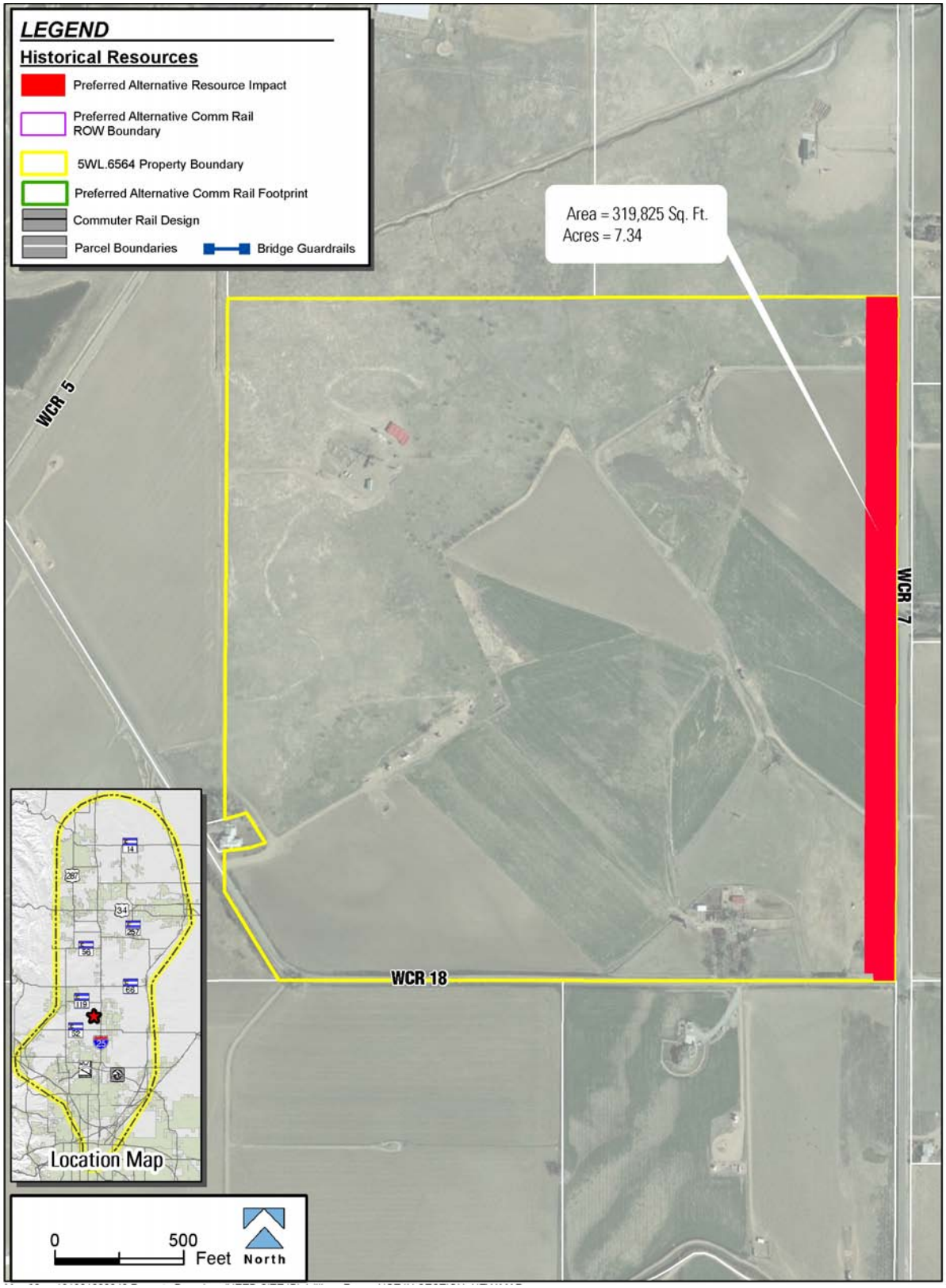
Effect Determination – Preferred Alternative: The Jillson farm includes 153 acres on the west side of WCR 7 and 80 acres on the east side. The impacts associated with the Preferred Alternative would occur along the western edge of WCR 7. A strip of 7.34 acres adjacent to the west side of the roadway would be needed for construction of the rail alignment including passing track.resulting in similar impacts as described under Package A (see **Figure 3.15-112**). This strip of land goes roughly through the center of the farm which is currently bisected by the roadway. This part of the farm is currently used as pasture for the Jillson herd of about 70 cattle. The farm buildings would not be directly affected by this project as they are located approximately 500 feet west of WCR7.

FHWA, FTA and CDOT have determined that the loss of 7.34 acres of land for construction of the Preferred Alternative would result in an adverse effect to this farm because of the introduction of railroad tracks and train traffic to a historic farm setting. Railroad tracks and trains have never been a part of the agricultural setting of the Jillson Farm. Not only would they provide a visual intrusion, but they would bring noise and train activity on a regular schedule to the farm. This would adversely affect the setting and feeling of the Jillson Farm. This project would not affect any of the farm buildings. The architecture of the house and the characteristics that define the integrity of the farm buildings would not be compromised. The location ,design, materials and workmanship of the Craftsman style house and other farm buildings would remain the same. The association would still be strong as it is clear that this is still an active farm.

5WL.2247.11 (Community Ditch)

Resource Description: The Community Ditch is an irrigation lateral ditch that generally runs east to west across the area south of SH 52 near Erie. The ditch was originally built in 1885. The entire Community Ditch is approximately 30 miles long. Within the project APE the earthen irrigation ditch is approximately 714 feet long and 16 feet wide. Both banks of the ditch are lined with grassy vegetation. The surrounding area is devoted to agriculture.

Figure 3.15-112 5WL.6564 (Jillson Farm) – Preferred Alternative



Eligibility Determination: The entire Community Ditch (5WL.2247) is eligible for inclusion on the NRHP under Criterion A for its important association with the development of water rights and agriculture in Weld County. The segment (5WL.2247.11) within the project APE retains sufficient integrity of location and setting to support the eligibility of the entire linear resource.

Effect Determination – Package A: The proposed new double-track commuter rail line under Package A would pass in a northwest-southeast alignment across the historic ditch segment, and would span the ditch at the same location as the abandoned UPRR Boulder Valley Branch bridge, creating an additional 60 feet of cover over the ditch. A new bridge structure would replace the abandoned non-contributing UPRR Boulder Valley Branch bridge. Approximately 105 feet of open ditch would flow underneath the new bridge beneath the new railroad bed and tracks (see **Figure 3.15-113**). The new bridge would be approximately 90 feet long and 105 feet wide. Associated bridge support structures, such as piers and abutments, would be placed outside the historic property. There would be no resulting direct impact to the historic resource.

Installation of the new bridge would likely require temporary occupancy of the historic property for equipment access and minor construction activities. The ditch would remain operational and irrigation water would be protected from contamination by construction. All disturbance caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

Although a portion of the open ditch would be placed underneath a bridge, this change affects only a very small percentage of the overall linear resource. FHWA, FTA and CDOT have determined that Package A would result in *no adverse effect* to the entire Community Ditch.

Effect Determination – Preferred Alternative: The proposed new commuter rail line under the Preferred Alternative would pass in a northwest-southeast alignment across the historic ditch segment, and would span the ditch at the same location as the abandoned UPRR Boulder Valley Branch bridge, creating an additional 60 feet of cover over the ditch. A new bridge structure would replace the abandoned non-contributing UPRR Boulder Valley Branch bridge. Approximately 105 feet of open ditch would flow underneath the new bridge beneath the new railroad bed and tracks (see **Figure 3.15-114**). The new bridge would be approximately 90 feet long and 105 feet wide. Associated bridge support structures, such as piers and abutments, would be placed outside the historic property. There would be no resulting direct impact to the historic resource.

Installation of the new bridge would likely require temporary occupancy of the historic property for equipment access and minor construction activities. The ditch would remain operational and irrigation water would be protected from contamination by construction. All disturbance caused by construction equipment or construction activities would be temporary in nature and affected areas would be restored to their original condition and appearance.

Although a portion of the open ditch would be placed underneath a bridge, this change affects only a very small percentage of the overall linear resource. FHWA, FTA and CDOT have determined that the Preferred Alternative would result in *no adverse effect* to the entire Community Ditch.

Figure 3.15-113 5WL.2247.11 (Community Ditch) – Package A

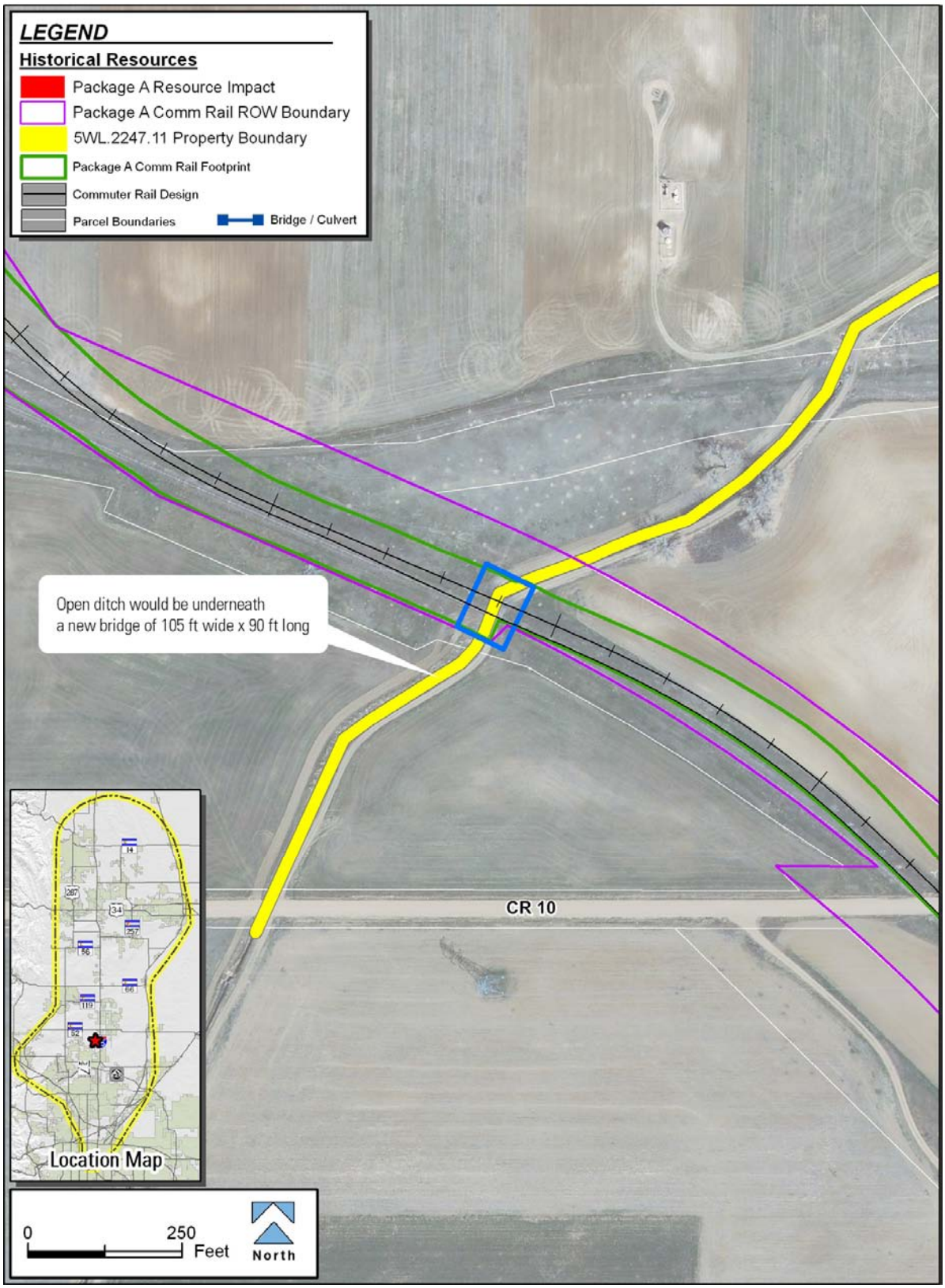
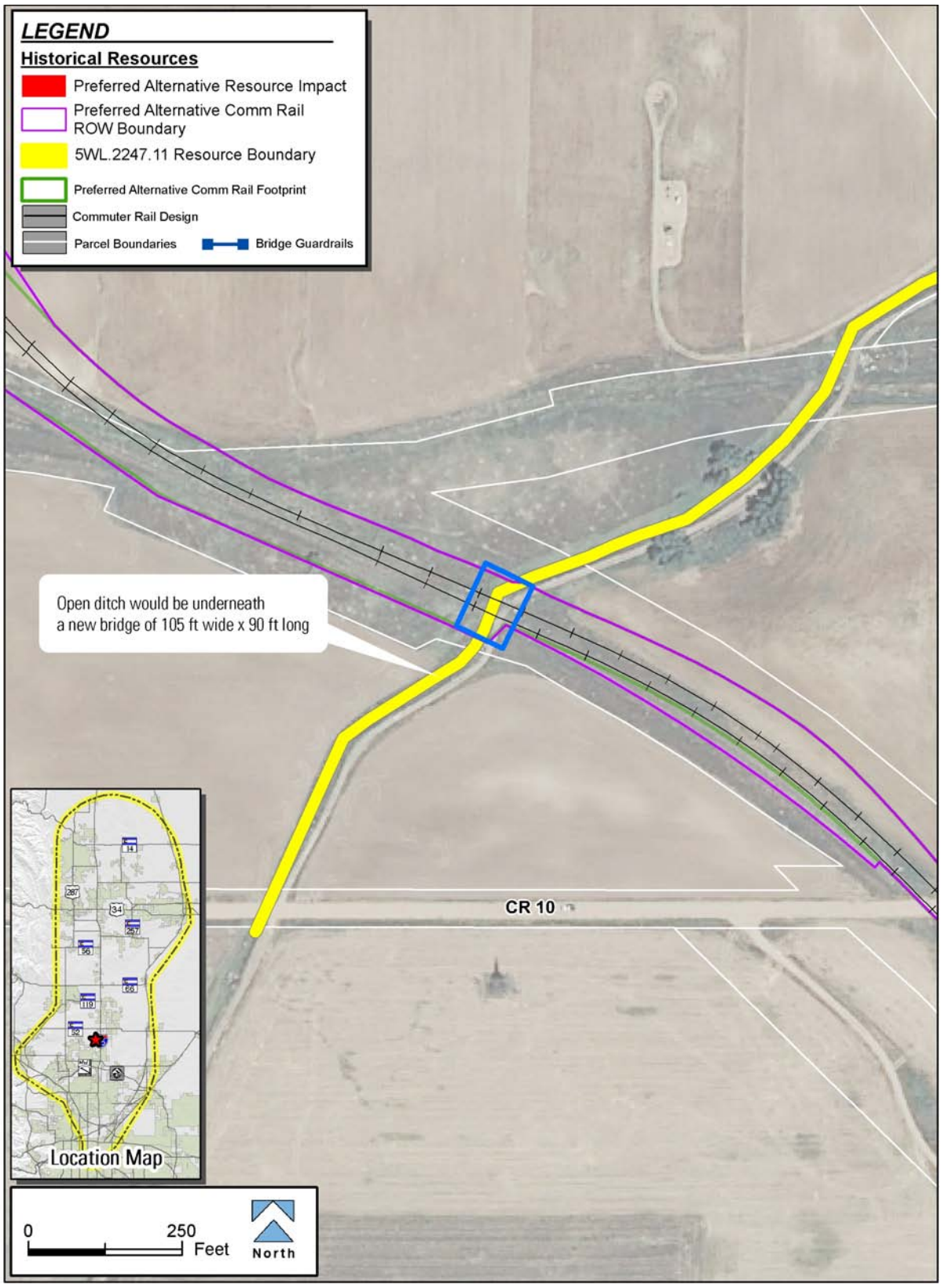


