



COLORADO
Department of Transportation

FINAL **ENVIRONMENTAL** **SCAN REPORT**

US 6C Clifton Transportation Study





US 6C CLIFTON TRANSPORTATION STUDY

Final Environmental Scan Report

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COLORADO
Department of Transportation

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LIST OF ACRONYMS AND ABBREVIATIONS

ACS	American Community Survey
ASTM	ASTM International
CAA	Clean Air Act
CDA	Colorado Department of Agriculture
CDOT	Colorado Department of Transportation
CDP	Census-Designated Place
CDPHE	Colorado Department of Public Health and Environment
CDPS	Colorado Discharge Permit System
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CNHP	Colorado Natural Heritage Program
CO	Carbon monoxide
CO ₂	Carbon dioxide
COAST	Aboveground Storage Tank Database
COLST	Leaking Underground Storage Tank Database
COMPASS	Colorado Cultural Resources Online Resource (database)
COSWF	Solid Waste Facilities Database
COUST	Underground Storage Tank Database
CPW	Colorado Parks and Wildlife
CRS	Colorado Revised Statutes
CWA	Clean Water Act
dba	A-weighted decibel
DOT	Department of Transportation
DWR	Division of Water Resources
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FacWET	Functional Assessment of Colorado Wetlands
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GHG	Greenhouse gas
GIS	Geographic Information System
GVWUA	Grand Valley Water Users Association
HAP	Hazardous Air Pollutants
HISTSWLF	Historical Solid Waste Facilities
IPaC	Information, Planning, and Conservation
HMWMD	Hazardous Materials Waste Management Division
HUD	Housing and Urban Development
I-70B	Interstate 70 Business Loop
LUST	Leaking underground storage tank
LWCF	Land and Water Conservation Fund
MBTA	Migratory Bird Treaty Act
MCNWMP	Mesa County Noxious Weed Management Plan



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MCPC	Mesa County Planning Commission
MS4	Municipal Separate Sewer System
MSAT	Mobile Source Air Toxics
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NDIS	National Diversity Information Source
NEPA	National Environmental Policy Act
NHL	National Historic Landmarks
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NPS	National Parks Service
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O ₃	Ozone
Pb	Lead
PEL	Planning and Environmental Linkages Study
PEM	Palustrine emergent
PID	Palisade Irrigation District
PEL	Planning and Environmental Linkages Study
RCRA	Resource Conservation and Recovery Act
ROW	Right of way
SB	Senate Bill
SDWA	Safe Drinking Water Act
SHPO	State Historic Preservation Offices
SIP	State Implementation Plan
SWMP	Stormwater Management Plan
US	United States
USC	United States Code
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USDI	US Department of the Interior
USERNSCO	US Emergency Response Notification System database
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
USNFRAP	US No Further Remedial Action Planned
USRCRAGRO8	Resource Conservation and Recovery Act generators
UST	Underground storage tank
VMT	Vehicle miles travelled
WQCC	Water Quality Control Commission
WQCD	Water Quality Control Division
WUS	Waters of the US

INTRODUCTION

Project Background

The current area of interest for transportation improvements on the United States Highway 6C (US 6C) corridor in Clifton begins at the intersection of Interstate 70 Business Loop (I-70B) (milepost 37.161) and ends just east of 33 Road (milepost 38.272).

This section of US 6C is a congested urban corridor through the unincorporated neighborhood of Clifton and serves as the community's main street. The US 6C corridor is a multimodal facility, which provides commuter access as well as access to an elementary school, the US Post Office, and other local businesses.

The Colorado Department of Transportation (CDOT) has undertaken this project to develop a more thorough understanding of the corridor. The project shall evaluate the existing and future operating conditions and features of the corridor which will be documented in a Planning Environmental Linkages (PEL) Study with the goal of identifying existing conditions, anticipated problem areas, and developing and screening a reasonable range of potential improvements to improve operations and safety of the corridor for all modes of transportation, including non-motorized travel. The results of these efforts may ultimately be used to support a National Environmental Policy Act (NEPA) study and final design.

This Environmental Scan Report identifies environmental resources and environmentally sensitive areas; the scan report is mostly composed of readily available data and limited field survey information. The purpose of this scan report is to identify resources early in the planning process to avoid fatal flaws and to consider sensitive environmental resources in the study area.

The intent of this scan report is not to identify impacts but rather to identify potential resource areas for use in alternatives analysis to avoid and minimize impacts to resources during subsequent study phases while developing alternatives that meet purpose and need.

If a recommended improvement receives funding, the results of the PEL study will be carried forward at that time into project development, additional environmental review (NEPA-level or similar local environmental review process), design, and ultimately construction, maintenance, and operations.

Project Goals

CDOT is conducting this study to examine the need for transportation improvements along the US 6C corridor through Clifton to:

- Improve mobility and reduce congestion;
- Improve corridor and intersection operations;



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- Improve multimodal facilities; and
- Improve safety for all users.

The objective in pursuing this study is to work with stakeholders to explore a range of short- and long-term improvements to improve operational performance and safety and potentially reduce congestion along the US 6C corridor. The study will assist CDOT, public agencies, and resource agencies in identifying issues of importance to each respective agency.

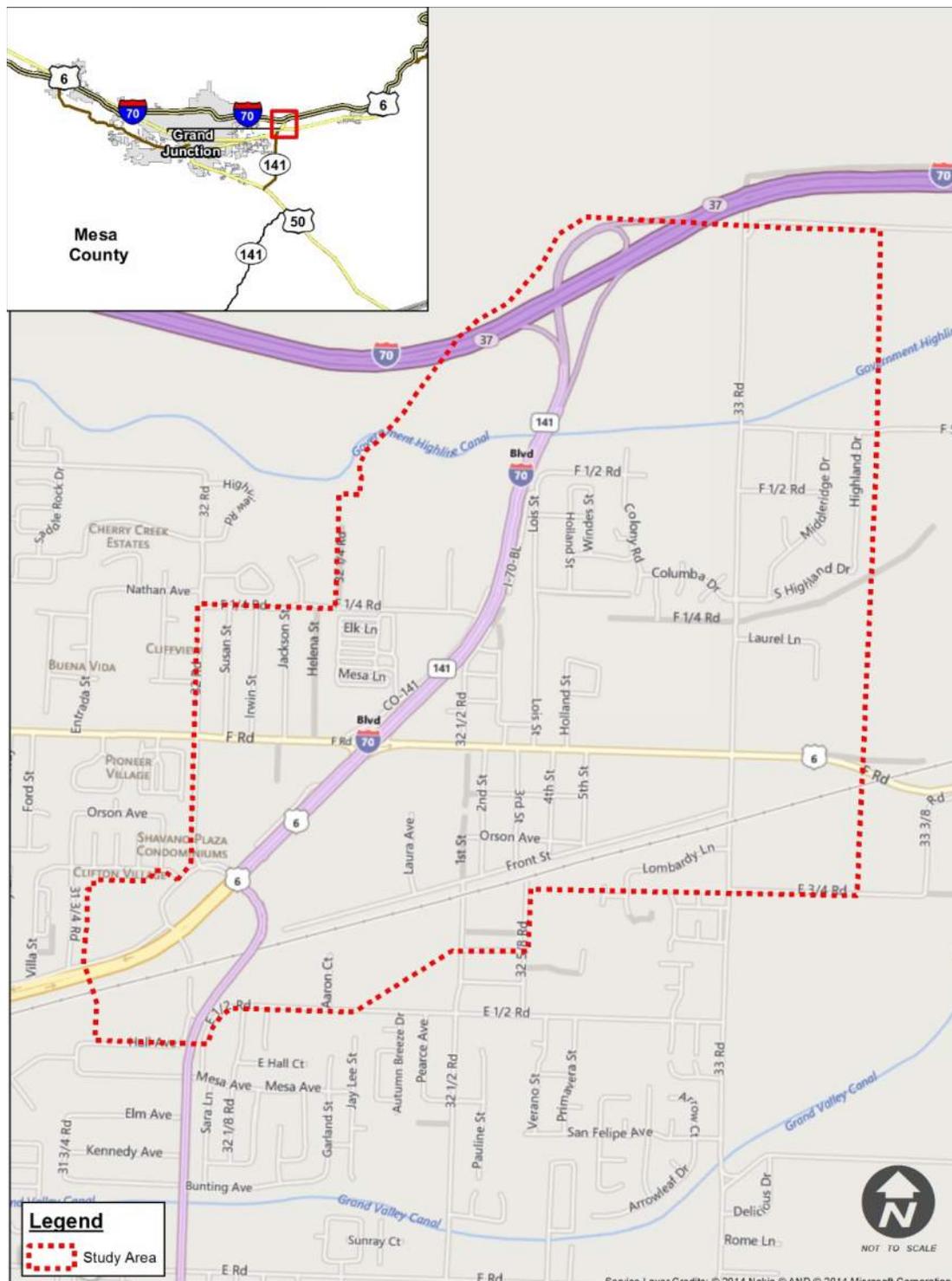
Project Location

This project is located on US 6C (mileposts 37.161 – 38.272) in Mesa County, Colorado. The approximate area of interest is shown in **Figure 1**.

The environmental study area is focused around the area most likely to be impacted by corridor transportation improvements. To take into account the potential for indirect or secondary effects to community or environmental resources as a result of the recommended improvements, the initial area was extended to the back property line of area parcels. The environmental study area includes the area generally bounded by 32 Road to the west, I-70 to the north, 33¼ Road to the east, and E½ Road to the south.



Figure 1: Study Area



AIR QUALITY

The purposes of an air quality analysis are to ensure that transportation actions are consistent with planning goals in the air quality State Implementation Plan (SIP), present relevant air quality issues and information related to the study area, and provide information to support a subsequent analysis under NEPA.

Air quality is regulated at the national level by the Clean Air Act of 1970 (CAA) as amended in 1977 and 1990. The CAA regulates emissions through the National Ambient Air Quality Standards (NAAQS) and the Hazardous Air Pollutants (HAP) program, which includes Mobile Source Air Toxics (MSATs). Specific requirements are placed on the transportation planning process in air quality nonattainment areas that do not meet the NAAQS emissions limits and in areas that have been reclassified from nonattainment to attainment/maintenance areas. Mesa County is in attainment status for all NAAQS criteria pollutants, and thus no quantitative analyses would be required in a subsequent NEPA analysis in the study area.

The NAAQS regulates six criteria pollutants: Carbon monoxide (CO), ground level ozone (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter (PM₁₀ and PM_{2.5}), and lead (Pb). The Environmental Protection Agency (EPA) has established health- and welfare-based exposure and concentration limits for the NAAQS (EPA, 2014a). Of the six NAAQS pollutants, transportation sources contribute to CO, NO₂, PM₁₀, and ozone. The EPA works with states and local jurisdictions to monitor ambient air levels for these pollutants. In addition, MSATs have been identified as an issue of concern related to transportation projects (EPA, 2014b). Greenhouse gases (GHGs) are currently regulated via the permitting requirements of the CAA, with large sources such as power plants required to report GHG emissions (EPA, 2014c). Although transportation-related sources are also large contributors to GHG emissions, these sources are not regulated for GHG at present.

Methodology

For this air quality section, online resources were used, along with desktop utilities such as Google Earth, to describe the air quality issues of concern in the study area. EPA websites were consulted to describe the regulatory environment, as discussed above. Ambient air quality data were acquired from Colorado Department of Public Health and Environment (CDPHE) and compared to the NAAQS to characterize the existing conditions in the study area.

Existing Conditions

Existing conditions in the study area for each major category of pollutants are discussed individually below.



- **Criteria pollutants:** As of July 2014, all areas in Colorado are in attainment of all NAAQS criteria pollutants except for ground level ozone in the Front Range area. Areas that were previously in nonattainment for CO and PM₁₀ have been re-designated to attainment/maintenance status (CDPHE, 2012).

CDPHE operates four air quality monitors in Mesa County, measuring CO, O₃, PM₁₀, and PM_{2.5} (CDPHE, 2013). Air quality in the county is generally good, with the exception of occasional blowing dust events that result in ambient PM₁₀ and PM_{2.5} levels near or above the NAAQS thresholds. The EPA typically considers these occurrences to be “exceptional events,” which exempts them from counting as violations of the NAAQS for attainment purposes (CDPHE, 2013). In addition to particulate matter, ozone levels in Mesa County occasionally rise to the NAAQS threshold value, but there have not been exceedances of the standard as of the most recent reporting year (2012).

Some of the study area is served by unpaved roads, such as Price Ditch Road, which can be sources of particulate, or dust emissions. For unpaved roadways, CDPHE requires that a roadway with vehicular traffic exceeding 200 vehicles per day in PM₁₀ attainment areas (averaged over any consecutive three-day period) be paved or treated for dust abatement. Mesa County has a dust control program in place to reduce dust emissions from both high- and low-volume unpaved roads (Mesa County, 2014).

- **Mobile Source Air Toxics:** Tools and techniques for assessing MSATs are limited, and there are no approved exposure-concentration limits. The Federal Highway Administration (FHWA) has issued interim guidance for MSAT analyses associated with NEPA studies based on a tiered approach with no analysis necessary for projects with no potential MSAT effects, a qualitative analysis for projects with low potential MSAT effects, and a quantitative analysis to differentiate alternatives with higher potential MSAT effects (Marchese, 2012). If an analysis is necessary, it should consider relative emission levels among no-action and action alternatives and attempt to reduce emissions as part of the alternatives analysis.
- **Greenhouse Gases:** Recent concerns with climate change have prompted calls for reducing GHGs, of which carbon dioxide (CO₂) is a primary component. The issue of global climate change is an important national and global concern that is being addressed in several ways by the federal government. The transportation sector is the second largest source of total GHGs in the US, and the greatest source of CO₂ emissions – the predominant GHG. Recognizing this concern, FHWA is working nationally with other modal administrations through the Department of Transportation (DOT) Center for Climate Change and Environmental Forecasting to develop strategies to reduce transportation's contribution to greenhouse gases - particularly CO₂ emissions - and to assess the risks to transportation systems and services from climate changes. At the state level, there are also several programs underway in Colorado to address transportation GHGs. Because climate change is a global issue, and the emissions changes due to project alternatives are very small compared to global totals, the GHG emissions associated with this project do not need to be calculated (CDOT, 2014).



Next Steps

Future NEPA studies conducted for potential alternatives would not require quantitative analyses for criteria pollutants, as long as Mesa County remains in attainment status as noted above. It is unlikely that a quantitative analysis would be required for MSATs since these are typically only required in large urban areas or locations with high diesel truck use (Marchese, 2012). However, qualitative air quality analyses may be necessary or suggested for MSATs. For GHG, FHWA and CDOT NEPA studies provide the percentage of vehicle miles travelled (VMT) for the corridor in relation to the total VMT for Colorado.

HAZARDOUS MATERIALS

Hazardous materials include substances or materials which have been determined by the EPA to be capable of posing an unreasonable risk to health, safety, or property. Hazardous materials may exist within the study area at facilities that generate, store, or dispose of these substances, or at locations of past releases of these substances. Examples of hazardous materials include asbestos, lead-based paint, heavy metals, dry-cleaning solvents, and petroleum hydrocarbons (e.g., gasoline and diesel fuels), all of which could be harmful to human health and the environment.

Hazardous materials are regulated by various state and federal regulations. NEPA, as amended (42 US Code (USC) 4321 et seq., Public Law 91-190, 83 Stat. 852), mandates that decisions involving federal funds and approvals consider environmental effects from hazardous materials. Other applicable regulations include the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)(42 USC 9601 et seq.), which provides federal authority for the identification, investigation, and cleanup of sites throughout the US that are contaminated with hazardous substances (as specifically designated in the CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA) (42 USC 321 et seq.), which establishes a framework for the management of both solid and hazardous waste. The federal Hazardous and Solid Waste Amendments of 1984 established a new comprehensive regulatory program for underground storage tanks (USTs) containing petroleum products and hazardous chemicals regulated under CERCLA.

Methodology

An environmental database records search including federal and state environmental resources was conducted for the study area (GeoSearch, 2014). The records search was conducted in accordance with the search radii specified in ASTM International (ASTM) Designation E 1527-13, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” (ASTM, 2013). For this assessment, ASTM-required databases were reviewed; non-ASTM required databases were not evaluated. Numerous facilities were identified in the study area and several of these facilities were identified with multiple database listings (GeoSearch, 2014). The non-ASTM databases are not listed in the results. The database information with respect to the status of the listing and its location within the study area boundaries were evaluated. In addition, a review of the compliance history of the study area, and any adjacent sites, as identified by a regulatory database search, was conducted. Any facilities adjacent to the study area that were included within the National Priorities List (NPL) and Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) databases were reviewed.

The environmental records search identified the following types of facilities as a result of the database search (GeoSearch, 2014):

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- Underground Storage Tank (COUST) facilities
- Leaking Underground Storage Tank (COLST) facilities
- Aboveground Storage Tanks (COAST) facilities
- RCRA generators (USRCRAGR08)
- USCERCLIS sites
- CERCLIS No Further Remedial Action Planned (USNFRAP) sites
- Emergency Response Notification System (USERNSCO)
- Solid Waste Facilities (COSWF)

In addition, the CDPHE Hazardous Materials Waste Management Division (HMWMD) was contacted regarding the potential use and/or presence of mine tailings within the study area.

Existing Conditions

The study area is developed with a mix of industrial, commercial, agricultural, and residential development. Facilities that utilize hazardous materials are dispersed throughout the study area; however, sites are largely concentrated in areas along I-70B. The majority of the facilities identified in the environmental records search have been identified in the COUST and COLST databases. UST and leaking underground storage tank (LUST) sites are typically associated with petroleum hydrocarbon use (e.g., automotive fueling stations) and potential releases.

The facilities identified in the agency database were ranked as having either a high, medium, or low potential to impact the study area based on the location of these facilities and known releases. Nineteen facilities were evaluated as having a potential to impact the study area (**Figure 2** and **Table 1**).

