E 88TH AVE 8800 N

I-76 NB RAMPS TO HIGHWAY 2

MODIFIED ENVIRONMENTAL SITE ASSESSMENT

May 2021

Prepared for:
City of Commerce City

Commerce CITY

ENVIRONMENTAL ASSESSMENT

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Acronyms and Abbreviations

AIRSAFS	Aerometric Information Retrieval System / Air Facility Subsystem
APCDP	Air Pollution Control Division Permitted Facilities
ASBESTOS	Asbestos Abatement and Demolition Projects
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
BNSF	BNSF Railway
BRS	Biennial Reporting System
CDPS	Colorado Discharge Permit System Facilities
CFR	Code of Federal Regulations
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CGS	Colorado Basic Standards for Groundwater
E. 86th Avenue	East 86th Avenue
EA	Environmental Assessment
EC	Federal Engineering Institutional Control Sites
EPA	U.S. Environmental Protection Agency
EPB	CDOT Environmental Programs Branch
ECHOR08	Enforcement and Compliance History Information
ERNSCO	Emergency Response Notification System
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FRSCO	Facility Registry System
HISTSWLF	State Historical Solid Waste Landfills
HREC	Historical Recognized Environmental Condition
HWSCA	State Hazardous Waste Sites—Corrective Action
HWSG	State Hazardous Waste Sites—Generator
HWSTSD	State Hazardous Waste Sites—Treatment, Storage, and Disposal
I-25	Interstate 25
I-76	Interstate 76

ICIS	Integrated Compliance Information System
ICISNPDES	Integrated Compliance Information System National Pollutant Discharge Elimination System
ISA	Initial Site Assessment
LST	Leaking Storage Tank
LUST	Leaking Underground Storage Tank
MESA	Modified Environmental Site Assessment
MLTS	Material Licensing Tracking System
NEPA	National Environmental Policy Act
NPL	National Priority List
OPS	Colorado Department of Labor and Employment Division of Oil and Public Safety
PCBs	Polychlorinated Biphenyls
ppm	parts per million
RBSL	Risk Based Screening Levels
RCRA	Resource Conservation and Recovery Act
RCRAC	Resource Conservation and Recovery Act—Corrective Action Facilities
RCRAGR08	Resource Conservation and Recovery Act—Generator
RCRANGR08	Resource Conservation and Recovery Act—Non-Generator
RODS	Record of Decision System
SEMS	Superfund Enterprise Management System
SEMSARCH	Superfund Enterprise Management System Archive Site Inventory
SF	Superfund Site
SPILLS	Spills Listing
SWF	Solid Waste Facilities
µg/L	Micrograms per Liter
UDFCD	Urban Drainage and Flood Control District
UPRR	Union Pacific Railroad
USGS	United States Geological Survey
UST	Underground Storage Tank
VCRA	Voluntary Cleanup and Redevelopment Act

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1.0 INTRODUCTION

The City of Commerce City, in consultation with the Federal Highway Administration (FHWA) and the Colorado Department of Transportation (CDOT), is proposing to improve approximately 1.6 miles of East 88th Avenue (E. 88th Avenue) between Interstate 76 (I-76) and Highway 2, and on Rosemary Street between E. 88th Avenue and East 86th Avenue (E. 86th Avenue). In accordance with the National Environmental Policy Act of 1969 (NEPA) and its related regulations, the FHWA and the City of Commerce City, in cooperation with CDOT, are preparing an Environmental Assessment (EA) for the E. 88th Avenue (I-76 to Highway 2) Project (project). Goodbee & Associates, acting on behalf of Commerce City, conducted a Modified Environmental Site Assessment (MESA) in support of the EA.