Figure 3.15-114 5WL.2247.11 (Community Ditch) – Preferred Alternative



5WL.1317, 5AM.472 (UPRR-Dent Branch)

Resource Description: The Dent Branch is a 39 mile long section of the Union Pacific Railroad (UPRR) that ran through Weld and Adams Counties. The Weld County segment 5WL.1317.11 of the Dent Branch runs 2.9 miles within the APE (see **Figure 3.15-115**). The railway segment is abandoned, but rails, ties, and the ballasted roadbed remain in relatively good condition. A 3,500-foot freight bypass on the Dent Branch, located south of the Boulder Valley-Dent Branch once consisted of a multiple-track complex. South of that bypass, the track reverts to a single track alignment. Segment 5AM.472.1 is a 1.9-mile-long railway segment that follows the original single-track alignment in Adams County. Most of this segment has been abandoned. The surrounding area is rural in character.

Eligibility Determination: The OAHP has officially declared the UPRR-Dent Branch eligible for the NRHP under Criterion A for its important role in the development of the agricultural economy of the Front Range of Colorado. Although abandoned, these two railway segments retain integrity of location and association and therefore support the eligibility of the entire linear resource.

Effect Determination: In order to determine the effect to the entire linear resource, impacts to each of the segments passing through the project APE were assessed. These impact assessments are presented below, followed by a determination of effect to the entire UPRR-Dent Branch in Weld and Adams counties (5WL.1317, 5AM.472).

Impacts to segment 5WL.1317.11 – Package A: The proposed new commuter rail line would join this existing historic rail line by approaching from the northwest, then crossing over to the east side of the historic railroad, which it would closely parallel and follow southward. The commuter rail would utilize a double-track configuration, using the existing track alignment and adding a parallel track alignment following the historic UPRR-Dent Branch from the wye at St. Vrains junction southward. Where the new commuter rail line crosses the Dent Branch, there would be direct impacts to as many as 200 feet of track by the replacement of existing “through rail” with switching tracks and associated apparatus (see **Figure 3.15-116**). Although one of the new commuter rail tracks would run along the historic alignment, the existing historic bed, ballast and grade along the entire affected extent of the historic railway would be preserved. Deteriorated ties and abandoned rail would be replaced as required to meet safety and design standards.

Impacts to segment 5WL.1317.11 – Preferred Alternative: The proposed new commuter rail line would join this existing historic rail line by approaching from the northwest. The commuter rail would utilize the existing track alignment following the historic UPRR-Dent Branch from the wye at St. Vrains junction southward. There would be no direct impacts as a result of the Preferred Alternative (see **Figure 3.15-117**). Although the new commuter rail would run along the historic alignment, the existing historic bed, ballast and grade along the entire affected extent of the historic railway would be preserved. Deteriorated ties and abandoned rail would be replaced as required to meet safety and design standards.

Impacts to segment 5AM.472.1 – Package A: The new double-track commuter rail would lay new track on the existing bed, ballast, and grade of the UPRR-Dent *B*ranch and a new set of tracks parallel to the original alignment as described in segment 5WL.1317.11. The historic railroad bed, ballast, and grade would remain intact. The installation of new sets of tracks would be compatible with the historic use of the railroad line, but would not substantially diminish or alter the function, alignment, character, or other attributes that render the railroad NRHP-eligible.

Figure 3.15-115 5WL.1317, 5AM.472 (UPRR-Dent Branch) – Segments Intersecting Project APE