- Three facilities were identified with a high potential to impact the study area based on ongoing petroleum remediation/monitoring at the respective facility and their locations within the study area. Further evaluation and information may be needed depending upon the extent of improvements associated with the alternatives under evaluation.
- One facility was considered to have a high potential to impact the study area based on it being a historical landfill and its unknown location based on the database findings. Further evaluation and information may be needed depending upon the extent of improvements associated with the alternatives under evaluation.
- Three facilities were categorized as medium risk to impact the study area due to current fueling station operations, but no current reported releases. Further evaluation and information may be needed depending upon the extent of improvements associated with the alternatives under evaluation.
- Seven facilities were considered to be medium risk due to being closed LUST facilities or a CERCLIS facility with No Further Remedial Action Planned. Further evaluation and information may be needed depending upon the extent of improvements associated with the alternatives under evaluation.



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- Three facilities were ranked as medium risk due to their large quantity generator status and unknown materials storage practices. Further evaluation and information may be needed depending upon the extent of improvements associated with the alternatives under evaluation.
- Three facilities were identified with a low potential to impact the study area. These facilities were identified as facilities with ASTs containing liquefied petroleum gas (likely propane or butane), and spill sites that have been cleaned up, as well as a registered tire hauler.

Table 1: ASTM-Required Database Sites with the Potential to Impact the Study Area

DATABASE NUMBER	FACILITY NAME	FACILITY ADDRESS	DATABASE	STATUS	POTENTIAL TO IMPACT STUDY AREA
1	Dillon Companies Dba City Market, Inc.	569 32 Road	COUST	Open	Medium
2	Stop N Save	3262 F Road (US 6C)	COUST	Open	Medium
4	Super Mart Convenience Stores #540	3218 F Road	COUST, COLST	Open, Closed	Medium
5	Stop N Save #7	3223 F Road	COUST, COLST	Open, Open	High
10	Jiffy Lube #3703	3244 F Road (US 6C)	COUST, COLST	Closed, Open	High
12	Scaffolding / Bargain Building Materials	3226 US 6C and 24	COAST, COLST, COUST	Closed, Closed, Closed	Medium
13	Brown and Root USA	3186 Hall Avenue	COUST, COAST, COLST	Closed, Closed, Closed	Medium
14	RV Ranch (KOA)	3238 I-70B	COUST, COAST	Closed, Open	Low
15	Lowe Development	3203 US 6C & 24	COUST, COAST, COLST	Closed, Closed, Open	High
16	YRC Inc. #894	3207 F Road	USRCRAGR08	Open	Medium
17	Refinoil Products Company	3300 F Road (33 Road and US 6C)	USCERCLIS, USNFRAP	Closed, Closed	Medium
20	Albertsons-#867	332 I-70B	USRCRAGR08	Unknown	Medium
22	Clifton Shop	3210 C ½ Road	COLST	Closed	Medium
24	Not Listed	3254 F Road (US 6C)	USERNSCO	Closed	Low
25	Harbor Freight Tools, USA	3210 I-70B	COSWF	Open	Low
26	Maverik Store #417	3249 F Road (US 6C)	COUST	Open	Medium



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DATABASE NUMBER	FACILITY NAME	FACILITY ADDRESS	DATABASE	STATUS	POTENTIAL TO IMPACT STUDY AREA
27	Century Equipment Co.	549 32 Road	COUST	Closed	Medium
29	Helena Street Lead	Helena St Between F Road and F ¼	USCERCLIS, USNFRAP	Unknown, Closed	Medium
34	Clifton Auto Body	149 2 nd Street	USRCRAGR08	Open	Medium
Unlocatable	Clifton Area Dump N Side	Unknown	HISTSWLF	Unknown	High

Notes:

Source: GeoSearch Radius Report, Clifton PEL, Mesa County, Colorado 81520 dated November 24, 2014

COUST – Underground Storage Tank

COLST – Leaking Underground Storage Tank

COAST – Aboveground Storage Tank

USRCRAGR08 – Resource Conservation and Recovery Act generators

USCERCLIS – Comprehensive Environmental Response, Compensation, and Liability Information System

USNFRAP – No Further Remedial Action Planned

USERNSCO – Emergency Response Notification System

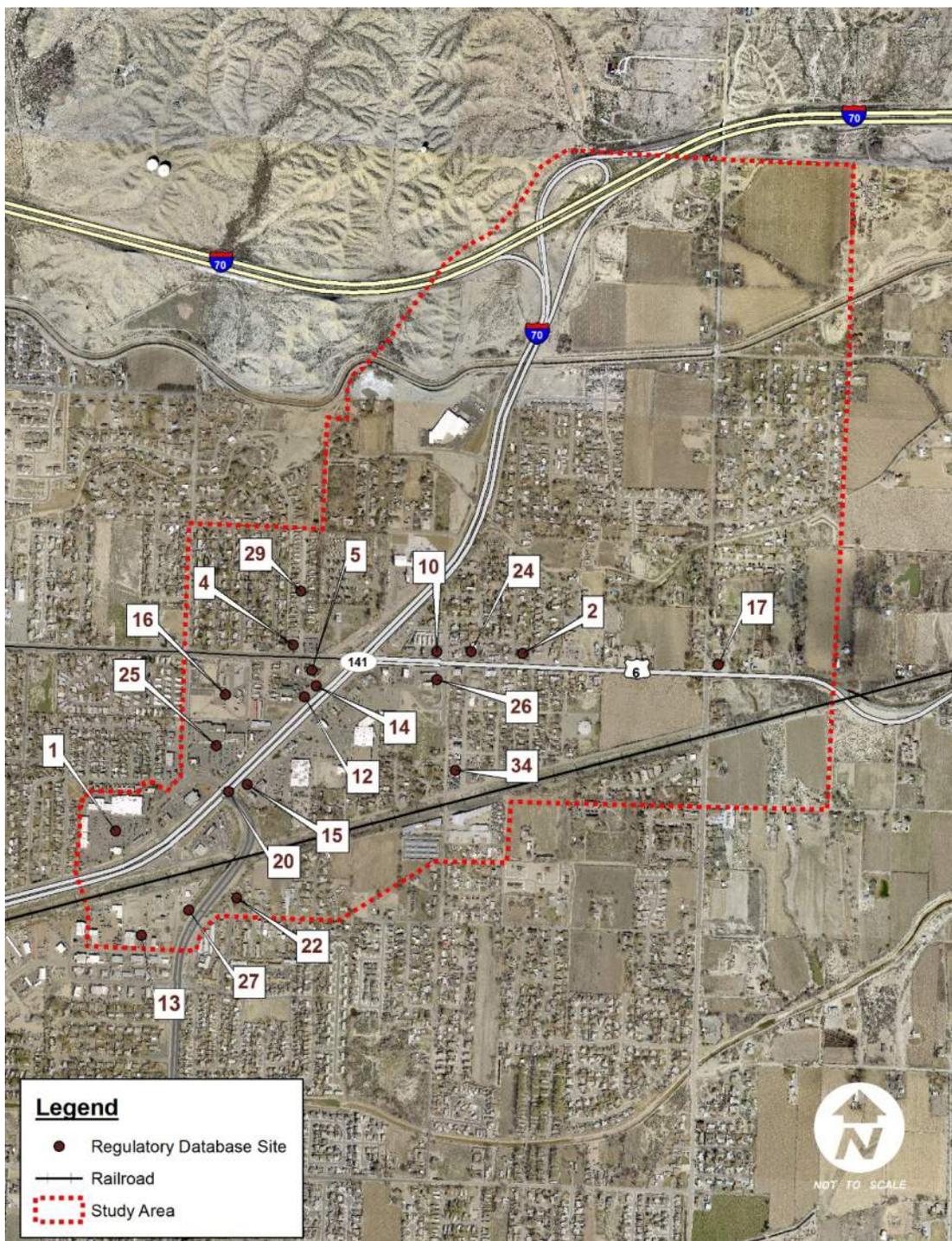
COSWF – Solid Waste Facilities

HISTSWLF – Historical Solid Waste Facilities

The location of these facilities is shown on **Figure 2**.



Figure 2: Potential Hazardous Materials Site Locations



Source: GeoSearch Radius Report, Clifton PEL, Mesa County, Colorado 81520 (2014)



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The CDPHE – HMWMD stated that they did not have any information regarding the potential use and/or presence of mine tailings within the study area (CDPHE – HMWMD, 2014).

In addition, railroad cargo can include hazardous materials and petroleum hydrocarbons. The Union Pacific Railroad tracks extend east to west through the southern portion of the study area. Unreported releases may be associated with the rail line. In addition, railroad ties located along the rail line typically contain creosote, a hazardous material.

Next Steps

Environmental contaminants may be encountered during ground-disturbing activities at or near the hazardous materials facilities located within the study area. The most fundamental, but often not feasible, management for hazardous materials is to avoid activities within contaminated sites.

After initial screening of the alternatives, a Modified Phase I Environmental Site Assessment or CDOT Initial Site Assessment should be conducted at site-specific locations to further evaluate hazardous materials that may require remediation prior to acquisition or development. Based on the results of the future investigations, further subsurface investigations, including the collection of subsurface soil samples and groundwater samples, may be required to delineate the horizontal and vertical extents of contamination in specific areas. During the planning and design process, this information can be used to identify avoidance options, when possible, and to assist with the development of specific contaminated soils/groundwater material management or mitigation measures.

MINES

Mining activities generate waste during the extraction, beneficiation, and processing of minerals. The elements and compounds uncovered through mining and processing have the potential to contaminate the surrounding environment. Most extraction and beneficiation wastes from hard-rock mining (the mining of metallic ores and phosphate rock) and specific mineral processing wastes are categorized by EPA as "special wastes" and have been exempted by the Mining Waste Exclusion from federal hazardous waste regulations under Subtitle C of the RCRA.

Methodology

Geographic Information System (GIS) data was obtained from the Colorado Division of Reclamation, Mining, and Safety to identify potential permitted mine locations within the study area and their characteristics (Colorado Division of Reclamation, 2011).

In addition, the CDPHE-HMWMD was contacted regarding the potential use and/or presence of mine tailings within the study area.

Existing Conditions

A search using GIS data of past and current mining operations revealed that no mining sites occur in the study area.

The CDPHE – HMWMD stated that they did not have any information regarding the potential use and/or presence of mine tailings within the study area (CDPHE – HMWMD, 2014).

Next Steps

The project is not expected to impact any mining sites. There are no additional steps required.

COMMUNITY AND PUBLIC WELLS

Community and public wells are regulated by the Colorado Division of Water Resources (DWR). DWR administers water rights, issues water well permits, issues licenses for well drillers, and assures the safe and proper construction of water wells.

Methodology

Existing wells in the study area were identified through a survey of GIS data from the Colorado Division of Water Resources and the Colorado Oil and Gas Conservation Commission (2014).

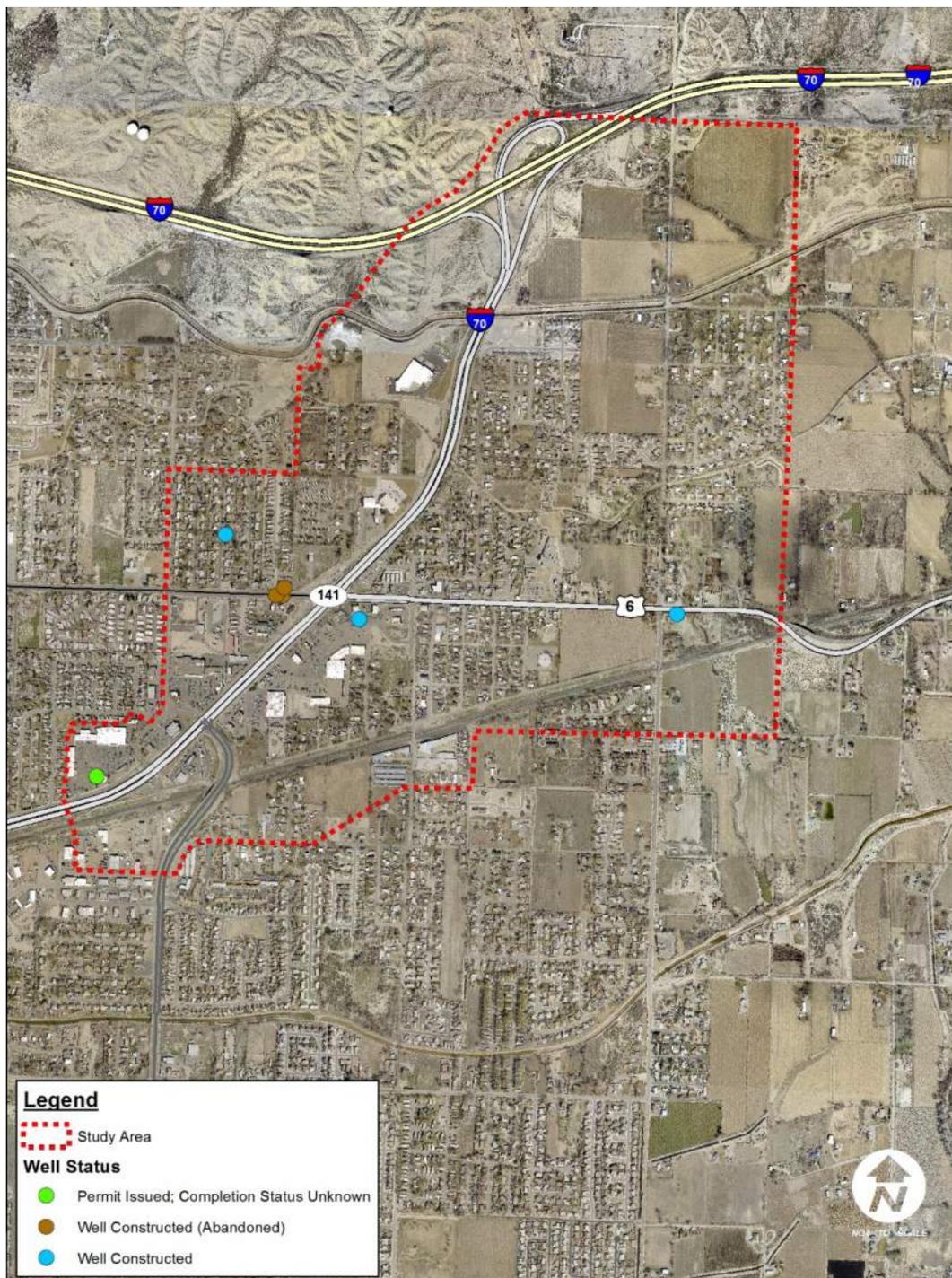
Existing Conditions

Seven wells were identified in the study area. The distribution and construction status of the wells are depicted in **Figure 3**. Six wells have been constructed and one well within the study area has been issued a permit, though the current status of the well is unknown. According to records, there are currently no wells with expired or cancelled permits (DWR, 2014). Within the entire study area, three of the six constructed wells have been abandoned.

Six out of seven wells are classified as monitoring wells. One well is utilized for geothermal heating. Monitoring wells are constructed for the purpose of locating water, pump or aquifer testing, monitoring groundwater, or collection of water quality samples. No specific information is available regarding the aquifer associated with the wells. **Figure 4** depicts well usage (DWR, 2014).



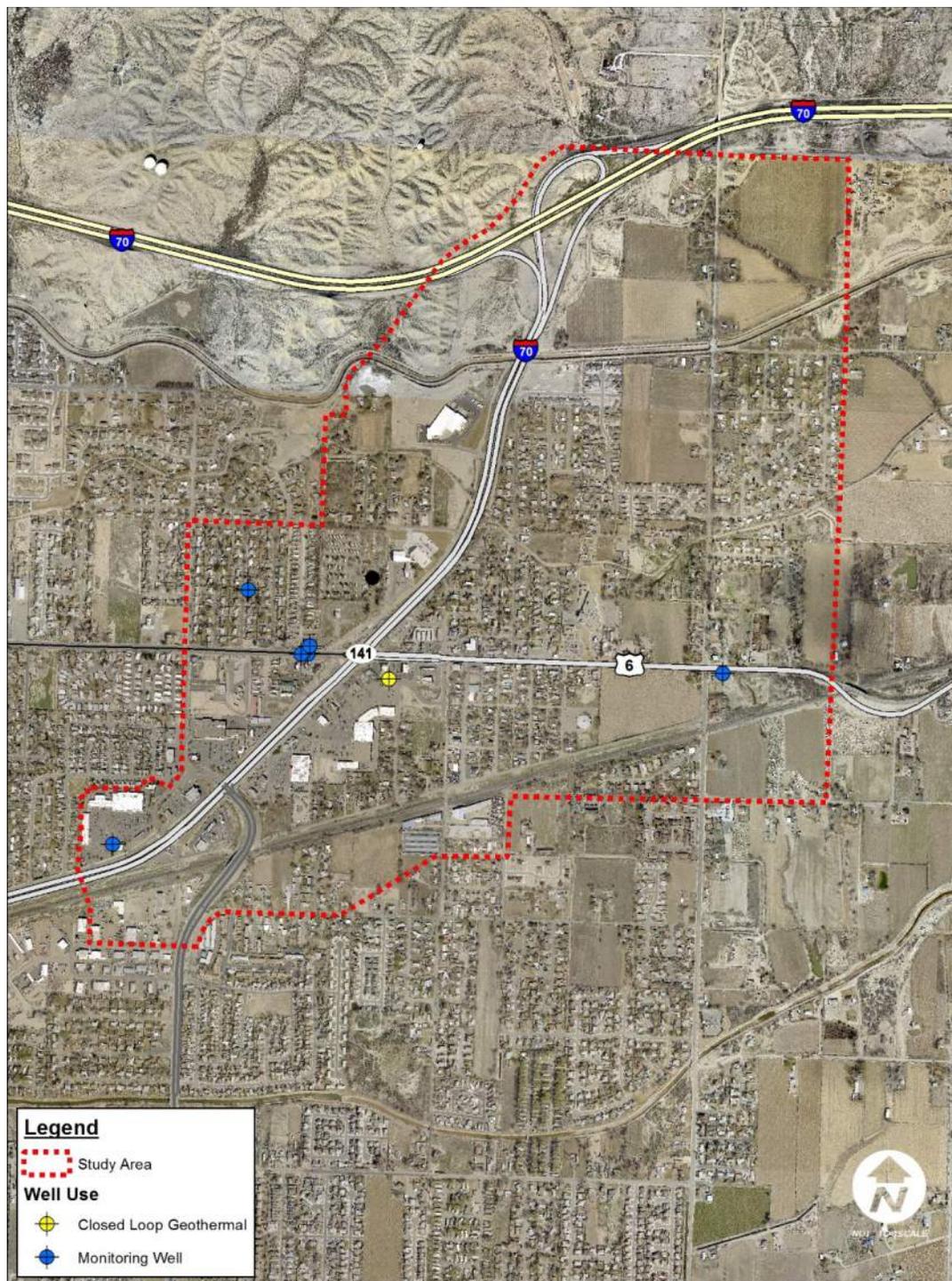
Figure 3: Locations and Status of Wells within the Study Area



Source: Colorado Division of Water Resources, Colorado Oil and Gas Commission (2014)



Figure 4: Well Usage within Study Area



Sources: Colorado Division of Water Resources (2014) and Colorado Oil and Gas Commission (2014)



Next Steps

Mitigation measures that protect water rights will be required as part of any improvements that would impact water supplies.

Construction projects resulting from this study may require dewatering permits, depending on the local groundwater levels. Groundwater monitoring may also be necessary to confirm no contamination has occurred. This would require obtaining a well permit from the DWR (DWR, 2014).

Next steps for water well resources during the NEPA process may include the following based on the improvements associated with the alternatives under evaluation:

- A detailed analysis of the project design impacts to existing water wells.
- A plan for avoidance of existing wells during and after construction.
- Identification of the necessary permits for construction activities.
- Assessment of the need for groundwater monitoring before, during, and after the project.
- Coordination with local planners and other city officials.

CULTURAL RESOURCES, INCLUDING SECTION 4(F)

Passed in 1966, the National Historic Preservation Act (NHPA) established the framework for historic preservation in the US, creating the National Register of Historic Places (NRHP), National Historic Landmarks (NHL), and State Historic Preservation Offices (SHPO). Section 106 of the NHPA produced the preservation's regulatory framework, mandating review of federally funded and permitted projects to identify any potentially adverse impacts on prehistoric and historic resources. The National Historic Preservation Act requires projects to try to avoid impacts to NRHP-eligible properties and, if impacts cannot be avoided, to minimize and mitigate impacts.

Section 4(f) of the Department of Transportation Act of 1966 regulates the use of land from publicly-owned parks, recreation areas, wildlife and waterfowl refuges, and public or private historic sites for federal highway projects. These requirements are now codified at 23 USC § 138 and 49 USC § 303 and still commonly referred to as Section 4(f). Section 4(f) states that FHWA and other DOT agencies cannot approve the use of land from public or private prehistoric or historic sites unless there is no feasible and prudent alternative to the use of land and the project includes planning to minimize negative impacts to the property whenever possible. Non-historic Section 4(f) resources are discussed in the Parks and Recreational Resources section of this report.

Methodology

This evaluation inventories existing historic resources and identifies potential resources within the study area and is not an official review under Section 106. Two primary sets of data were analyzed for this report: The resource files of History Colorado including information identified in the Colorado Cultural Online Resources (COMPASS) database and tax assessor data; this information was supplemented with Google Earth imagery. The History Colorado file search was used to identify archaeological and architectural resources within the study area that have been previously surveyed. No previously documented prehistoric archaeological resources were found in the file search; historic archaeological and architectural resources previously identified as potentially eligible for NRHP designation are discussed in the Existing Conditions section below. The COMPASS data is not comprehensive; there could be unidentified prehistoric or historic resources in the study area that could be identified in a field survey. The assessor data provided an overview of the distribution of older properties within the study area.

Google Earth and US Geological Survey (USGS) maps were also used to identify resource distribution, resource types, and development patterns. USGS maps were also helpful in identifying linear resources within the study area. Linear resources are generally long, narrow resources that often span multiple



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communities, counties, or even states (e.g., railroads or irrigation canals). All linear resources previously identified in COMPASS that include segments within the study area are included in the Existing Conditions section. Several of the linear resources listed have not been surveyed within the project area; however, other segments of the linear resources have been identified outside the study area. All linear resources within the study area will need to be evaluated once specific improvements have been identified.

Existing Conditions

Community of Clifton

The study area falls primarily within the Central Clifton neighborhood. The *Clifton-Fruitvale Community Plan* defines this neighborhood as bounded by Front Street, the Frontage Road of I-70B, I-70, and 33 Road. The neighborhood is composed primarily of single-family residences with commercial properties concentrated along US 6C. Some commercial properties are also located on 2nd Street, which was the original “Main Street” of the community. According to the *Clifton-Fruitvale Community Plan*, the Central Clifton neighborhood includes approximately 340 dwelling units with more than 50 of these buildings constructed before 1930. The median year-built of residences in the neighborhood is 1958. Within the neighborhood, the highest concentration of historic-era resources is to the south with more recent construction to the north (Mesa County Planning Commission and City of Grand Junction Planning Commission, 2011).

Scattered agricultural properties were established in the area during the 1890s, with more focused development within the Central Clifton neighborhood beginning in 1900 after the establishment of a post office. Clifton was platted in 1905 with the Clifton Townsite Company promoting its premium orchard land and location “in the heart of the Grand Valley – Grand Junction 7 miles to the west and Palisade 6 miles to the east, on both the Denver & Rio Grande Railroad and the Colorado Midland Railway” (Mesa County Planning Commission and City of Grand Junction Planning Commission, 2011). Agriculture has remained essential to the regional economy, though in recent decades many orchards in and around Clifton have been replaced with residential subdivisions.

The Central Clifton neighborhood contains the majority of Clifton’s historic resources, although additional scattered historic resources are located within the study area, outside the Central Clifton neighborhood. Agricultural properties, several with older farm houses, are scattered around the fringes of the community, especially to the north. Newer subdivisions are located to the west, south, and east of the Central Clifton neighborhood with 1970s ranch houses predominating.

Resources Listed on the National Register of Historic Places

Clifton Community Center and Church, 353 2nd Street (5ME.1180): Constructed in 1920 as the Clifton Christian Church, this building was listed on the National Register in 1982.



Table 2: Previously Identified Eligible Resources

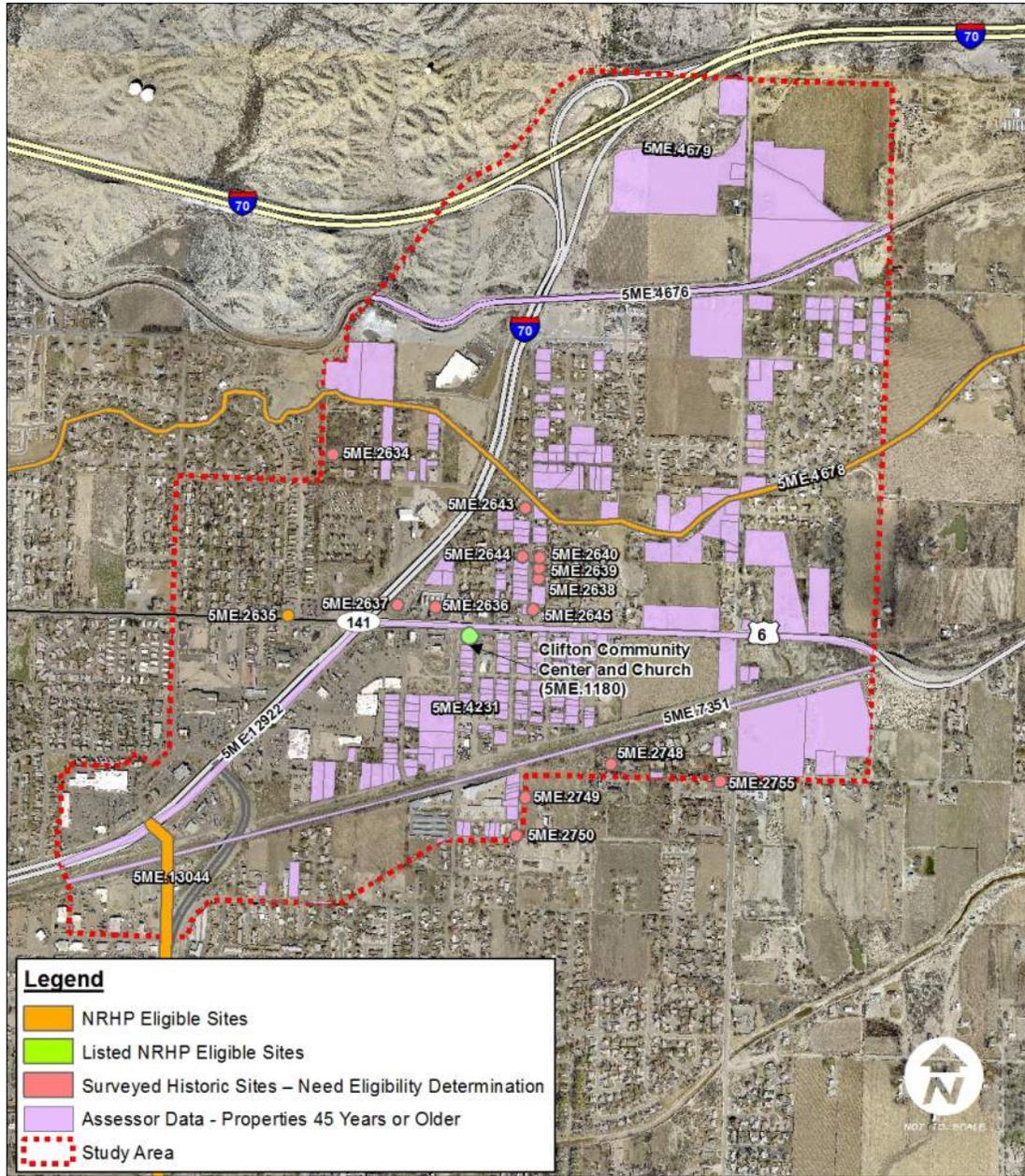
SITE NUMBER	NAME	ADDRESS	RESOURCE TYPE	STATUS
5ME.1180	Clifton Community Center and Church	353 2nd Street	Building	Listed on the NRHP
5ME.4231	Old Oddfellows Hall	201 2nd Street	Building	Determined NRHP eligible-officially
5ME.2635	Barn	3212 F Road	Building	Determined NRHP eligible-field
5ME.13044	State Highway 141	N/A	Linear- Highway	Segments determined NRHP eligible-field
5ME.12922	US Highway 6	N/A	Linear- Highway	Segments determined NRHP eligible-field
5ME.4676	Government Highline Canal	N/A	Linear- Canal	Segments determined NRHP eligible-officially
5ME.4678	Price Ditch	N/A	Linear- Ditch	Segments determined NRHP eligible-field
5ME.4679	Stub Ditch	N/A	Linear- Ditch	Segments determined NRHP eligible-field
5ME.7351	Denver & Rio Grande Western Railroad	N/A	Linear- Railroad	Segments determined NRHP eligible-officially

Other Potentially Eligible Resources

Vernacular architectural types, rather than identifiable architectural styles, tend to predominate in Clifton. Most buildings are simple in form, with minimal architectural detailing. Many of the buildings appear to have been extensively altered. Common types in Clifton include Ranch, Minimal Traditional, Hipped-Roof Box, and Massed Plan Side Gable. The highest concentration of historic-era resources are located in Clifton’s core on 1st through 5th Streets between US 6C and Front Street. Construction dates in this area generally range from 1900-1960. Elsewhere in town, more recent construction is scattered among historic-era resources. The Irwin Clifton Heights subdivision, bounded by 32 Road, F Street, Jackson Street, and F¼ Road is a modern subdivision of ranch houses constructed in the 1970s. These resources will need to be evaluated once improvements have been identified. NRHP-listed and NRHP-eligible properties and those developed in 1970 or earlier are shown on **Figure 5**.



Figure 5: NRHP and NRHP-Eligible Resources and Potential Historic Properties



Source: History Colorado, 2014 Files via COMPASS at <http://gis.co.gov/compass/index.html> and Mesa County Tax Assessor, (2014). Files at http://emap.mesacounty.us/assessor_lookup/



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Next Steps

Avoidance of impacts to historic properties listed or evaluated as eligible for inclusion on the NRHP is preferred over mitigation. During the alternatives development, the design team should utilize historic resource information to avoid and minimize use of these resources wherever possible.

A Section 106 review and coordination with SHPO will be required once specific improvements and funding have been identified.

Section 4(f) Resources

Historic sites of national, state or local significance in public or private ownership including NRHP listed and eligible properties are considered Section 4(f) resources. An adverse effect determination under Section 106 typically results in a “use” under Section 4(f).

During the alternatives development, the design team should utilize Section 4(f) resource information to avoid and minimize use of these resources wherever possible.

A Section 4(f) evaluation may be required once specific improvements and funding have been identified.

PALEONTOLOGICAL RESOURCES

Paleontological resources are the fossilized remains of prehistoric plant and animal organisms, as well as the mineralized impressions (trace fossils) left as indirect evidence of the form and activity of such organisms. These non-renewable resources may be scientifically significant.

Important paleontological resources must be identified and considered during planning for federally assisted transportation projects, in accordance with Prehistorical and Archaeological Resources Act of 1973.

Methodology

A paleontological survey was not conducted as part of this study; however, literature relevant to the area was reviewed.

Existing Conditions

The study area is located near areas with a high potential for paleontological resources. The northernmost portion of the study area is within the Mancos Shale (Km) formation (Mancos Shale (Phanerozoic | Mesozoic | Cretaceous) complex with units overlying Mesaverde Group or Formation; the southern part consists of a calcareous Niobrara equivalent and Frontier Sandstone and Mowry Shale Members. In areas where the Frontier and Mowry Members (Kmf), or these and the Dakota Sandstone (Kfd) are distinguished, mapped unit (Km) consists of shale above Frontier Member. The remainder of the study area is located within the Broadway and Louviers Alluviums. Investigations of the Upper Cretaceous strata of the Dakota Sandstone and the overlying Mancos Shale conducted by personnel of the US Geological Survey in the years 1955 through 2004 within Delta, Garfield, Mesa, and Montrose Counties in west-central Colorado discovered lithostratigraphic and biostratigraphic data of exposed strata of marine origin in the uppermost Dakota and the lower part of the Mancos (Cenomanian, Turonian, and Coniacian Stages) and related and associated collections of molluscan fossils. The strata consist mainly of shale but can include chalk, calcarenite, siltstone, sandstone, and bentonite; commonly, they enclose a variety of concretions. In outcrops, the members are distinguished essentially by differences in their content of calcium carbonate supplemented by the identity of constituent fossils. (Merewether, E.A., Sawyer, D.A., and Cobban, W.A., 2006).

Next Steps

A paleontological survey may need to be conducted to evaluate potential sensitive geologic units depending on the improvements associated with the alternatives under evaluation. Once an alternative has been recommended and funding has been identified, a qualified paleontologist may need to locate potential resources and work with the project team to avoid, minimize, and mitigate resource effects.

PARKS AND RECREATION RESOURCES, INCLUDING SECTION 4(F) AND SECTION 6(F)

Parks and recreational resources were evaluated within the study area. Publicly owned parks and recreation facilities are regulated under Section 4(f) of the Department of Transportation Act of 1966 which stipulates that FHWA and other US DOT agencies cannot approve the use of land from publicly owned parks, recreational facilities, wildlife and waterfowl refuges, or public and private historic sites unless there is no feasible and prudent alternative to the use of the land, and the action includes all possible planning to minimize harm to the project resulting from the use. Section 4(f) also applies if publically owned land is formally designated as a planned park or recreation area not yet developed and determined significant. Inclusion of the land and its function within a city or county Master Plan would be evidence of a formal designation.

Some park and recreational resources are also regulated under the Land and Water Conservation Fund (LWCF) Act of 1965 which established a federal funding program to assist states in developing outdoor recreation sites. Section 6(f) of the LWCF Act prohibits the conversion of property acquired or developed with these funds to a non-recreational purpose without the approval of the National Parks Service (NPS).

Methodology

Several datasets were referenced to identified parks and recreational facilities within the study area. These include:

- Mesa County Parks and Open Space GIS dataset
- Clifton-Fruitvale Community Plan
- Clifton Old Town Mixed-Use District and Design Standards
- Mesa County Future Land Use Map
- US Department of Interior, NPS Land and Water Conservation Fund, Detailed Listing of Grants Grouped by County
- Available aerial photography (Bing Maps and Google Earth)

Existing Conditions

Three existing and proposed parks/recreation facilities are located within the study area (**Figure 6**):

1. A portion of Coronado Park, 31 $\frac{3}{4}$ Road (existing)



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2. Clifton Elementary School playground and ball fields, 3276 US 6C (existing)
3. Park east of 33rd Street and north of Front Street (proposed in the Mesa County Master Plan - Future Land Use Map)

In addition to the existing and proposed park locations, the *Clifton-Fruitvale Community Plan* (Community Plan) (Mesa County Planning Commission {MCPC}, 2006) identifies potential locations for additional parks at the southeast corner of 33 and US 6C. However, this location may be prohibitive based on cost and proximity to heavy traffic. The plan also identified a four-acre site north of Lois Street as a potential park location. The specific location of the park is not provided.

The Community Plan also identifies the need for new bicycle and trail facilities at the following locations within the study area. The locations are ranked high, moderate, or low based on necessity (**Figure 6**):

- 32nd Road/Colorado 141 (high)
- E½ Road (high)
- US 6C (high)
- Price Ditch Road near Clifton Elementary School (moderate)
- Lois Street west of Clifton Elementary School (moderate)
- Price Ditch Road, west of I-70B (low)
- Highline Canal (low)
- 31½ Road, south of US 6 (low)

According to the Community Plan, additional recreation opportunities and facilities are desired by the community. In addition, improvements at the Clifton Elementary School and playground are needed since the school is centrally located and there are no sidewalks or improved trails that access this facility. The community also has safety concerns regarding school and playground access, particularly for the area south of US 6C.