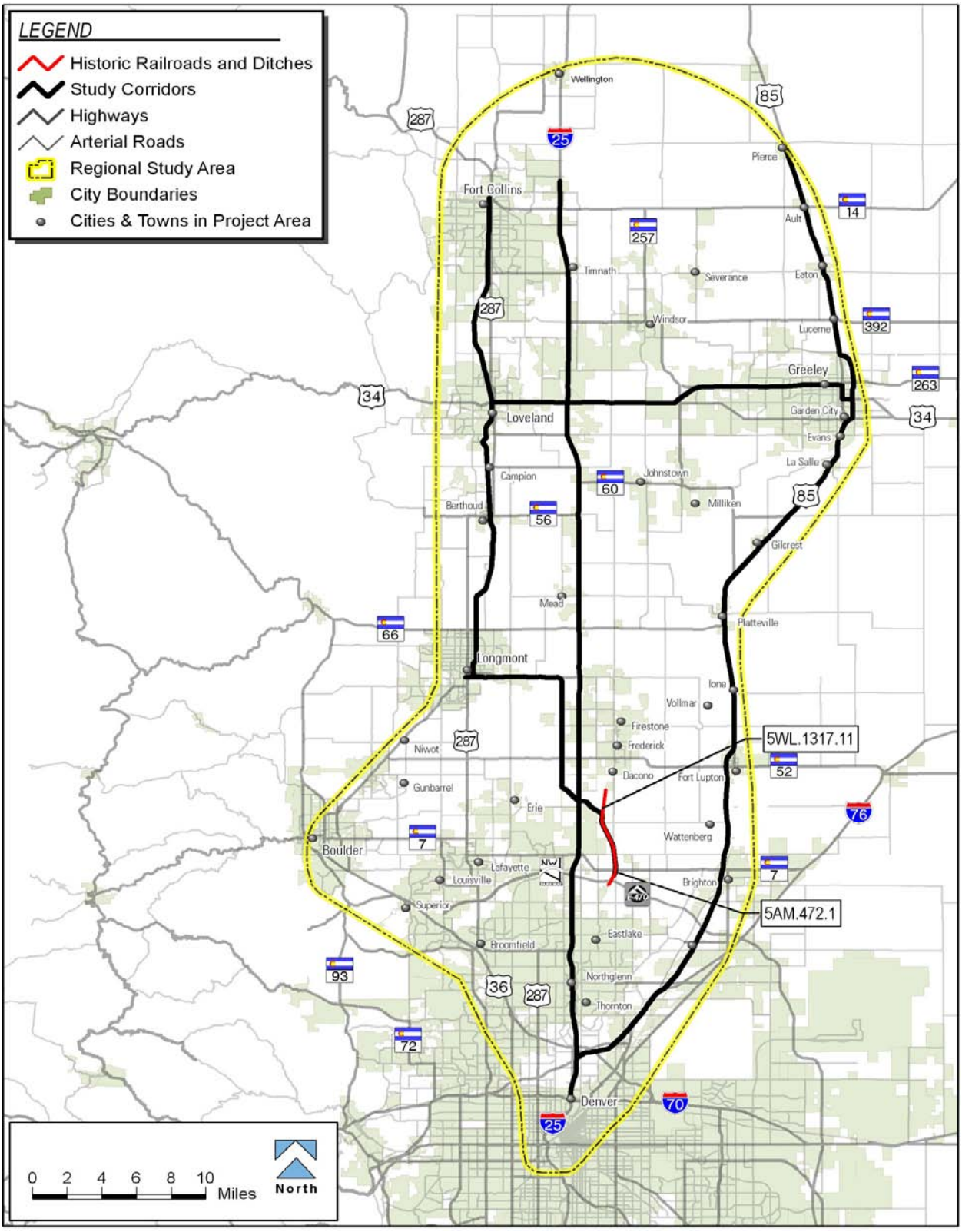


Figure 3.15-116 5WL.1317.11 (UPRR-Dent Branch) – Package A

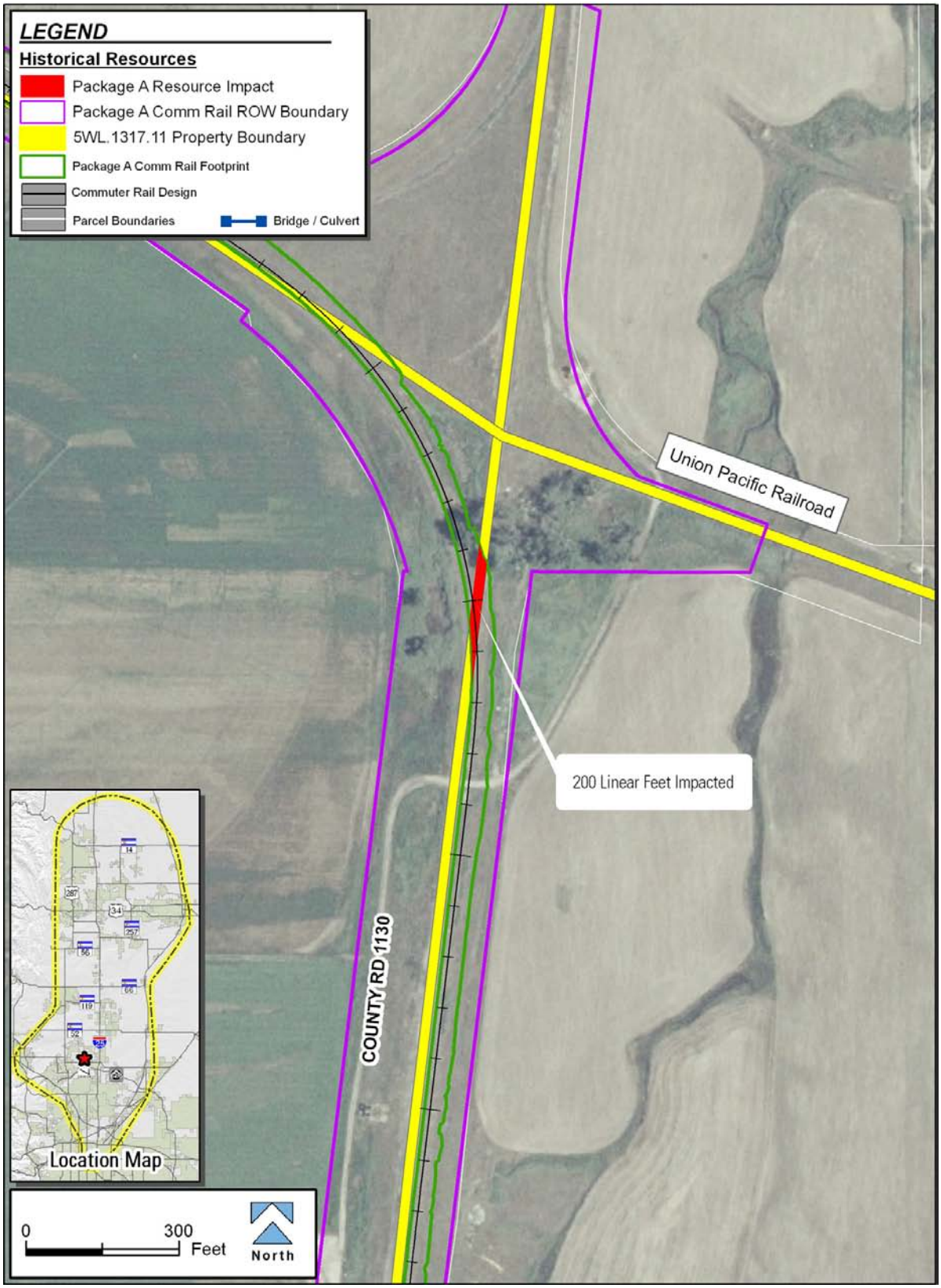
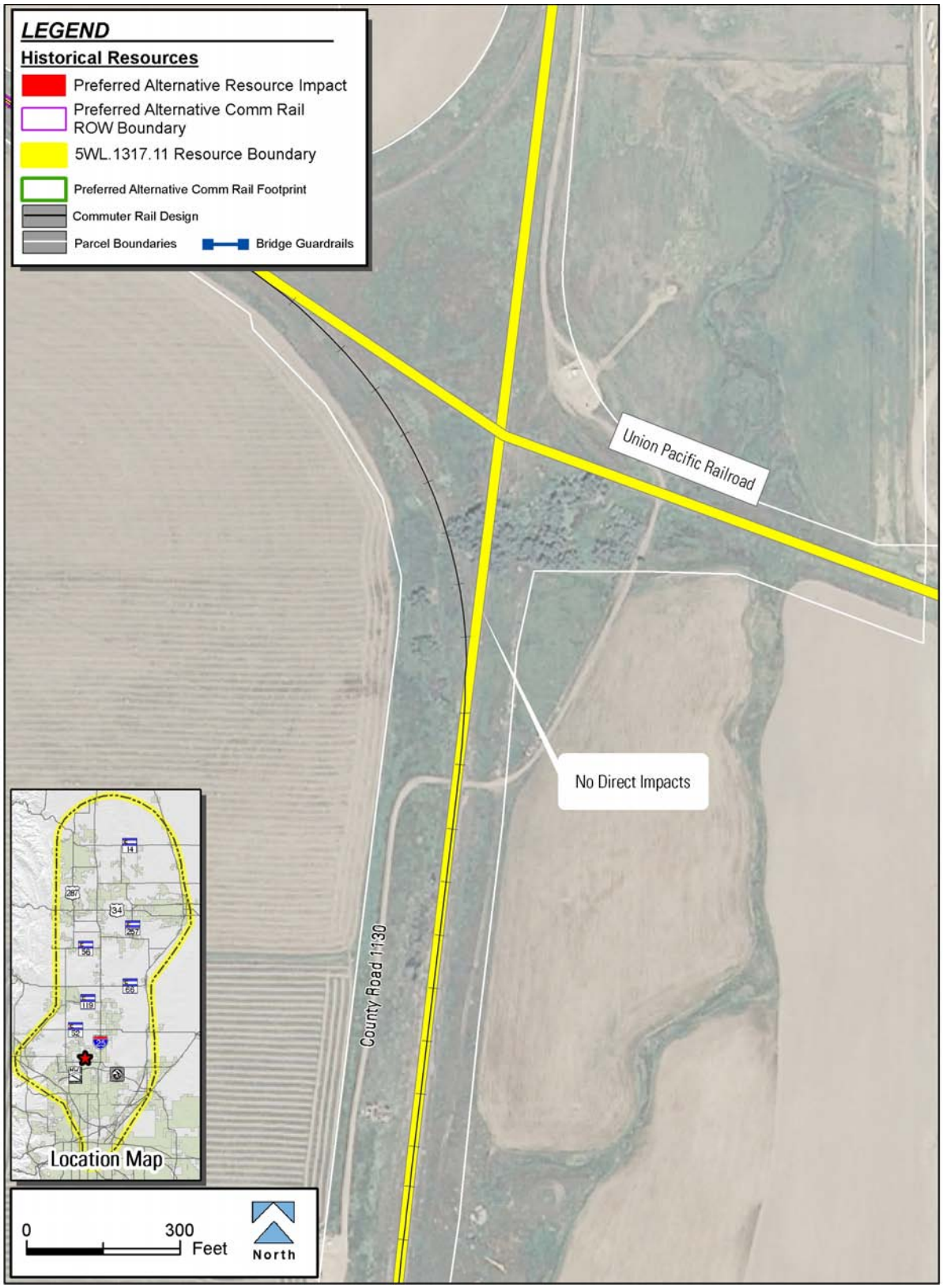


Figure 3.15-117 5WL.1317.11 (UPRR-Dent Branch) – Preferred Alternative



Impacts to segment 5AM.472.1 – Preferred Alternative: The Preferred Alternative would lay new track on the existing bed, ballast, and grade of the UPRR-Dent Branch as described in segment 5WL.1317.11. The historic railroad bed, ballast, and grade would remain intact. The installation of new sets of tracks would be compatible with the historic use of the railroad line, and would not substantially diminish or alter the function, alignment, character, or other attributes that render the railroad NRHP-eligible.

Summary Effect Determination:

Package A: A 200-foot-section of existing rails would be replaced with modern switching track. A continuous 4.89 miles or approximately 12 percent of the entire linear resource would be reoccupied with new track on the existing bed, ballast and grade, and an additional new track, 15-feet away and parallel to the existing historic alignment. New commuter rail tracks along the transportation corridor would introduce new, but compatible rail use and infrastructural elements to the historic setting. The proposed transportation improvements associated with Package A would not substantially diminish or alter characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Package A commuter rail improvements would result in *no adverse effect* to the historic UPRR-Dent Branch (5WL.1317 and 5AM.472).

Package B: No direct or indirect impacts would occur at any segment locality. FHWA, FTA and CDOT therefore have determined that the Package B would result in *no historic properties affected* with respect to the historic UPRR-Dent Branch (5WL.1317 and 5AM.472).

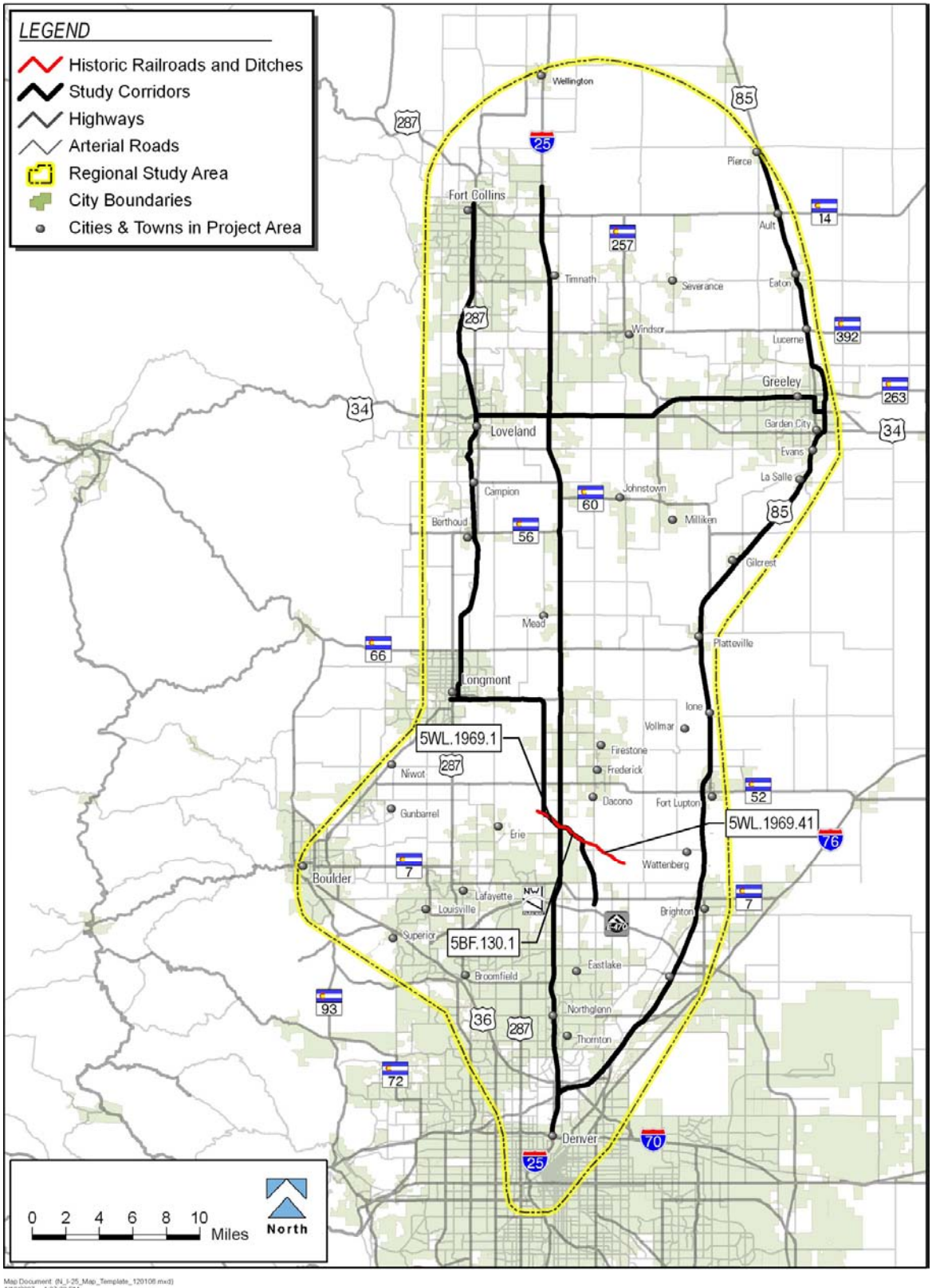
Preferred Alternative: A continuous 4.89 miles or approximately 12 percent of the entire linear resource would be reoccupied with new track on the existing bed, ballast and grade of the historic alignment. New commuter rail tracks along the transportation corridor would introduce new, but compatible rail use and infrastructural elements to the historic setting. The proposed transportation improvements associated with the Preferred Alternative would not substantially diminish or alter characteristics that render the property eligible for the NRHP. FHWA, FTA and CDOT therefore have determined that the Preferred Alternative commuter rail improvements would result in *no adverse effect* to the historic UPRR-Dent Branch (5WL.1317 and 5AM.472).