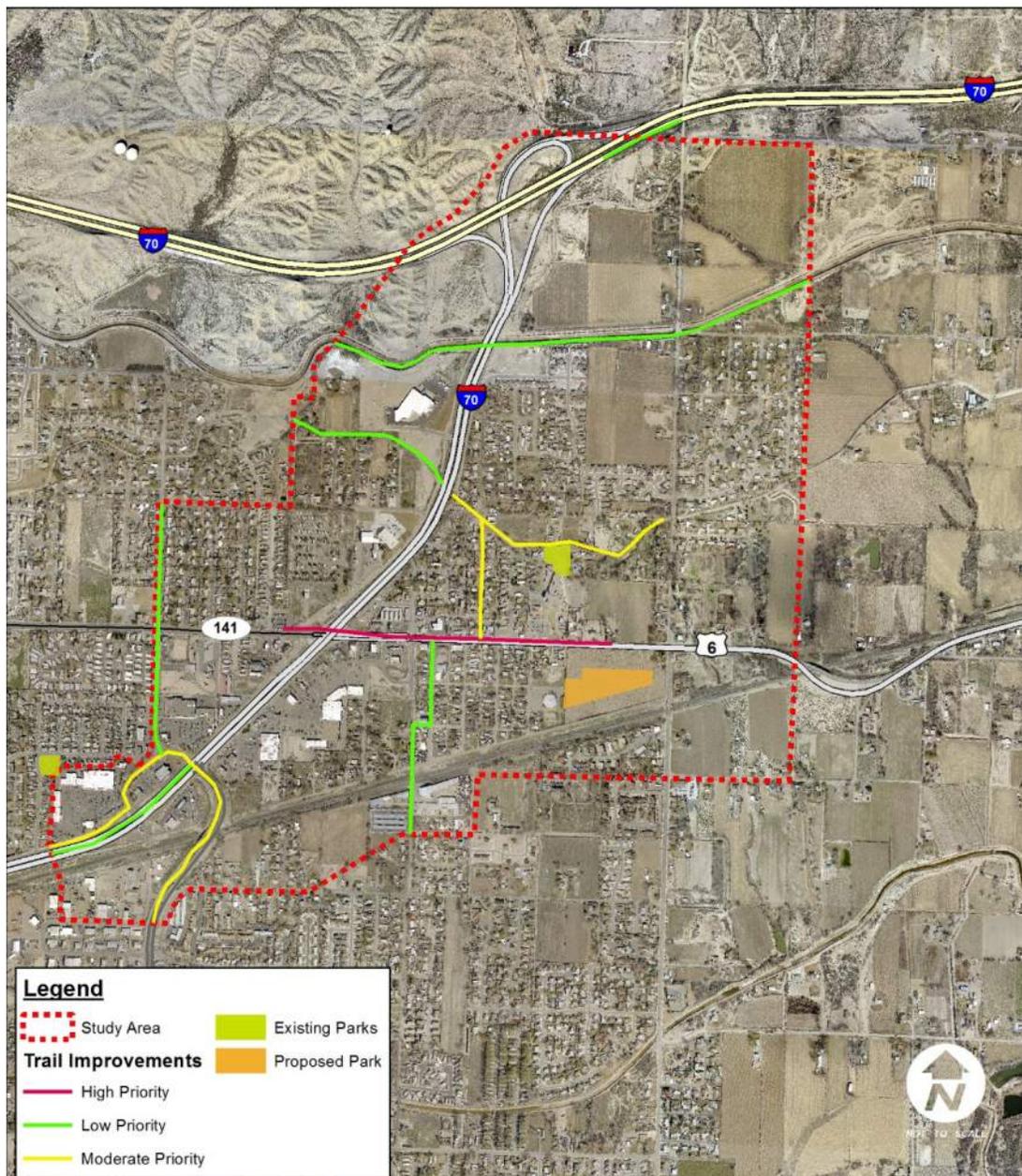
Clifton Old Town is located in the southern portion of the study area bounded by Price Ditch to the north, Front Street to the south, I-70B to the west and 33rd Street to the east. Clifton Old Town Mixed-Use District and Design Standard states:

- Alternative modes of transportation, including public transit, bicycles, and sidewalks/trails in project design should be promoted.
- Streets, bikeways, paths, and trails shall connect to existing adjacent neighborhoods.

Other parks and recreational resources including open space, cemeteries, golf courses, campgrounds, lakes and reservoirs, trails, and bike paths were evaluated; however, none were identified within the study area.



Figure 6: Existing and Proposed Parks/Recommended Trail Improvements



Sources: Mesa County Parks and Open Space GIS dataset (2014); Clifton-Fruitvale Community Plan (2006); US Department of Interior, NPS Land and Water Conservation Fund, Detailed Listing of Grants Grouped by County (2014); and available aerial photography (Bing Maps and Google Earth) (2014)



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Section 4(f)

The following potential Section 4(f) Parks and Recreation resources are located within the study area:

- **Coronado Park:** Located at 31¾ Road in Fruitvale, consists of 0.69 acre and is owned by Mesa County. The park has a playground, sidewalks, and landscaped grass.
- **Clifton Elementary School:** Located at 3276 US 6C in Clifton: Playground and ball fields are utilized at the school and defined as a recreational resource.

Section 6(f)

Based on the LWCF List (2014), no Section 6(f) resources are located within the study area.

Next Steps

During the alternatives development, the design team should utilize Section 4(f) resource information to avoid and minimize use of these resources wherever possible.

- Potential Section 4(f) properties that could be impacted by proposed alternatives should be evaluated for Section 4(f) applicability.
- Avoidance and minimization measures considered during the alternatives evaluation should be documented as part of this PEL study.

Use of any Section 4(f) properties should be determined. A Section 4(f) “use” occurs when:

- Land from a Section 4(f) property is permanently incorporated into a transportation facility; this occurs when land from a Section 4(f) property is either purchased ROW or a piece of property has been acquired that allows permanent access onto the property such as a permanent easement. This is commonly referred to as a Direct Use.
- There is a temporary use, commonly referred to as temporary occupancy, when the Section 4(f) property, in whole or in part, is required for project construction-related activities. The property is not permanently incorporated into a transportation facility but the activity is considered to be adverse in terms of the preservation purpose of Section 4(f). If certain criteria are met, temporary occupancy does not constitute a use.
- There is no permanent incorporation of land from a Section 4(f) property, but the proximity impacts of a proposed project are so severe that the protected activities, features, or attributes that qualify the property for protection are substantially impaired. This is commonly referred to as a Constructive Use.

When FHWA determines that a project as proposed may use a Section 4(f) property, there are three methods available to approve the use; preparing a *de minimis* impact determination; applying a programmatic Section 4(f) evaluation; or preparing an individual Section 4(f) evaluation. If the proposed improvements impact a Section 4(f) property, one of these processes will need to be completed.

COMMUNITY AND SOCIAL RESOURCES, INCLUDING ENVIRONMENTAL JUSTICE

Community resources include a variety of factors that may affect quality of life for a population. Transportation projects should consider the following potential impacts:

- Community cohesion
- Community resources (schools, churches, parks, shopping, emergency services)
- Community values and vision
- Community transportation resources (alternative modes of transportation)
- Community mixed-use developments

Information on the composition of the community should be collected and refined throughout the project. The study area should at least include communities within and immediately surrounding the proposed alternatives and any issues should be identified as early as possible during the project planning.

CDOT evaluates social resources for several reasons:

- To involve communities that will be affected by transportation projects (whether positively or negatively) and should be an important part of the process.
- To comply with CDOT's environmental stewardship policy, which ensures that the statewide transportation system is constructed and maintained in an environmentally responsible, sustainable, and compliant manner.
- To comply with several legal mandates that pertain to communities and federally funded projects.

Environmental justice legislation was created out of concerns that land uses and facilities were being placed in communities with minority and low-income populations without regard to the consequences of these actions. Environmental justice refers to the social equity in sharing the benefits and the burdens of specific projects and/or programs and is regulated by Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898, 1994). The EO is in response to Title VI of the Civil Rights Act of 1964 which states "No person in the US shall, in the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."



Guidance on how to implement EO 12898 and conduct environmental justice analyses was issued by the Council on Environmental Quality (CEQ) (CEQ, 1997). The CEQ guidance states that minority and low-income populations occur where either:

- The minority or low-income population of the affected area exceeds 50%.
- The population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographical analysis.

Minorities constitute races and ethnic groups, and include the following (as identified by the US Census Bureau): Black/African Americans, American Indian/Alaskan Natives, Asians, Native Hawaiian/Pacific Islanders, and Hispanics.

Low income is defined as persons/families within incomes at or below the poverty level as determined by the Department of Health and Human Services or the Census Bureau.

The EO requires projects that involve federal agencies or federal funds be analyzed to determine whether there is a potential for disproportionately high or adverse impacts from the project on minority or low-income populations in comparison to populations that are not minority or low-income in the study area. Disproportionately high and adverse effects are defined as being:

- Predominately borne by a minority population and/or a low-income population.
- Suffered by the minority population and/or low-income population in an appreciably more severe or greater magnitude than the adverse effect that would be suffered by the non-minority population and/or non-low-income population.

The FHWA Order 6640.23 published in 1998, was updated in June 2012; it is titled 6640.23A FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations and it serves as the agency's policy regarding environmental justice. There are three basic tenants at the core of the EO, which are also in FHWA's policy:

1. Avoid, minimize, or mitigate disproportionality high and adverse human health and the environmental effects, including social and economic effects on tribal governments, minority, and low-income populations.
2. Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
3. Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

Order 6640.23A also states: "When determining whether a particular program, policy, or activity will have disproportionately high and adverse effects on minority populations and/or low-income populations, FHWA managers and staff should take into account mitigation enhancement measures and potential offsetting benefits to affected minority and/or low-income populations" (FHWA, 1998).

CDOT updated their NEPA Manual in October 2014. It includes direction for implementation of FHWA and CEQ guidance. The CDOT NEPA Manual reflects both the EO and FHWA 6640.23A Order, as well as



providing direction for identifying environmental justice populations, potential impacts, appropriate mitigation measures, and outreach methods that may be useful for the determination.

Methodology

For the purpose of this study, data was collected from a variety of resources to consider impacts to the community. Population growth within Mesa County and Clifton census-designated place (CDP) was pulled from US Census data to look at community cohesion and future growth. Information from the Grand Valley Transit, was used to determine the alternative modes of transportation found within the study area. For additional information regarding methodology for community resources, please refer to the Cultural, Parks and Recreation, and Noise resource sections within this report.

CDOT Environmental Justice guidelines as defined in the CDOT 2014 NEPA Manual (CDOT, 2014) were utilized to identify minority and/or low-income populations within the community study area. The community study area should include the geographic area likely to be affected by the project. For the purpose of this analysis, the community study area includes the entirety of the seven block groups within the four Census tracts labeled on Figure 10. Based on the CDOT guidance, block groups that are located in the community study area were compared to the state of Colorado and Mesa County data to evaluate if minority and low-income populations are present. Additionally, for low-income percentages, the US Census 2010 American Community Survey (ACS), (2008-2012) five-year estimate data was used as the base data set, and incorporated US Department of Housing and Urban Development (HUD) data, to identify low-income household areas in the community study area. Data was calculated based on 30% of the median household income. Since HUD data is provided at the County level, Census tracts in the community study area were compared only to the Mesa County data to determine low-income populations. Additionally, proficiency in English was considered; this information was gathered from the US Census 2010 ACS, (2008-2012) five-year estimate.

Existing Conditions

The study area is located entirely within the Clifton CDP in Mesa County; it is part of the Grand Junction Metropolitan Statistical Area. Mesa County experienced population growth of 26.2% from the years 2000 to 2010, which is higher than the state average rate of 16.9%. Growth within Mesa County is expected to continue at a similar rate in the next 25 years as migration to the area continues (US Census Bureau, 2010).

Development within the study area is composed of residential, agricultural, industrial, and commercial properties including retail stores, restaurants, automotive fueling, and service stations. Community facilities within the community study area consist of:

- Clifton Elementary School (3276 US 6C)
- Clifton Fire Protection (3254 US 6C)
- Clifton Christian Church (615 I-70B)
- Clifton Community Center and Church (US 6C and 2nd Street)
- Clifton Assembly of God (258 5th Street)

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- Clifton Community Hall (575 32 Road)
- Clifton Branch Library (590 32 Road #6-F)
- Coronado Park (31¼ Road)

The community resources listed above are discussed further in the Cultural, Parks and Recreation, and Noise resource sections within this report.

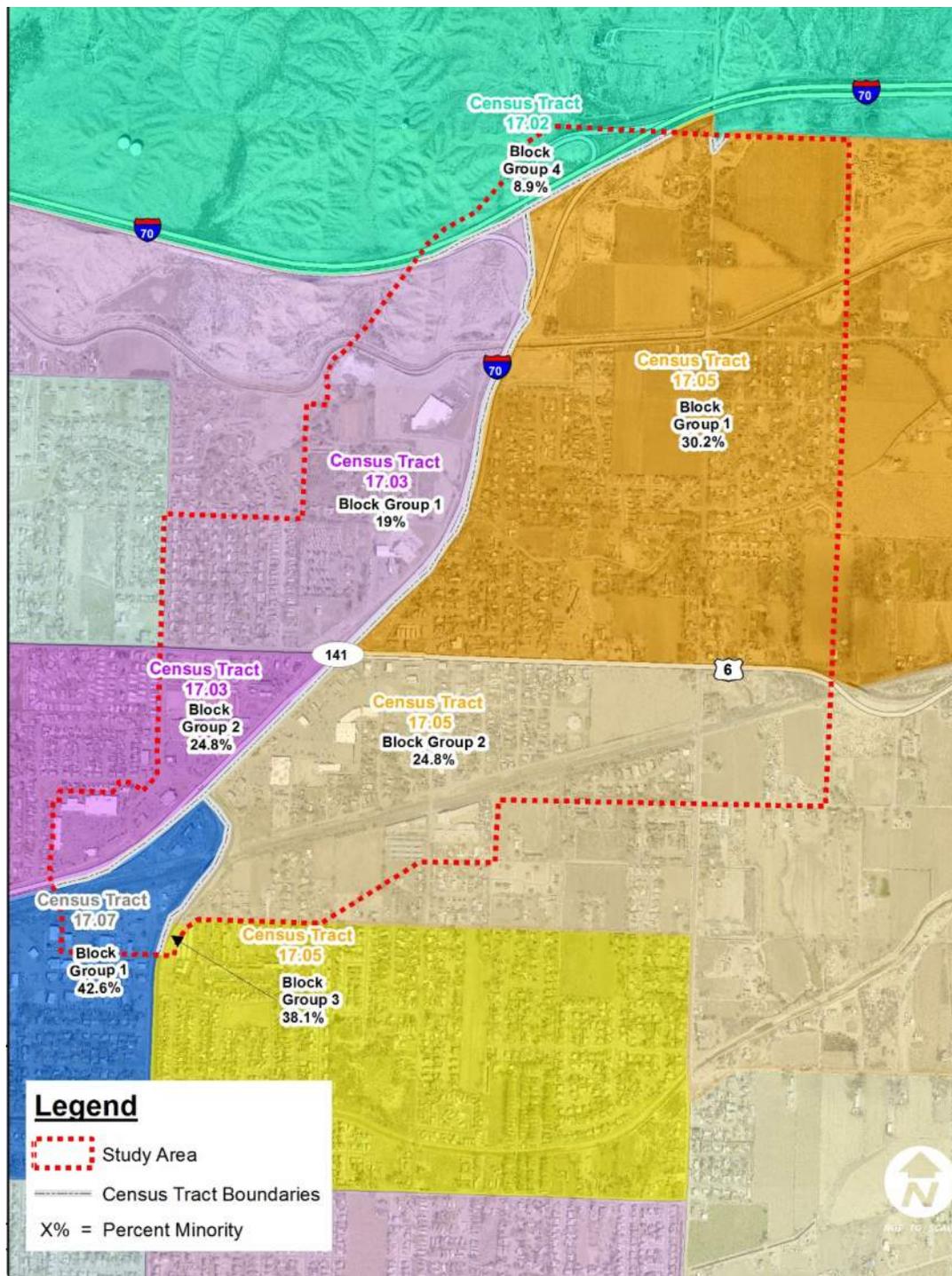
Transit facilities within the study area serve both regional and local trips. Currently, two bus routes provide service within the study area. Route 4 (Palisade) provides east/west service between Clifton and Palisade. And Route 10 (Clifton) provides east/west transit in the southeast corner of the study area (Grand Valley Transit, 2014).

This assessment identified four Census tracts and seven block groups within the community study area that would be potentially impacted: Block Group 4 within Census Tract 17.02, Block Groups 1 and 2 within Census Tract 17.03, Block Groups 1, 2, and 3 within Census Tract 17.05, and Block Group 1 within Census Tract 17.07 (**Figure 7**).

Minority Populations

There are two block groups, Block Group 3 (Census Tract 17.05) and Block Group 1 (Census Tract 17.07), in the analyzed study area that exceed the minority percentages for both the State and Mesa County (**Table 2**). Therefore, these block groups have been identified as minority populations. The highest minority population was identified in Census Tract 17.07, Block Group 1 at 42.6 percent, well above the State percentage of 30.1, and the Mesa County percentage of 22.5 percent (**Table 3**). Block Group 3 in Census Tract 17.05 is also above the minority percentage for the State and Mesa County at 38.1 percent. Both block groups are located within the Grand Junction Metropolitan Statistical Area.