5WL.1969, 5BF.130 (Denver Pacific/Kansas Pacific/Union Pacific Railroad, Denver & Boulder Valley Branch)

Resource Description: This linear historic resource is the abandoned Denver Pacific/Kansas Pacific/Union Pacific, Denver & Boulder Valley Branch (UPD&BVB) that ran a distance of 26-miles from Boulder to Brighton. The rail line was originally built in 1870. Two segments of this rail line in Weld County enter the project APE, including 2,310–foot (0.44 mile) long segment 5WL.1969.41, and 11,620 feet (2.2 mile) long segment 5WL.1969.1, both of which follow the original alignment (see **Figure 3.15-118**). Both segments are in a deteriorated state. One 2,083 feet (0.39 mile) long segment of the same rail line in Broomfield County is designated 5BF.130.1, and includes a contributing wooden trestle bridge carrying the rails over Little Dry Creek.

Segment 5WL.1969.1 runs east-west 2,000 feet north of CR 8. This segment is a 2.2-mile long part of the abandoned UPD&BVB between Boulder and Brighton. Construction started in 1870. Rails and ties have been removed near I-25 and parts have been paved over by county roads. This abandoned portion of the railroad includes a wooden trestle bridge located east of WCR 7 and west of I-25. The railroad bridge crossing I-25 was removed soon after 1999.

Figure 3.15-118 5WL.1969 (Denver Pacific/Kansas Pacific/Union Pacific Railroad, Denver & Boulder Valley Branch)—Segments Intersecting Project APE



Eligibility Determination: The OAHP has officially determined that the UPD&BVB is eligible for the NRHP under Criterion A because of its important role in the development of the agricultural economy of the Front Range of Colorado. Segments 5WL.1969.41 and 5BF. 130.1 retain sufficient integrity of location and association to support the eligibility of the entire linear resource. Segment 5WL.1969.1 does not retain enough integrity to support the eligibility of the entire resource.

Effect Determination:
In order to determine the effect to the entire linear resource, impacts to each of the segments passing through the project APE were assessed. These impact assessments are presented below, followed by a determination of effect to the entire Denver Pacific/Kansas Pacific/UPD&BVB railroad in Weld and Broomfield counties (5WL.1969 and 5BF.130).

Impacts to segment 5WL.1969.41 – Package A: The proposed new commuter rail under Package A would utilize the existing track alignment and add a parallel track alignment following the historic UPD&BVB in this area before joining the Dent Branch (5WL.1317.11) wye and turning southward. Where the new commuter rail line crosses onto the Dent Branch, there would be direct impacts to as many as 260 feet of track by the replacement of existing "through rail" with switching tracks and associated apparatus (see **Figure 3.15-119**). The existing historic bed, ballast and grade along the entire affected extent of the historic railway would be preserved. Deteriorated ties and abandoned rail would be replaced as required to meet safety and design standards.

Impacts to segment 5WL.1969.41 – Preferred Alternative: The proposed new commuter rail under the Preferred Alternative would utilize the existing track alignment following the historic UPD&BVB in this area before joining the Dent Branch (5WL.1317.11) wye and turning southward (see **Figure 3.15-120**). The existing historic bed, ballast and grade along the entire extent of the historic railway would be preserved. Deteriorated ties and abandoned rail would be replaced as required to meet safety and design standards.

Impacts to segment 5WL.1969.1 – Package A: The commuter rail would require a new bridge at the location of the wooden trestle bridge and a new 470-foot-long bridge spanning I-25 .The original railroad bridge was demolished during a previous I-25 highway widening project. A new bridge crossing would not be expected to negatively affect the historic setting beyond its already diminished integrity at this location.

The new double-track commuter rail would lay new track on the existing bed, ballast, and grade of the abandoned Boulder Valley Branch and a new set of tracks parallel to the original alignment as described in segment 5WL.1969.41 (see **Figure 3.15-121**).

Additionally, the new double-track rail alignments would require a new supporting structure over an unnamed drainage at the historic wooden timber and log footer bridge (5WL.1969.1 Feature 1). This 47-foot-long by 17-foot-wide historic bridge would be demolished to make way for a new railroad bridge measuring approximately 60 feet long and 70 feet wide.

Figure 3.15-119 5WL.1969.41 (Denver Pacific/Kansas Pacific/Union Pacific Railroad, Denver & Boulder Valley Branch)—Package A

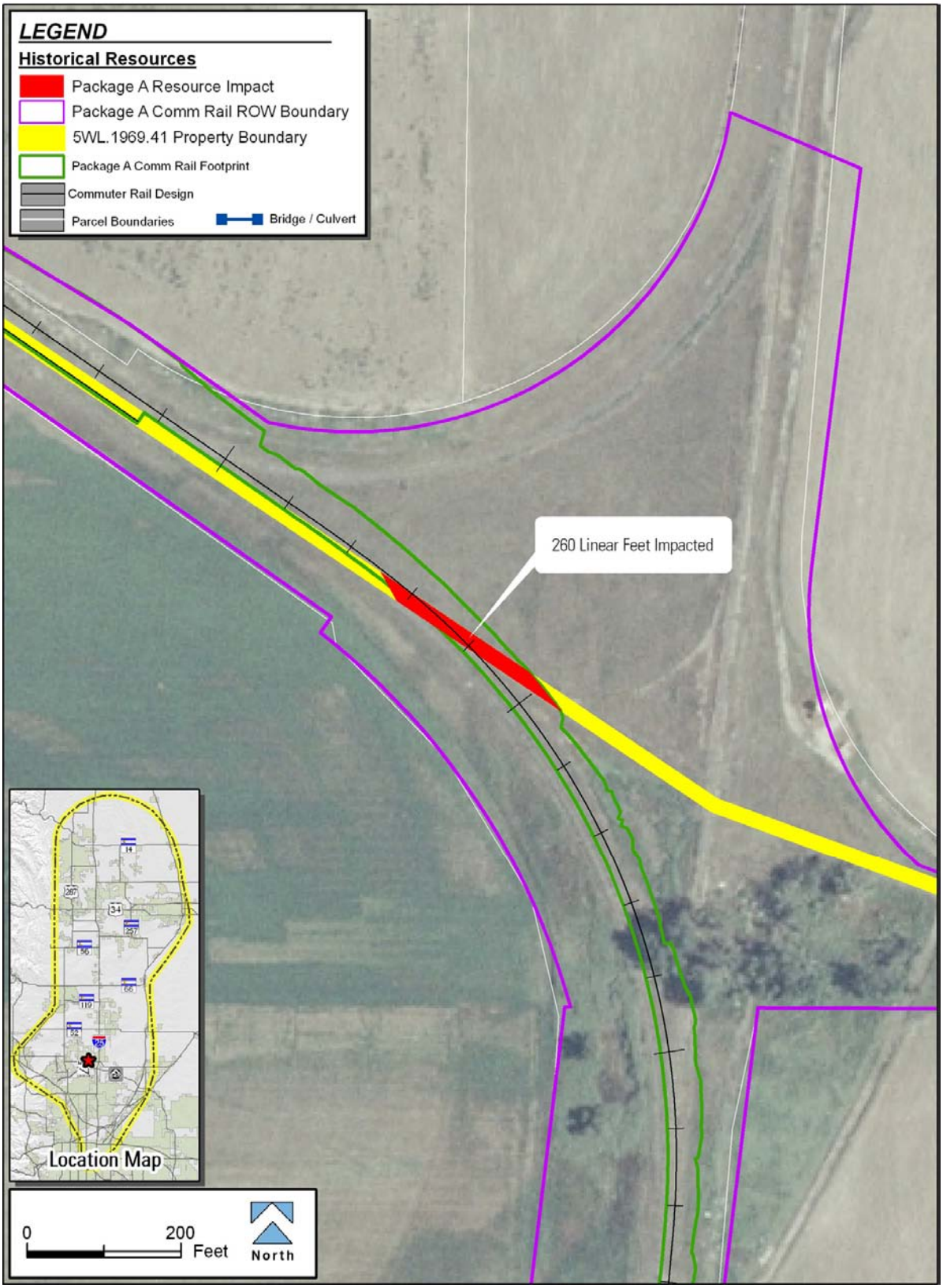


Figure 3.15-120 5WL.1969.41 (Denver Pacific/Kansas Pacific/Union Pacific Railroad, Denver & Boulder Valley Branch)—Preferred Alternative