Figure 7: Percent Minority



Source: Census 2010 (2008-2012 5-year ACS Estimates)



Table 3: Percent Minority within the Block Groups in Community Study Area

GEOGRAPHIC UNIT		TOTAL POPULATION	PERCENT MINORITY					TOTAL MINORITY
			BLACK / AFRICAN AMERICAN	NATIVE AMERICAN	ASIAN / PACIFIC ISLANDER	HISPANIC OR LATINO	OTHER ¹	
State		5,042,853	3.8	0.6	2.8	20.6	2.3	30.1
Mesa County		146,723	0.6	1.1	0.9	14.6	5.4	22.5
CENSUS BLOCK GROUPS IN THE COMMUNITY STUDY AREA								
Census Tract 17.02	Block Group 4	847	0.1	0.4	0.4	5.3	2.7	8.9
Census Tract 17.03	Block Group 1	1,188	0.5	0.7	0.4	13.0	4.4	19.0
	Block Group 2	1,219	0.6	2.5	0.9	14.6	6.2	24.8
Census Tract 17.05	Block Group 1	1,455	0.4	1.6	1.1	18.4	8.7	30.2
	Block Group 2	1,242	0.4	1.8	0.4	15.6	6.6	24.8
	Block Group 3	2,803	1.0	0.9	0.7	24.9	10.6	38.1
Census Tract 17.07	Block Group 1	1,034	1.2	1.5	0.3	25.5	14	42.6

Notes: Source: Census 2010 (2008-2012 5-year ACS Estimates)

1. Includes people of two or more races.

Percentages shown in **BOLD** exceed the State and Mesa County averages



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Low-Income Populations

Low-income population data is only available at the Census tract level for the community study area. The Mesa County low-income percentage was calculated to be 17 percent (**Table 4, Figure 8**). Out of the four Census tracts, only one within the community study area was above the Mesa County percentage for low-income populations. The low-income population is identified in Census Tract 17.05 at 23 percent.

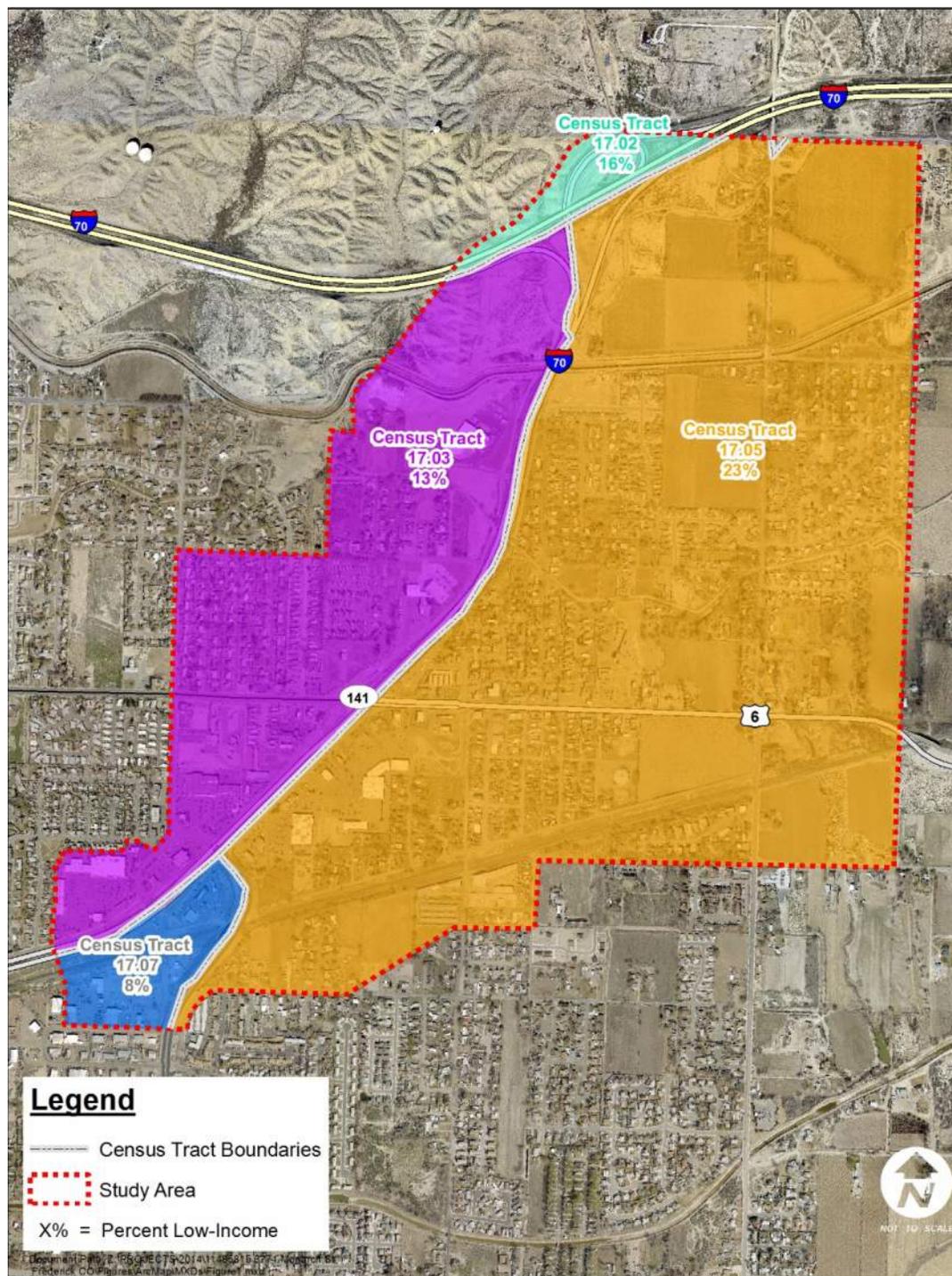
Table 4: Percent Low-Income Population within Census Tracts in Community Study Area

GEOGRAPHIC UNIT	LOW-INCOME PERCENTAGE
Mesa County	17
CENSUS TRACTS IN THE COMMUNITY STUDY AREA	
Census Tract 17.02	16
Census Tract 17.03	13
Census Tract 17.05	23
Census Tract 17.07	8

Notes:
 Source: Census 2010 (2008-2012 5-year ACS Estimates)
 Percentages shown in **BOLD** exceed the Mesa County average



Figure 8: Percent Low-income Population



Source: Census 2010 (2008-2012 5-year ACS Estimates)



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Limited-English Proficient Population

For purposes of this assessment, individuals who speak a language other than English are considered to be limited-English proficient. Limited-English proficiency is often, but not always, an indication that the individual is a minority.

Data for limited-English proficiency within the study area is only available at the County level. The percentage of limited-English proficient in households within Mesa County is below the State percentage of 11.9, at 11.4 percent (**Table 5**).

Table 5: Percent Limited English Proficient Households in the Community Study Area

GEOGRAPHIC UNIT	LIMITED-ENGLISH PROFICIENT HOUSEHOLDS [SPANISH AS THE PRIMARY LANGUAGE] (&)
State	11.9
Mesa County	11.4

Notes:
Source: Census 2010 (2008-2012 5-year ACS Estimates)
Percentages shown in **BOLD** exceed the Mesa County percentage.

Next Steps

The next steps for community impacts and environmental justice resources include:

- A detailed analysis of the project design impacts to the community and environmental justice populations.
- Coordination with local business owners, residents, planners, and other local officials.

Ongoing coordination with local planners should be an essential part of future project development to ensure that changes resulting from any recommendations are compatible with environmental regulations and the local planning offices. Additionally, ongoing conversations with property owners, businesses, and residences potentially affected should also be a critical part of future project development.

NOISE

Noise is defined as any unwanted sound. As mobility increases, transportation can be a key source of noise across transportation modes, from airports to rail to new roads. A review of noise conditions within the study area was conducted to identify noise-sensitive locations.

FHWA procedures for noise abatement are outlined in Title 23 CFR Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise. A noise-sensitive site is any property (owner occupied, rented, or leased) where frequent exterior human use occurs and where a lowered noise level would be of benefit. CDOT has established noise levels at which noise abatement must be considered. Known as Noise Abatement Criteria (NAC), these criteria vary according to a property’s land use category and are described in **Table 6**.

Table 6: CDOT Noise Abatement Criteria

ACTIVITY CATEGORY	LEQ(H)	DESCRIPTION OF LAND USE ACTIVITY CATEGORY
A	56 dBA (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	66 dBA (Exterior)	Residential.
C	66 dBA (Exterior)	Active sport areas, amphitheatres, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	51 dBA (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	71 dBA (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	N/A	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, ship yards, utilities (water resources, water treatment, electrical), and warehousing.
G	N/A	Undeveloped lands that are not permitted for development.

Source: CDOT Noise Analysis and Abatement Guidelines (2013)

dBA = A-weighted decibel



CDOT has determined that a traffic noise impact occurs when the projected traffic noise levels meet or exceed the NAC levels, or when projected noise levels substantially exceed existing noise conditions. CDOT defines “substantially exceeding the existing noise levels” as an increase of 10 A-weighted decibel (dBA) or more over the existing levels (CDOT, 2013).

Methodology

For this noise section, online resources were used, along with desktop utilities such as Google Earth, to identify noise sensitive receivers in the study area. FHWA and CDOT websites were consulted to describe the regulatory environment, as discussed above.

Existing Conditions

Existing potential noise-sensitive receivers within the study area were identified. Locations with noise-sensitive activity for categories NAC B and NAC C are shown on **Figure 9**. The following summarizes each NAC Activity Category within the study area:

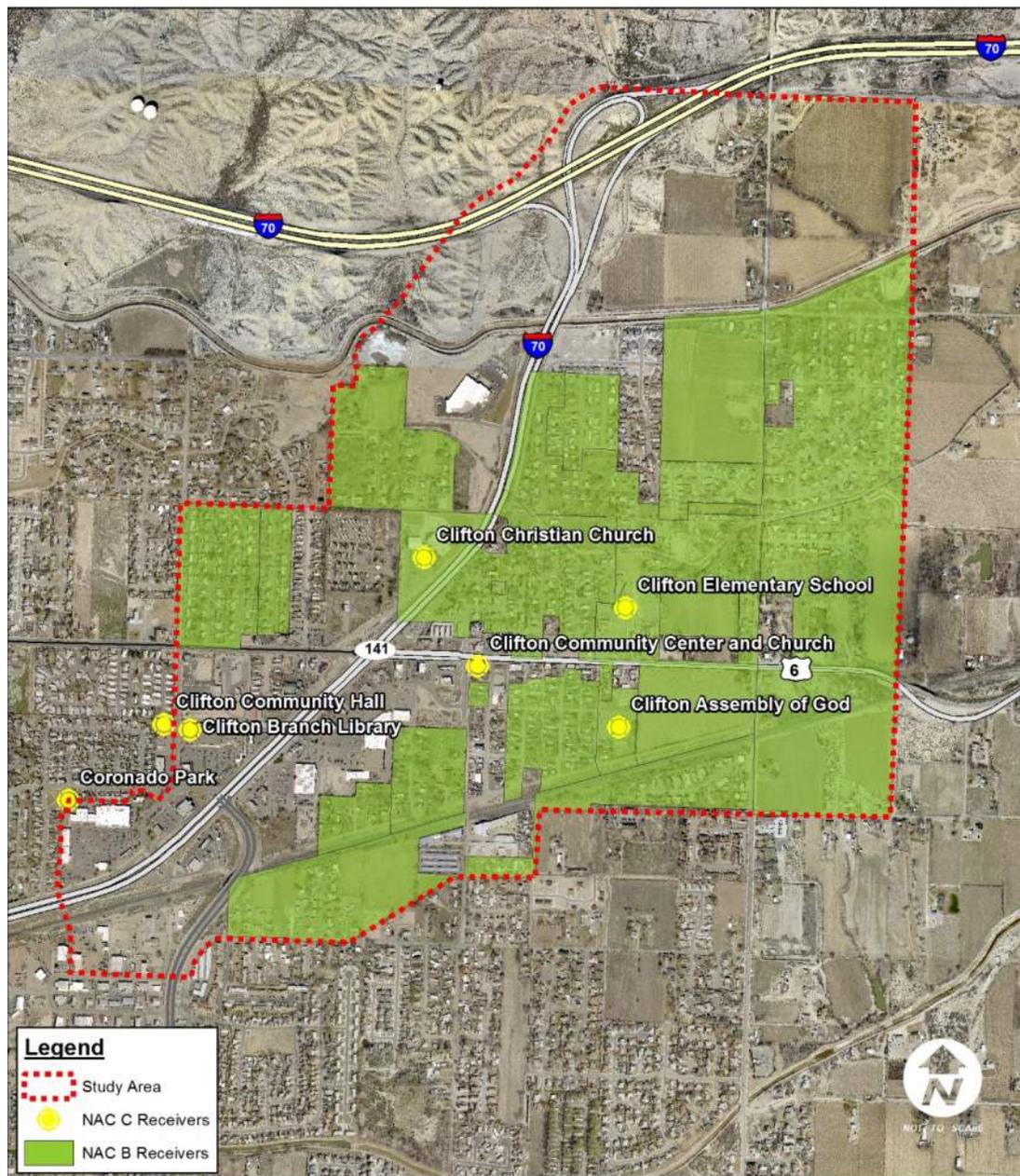
- NAC A receivers were not identified.
- NAC B land uses are labeled on Figure 9 by neighborhood. Individual noise receivers were not identified.
- NAC C receivers are located with the study area and include:
 - Clifton Elementary School (3276 US 6C)
 - Clifton Christian Church (615 I-70B)
 - Clifton Community Center and Church (US 6C and 2nd Street)
 - Clifton Assembly of God (258 5th Street)
 - Clifton Community Hall (575 32 Road)
 - Clifton Branch Library (590 32 Road #6-F)
 - Coronado Park (31 ¾ Road)

This activity category requires that a threshold of 66 dBA be reached in order to consider mitigation.

- NAC D (interior noise readings) will not need to be considered for this project.
- NAC E land uses are located throughout the study area and are more prevalent along US 6C and I-70B. This activity category requires that a threshold of 71 dBA be reached in order to consider mitigation.
- NAC F are located within the study area, and in rural areas this category includes manufacturing and farming uses. These locations are considered to generate significant on-site noise and are therefore not considered noise-sensitive receivers.

Undeveloped lands not permitted for development are not included in noise assessments.

Figure 9: Noise Receivers



Sources: Google Earth (2014) and Mesa County Zoning Map (2014)



Next Steps

During subsequent planning studies, a noise assessment should be performed to determine noise-sensitive sites that may be impacted by the alternatives. Typically, any receivers within 500 feet of the roadway are included in the analysis to ensure that they will not exceed the NAC threshold. In a location where a new roadway alignment is proposed, any receivers within 1,000 feet should be analyzed to determine whether a substantial increase in noise is anticipated. Future studies should analyze a preferred alternative in detail, and at that time, a detailed noise study should be performed. The noise study should include modeling existing and future conditions to determine if mitigation may be required.

For noise mitigation to be recommended as part of the project, it must be considered both “reasonable and feasible” based on CDOT criteria. Noise mitigation is feasible if it can be constructed without major engineering or safety issues and provides a substantial noise reduction to the adjacent receivers. Reasonableness deals with whether the barrier can be designed to achieve a noise reduction design goal of seven decibels, whether the barrier can be constructed in a cost-efficient manner, and the desires of the community. All three of these criteria must be met for a barrier to be considered reasonable to construct.

PRIME AND UNIQUE FARMLANDS

Productive agricultural farmland supports local communities and economies. Prime and unique farmlands are valued resources that can produce food and other important crops. A preliminary analysis of existing prime and unique farmlands was performed to investigate the existence of these resources within the study area and to determine the potential for future development concerns.

Prime farmland is land that has the best combination of physical characteristics for producing food, feed, fiber, and oilseed crops. The farmlands' combination of soil properties, growing season, and moisture supply produce sustained high yields of crops when it is treated and managed according to acceptable farming methods. Land is considered prime farmland if it meets the following criteria (Soil Survey Staff, 2012):

- Protected from flooding or not frequently flooded during the growing season
- Has an adequate and dependable water supply
- Reclaimed of excess salts, sodium, and rocks
- The product of I (soil erodibility) x C (Climate factor) does not exceed 60 (such that the wind erodibility is not too great)

Unique farmland is non-prime farmland that can be used to produce high-value food and fiber crops. This land is economically valuable because it has the potential to yield high returns of these specialized crops (Soil Survey Staff, 2012).

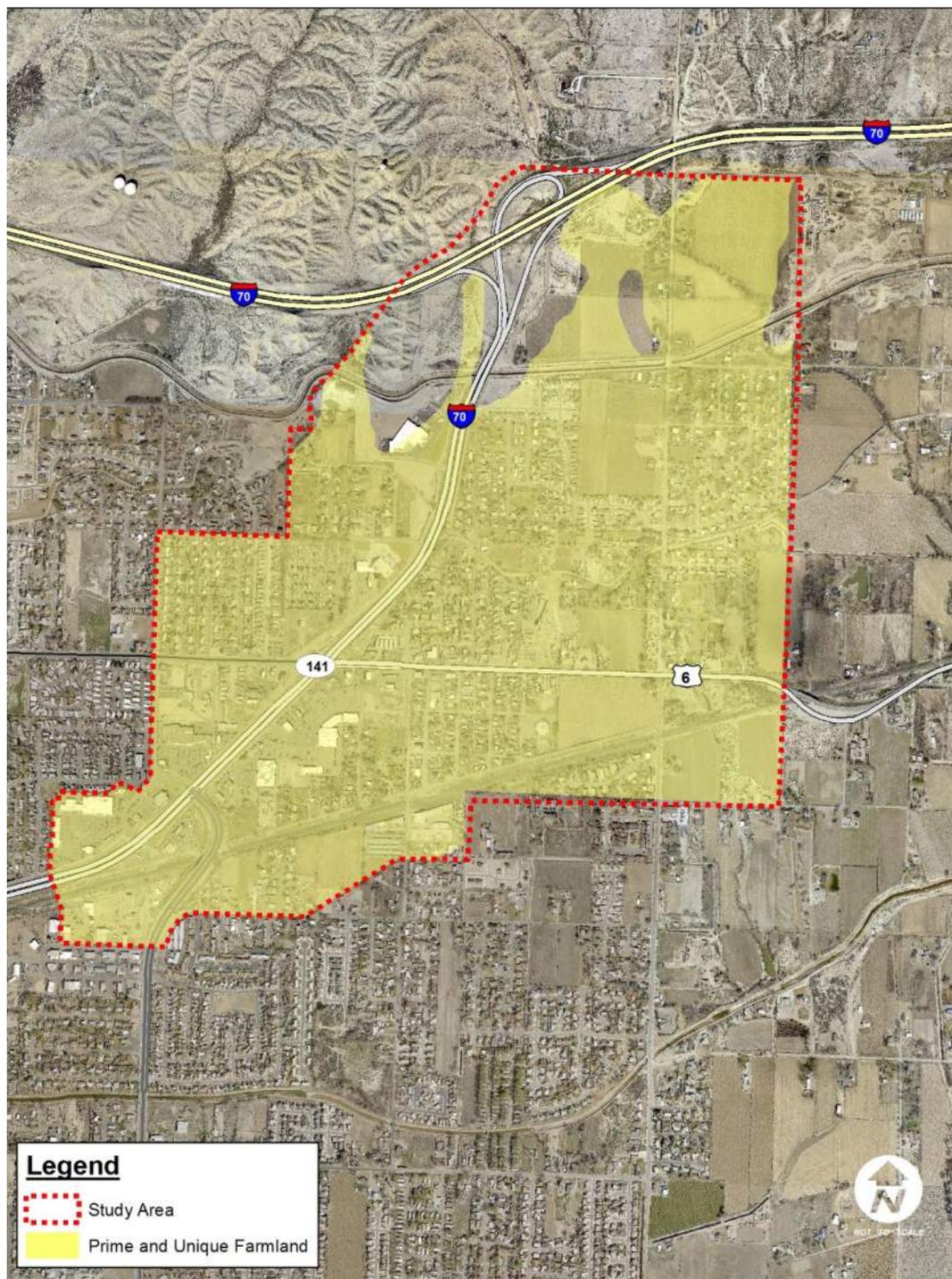
Methodology

To determine whether any prime or unique farmland soils of statewide or local importance are present in the study area, data was downloaded from the 2014 Natural Resources Conservation Service (NRCS) Soil Data Mart database (National Cooperative Soil Survey, 2014). The NRCS identified several categories of soil types that are protected in the study area.