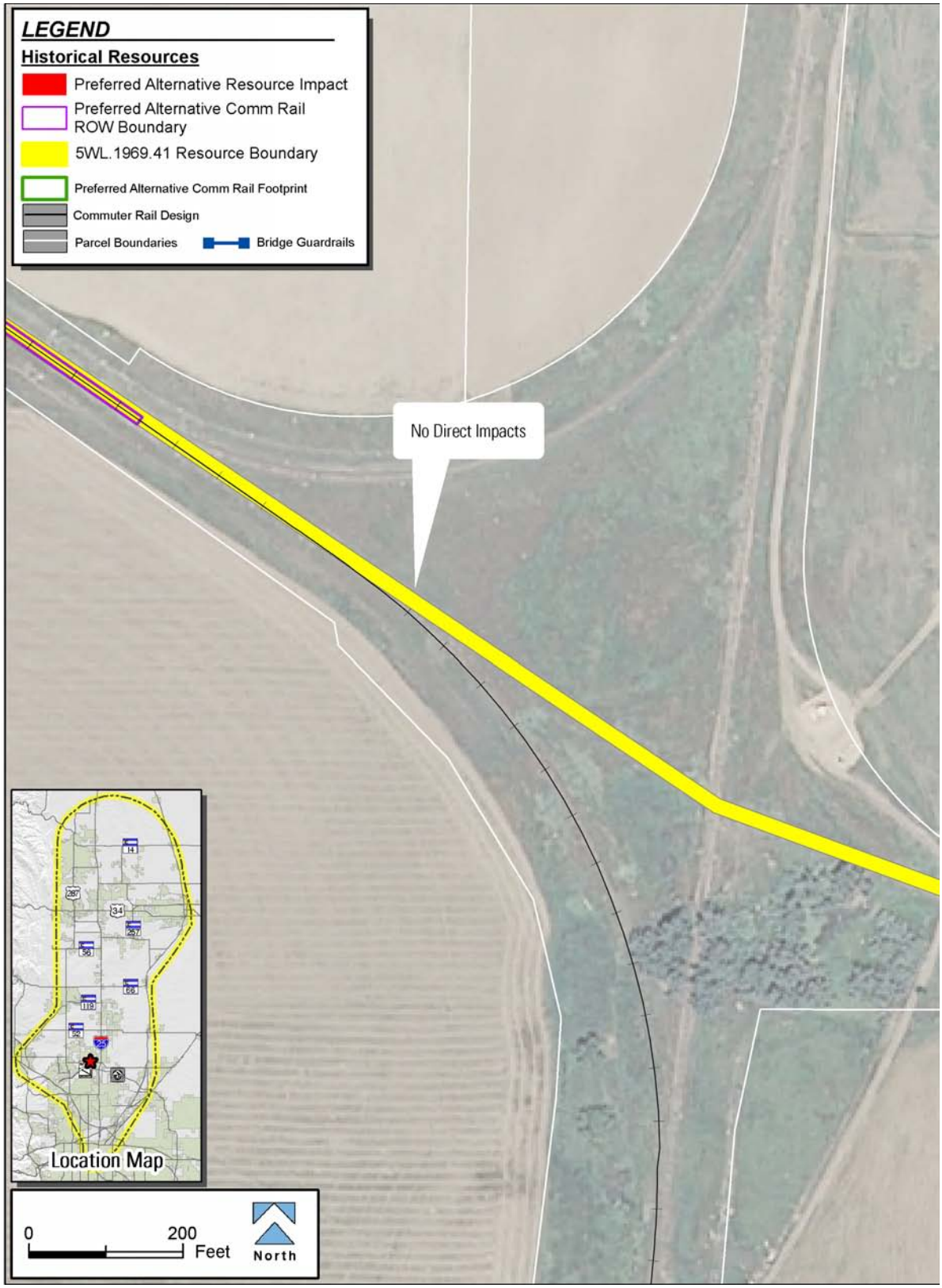
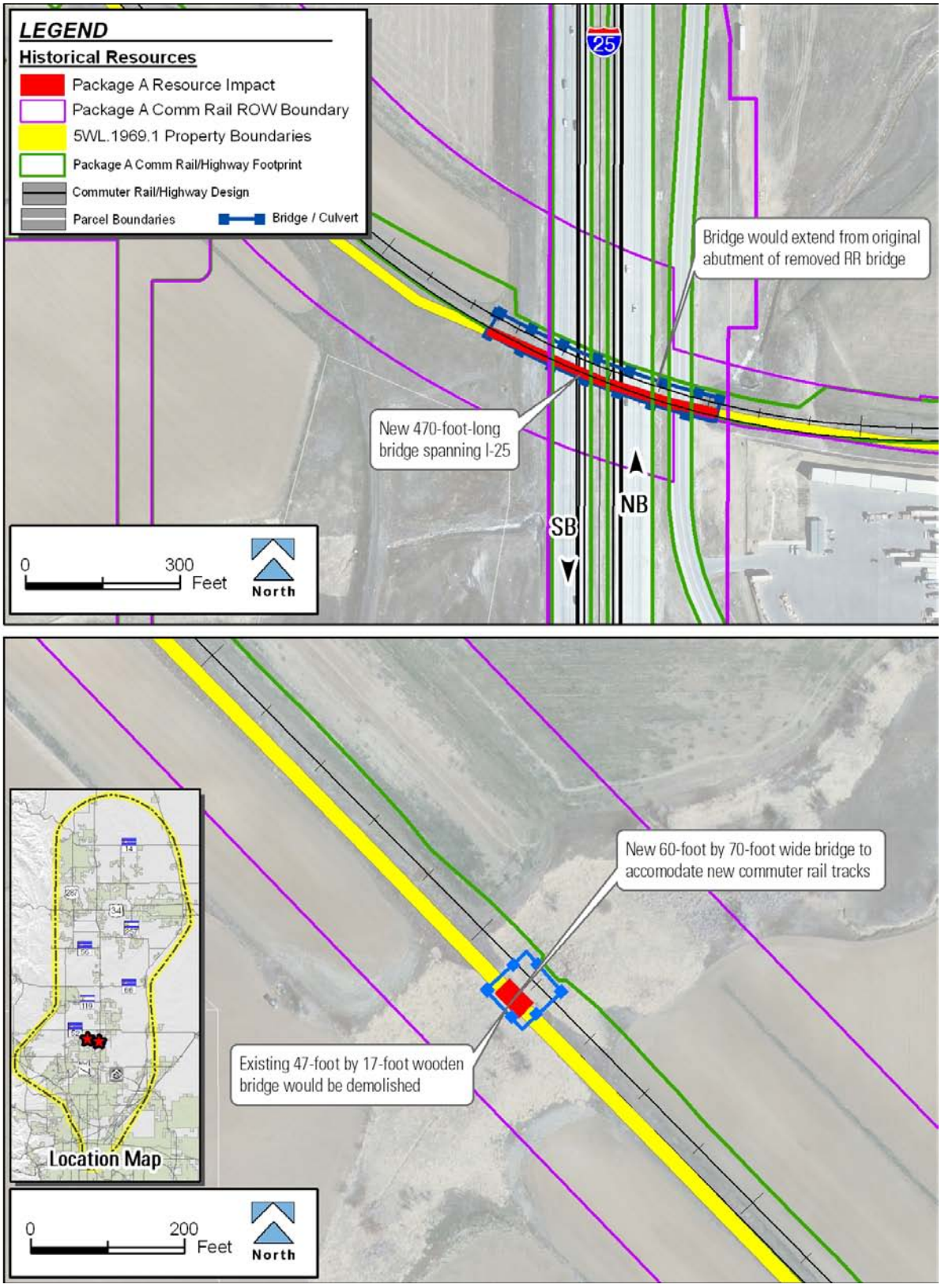


Figure 3.15-121 5WL.1969.1 (Denver Pacific/Kansas Pacific/Union Pacific Railroad, Denver & Boulder Valley Branch)—Package A.



Impacts to segment 5WL.1969.1 – Package B: This segment originally bridged over I-25, but the structure has been removed. Because Package B improvements occur at ground level within the span of the original bridge, there would be no direct or indirect impacts to the railroad segment by improvements associated with Package B.

Impacts to segment 5WL.1969.1 – Preferred Alternative: The commuter rail would require a new bridge at the location of the wooden trestle bridge and a new 470-foot-long bridge spanning I-25 . The original railroad bridge was demolished during a previous I-25 highway widening project. A new bridge crossing would not be expected to negatively affect the historic setting beyond its already diminished integrity at this location.

The new commuter rail would lay new track on the existing bed, ballast, and grade of the abandoned Boulder Valley Branch original alignment as described in segment 5WL.1969.41 (see **Figure 3.15-122**).

Additionally, the new rail alignment would require a new supporting structure over an unnamed drainage at the historic wooden timber and log footer bridge (5WL.1969.1 Feature 1). This 47-foot-long by 17-foot-wide historic bridge would be demolished to make way for a new railroad bridge.

Impacts to segment 5BF.130.1 – Package A: The new double-track commuter rail would lay new track on the existing bed, ballast, and grade of the Boulder Valley Branch and a new set of tracks parallel to the original alignment as described in segment 5WL.1969.41 (see **Figure 3.15-123**). This historic rail line would remain in its current, historic alignment. The new rail line would run along the north side of the historic railroad grade.

The installation of the double-track configuration for the commuter rail would also require a new supporting structure over Little Dry Creek. The existing 69-foot-long by 27-foot-wide wooden trestle bridge (5BF.130.1 Feature 1) would be demolished and a new bridge measuring approximately 75 feet long and 70 feet wide would be constructed at that site. Although new rail would be placed upon existing bed, ballast and grade and a new track placed adjacent to the historic alignment, this is a compatible affect to the historic use and setting of the historic railroad line, and would be expected to preserve an otherwise deteriorating resource.

Impacts to segment 5BF.130.1 – Preferred Alternative: The new commuter rail would lay new track on the existing bed, ballast, and grade of the Boulder Valley Branch original alignment as described in segment 5WL.1969.41 (see **Figure 3.15-124**). This historic rail line would remain in its current, historic alignment.

The installation of the commuter rail would also require a new supporting structure over Little Dry Creek. The existing 69-foot-long by 27-foot-wide, wooden trestle bridge (5BF.130.1 Feature 1) would be demolished and a new bridge would be constructed at that site. Although new rail would be placed upon existing bed, ballast and grade, this effect is compatible with the historic use and setting of the historic railroad line, and would be expected to preserve an otherwise deteriorating resource.

Figure 3.15-122 5WL.1969.1 (Denver Pacific/Kansas Pacific/Union Pacific Railroad, Denver & Boulder Valley Branch) Preferred Alternative

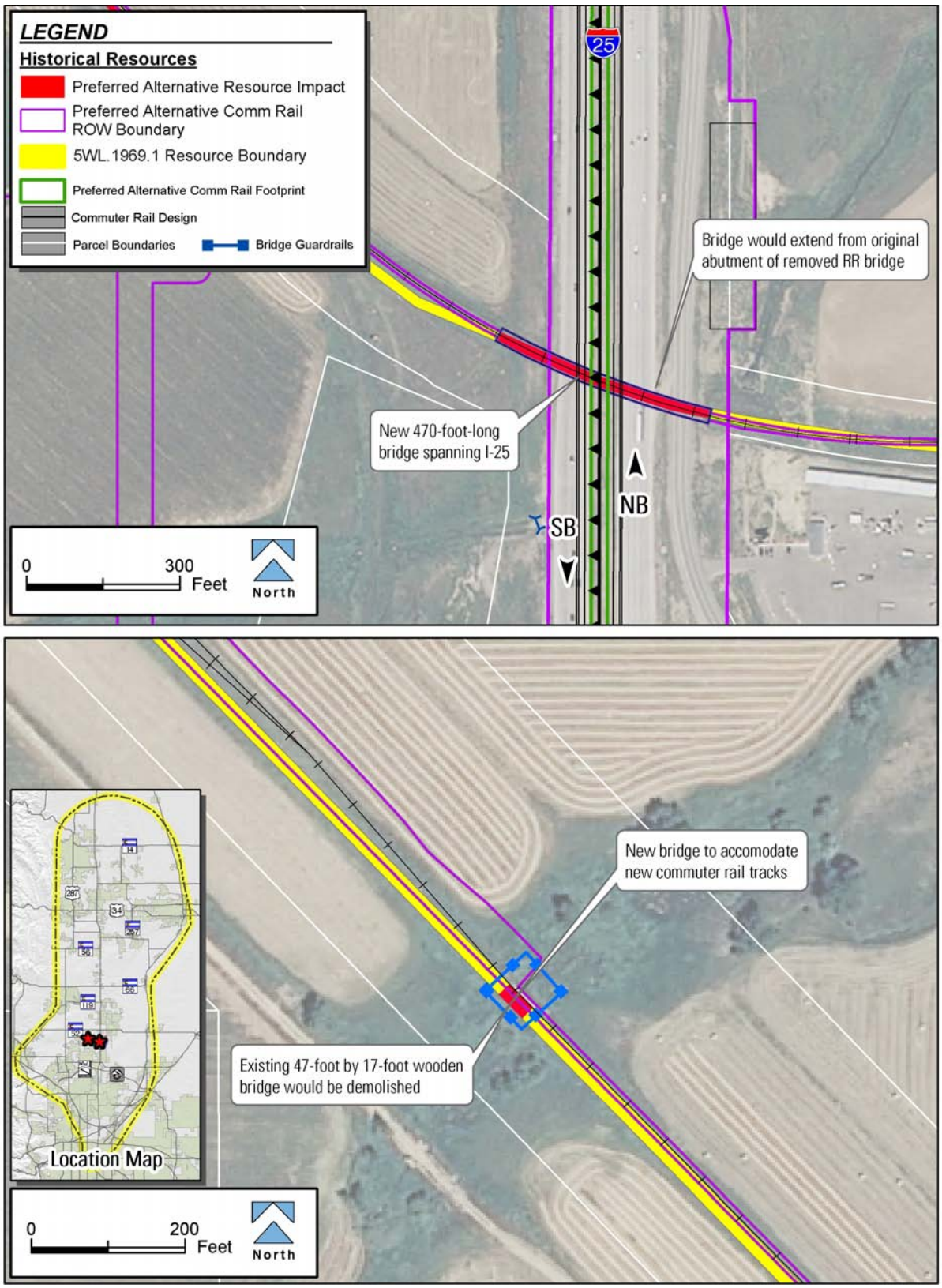


Figure 3.15-1235BF.130.1 (Denver Pacific/Kansas Pacific/Union Pacific Railroad, Denver & Boulder Valley Branch)—Package A

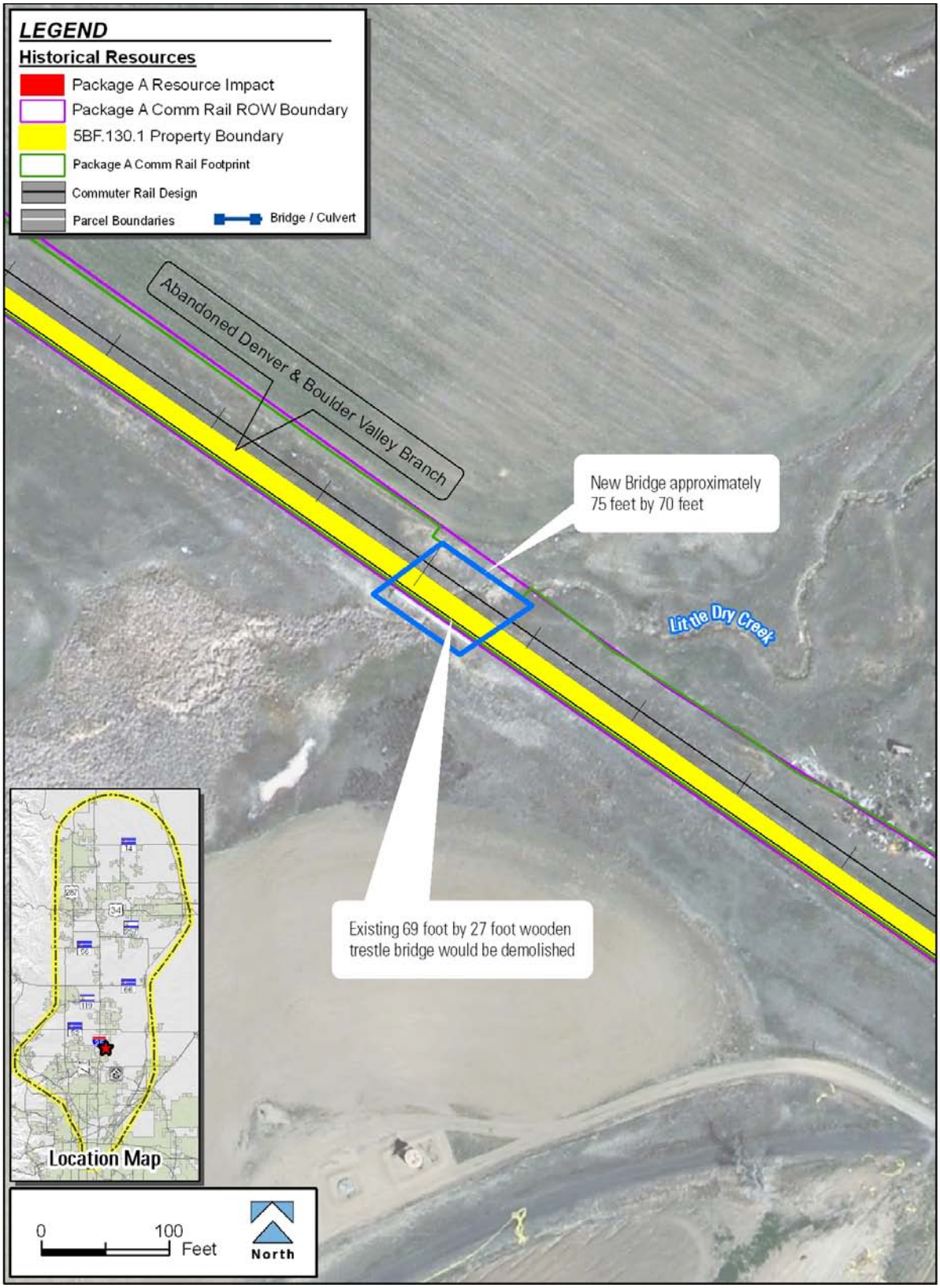
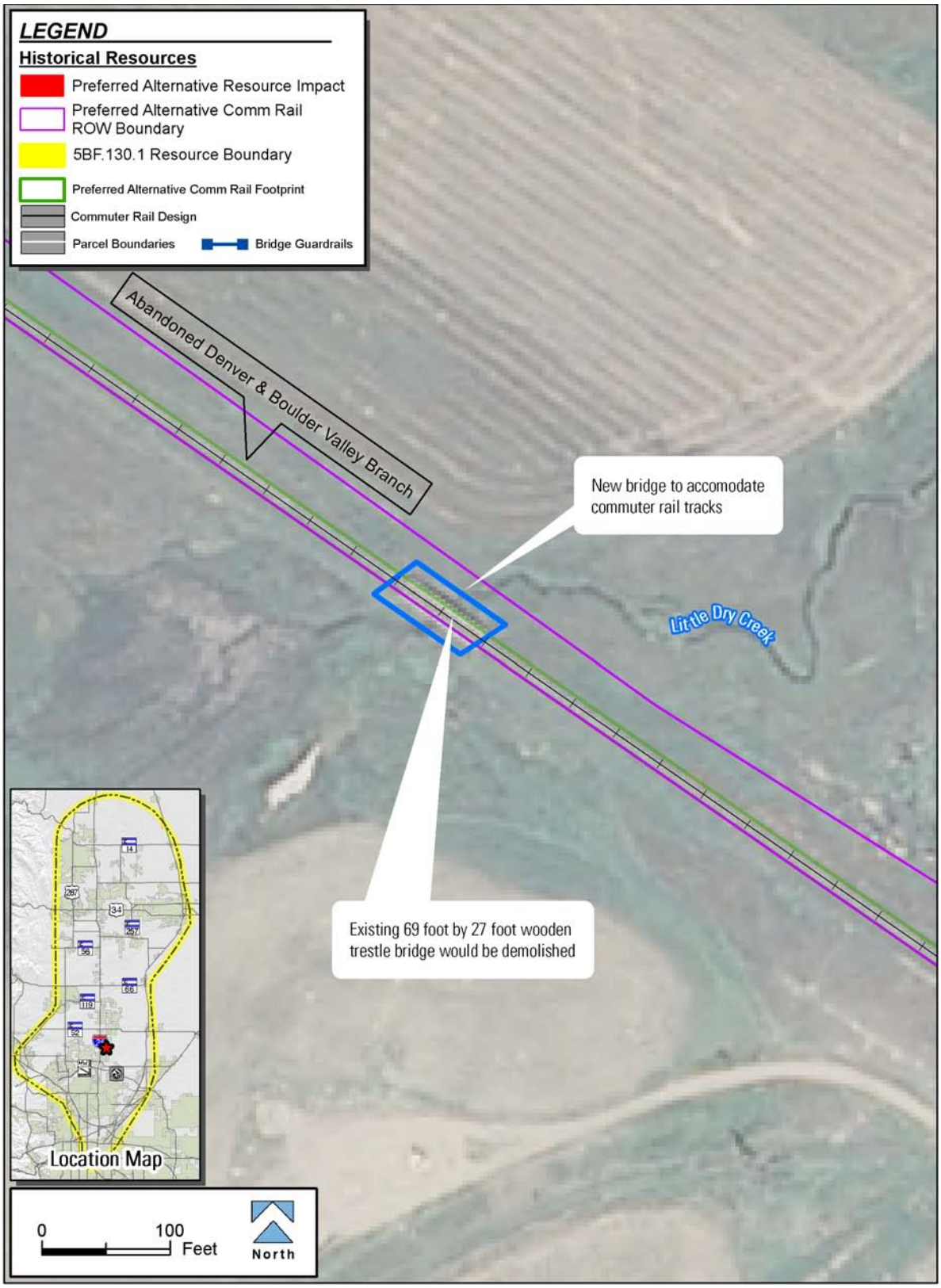


Figure 3.15-124 5BF.130.1 (Denver Pacific/Kansas Pacific/Union Pacific Railroad, Denver & Boulder Valley Branch)—Preferred Alternative



Summary Effect Determination:

Package A: A continuous 2.9 miles or approximately 11 percent of the entire linear resource would be reoccupied with new track on the existing bed, grade and ballast and an additional new track, 15 feet away and parallel to the existing historic alignment. New commuter rail tracks along the transportation corridor would introduce new, but compatible rail infrastructural elements to the historic setting. Demolition of two historic bridge features along the Boulder Valley Branch would result in direct impacts to the resource.

These direct and indirect effects would result in the major reduction or loss of integrity of this resource, and FHWA, FTA and CDOT therefore have determined that Package A would result in an *adverse effect* to the historic Denver Pacific/Kansas Pacific/UPD&BVB railroad line (5WL.1969 and 5BF.130).

Package B: No direct or indirect impacts would occur at any segment locality. FHWA, FTA and CDOT therefore have determined that the Package B improvements would result in *no historic properties affected* with respect to the historic Denver Pacific/Kansas Pacific/UPD&BVB railroad line (5WL.1969 and 5BF.130).

Preferred Alternative: A continuous 2.9 miles or approximately 11 percent of the entire linear resource would be reoccupied with new track on the existing bed, grade and ballast of the existing historic alignment. New commuter rail tracks along the transportation corridor would introduce new, but compatible rail infrastructural elements to the historic setting. Demolition of two historic bridge features along the Boulder Valley Branch would result in direct impacts to the resource.

These direct and indirect effects would result in the major reduction or loss of integrity of this resource, and FHWA, FTA and CDOT therefore have determined that the Preferred Alternative would result in an *adverse effect* to the historic Denver Pacific/Kansas Pacific/UPD&BVB railroad line (5WL.1969 and 5BF.130).

Commuter Rail Stations

5LR.530 (Bimson Blacksmsith Shop—Little Thompson Valley Pioneer Museum)

Resource Description: This building is located at 228 Mountain Avenue in downtown Berthoud. This small, one story stone commercial building was erected in 1893, and served as the shop of blacksmith A.G. Bimson prior to its use as a historical museum.

Eligibility Determination: The Bimson Blacksmith Shop is listed on the NRHP and is eligible under Criterion A.

Effect Determination – Package A: This historic property lies just outside the project construction disturbance footprint under Package A. There would be additional train traffic on the nearby railway tracks creating minor noise and vibration increases over current levels, but no impacts. This situation would not be a new or heightened condition from the historic period when train traffic was heavier. Local increased vehicular traffic to the adjacent commuter rail parking lot would not result in discernable indirect impact affecting the operation of the museum, or altering the function, setting, and other attributes that rendered the property NRHP-eligible.

No direct or incompatible indirect impacts would occur, and FHWA, FTA and CDOT have determined that Package A commuter rail improvements would result in *no adverse effect* to this historic resource.

Effect Determination – Preferred Alternative: This historic property lies just outside the project construction disturbance footprint under the Preferred Alternative. There would be additional train traffic on the nearby railway tracks creating minor noise and vibration increases over current levels, but no impacts. This situation would not be a new or heightened condition from the historic period when train traffic was heavier. Local increased vehicular traffic to the adjacent commuter rail parking lot would not result in discernable indirect impacts affecting the operation of the museum, or altering the function, setting, and other attributes that rendered the property NRHP-eligible.

No direct or incompatible indirect impacts would occur, and FHWA, FTA and CDOT have determined that the Preferred Alternative commuter rail improvements would result in *no adverse effect* to this historic resource.

Queue Jumps Along US 85

5WL.5296 (Flagstone Residence—Goetzel)

Resource Description: The historic Goetzel Residence is located at 3611 Idaho Street in Evans. This house is constructed of rusticated flagstone and was built in 1943.

Eligibility Determination: The house is eligible for the NRHP under Criterion C, as an excellent example of a Bungalow-style house made of an unusual building material.

Effect Determination: The creation of a queue jump in the vicinity of this historic dwelling involves reconfiguration of traffic lanes and markings within the existing US 85 roadway footprint. The queue jump consists of a modification to an existing signal light to allow buses to proceed through an intersection ahead of regular traffic on a separately timed green light. A short right-turn/bus-only lane is striped onto the existing outside lane of the highway to facilitate this bus movement. No new noise or intrusive transportation elements not already present along US 85 would occur with these improvements, and therefore no indirect effects are expected.

These proposed changes would not result in any direct or indirect impacts. FHWA, FTA and CDOT therefore have determined that the proposed queue jump would result in *no historic properties affected* with respect to this historic resource.

5WL.568 (Fort Vasquez)

Resource Description: Fort Vasquez (5WL.568) is located in Platteville. Fort Vasquez Trading Post was built in 1835 and was the first permanent structure built along the South Platte River. This adobe outpost was near the Trapper's Trail and was built to be near the Cheyenne and Arapaho Indians, who provided buffalo robes to the trading post in trade for kettles, knives, guns, ammunition, blankets, beads and other items. After falling into a ruinous condition, Fort Vasquez was reconstructed in the 1930s by the Works Progress Administration (WPA), and the site is now operated as public museum.

Eligibility Determination: Fort Vasquez is listed on the NRHP. The site is significant under Criterion A for its role in the trapper and trader period (1800-1870) prior to the "Pikes Peak

Gold Rush," when riverside trails between trading posts were the main conduits for communication and early settlement along the Colorado Front Range.

Effect Determination: The creation of a queue jump in the vicinity of Fort Vasquez involves reconfiguration of traffic lanes and markings within the existing US 85 roadway, and these proposed changes would not produce any direct impacts. The fort has been in close proximity to the modern highway for many decades. The queue jump consists of a modification to an existing signal light to allow buses to proceed through an intersection ahead of regular traffic on a separately timed green light. A short right-turn/bus-only lane is striped onto the existing outside lane of the highway to facilitate this bus movement. No noise or intrusive transportation elements not already present along US 85 would occur with these improvements, and therefore no indirect effects are expected. FHWA, FTA and CDOT therefore have determined that the proposed queue jump would result in *no historic properties affected* with respect to this historic resource.