Existing Conditions

The majority of the study area is composed of prime farmlands, depicted in **Figure 10**.

Figure 10: Prime Farmland



Source: National Cooperative Soil Survey (2014)



Next Steps

The next steps for prime and unique farmland resources may include the following based on the improvements associated with the alternatives under evaluation:

- A detailed analysis of the project design impacts to existing prime farmlands.
- Coordination with local planners and other local officials.

Ongoing coordination with local planners and NRCS representatives should be an essential part of future project development to ensure that changes resulting from any recommendations are compatible with environmental regulations and the local planning offices. Additionally, ongoing conversations with property owners, businesses, and residences potentially affected will be a critical part of future project development.

LAND USE

Land use affects the quality of life and environment of the community. Land use designations often include zoning, future land use and growth management areas, conservation easements, urban infrastructure service boundaries, and annexation plans as well as past, existing, and future development trends. The planning, design, and construction of roadways is based on land use development patterns and affects existing land uses and plans, and proposals for future development. Planning for future growth and land use is an important aspect of local government urban planning. A community's zoning and future land use plan reflects its plan and vision for future growth and development.

Land use is typically evaluated due to the importance to the community and in compliance with CDOT's environmental stewardship policy. There are no land use specific regulations that FHWA and CDOT must comply with; however, the land use discussion should assess the consistency of the project with the comprehensive development plans adopted for the area.

Methodology

Data was collected from Mesa County to create a summary of the existing and future land use within the study area. Raw data was extracted from Mesa County zoning GIS data and future land use GIS data. This data was used to determine acreage, percentage, and visual representation of the study area.

Existing Conditions

Current Land Use

The study area is characterized by a concentration of mixed residential, commercial, businesses, and agricultural properties.

Residential land use is found mostly on the eastern portion of the study area and is the largest percentage of current land use at 51 percent. The residential neighborhoods consist primarily of low-density, single-family residential neighborhoods. There are commercial developments along the I-70 corridor on the southern portion of the study area. These developments consist of grocery stores and fast-food restaurants such as Walgreens, Papa John's Pizza, City Market, Starbucks, and Wendy's. Commercial properties make up 21 percent of the study area. Agriculture and forestry land use consists of 19 percent of the study area. Current land use is summarized in **Table 7** and depicted on **Figure 11** (Mesa County, 2014a).



Table 7: Current Land Use within the Study Area

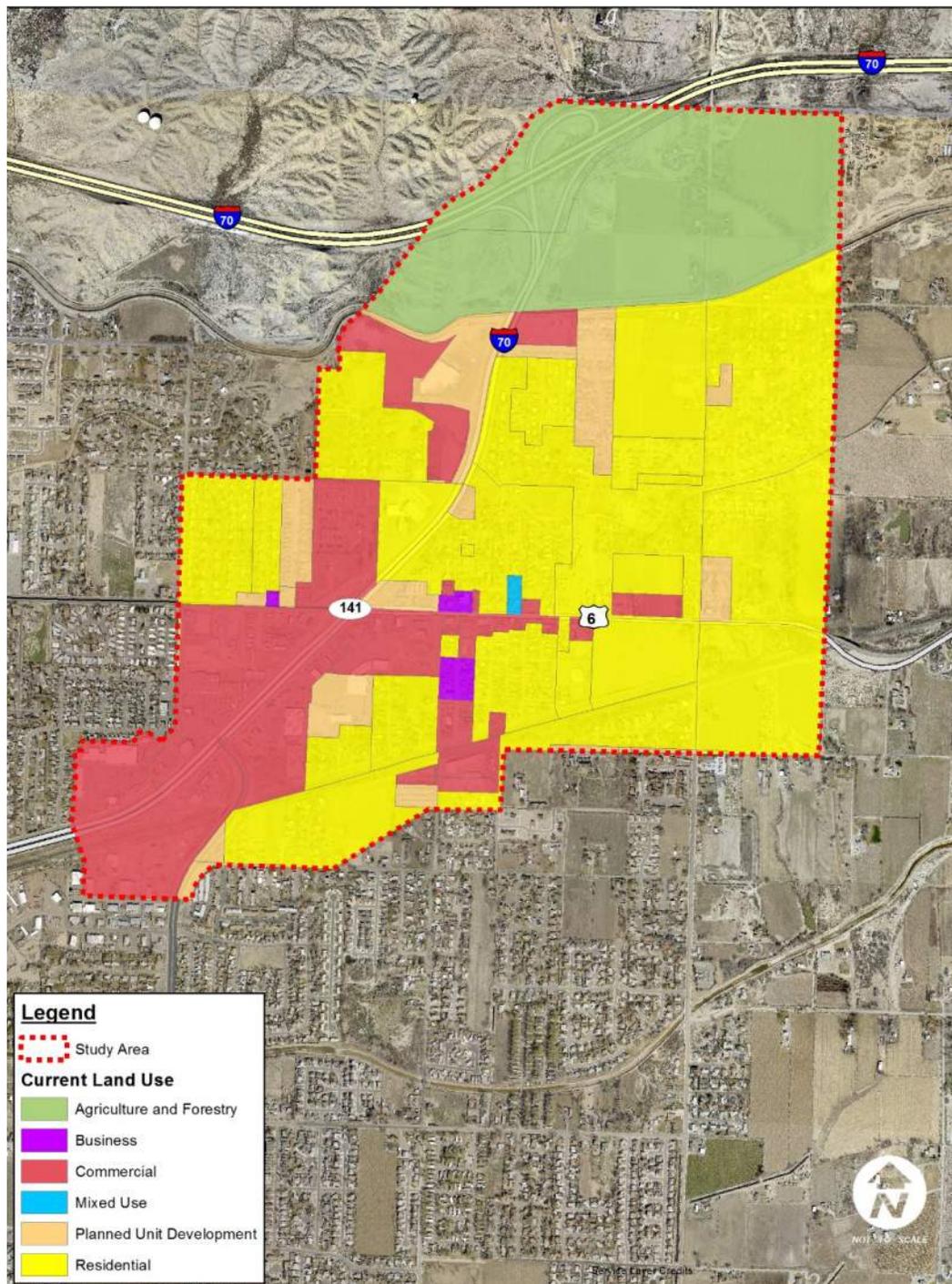
STUDY AREA CURRENT LAND USE	PERCENTAGE
Residential	51
Commercial	21
Agriculture and Forestry	19
Planned Unit Development	8
Business	1
Mixed Use	0

Notes:

Source: Mesa County, 2014



Figure 11: Current Land Use



Source: Mesa County Comprehensive Land Use Plan GIS data (2014)



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Future Land Use

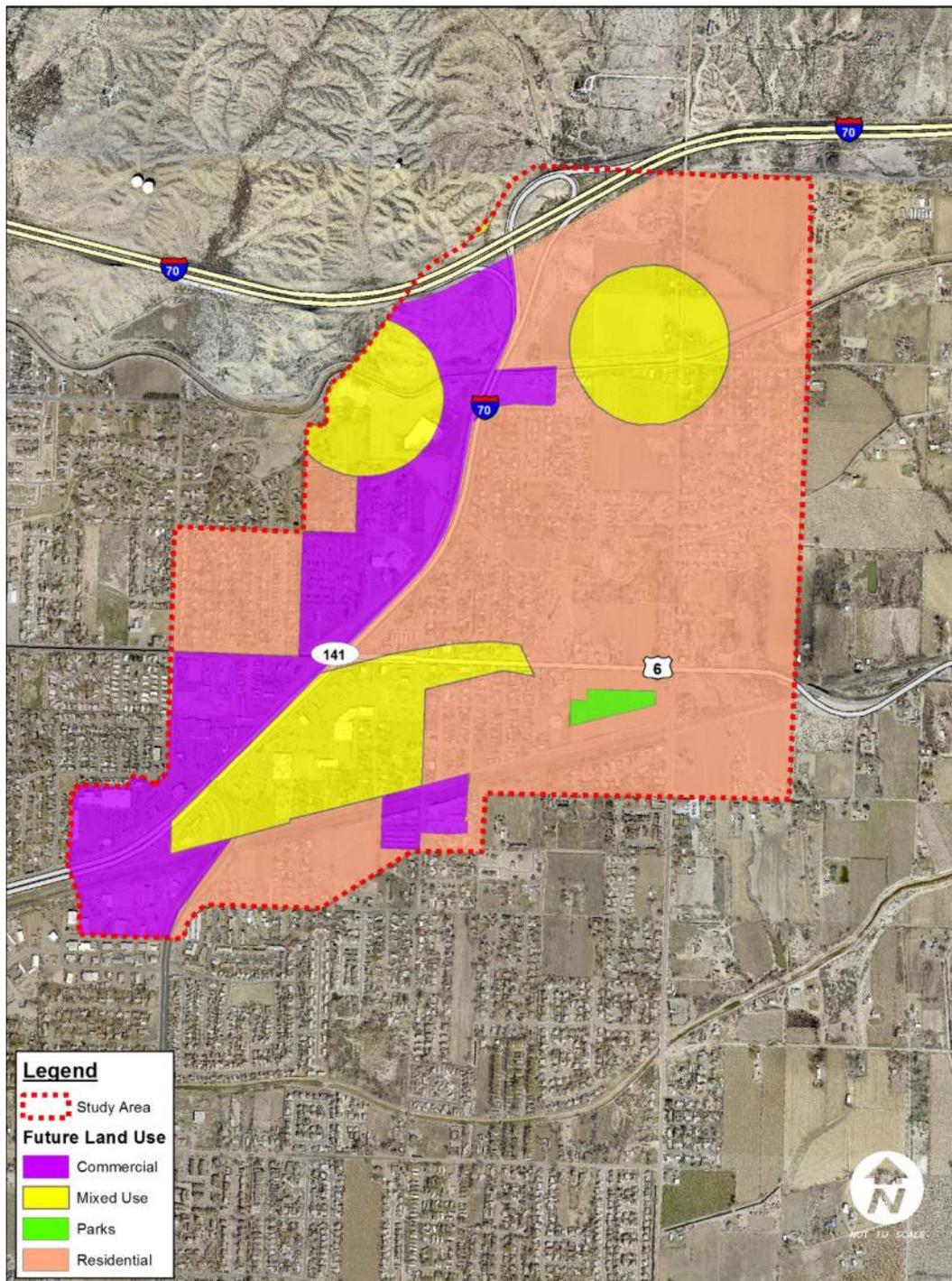
Future land uses are depicted in **Figure 12**. The land uses represented reflect the Mesa County comprehensive land use plan for the study area (Mesa County, 2009). Commercial developments are planned along the I-70 corridor throughout the study area. Mixed use developments are planned on the northern and southern portions while residential use will be scattered throughout the study area. **Table 8** summarizes the percentages of the comprehensive future land use.

Table 8: Future Land Use within the Study Area

STUDY AREA CURRENT LAND USE	PERCENTAGE
Residential	61
Commercial	20
Mixed Use	19
Parks	1

Notes:
Source: Mesa County, 2014

Figure 12: Future Land Use



Source: Mesa County Comprehensive Land Use Plan GIS data (2014)

THREATENED AND ENDANGERED SPECIES, WILDLIFE, AND VEGETATION

This section addresses existing conditions for biological resources within the study area, including: general land use and habitats; special status species (i.e., federal- or state-listed species and migratory birds); and vegetation, including noxious weeds. Certain biological resources are protected in accordance with the following federal and state regulations or policies:

- **The United States Endangered Species Act (ESA):** Protects federally listed plant and animal species with the goal of ensuring their long-term survival. The ESA is administered by the US Fish and Wildlife Service (USFWS).
- **The Colorado Non-game, Endangered, and Threatened Species Conservation Act:** Provides some protection within the state for listed species and establishes the State's intent to protect endangered, threatened, or rare species. Colorado Parks and Wildlife (CPW) is responsible for listing state species.
- **The Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act:** Vegetation clearing, earth-moving, bridge demolition, and other construction activities have the potential to disrupt nesting activity or destroy nests of bird species protected under the MBTA. The USFWS administers these requirements.
- **Colorado Senate Bill 40 (SB 40):** Requires that state agencies obtain certification from CPW when the agency plans construction in any stream, stream bank, or tributary. Any portions of the project that could impact an SB 40 jurisdictional stream may require SB 40 Certification, including mitigation measures designed to improve fish and wildlife habitat (CPW and CDOT, 2013).
- **Noxious Weeds:** The Colorado Department of Agriculture (CDA) Noxious Weed Act of 2003 (Colorado Revised Statutes {CRS} 35-5-101; CRS 35-5.5-101; EO D-006-99), defines and prioritizes management objectives for state-designated noxious weeds.

Methodology

A desktop assessment was performed to identify potential natural resources in the study area. Several readily available data sources were reviewed to evaluate the study area for habitat, wildlife, and vegetation. The following discussion presents a summary of the methodology used to complete this assessment.



- The physical setting of the study area was reviewed to help evaluate topographic and hydrogeologic conditions including data from the USGS and US Department of Agriculture (USDA) (USGS, 1973 and USDA, 2014).
- Information regarding general land use and habitat was obtained by reviewing aerial imagery (Google, 2014) and sources for habitat, wildlife, and vegetation found in Mesa County (EPA, 2008 and CNHP, 2003). The CDA Colorado Noxious Species Weed List and Mesa County Noxious Weed Management Plan (MCNWMP) were reviewed to evaluate potential noxious weeds that may be present in the study area (CDA, 2014 and MCWMP, 2013).
- An inventory of federally listed threatened and endangered species with a potential to occur in Mesa County was compiled, as specified by the USFWS Mesa County Species Report (USFWS, 2014a) and the online Information, Planning and Conservation (IPaC) System (USFWS, 2014b). In addition, the USFWS online Critical Habitat Portal Mapper was reviewed to obtain information regarding critical habitat designation for threatened and endangered species (USFWS, 2014c).
- A list of state-listed endangered, threatened, and sensitive species was compiled, as specified by county on the CPW and Colorado Natural Heritage Program (CNHP) websites.
- Streams and water features, and riparian corridor habitats (i.e., trees and shrubs that grow adjacent to or along streams and rivers) were evaluated using the EPA WATERS Data (EPA, 2014) and a review of the CPW Riparian Habitat (CPW, 2012). Potential wetland areas were also reviewed using aerial imagery and the USFWS National Wetland Inventory Data (USFWS, 2014d). These features provide important habitat for resident and migrating wildlife, as well as aquatic species, and may therefore fall under the jurisdiction of SB 40.

Existing Conditions

General Physical Setting and Hydrology

The study area is located in the Grand Valley, a semi-desert region generally extending along the Colorado River from Palisade, Colorado to Utah (CPW, 2003). The westerly flowing Colorado River is the main hydrologic feature of the region, located approximately 1.5 miles south of the study area. In general, the topography of the study area slopes to the south/southwest toward the Colorado River. Elevation ranges from approximately 4,800 feet above mean sea level (msl) on the northern portion to 4,690 feet above msl on the southern portion of the study area (USGS, 1973).

Although numerous small tributaries and water features are present in the study area, they are likely the result of the US Department of the Interior (USDI) Bureau of Reclamation's Grand Valley Project, which was initiated in the early 1900s. The purpose of this project was to construct diversions from the Colorado River in order to supply the region with water for irrigation and municipal use, including hydroelectric power (USDI, 2001).

As a result of the Grand Valley Project and subsequent water diversions, there are numerous piped ditches and open canals that extend through the study area. The Government Highline Canal is an open channel that extends east/west through the northern portion of the study area. In addition, two underground piped ditches, Stubb Ditch and Price Ditch, extend east/west through the northern and



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central portion of the study area, respectively (**Figure 7**). An open natural feature, Douglas Wash, is located in the northeast corner of the study area, which flows to the south as a tributary to the Colorado River. Moreover, numerous small, unnamed open canals, laterals, and roadside ditches are located throughout the study area, some of which may ultimately drain to the south as tributaries of the nearby piped Grand Valley Canal (located 0.5 mile south of the study area) or the Colorado River.

Habitat Description

Land Use

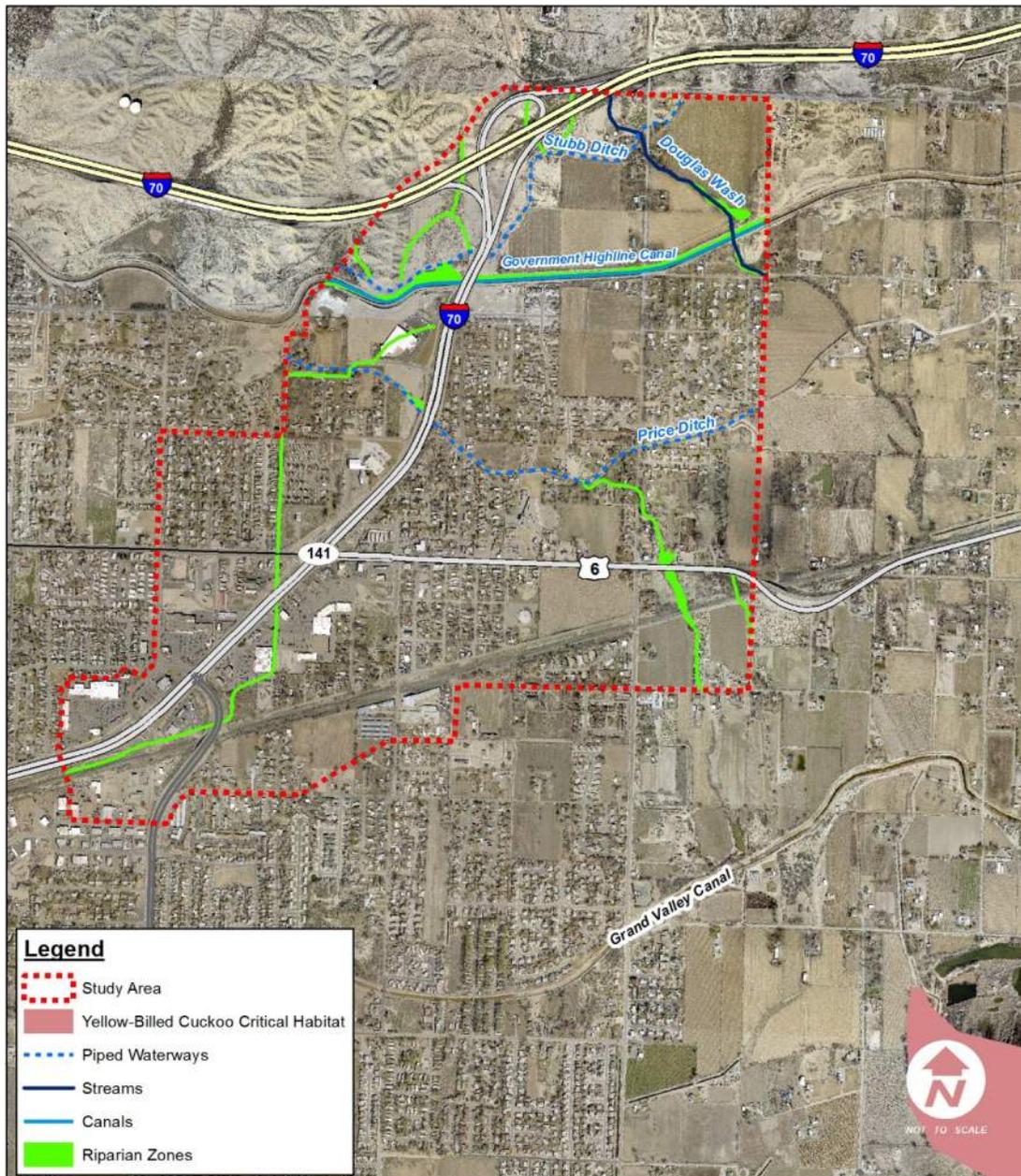
The project is located in an urbanized area, which is developed with residential, commercial, light industrial, and agricultural properties. The northern portion of the study area is generally composed of agricultural or vacant roadway ROW areas, as I-70 extends along the northern study area boundary. The central portion of the study area is developed with mixed use, including residential and light commercial properties. I-70B extends in a northeast/southwest orientation along the west-central portion of the study area from the southwestern corner. This highway corridor is more developed than other parts of the study area with large commercial and light industrial properties. The Denver & Rio Grande Western railroad extends in a general east/west orientation through the southern portion of the study area; properties surrounding the railroad are mixed in use, including residential, commercial, and agricultural properties and vacant railroad ROW. Given the prevalent development of the area, it is likely that the natural vegetation, soils, and hydrology have been altered by past filling, grading, and improvement activities.

General Habitat and Vegetation Description

Habitat types in the study area likely include: upland grassy roadside areas and sparsely vegetated dryland areas which are typical in the Shale Deserts and Sedimentary basins ecoregion (EPA, 2008) and semi-desert shrubland areas of the Grand Valley (CNHP, 2003). In addition, fringe wetland and riparian habitats may exist along the open water features in the study area, including the Governmental Highline Canal and Douglas Wash (**Figure 13**). In general, habitats in the study area are highly fragmented due to the presence of highways (I-70 and I-70B) and local roads, a railroad, and prevalent residential, commercial, industrial, and agricultural development. Areas in the northeastern portion of the study area appear to be more natural; however, most of the study area has been heavily modified by I-70 and agricultural development.



Figure 13: Critical Habitat and Riparian Zones



Sources: USFWS online Critical Habitat Portal Mapper (2014); CPW Riparian Data – Mesa County (2012); and EPA WATERS Data (2014).



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Upland Roadside and Dryland Habitats

Upland habitats in the study area may include typical low shrubs of the Chenopod family such as shadscale (*Atriplex confertifolia*), saltbushes (*Atriplex spp.*), and greasewood (*Sarcobatus vermiculatus*). Dominant herbaceous species may include galleta grass (*Pleuraphis jamesii*), Indian ricegrass (*Achnatherum hymenoides*), needle and thread (*Hesperostipa comata*), bottlebrush squirreltail (*Elymus elymoides ssp. elymoides*), and saline wildrye (*Leymus salinus*). In addition, given the presence of roadways and development throughout the area, non-native and weed species are likely to be present. Weedy species such as cheatgrass (*Bromus tectorum*), halogeton (*Halogeton glomeratus*) and Russian thistle (*Kali tragus*) may be common in upland areas of the study area (CNHP, 2003; EPA, 2008; and USDA, 2014).

Wetlands and Riparian Habitats

Vegetation typical of these habitats include a variety of trees and shrubs, including the Rio Grande cottonwood (*Populus deltoides ssp. wislizeni*), skunkbrush (*Rhus trilobata*), and coyote willow (*Salix exigua*). Herbaceous species such as horsetails (*Equisetum sp.*) and scouring rushes (*Hippochaete sp.*) are common in riparian areas, whereas wetlands may be dominated by common reed (*Phragmites australis*), cattail (*Typha latifolia*), reed canarygrass (*Phalaris arundinacea*), bulrushes (*Schoenoplectus sp.*), and salt grass (*Distichlis spicata*). In addition, common non-native and weedy species often found in wetland and riparian areas include: Tamarisk (*Tamarix ramosissima*), Russian olive (*Elaeagnus angustifolia*), non-native mustard species, Canada thistle (*Cirsium canadensis*), Russian knapweed (*Acroptilon repens*), alfalfa (*Medicago sativa*), and sweet clover (*Melilotus officinalis*) (CNHP, 2003)

Special-Status Species

The compiled special-status species lists and suitable habitat for each species was reviewed. The study area was assessed for the presence of suitable habitat in order to identify special-status species with a potential to occur in the study area, as discussed in the sections below. Although some suitable habitat may be present based on this preliminary desktop review, it should be noted that habitat in the study area has been highly modified from prevalent development in the area. Therefore, suitable habitat within the study area is highly fragmented and has been altered from its natural state.

Federally Listed Threatened and Endangered Species

A review of the USFWS Mesa County Species Report (USFWS, 2014a) and the online IPaC System (USFWS, 2014b) indicates there are 12 federally listed species with the potential to occur in, or be impacted by, projects in Mesa County.

Four species of endangered fish are known to occur in the Colorado River and Upper Colorado River Basin: the humpback chub (*Gila cypha*), bonytail chub (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), and razorback sucker (*Xyrauchen texanus*). The Colorado River is designated critical habitat for these species; the Government Highline Canal, which extends through the northern portion of the study area, is a diversion from the Colorado River (USFWS, 2014c and USFWS, 2014e). According to CPW personnel, a fish screen was installed upstream of the study area; however, some endangered fish are still known to enter the canal (Romero, 2014). The Government Highline Canal is a man-made feature with a regulated flow, and water may not be present at all times of the year;

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however, there is a low potential for these species to exist during flow events. This project has elements that could cause a depletion to the Upper Colorado River basin. The study area is located within the Upper Colorado River Endangered Fish Recovery Program and water-related activities as a result of the project (e.g., water depletions) “may affect” these fish species. In response to the need for formal consultation for the water used from the Colorado River basin, the USFWS has prepared a Programmatic Biological Opinion that outlines Section 7 consultation requirements for all federal actions that cause a water depletion (USFWS, 1999). Furthermore, the USFWS has also determined that activities in the Upper Colorado River basin resulting in less than 0.1 acre-foot per year of depletions in flow have no effect on these endangered species (USFWS, 2009).

The Yellow-Billed Cuckoo (*Coccyzus americanus*), a threatened bird, breeds in deciduous riparian woodland habitat (i.e., dense cottonwood and willows stands) in river floodplains, and is sometimes associated with overgrown pastures or shrublands. Given the prevalent development in the study area and modification of the natural water features in this region, there is likely minimal habitat for this species. However, the portion of the Colorado River located to the south of the study area is designated as critical habitat for this species and Douglas Wash is a tributary to the segment of the Colorado River designated as critical habitat. Given the proximity and potential connectivity to this area, Douglas Wash may contain suitable habitat for this species (USFWS, 2014c). Additionally, other riparian areas identified in the study area may be potentially suitable habitat for this species (CPW, 2012; Figure 7).

The Colorado hookless cactus (*Sclerocactus glaucus*), a threatened plant, is associated with alluvial benches (soils deposited by water), gravelly or rocky surfaces on river terrace deposits, and lower mesa slopes along the Colorado River (USFWS, 2014e). The study area is located within the species’ occurrence and habitat is potentially present in the northern portion of the study area.

Suitable habitat does not occur in the study area for the remaining six species. The Greater Sage Grouse (*Centrocercus urophasianus*) and Gunnison Sage Grouse (*Centrocercus minimus*) are associated with large contiguous sagebrush land and intermixed sagebrush/prairie habitats, respectively. The closest known occurrence for these species is greater than 15 miles from the study area. Although sagebrush communities may exist in the study area, they are likely sparsely vegetated and/or altered and are therefore not suitable for these species. The Mexican Spotted Owl (*Strix occidentalis lucida*), Greenback cutthroat trout (*Oncorhynchus clarki ssp. stomias*), Canada lynx (*Lynx Canadensis*), and Debeque phacelia (*Phacelia submutica*) occur in habitat that does not exist in the study area (e.g., mature old growth forests, cold streams of moderate gradient, higher elevations).

State-Listed Species

The CPW lists 74 species of amphibians, birds, fish, mammals, reptiles, and mollusks as endangered, threatened or of special concern within the Colorado (CPW, 2014). The majority of these species are not expected to occur in the study area because it is outside of their range or appropriate habitat is not present. According to the CNHP Tracking List, 21 state-listed species were identified with the potential to occur within Mesa County (CNHP, 2013). The habitat and distribution of each species was reviewed, and the potential for occurrence for each species was noted based on the conditions of the study area.

Six species of fish have a potential to occur in the study area, including the four previously discussed federally listed species (i.e., humpback chub, bonytail chub, Colorado pikeminnow, and razorback sucker).



Additionally, the Roundtail Chub (*Gila robusta*) and Mountain Sucker (*Catostomus platyrhynchus*) have a potential to occur in the study area, as they inhabit slow to moderate-flow water in the Colorado River and larger tributaries. The Government Highline Canal, which extends through the northern portion of the study area, is a diversion from the Colorado River and may serve as potential habitat for these six species should individuals enter the canal during flow events (USFWS, 2014e).

Four raptor species have a potential to occur in the study area. Two species, the American Peregrine Falcon (*Falco peregrinus anatum*) and Bald Eagle (*Haliaeetus leucocephalus*) may occur in the study area during winter migration and foraging; however, there is likely no suitable nesting habitat in the study area for these species. The cliff habitat approximately one mile north of the study area is designated as suitable nesting habitat for the American Peregrine Falcon, and riparian areas associated with the nearby Colorado River (approximately 1.5 miles south of the study area) is designated as suitable nesting habitat for the Bald Eagle (CPW, 2013). The Ferruginous Hawk (*Buteo regalis*) occurs in a variety of habitats, including open country and prairies, sagebrush and shrublands, and woodlands, with a variety of nesting habitats (i.e., ranging from willow thickets to steep slopes and cliff ledges). Although this species generally avoids areas of intensive agricultural or human activity, there is a potential for suitable foraging habitat to be present in the study area (National Diversity Information Source (NDIS), 2014). The Burrowing Owl (*Athene cunicularia*) is associated with grasslands and mountain parks, usually in or near burrows created by burrowing mammals (e.g., prairie dogs). Using aerial imagery, a preliminary desktop did not identify the presence of burrows; however, there is a potential for this species to be present in the study area if burrowing mammals are present.

Two bird species, the Long-billed Curlew (*Numenius americanus*) and Mountain Plover (*Charadrius montanus*) are associated with flat areas, shortgrass prairies, and occasionally agricultural areas (NDIS, 2014). Although the study area has been developed with residential and agricultural development, limited suitable habitat may be present and it is highly unlikely for these species to occur in the study area given the fragmented and modified nature of the area.

The kit fox (*Vulpes macrotis*) is associated with semi-desert shrublands extending from Montrose to Grand Junction; the mammal prefers areas with sparse vegetation cover. While minimal suitable habitat does exist within the study area, the closest known occurrence is seven miles northwest of the study area (CPW, 2013). There is a low potential for this species to be present in or migrate to the study area.

Suitable habitat does not occur in the study area, or the study area is outside of range, for the remaining nine species. The Gunnison Sage Grouse (also a federally listed species, discussed above), boreal toad (*Anaxyrus boreas*), Greater Sandhill Crane (*Grus canadensis tabida*), Colorado River cutthroat trout (*Oncorhynchus clarkii pleuriticus*), black-footed ferret (*Mustela nigripes*), Townsend's big-eared bat (*Corynorhinus townsendii pallescens*), and the midget faded rattlesnake (*Crotalus oreganus concolor*) occur in habitat that does not exist in the study area (e.g., mature old growth forests, cold streams of moderate gradient, higher elevations, rocky basins).

Migratory Birds, Including Raptors

In addition to the federally and state-listed species discussed above, the project could impact other migratory bird species. Large trees, which may be suitable nest sites, are present throughout the study area, including residential areas and along the Douglas Wash riparian corridor in the northeast portion



of the study area. The Douglas Wash and apparent riparian habitat also extends out of the study area to the southeast; however, these habitats are within the nesting raptor buffer area for many species (CPW, 2008). Additionally, there is a potential for nesting swallows to be present on various structures in the study area, including bridges over water features and roadways, and culverts. Furthermore, prairie dog colonies, if present in the study area and immediate vicinity, could provide suitable habitat for burrowing owls.

SB 40 Resources

Several waterways and riparian habitats are located within the study area. Douglas Wash likely falls under the jurisdiction of SB 40 as it meets one or more of the five criteria as noted under the Memorandum of Agreement, including the presence of wetland and riparian habitat, as well as segments of the stream which likely provide live water beneficial to fish and wildlife (CPW and CDOT, 2013).

Noxious Weeds

Noxious weeds are opportunistic plant species that are easily established in disturbed areas and areas with limited competition from native plant species. Much of the study area is composed of areas that are disturbed, altered, or modified by development (i.e., agricultural, residential and commercial). Typical weed species found throughout Mesa County include: Canada thistle (*Cirsium arvense*), diffuse knapweed (*Centaurea diffusa*), hoary cress/Whitetop (*Cardaria draba*), leafy spurge (*Euphorbia esula*), Russian knapweed (*Acroptilon repens*), spotted knapweed (*Centaurea maculosa*), Tamarisk (*Tamarix parviflora*, T.), yellow toadflax (*Linaria vulgaris*), Chinese clematis (*Clematis orientalis*), giant reed grass (*Arundo donax*), and perennial pepperweed (*Lepidium latifolium*).

Next Steps

Special-Status Species

During the subsequent NEPA process, the compiled special-status species lists will be reviewed with further consultation with the USFWS and CPW. Based on proposed alternatives, detailed surveys for suitable habitat for the federally and state-listed species may need to be conducted during an on-site reconnaissance survey. If suitable habitat for one or more of these species does occur in the study area, species-specific surveys may be required. Depending on the presence of habitat and potential impacts to those habitats, it may be necessary to consult with the USFWS on the proposed alternatives. Water-related activities in the study area may result in the depletions to the Upper Colorado River basin, which would potentially impacted several federally- and state-listed fish species. It is recommended that the project avoid any unauthorized depletions to the Upper Colorado River, and that the contractor be required to obtain water from a municipal source or other as approved by the Project Engineer in coordination with CDOT, Region 3 Environmental staff in order to remain below the de minimis threshold (USFWS, 2009). Otherwise, additional Section 7 consultation with the USFWS may be required for these fish species.



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Migratory Birds, Including Raptors

Based on the alternatives, a more detailed and targeted survey to identify and map migratory bird and raptor nest locations should be conducted. Areas with a high potential for nesting should also be identified and mapped (i.e., large trees or structures conducive to bird nesting) in the study area and within the CPW nesting raptor buffer areas (CPW, 2008). If noted nests are active and may be impacted by project-related activities, mitigation measures should be implemented.

SB 40 Resources

After development of the alternatives, SB 40 resources within the study area should be assessed in more detail. Although the Douglas Wash likely falls under the jurisdiction of SB 40, other waterways in the area of the alternatives should also be assessed for SB 40 jurisdiction; coordination with the CPW should be initiated by CDOT during project development. An SB 40 survey, which includes mapping of SB 40 trees over 2" diameter at breast height and shrubs, should be conducted along waterways established to fall under the jurisdiction of SB 40. Impacted SB 40 trees and shrubs must be mitigated at a 1:1 ratio. If these resources are to be impacted by alternative-related activities, a certification (either a Formal or Programmatic depending on impacts) would be required.