COMMUTER BUS STATIONS: GREELEY TO DENVER

There would be no impacts to any historic properties for this component.

COMMUTER BUS STATIONS: GREELEY TO DIA

There would be no impacts to any historic properties for this component.

MAINTENANCE FACILITIES

There would be no impacts to historic properties on any of the maintenance facility sites or carpool lots for Package A.

3.15.2.5 PACKAGE B TRANSIT COMPONENTS

The transit components of Package B would potentially affect historic resources due to the placement of BRT station and park and ride locations. Specific consequences related to each transit component would be as follows.

BRT: FORT COLLINS/GREELEY TO DENVER

There would be no impacts to any historic properties for this component.

BRT: FORT COLLINS/GREELEY TO DIA

There would be no impacts to any historic properties for this component.

BRT Stations

There would be no impacts to any historic properties for this component.

MAINTENANCE FACILITIES

There would be no impacts to historic properties on any of the maintenance facility sites or carpool lots for Package B.

Table 3.15-3 provides a summary of historic properties affected by component and also indicates how these impacts are treated from a Section 4(f) perspective. Detailed information about Section 4(f) is contained in **Chapter 5.0** *Section 4(f) Evaluation* of this Draft EIS.

Table 3.15-3 Summary of Historic Properties Affected by Component

		PACKAGE A		PACKAGE B		PREFERRED ALTERNATIVE	
		General Purpose Lanes + Commuter Rail and Bus		Tolled *Express* Lanes + Bus Rapid Transit		General Purpose and Tolled Express Lanes + Commuter Rail and Bus	
Component	**Historic Property**	**Direct Impacts?**	**Effect**	**Direct Impacts?**	**Effect**	**Direct Impacts?**	**Effect**
		Package A Highway Components		***Package B Highway Components***		***Preferred Alternative Highway Components***	
SH 1 to SH 14 (A-H1),(B-H1)	5LR.1917 Bee Farm	No	No historic properties affected	No	No historic properties affected	No	No historic properties affected
	5LR.8932.1 Larimer County Ditch	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
	5LR.11396 Einarsen Farm	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
	5LR.863.2 Larimer and Weld Canal	No	No adverse effect	No	No adverse effect	No	No adverse effect
	5LR.1731.2 Colorado & Southern Railroad, Black Hollow Branch	No	No adverse effect	No	No adverse effect	No	No adverse effect
	5LR.1327.6 Colorado & Southern Railroad	No	No adverse effect	No	No adverse effect	No	No adverse effect

Table 3.15.3 Summary of Historic Properties Affected by Component (cont'd)

Component	Historic Property	PACKAGE A: General Purpose Lanes + Commuter Rail and Bus — Direct Impacts?	PACKAGE A: General Purpose Lanes + Commuter Rail and Bus — Effect	PACKAGE B: Tolled *Express* Lanes + Bus Rapid Transit — Direct Impacts?	PACKAGE B: Tolled *Express* Lanes + Bus Rapid Transit — Effect	PREFERRED ALTERNATIVE: General Purpose and Tolled Express Lanes + Commuter Rail and Bus — Direct Impacts?	PREFERRED ALTERNATIVE: General Purpose and Tolled Express Lanes + Commuter Rail and Bus — Effect
		Package A Transit Components		***Package B Transit Components***		***Preferred Alternative Transit Components***	
Commuter Rail: Fort Collins to Longmont (A-T1)	5LR.1731.11 Colorado & Southern Railroad	No	No adverse effect			No	No adverse effect
	5LR.1731.1 Colorado & Southern Railroad	No	No adverse effect			No	No adverse effect
	5BL.400.3 Colorado & Southern Railroad	No	No adverse effect			No	No adverse effect

Table 3.15.3 Summary of Historic Properties Affected by Component (cont'd)

		PACKAGE A		PACKAGE B		PREFERRED ALTERNATIVE	
		General Purpose Lanes + Commuter Rail and Bus		Tolled *Express* Lanes + Bus Rapid Transit		General Purpose and Tolled Express Lanes + Commuter Rail and Bus	
Component	**Historic Property**	**Direct Impacts?**	**Effect**	**Direct Impacts?**	**Effect**	**Direct Impacts?**	**Effect**
		Package A Highway Components		***Package B Highway Components***		***Preferred Alternative Highway Components***	
SH 14 to SH 60 (A-H2) (B-H2)	5LR.11409.1 Cache la Poudre Reservoir Inlet	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
	5LR.11391 Gallatin Residence	No	No historic properties affected	No	No historic properties affected	No	No historic properties affected
	5LR.2160.1 Boxelder Ditch	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
	5LR.8930 Louden Ditch	Yes	Adverse effect	Yes	Adverse effect	Yes	Adverse effect
	5LR.1815 Union Pacific Railroad, Fort Collins Branch	No	No adverse effect	No	No adverse effect	No	No adverse effect
SH 14 to SH 60 (A-H2) (B-H2)	5LR.503 Loveland and Greeley Canal	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
	5LR.8928 Farmers' Ditch	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
	5LR.11209 Schmer Farm	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
	5LR.11210 McDonough Farm	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
	5LR850.1 Great Western Railway	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*

Table 3.15.3 Summary of Historic Properties Affected by Component (cont'd)

		PACKAGE A		PACKAGE B		PREFERRED ALTERNATIVE	
		General Purpose Lanes + Commuter Rail and Bus		Tolled *Express* Lanes + Bus Rapid Transit		General Purpose and Tolled Express Lanes + Commuter Rail and Bus	
Component	**Historic Property**	**Direct Impacts?**	**Effect**	**Direct Impacts?**	**Effect**	**Direct Impacts?**	**Effect**
		Package A Highway Components		***Package B Highway Components***		***Preferred Alternative Highway Components***	
GP/TEL Highway Widening: SH 60 to E-470 (A-H3) (B-H3)	5WL.841 Great Western Railway	No	No adverse effect	No	No adverse effect	No	No adverse effect
	Handy/Home Supply Ditch Confluence	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
		Package A Transit Components		***Package B Transit Components***		***Preferred Alternative Transit Components***	
Commuter Rail: Fort Collins to Longmont (A-T1)	5LR.850.5 Great Western Railway	No	No adverse effect			No	No adverse effect
	5LBL.514.1 Great Western Railway	No	No adverse effect			No	No adverse effect
		Package A Highway Components		***Package B Highway Components***		***Preferred Alternative Highway Components***	
SH 14 to SH 60 (A-H2) (B-H2)	5LR.11408 Zimmerman Grain Elevator	No	No adverse effect	No	No adverse effect	Yes	No adverse effect
	5LR.11382 Hatch Farm	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
	5LR.8927.1 Hillsboro Ditch	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*

Table 3.15.3 Summary of Historic Properties Affected by Component (cont'd)

Component	Historic Property	PACKAGE A: General Purpose Lanes + Commuter Rail and Bus		PACKAGE B: Tolled *Express* Lanes + Bus Rapid Transit		PREFERRED ALTERNATIVE: General Purpose and Tolled Express Lanes + Commuter Rail and Bus	
		Direct Impacts?	**Effect**	**Direct Impacts?**	**Effect**	**Direct Impacts?**	**Effect**
		Package A Highway Components		***Package B Highway Components***		***Preferred Alternative Highway Components***	
SH 60 to E-470 (A-H3) (B-H3)	5LR.11242 Mountain View Farm	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
	5WL.5204 Bashor Farm	No	No historic properties affected	No	No historic properties affected	No	No historic properties affected
	5WL.5203 Bein Farm	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
	5WL.5198 Olson Farm	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
GP/TEL Highway Widening: SH 60 to E-470 (A-H3) (B-H3)	5BF.76.2 Bull Canal/Standley Ditch	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
	5AM.457.3 Bull Canal/Standley Ditch	Yes	No adverse effect*	Yes	No adverse effect*	Yes	No adverse effect*
		Package A Transit Components		***Package B Transit Components***		***Preferred Alternative Transit Components***	
Commuter Rail: Longmont to FasTracks North Metro (A-T2)	5WL.1966.8 Bull Canal/Standley Ditch	Yes	No adverse effect*			No	No adverse effect

Table 3.15.3 Summary of Historic Properties Affected by Component (cont'd)

Component	Historic Property	PACKAGE A: General Purpose Lanes + Commuter Rail and Bus		PACKAGE B: Tolled *Express* Lanes + Bus Rapid Transit		PREFERRED ALTERNATIVE: General Purpose and Tolled Express Lanes + Commuter Rail and Bus	
		Direct Impacts?	**Effect**	**Direct Impacts?**	**Effect**	**Direct Impacts?**	**Effect**
		Package A Highway Components		***Package B Highway Components***		***Preferred Alternative Highway Components***	
Structural Upgrades: E-470 to US 36 (A-H4) (B-H4)	5AM.2073 North Glenn First Filing	No	No adverse effect	No	No adverse effect	No	No adverse effect
	5AM.2074 North Glenn Second Filing	No	No adverse effect	No	No adverse effect	No	No adverse effect
		Package A Transit Components		***Package B Transit Components***		***Preferred Alternative Transit Components***	
Commuter Rail: Fort Collins to Longmont (A-T1)	5LR.11330 Public Service Company of Colorado – Fort Collins Substation	No	No adverse effect			No	No adverse effect
	5LR.10819.2 Larimer County Canal No 2	Yes	No adverse effect			No	No adverse effect
	5LR.1729.2 Big Thompson Ditch	Yes	No adverse effect*			Yes	No adverse effect*
Commuter Rail: Fort Collins to Longmont (A-T1)	5BL.9163 Kitely House	Yes	No adverse effect*			Yes	No adverse effect*
	5BL.10636 Boggs Residence	No	No adverse effect			No	No adverse effect
	5BL.3449.2 Supply Ditch	Yes	No adverse effect*			Yes	No adverse effect*
	5BL.3113.67 Rough & Ready Ditch	Yes	No adverse effect*			Yes	No adverse effect*
	5LR.488 Colorado and Southern Railway Depot / Loveland Depot	Yes	No adverse effect*			No	No adverse effect

Table 3.15.3 Summary of Historic Properties Affected by Component (cont'd)

Component	Historic Property	PACKAGE A: General Purpose Lanes + Commuter Rail and Bus		PACKAGE B: Tolled *Express* Lanes + Bus Rapid Transit		PREFERRED ALTERNATIVE: General Purpose and Tolled Express Lanes + Commuter Rail and Bus	
		Direct Impacts?	**Effect**	**Direct Impacts?**	**Effect**	**Direct Impacts?**	**Effect**
		Package A Transit Components		***Package B Transit Components***		***Preferred Alternative Transit Components***	
Commuter Rail: Longmont to FasTracks North Metro (A-T2)	5BL.4832 Oligarchy Ditch	Yes	No adverse effect*			Yes	No adverse effect*
Commuter Rail: Longmont to FasTracks North Metro (A-T2)	5BL.1245 Old City Electric Building	Yes	Adverse effect			No	No Adverse Effect
	5BL1244 Colorado & Southern /BNSF Depot	Yes	Adverse effect			No	No Adverse Effect
	5BL.513 Great Western Sugar Factory	Yes	No adverse effect*			No	No Adverse Effect
	5BL.7606 Novartis Seeds/Syngenta Seeds	No	No adverse effect			No	No Adverse Effect
	5WL.712 Sandstone Ranch	Yes	No adverse effect*			Yes	No adverse effect*
	5WL.5461.1 Boulder and Weld County Ditch	Yes	No adverse effect*			Yes	No adverse effect*
	5WL.5263 Hingley Farm	Yes	Adverse effect			Yes	Adverse effect
	5WL.6564 Jillson Farm	Yes	Adverse effect			Yes	Adverse effect

Table 3.15.3 Summary of Historic Properties Affected by Component (cont'd)