Noxious Weeds

A noxious weed survey should be completed in the study area during an on-site reconnaissance survey. The survey will map noxious weed populations, and if recommended based on the results of the survey, an Integrated Noxious Weed Management Plan may need to be prepared for the proposed project.

WATERS OF THE US, INCLUDING WETLANDS

This section addresses existing conditions for water-related resources within the study area, including waters of the US (WUS), which may include navigable water ways such as streams and rivers, or other water features with a nexus to a navigable water such as canals, irrigation ditches, and wetlands. These resources provide a variety of important functions, including agricultural irrigation, recreational opportunities, habitat for resident and migrating wildlife, sediment and pollutant filtration, and groundwater recharge. The following federal and state regulations apply to water-related resources:

- **Sections 401 and 402 of the Clean Water Act (CWA):** Established the basic structure for regulating discharges of pollutants into navigable waters. These sections provide the basic structure for regulating the discharge of pollutants into WUS and the statutory basis for the National Pollutant Discharge Elimination System (NPDES) permit program.
- **Section 404 of the CWA:** Regulates WUS and related wetlands, and impacts to these features and associated wetlands would require permitting through the US Army Corps of Engineers (USACE).
- **Executive Order 11990 Protection of Wetlands:** The EO 11990 requires federal agencies to avoid and minimize direct and indirect impacts to wetlands, regardless if the wetland is determined jurisdictional by the USACE. CDOT also has wetland-specific requirements beyond what is required by the USACE, in order to comply with EO 11990, in the event that federal money is being administered to a project through CDOT. A CDOT Wetland Finding report would be required if permanent wetland impacts exceed 500 square feet, or if temporary impacts exceed 1,000 square feet, regardless of whether the USACE has jurisdiction. This does not include impacts to open water areas. Furthermore, CDOT requires mitigation for all wetland impacts at a 1:1 ratio.
- **Safe Drinking Water Act (SDWA) (40 CFR Parts 141–143):** Protects public health by regulating the nation's public drinking water supply and protecting drinking water and its sources. CDOT is a stakeholder in the Colorado Source Water Assessment and Protection program mandated by the SDWA.
- **Erosion and Sediment Control on Highway Construction Projects (25 CFR 650 Subpart B):** All highways funded in whole or in part by the FHWA must be designed, constructed, and operated according to standards that will minimize erosion and sediment damage to the highway and adjacent properties and abate pollution of surface and groundwater resources.
- **Colorado Water Quality Control Act (CRS Title 25, Article 8):** Protects and maximizes the beneficial uses of state waters and regulates water quality.



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The EPA has delegated authority for enforcement of the CWA and SDWA to the CDPHE. Under this authority, the Colorado Water Quality Control Act was passed and the Water Quality Control Commission (WQCC) was created to promulgate the regulations to be implemented by CDPHE that keep Colorado in compliance with the CWA.

Based on requirements promulgated under Section 402 of the CWA, the WQCC has implemented Regulation 61 identifying CDOT as operating a regulated Municipal Separate Storm Sewer System (MS4). By definition a separate storm sewer system is composed of a storm drainage system but also includes ditches, gutters, or other similar means of collecting and conveying stormwater runoff that do not connect with a wastewater collection system or wastewater treatment facility.

Methodology

A desktop assessment was performed to identify potential water-related resources in the study area using several readily available data sources. The following discussion presents a summary of the methodology used to complete this assessment.

- The physical setting of the study area was reviewed to help evaluate topographic and hydrogeologic conditions (USGS, 1973).
- Streams and water features were evaluated using the EPA WATERS Data (EPA, 2014) and the Mesa County Geographic Information System layers (Mesa County, 2009). Riparian and wetland areas were identified using aerial imagery (Google, 2014) and the USFWS National Wetland Inventory (NWI) Data (USFWS, 2014).

Existing Conditions

The study area is located in an urbanized area dominated by residential, commercial, and/or light industrial development in the central, southern, and western portions of the study area, particularly in the vicinity of the I-70B corridor. The northern and eastern portions of the study area are generally composed of residential development and agricultural properties, with I-70 extending along the northern study area boundary. Given the prevalent development in the area and construction of the USDI Grand Valley Project, the hydrology in the study area and vicinity has been significantly altered in order to supply the region with water for irrigation and municipal use. Therefore, the majority of the water resources in the study area consist of man-made underground ditches, laterals, open canals, and roadside and irrigation ditches, and/or stormwater conveyance channels, which divert water from the westerly flowing Colorado River (located approximately 1.5 miles south and 6 miles east of the study area). These water resources are owned and operated by local irrigation and ditch companies.

Several potential WUS features were identified during the preliminary desktop review, including one large open canal (Government Highline Canal), two underground ditches (Stubb Ditch and Price Ditch), an open natural feature (Douglas Wash), as well as numerous small open roadside and irrigation ditches (**Table 9, Figure 14**). Numerous waterways and water bodies in the study area support wetlands and wetland vegetation.



Table 9: Potential WUS and Wetland Features in the Study Area

TYPE OF WATER RESOURCE	NAME	LOCATION	DESCRIPTION AND OTHER NOTES
Piped Ditch	Stubb Ditch ¹	Through the northern portion of the study area; north of Government Highline Canal. Extends under 33rd Road and I-70B.	Man-made, underground channel with a regulated flow (Mesa County, 2009). Owned by the Mesa County Irrigation District (PID), laterals exist along the ditch which provide irrigated water for residential and agricultural use between April and November (PID, 2014).
Canal	Government Highline Canal	Northern portion of the study area; extends in an east/west direction under 33 Road and I-70B.	Man-made open channel with an unconsolidated bottom (consisting of gravel and mud) and regulated flow (Mesa County, 2009). The Canal is operated by the Grand Valley Water Users' Association (GVWUA). A series of laterals are present throughout the Canal that deliver to individual and shared head gates from April to October (GVWUA, 2014). The Government Highline Canal is designated by NWI as a riverine feature (USFWS, 2014).
Wetland	Government Highline Canal	Northern portion of the study area; extends in an east/west direction under 33 Road and I-70B.	Margin/fringe wetland habitat (approximately two to three feet wide) are located along the banks of the Canal, likely consisting primarily of herbaceous vegetation with scattered trees and shrubs.
Wash/Open Channel	Douglas Wash	Northern portion of the study area; originates from a culvert at the I-70 westbound off-ramp and extends to the southeast, through the northeastern portion of the study area.	Open channel feature with intermittent stream flow (Mesa County, 2009) likely collecting water from the areas north of I-70, with an influence from and irrigation flows stormwater runoff and irrigation flows. Within the study area, Douglas Wash meanders through agricultural land and ultimately flows as a tributary to the Colorado River (located approximately 2 miles south of the study area).
Wetland	Douglas Wash	Northern portion of the study area; originates from a culvert at the I-70 westbound off-ramp and extends to the southeast, through the northeastern portion of the study area.	A dense riparian corridor, which may consist of cottonwood trees and willow stands, extends through the study area. The understory is likely composed of herbaceous wetland plant species.
Piped Ditch	Price Ditch ¹	Through the central portion of the study area in the location of Price Ditch Road; extends under 33 Road, Lois Street, and I-70B.	Man-made, underground channel with a regulated flow (Mesa County, 2009). Owned by the PID, laterals exist along the ditch that provide irrigated water for residential and agricultural use between April and November (PID, 2014).

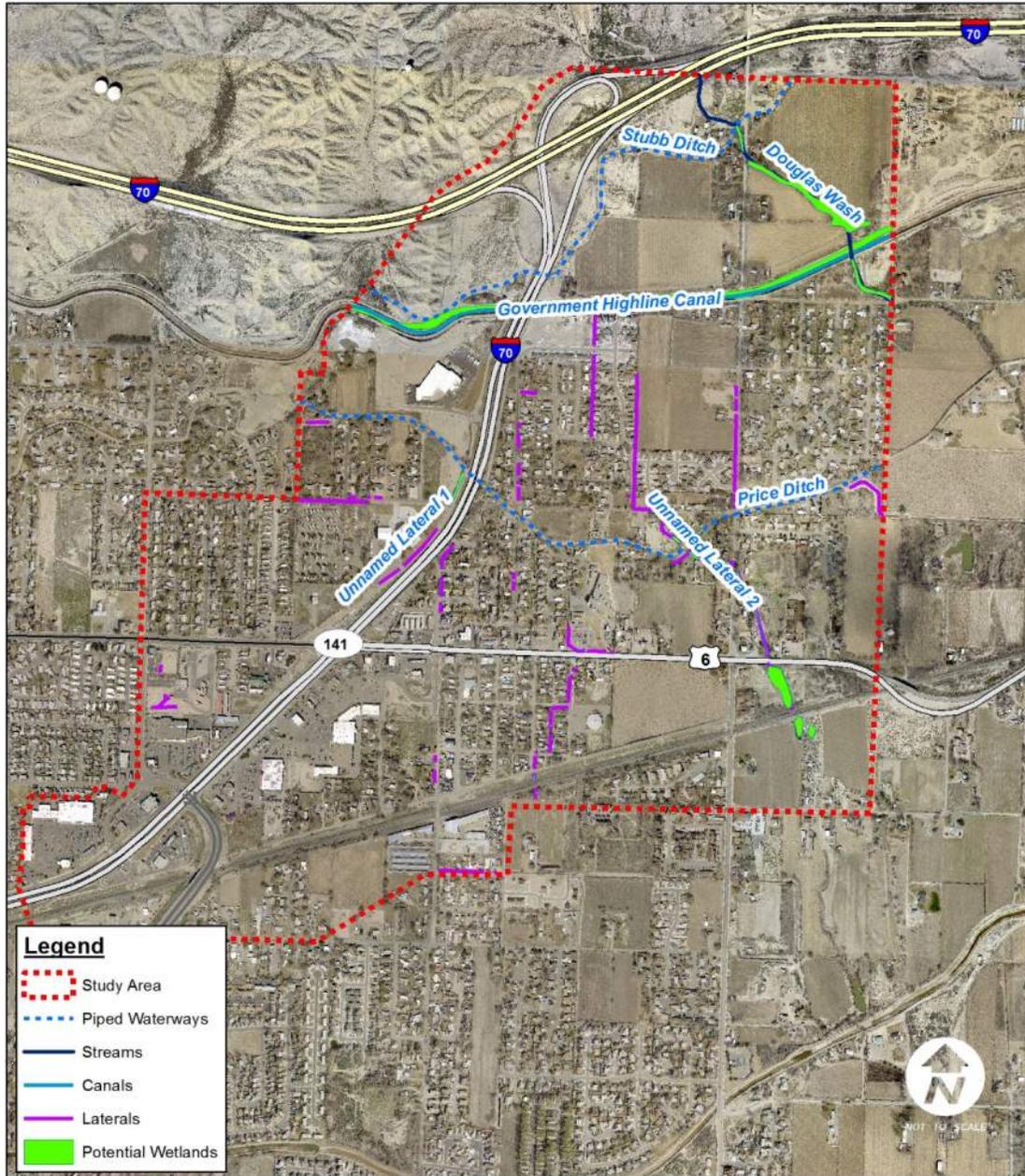


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TYPE OF WATER RESOURCE	NAME	LOCATION	DESCRIPTION AND OTHER NOTES
Wetland	Unnamed Lateral 1	Between the intersections of I-70B Frontage Road with Price Ditch and F ¼ Road.	An open ditch area with wetland-type vegetation, including cottonwoods trees and shrubs. A head gate is present at the northernmost portion which indicates this feature may be a lateral from Price Ditch; however, stormwater runoff may also provide hydrology to this feature.
Open Channel	Unnamed Lateral 2	Originates in the center of the study area, south of Government Highline Canal and intersecting Price Ditch; extends to the southeast corner of the study area.	An open channel that extends along and under roadways, through concrete-lined and unconsolidated bottom channels. Hydrologic sources for this feature may include Government Highline Canal or Price Ditch and stormwater runoff from the surrounding roadways.
Wetland	Unnamed Lateral 2	Originates in the center of the study area, south of Government Highline Canal and intersecting Price Ditch; extends to the southeast corner of the study area.	An apparent open ditch area with scattered wetland areas, likely vegetated with cottonwoods trees and shrubs. Portions in the southeast-most portion of the study area are designated by NWI as freshwater palustrine emergent (PEM) wetlands (USFWS, 2014).
Miscellaneous Wetland Areas (associated with small roadside and irrigation ditches and stormwater conveyances)	Unnamed Wetland 1 Unnamed Wetland 2	Scattered throughout the study area; associated with unnamed laterals, roadside and irrigation ditches, and open channels.	Mesa County GIS data depicts numerous small water features extending along roadways, residential areas, and through agricultural areas. Most are likely irrigation ditches, either large canals conveying a large volume of water, lateral ditches, or small irrigation water return ditches. Some may have wetland vegetation growing on the banks or within the channel, as observed using aerial imagery for Unnamed Wetlands 1 and 2. Others may be lined with concrete with no opportunity for vegetation growth.

Notes: 1- Underground ditches are not considered WUS; however, they are included in this table since surface laterals from the ditches may contain potential wetland areas.

Figure 14: Water Features



Sources: EPA WATERS Data (2014); Mesa County Geographic Information System layers (2009); and USFWS National Wetland Inventory Data (2014)

Next Steps

During development of alternatives, a reconnaissance survey should be conducted to confirm the presence of the above-mentioned features and to identify any additional potential WUS and wetland



areas that were not identified during the desktop survey. Wetland delineations should be completed during the next phase of planning in the areas that could be impacted by project related activities in accordance with the 1987 USACE Wetland Delineation Manual (USACE, 1987), and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West (Version 2.0) (USACE, 2008).

Impacts to wetlands should be avoided where feasible. If avoidance is not feasible, and based on the size of the impacts, wetlands may need to be assessed using CDOT's Functional Assessment of Colorado Wetlands (FACWet) method. The FACWet method considers three main variables: buffer and landscape context, hydrology, and abiotic and biotic characteristics. It is intended to help rate the functioning and condition of wetlands during the Section 404 permitting process, before a mitigation action, or after its completion.

Due to their importance, impacts to water-related resources, specifically WUS, including wetlands should be avoided and minimized. If avoidance is not feasible, best management practices should be implemented to reduce direct and indirect impacts to these resources.

Impacts to WUS, including wetlands, should be permitted under a USACE Section 404 Nationwide or Individual permit, depending on size and scope of the project. Only the USACE has the authority to make final determinations regarding jurisdiction, permitting, and mitigation. Additional coordination with the local ditch companies (i.e., Grand Valley Irrigators) may be required. CDOT mitigates all wetland impacts at a 1:1 ratio (up to or equal to USACE mitigation, not in addition) regardless of USACE jurisdictional status, or mitigation requirements.

Construction projects that disturb one acre or greater of land, or are part of a larger common plan of development, require a Colorado Discharge Permit System (CDPS) Construction Stormwater Permit from the CDPHE Water Quality Control Division (WQCD) and a Stormwater Management Plan (SWMP). The SWMP is prepared during the final design phase of a project prior to the submission of CDPS construction permit application submitted to the WQCD at least 30 days prior to construction. If applicable, this would be obtained under CDOT's MS4 permit.

FLOODWAYS AND 100-YEAR FLOODPLAIN

Floodplains are the lands on either side of a watercourse that are inundated when the capacity of the channel is exceeded. The National Flood Insurance Program encourages state and local governments to adopt sound floodplain management programs. To provide a national standard without regional discrimination, the 100-year flood has been adopted by Federal Emergency Management Agency (FEMA) as the base flood for floodplain management and flood insurance purposes. This section identifies FEMA-mapped floodplains in the study area.

A "Regulatory Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height (FEMA, 2014). Communities must regulate development in these floodways to ensure that there are no increases in upstream flood elevations. For streams and other watercourses where FEMA has provided Base Flood Elevations, but no floodway has been designated, the community must either review floodplain development on a case-by-case basis to ensure that increases in water surface elevations do not occur, or identify the need to adopt a floodway if adequate information is available (FEMA, 2014).

A 100-year flood is calculated to be the level of flood water expected to be equaled or exceeded every 100 years on average; thus, it has a one percent chance of being equaled or exceeded in any single year. Changes in the floodplain such as adding fill material, constructing buildings or bridges, or limiting the natural conveyance of floodwaters can cause a rise in the 100-year water surface and can subsequently impact properties not previously anticipated to be affected by a 100-year storm event.

The following regulatory requirements apply to floodplains:

- **EO 11988, Floodplain Management (1977):** Authorized to direct federal agencies to "provide leadership and take action to reduce the risk of flood loss, to minimize the impacts of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains." This EO was authorized to assist in furthering NEPA, the National Flood Insurance Act of 1968 (amended), and the Flood Disaster Protection Act of 1973.
- **Code of Federal Regulations (CFR), Title 23 – Highways, Chapter I – FHWA, US Department of Transportation, Part 650 – Bridges, Structures, and Hydraulics:** Prescribes the policies and procedures that the FHWA is directed to implement in the "location and hydraulic design of highway encroachments on floodplains."
- **CFR, Title 44 – Emergency Management and Assistance, Chapter I – FEMA:** Contains the basic policies and procedures for FEMA to regulate floodplain management and to analyze, identify, and map floodplains for flood insurance purposes.



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These regulations are usually enforced by local governments. For projects within the floodplains, a floodplain development permit is typically required from the local jurisdiction. The local governments are responsible for administration of floodplain lands within their jurisdictions as part of the land use planning process with assistance from agencies such as the Colorado Water Conservation Board in Mesa County.

Methodology

FEMA digital GIS data was used to identify 100-year floodplains and floodways within the study area.

Existing Conditions

The study area is located in the jurisdictional boundary of Mesa County, and the Colorado Headwaters-Plateau watershed. There are no Special Flood Hazard Areas (Zone A) found within the study area; all areas are within Zone X, areas that are outside any flood hazard areas (FEMA, 2014).

Next Steps

The project will not impact floodplains. There are no additional steps required.

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