Component	Historic Property	PACKAGE A: General Purpose Lanes + Commuter Rail and Bus		PACKAGE B: Tolled *Express* Lanes + Bus Rapid Transit		PREFERRED ALTERNATIVE: General Purpose and Tolled Express Lanes + Commuter Rail and Bus	
		Direct Impacts?	**Effect**	**Direct Impacts?**	**Effect**	**Direct Impacts?**	**Effect**
		Package A Transit Components		***Package B Transit Components***		***Preferred Alternative Transit Components***	
Commuter Rail: Longmont to FasTracks North Metro (A-T2)	5WL.1974.3 Rural Ditch	Yes	No adverse effect*			Yes	No adverse effect*
	5WL.2247.11 Community Ditch	No	No adverse effect			No	No adverse effect
Commuter Rail: Longmont to FasTracks North Metro (A-T2)	5WL.1970.7 Lower Boulder Ditch	No	No adverse effect			No	No adverse effect
	5WL1317.11 UPRR-Dent Branch	Yes	No adverse effect*			Yes	No adverse effect
	5AM.472.1 Union Pacific Railroad, Dent Branch	No	No adverse effect			No	No adverse effect
	5WL1969. Denver Pacific/Kansas Pacific/Union Pacific Railroad, Denver & Boulder Valley Branch	Yes	Adverse effect			Yes	Adverse effect
	5BF.130.1 Denver Pacific/Kansas Pacific/Union Pacific Railroad, Denver & Boulder Valley Branch	Yes	Adverse effect			Yes	Adverse effect

Table 3.15.3 Summary of Historic Properties Affected by Component (cont'd)

		PACKAGE A		PACKAGE B		PREFERRED ALTERNATIVE	
		General Purpose Lanes + Commuter Rail and Bus		Tolled *Express* Lanes + Bus Rapid Transit		General Purpose and Tolled Express Lanes + Commuter Rail and Bus	
Component	**Historic Property**	**Direct Impacts?**	**Effect**	**Direct Impacts?**	**Effect**	**Direct Impacts?**	**Effect**
		Package A Transit Components		***Package B Transit Components***		***Preferred Alternative Transit Components***	
Commuter Rail Stations (A-T1/A-T2)	5LR.488 Colorado & Southern Railroad Depot, Loveland	No	No adverse effect			No	No adverse effect
	5LR.530 Bimson Blacksmith Shop	No	No adverse effect			No	No adverse effect
Queue Jumps Along US 85	5WL.5296 Flagstone Residence – Goetzel	No	No historic properties affected			No	No historic properties affected
	5WL.568 Fort Vasquez	No	No historic properties affected			No	No historic properties affected

Alternative Totals

PACKAGE A		PACKAGE B		PREFERRED ALTERNATIVE	
General Purpose Lanes + Commuter Rail and Bus		Tolled *Express* Lanes + Bus Rapid Transit		General Purpose and Tolled Express Lanes + Commuter Rail and Bus	
Direct Impact	**Effect**	**Direct Impact**	**Effect**	**Direct Impact**	**Effect**
37 properties directly impacted	7 adverse effects to properties 51 no adverse effects to properties	18 properties directly impacted	1 adverse effect 25 no adverse effects to properties	31 properties directly effected	4 adverse effect s 54 no adverse effects to properties

*Properties would be considered for *de minimis* Section 4(f) status.

3.15.3 Mitigation Measures

During the development of all build packages, modifications were employed to avoid and minimize effects to historic properties and resources whenever possible. These modifications included shifting the roadway alignment to avoid direct contact with historic boundaries and resources, consolidating roadway templates to minimize space needed for roadway improvements, and bridging of linear features.

Possible mitigation measures for historic property impacts are summarized in **Table 3.15-4**. Mitigation measures for adverse effects will be part of an MOA among CDOT, FHWA, FTA, and SHPO and will be specific to those resources for which the project results in an adverse effect. Actual mitigation measures will be refined after identification of the preferred package, consultation with SHPO, and preparation of the Final EIS.

3.15.3.1 No-Action Alternative

There are no adverse effects to historic properties, therefore no mitigation is needed.

3.15.3.2 Package A

During the design phase of this project, designs were altered to avoid historic structures where possible. The commuter rail alignment was moved to avoid the historic Dickens Farm on SH 119 as an example. There were, however, three historic buildings that would be acquired and demolished or relocated to a different site to provide space necessary to construct improvements for Package A. Adverse impacts would occur for two historic buildings in Longmont—the Old City Electric Building, 5BL.1245 ,the Colorado & Southern / BNSF Depot, 5BL.1244, and for one historic building in Erie, the Hingley farmhouse, 5WL.5263, on WCR 7. All three of these buildings would be removed for development of Package A. Detailed recording, in accordance with the Colorado Historical Society's Standards for Level II Documentation, is recommended pending SHPO concurrence.

An adverse effect would occur to the Jillson Farm where 7.34 acres would be acquired for construction of new commuter rail infrastructure. This is considered an adverse impact because of the introduction of railroad tracks and train traffic to the historic farm setting where it has never been a part of the setting. Detailed recording, in accordance with the Colorado Historical Society's Standards for Level II Documentation, is recommended pending SHPO concurrence.

An adverse effect would result from placing 316 feet of the Louden Ditch in new and extended culverts. Detailed recording, in accordance with the Colorado Historical Society's Standards for Level II Documentation, is recommended pending SHPO concurrence.

An adverse effect to the Denver Pacific/Kansas Pacific/Union Pacific Railroad, Denver and Boulder Valley Branch (5WL.1969) would result from the demolition of two wooden trestle bridges. Detailed recording, in accordance with the Colorado Historical Society's Standards for Level II Documentation, is recommended pending SHPO concurrence.

3.15.3.3 Package B

An adverse effect would result from placing 357 feet of the Louden Ditch in new and extended culverts. Detailed recording, in accordance with the Colorado Historical Society's Standards for Level II Documentation, is recommended pending SHPO concurrence.

3.15.3.4 Preferred Alternative

During the design phase of this project, designs were modified to avoid or minimize impacts to historic structures where possible. The commuter rail alignment was moved to avoid the historic Dickens Farm on SH 119 as an example. In addition, the Old City Electric Building and the Colorado and Southern/BNSF Depot were avoided through the design technique of single-tracking the commuter rail corridor. There was, however, one historic building that would be acquired and demolished or relocated to a different site to provide space necessary to construct improvements for the Preferred Alternative. Adverse impacts would occur for a historic building in Erie, the Hingley farmhouse, 5WL.5263, on WCR 7. Detailed recording, in accordance with the Colorado Historical Society's Standards for Level II Documentation, is recommended pending SHPO concurrence.

An adverse effect would occur to the Jillson Farm where 7.34 acres would be acquired for construction of new commuter rail infrastructure. This is considered an adverse impact because of the introduction of railroad tracks and train traffic to the historic farm setting where it has never been a part of the setting. Detailed recording, in accordance with the Colorado Historical Society's Standards for Level II Documentation, is recommended pending SHPO concurrence.

An adverse effect would result from placing 316 feet of the Louden Ditch in new and extended culverts. Detailed recording, in accordance with the Colorado Historical Society's Standards for Level II Documentation, is recommended pending SHPO concurrence.

An adverse effect to the Denver Pacific/Kansas Pacific/Union Pacific Railroad, Denver and Boulder Valley Branch (5WL.1969) would result from the demolition of two wooden trestle bridges. Detailed recording, in accordance with the Colorado Historical Society's Standards for Level II Documentation, is recommended pending SHPO concurrence.

Table 3.15-4 Mitigation Measures—Historic and Archaeological Preservation

Impact	Impact Type	Mitigation Measures
Removal or impact to historic structure	Permanent	▸ Avoidance and minimization will be addressed first. ▸ Memorandum of Agreement with parties will be established. ▸ Colorado Historical Society Standards Level II Documentation will be provided.
Impact to a portion of a historic property	Permanent	▸ Avoidance and minimization will be addressed first. ▸ Colorado Historical Society Standards Level II Documentation will be provided. ▸ Memorandum of Agreement with parties will be established.
Impact to archaeological resource	Permanent	▸ If subsurface archaeological remains are exposed during any phase of construction, all activities in the vicinity of the discovery will cease and the CDOT Senior Staff Archaeologist will be contacted. Consultation with the SHPO and any pertinent consulting parties will be conducted, as necessary. Work will not proceed until authorization from the CDOT Archaeologist has been provided.
Indirect effects from construction activities	Temporary/ Construction	▸ Construction disturbances will be controlled and minimized. ▸ All disturbed areas will be returned to their original configuration to the extent possible.
Indirect effects to some or all resources: Dust and debris	Temporary/ Construction	▸ Precautionary measures, such as applied palliatives to reduce impact of dust will be implemented. ▸ Contractor training to prevent flying debris effects will be implemented.
Indirect effects to some or all resources: visual, auditory, accessibility	Temporary/ Construction	▸ Planned construction staging will be provided to avoid these effects whenever possible. ▸ Signage and well marked alternate routes for access will be provided. ▸ Landscape context sensitive design will be employed to minimize intrusive effects of transportation features. ▸ Noise barriers will be constructed as warranted.

3.15.4 Native American Consultation

Section 106 of the National Historic Preservation Act (as amended) and the Advisory Council on Historic Preservation regulations (36 CFR 800.2[c][2][ii]) mandate that federal agencies coordinate with interested Native American tribes in the planning process for federal undertakings. Consultation with Native American tribes recognizes the government-to-government relationship between the United States government and sovereign tribal groups. In that context, federal agencies must acknowledge that historic properties of religious and cultural significance to one or more tribes may be located on ancestral, aboriginal, or ceded lands beyond modern reservation boundaries.

Consulting tribes are offered the opportunity to identify concerns about cultural resources and comment on how the project might affect them. If it is found that the project would impact properties that are eligible for the National Register of Historic Places and are of religious or cultural significance to one or more consulting tribes, their role in the consultation process may also include participation in resolving how best to avoid, minimize, or mitigate those impacts. By describing the proposed undertaking and the nature of any known cultural sites, and consulting with the interested Native American community, FHWA, FTA and CDOT strive to effectively protect areas important to American Indian people.

In April 2004, FHWA and FTA sent letters jointly to fifteen federally recognized tribes with an established interest in Adams, Boulder, Broomfield, Denver, Jefferson, Larimer and/or Weld Counties, Colorado, with an invitation to participate as consulting parties:

- Cheyenne and Arapaho Tribes of Oklahoma (two tribes administered by a unified tribal government)
- Cheyenne River Sioux Tribe (South Dakota)
- Comanche Nation of Oklahoma
- Crow Creek Sioux Tribe (South Dakota)
- Kiowa Tribe of Oklahoma
- Northern Arapaho Tribe (Wyoming)
- Northern Cheyenne Tribe (Montana)
- Oglala Sioux Tribe (South Dakota)
- Pawnee Nation of Oklahoma
- Rosebud Sioux Tribe (South Dakota)
- Southern Ute Indian Tribe (Colorado)
- Standing Rock Sioux Tribe (North Dakota)
- Ute Mountain Ute Tribe (Colorado)
- Ute Tribe of the Uintah and Ouray Agency (Utah)
- White Mesa Ute Tribe (Utah)

The Kiowa Tribe and Pawnee Nation responded in writing to the initial solicitation, each indicating a desire to be a consulting party for the undertaking. In June, July and August 2004, a CDOT representative placed a series of telephone calls to the remaining non-responsive tribes, and a second invitation letter was sent out to several tribes upon their request, in an effort to answer questions about the project and facilitate additional tribal participation. Five tribes responded positively to this follow up contact (Cheyenne and Arapaho Tribes of Oklahoma, Comanche Tribe of Oklahoma, Northern Arapaho Tribe, Northern Cheyenne Tribe, and Southern Ute Indian Tribe), for a total of seven consulting tribes. Documentation related to the consultation process is located in **Appendix E.**

None of the tribes raised specific concerns or issues beyond an acknowledgement that their ancestors were residents of northeastern Colorado, and that sites of religious and cultural significance, including human remains, could possibly be located within the North I-25 APE. In response to this concern, FHWA, FTA, and CDOT will specify clear procedures to be followed should archaeological resources and/or human remains be unexpectedly encountered during construction, to include notification of the consulting tribes. Additionally, FHWA, FTA, and CDOT committed to keeping the consulting tribes apprised of progress as the project developed, and to include them in the project planning and development process, at the tribes' discretion. As a result of these actions, FHWA and FTA have fulfilled their joint legal obligations for tribal consultation under federal law.