E. 88th Avenue is a continuous east-west roadway that runs through Adams County, Colorado, from Interstate 25 (I-25) to Highway 2 (Figure 1). The land uses along the corridor are residential, commercial, and industrial. The residential land uses primarily occur at the east and west ends of the project study limits. The Mile High Flea Market and 88 Drive-In Theatre commercial properties generate considerable event traffic, and the industrial properties generate heavy truck traffic. The project study area extends approximately north and south 200 to 700 feet from the center of E. 88th Avenue, and approximately east and west 230 feet from the center of Rosemary Street and 650 feet south of E. 86th Avenue (Figure 2). Within the project study area, E. 88th Avenue crosses over the O'Brian Canal on a bridge, crosses a Union Pacific Railroad (UPRR) track at grade west of Rosemary Street, and crosses BNSF Railway (BNSF) tracks at grade west of Highway 2.

Figure 1. E. 88th Avenue Location Map

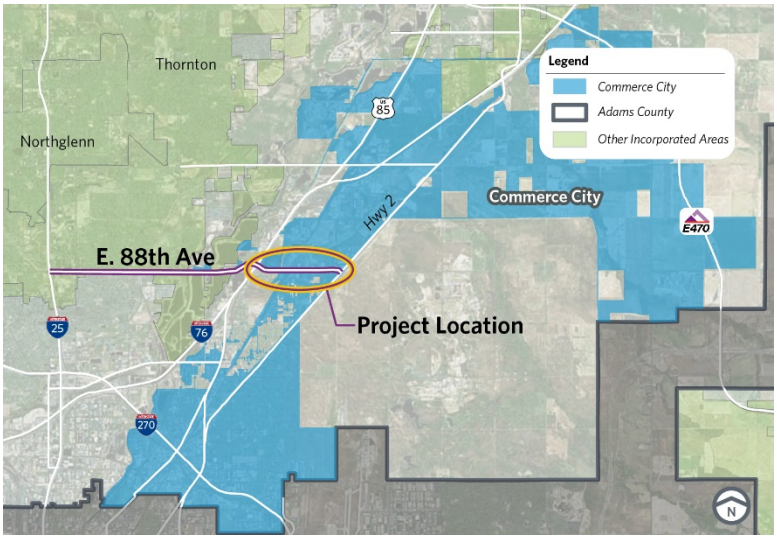
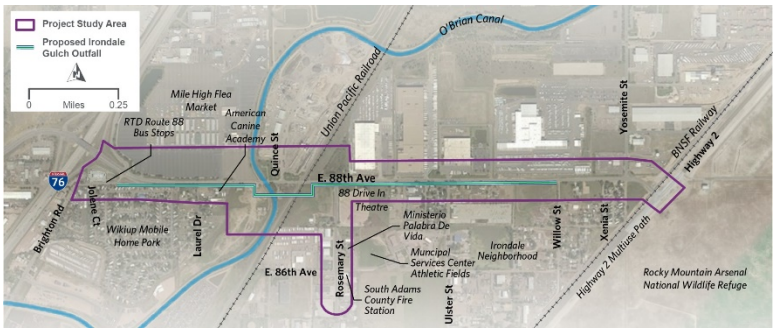


Figure 2. Project Study Area



The objective of the MESA is to provide information needed for project development related to properties (sites) within the project study area that pose a potential risk of environmental contamination from hazardous materials. A thorough assessment and investigation of properties within the project study area for past or present soils and/or groundwater contamination is an integral component of the of project development process.

Highway corridors, like I-76 and Highway 2 near E 88th Avenue, generally include light industrial and commercial businesses. These types of businesses, such as gasoline service stations, automotive repair facilities, and truck stop establishments, typically use underground storage tanks (UST) or aboveground storage tanks (AST) to store petroleum products, waste oil, and/or other hazardous materials. Such facilities are also often regulated based on their current hazardous waste generation management activities. Consequently, areas with light industrial and commercial use present a risk for soil and groundwater contamination as the result of past spills or releases of hazardous substances, including petroleum products. Historic railroad operations in the project study area also present the risk of having the presence of contamination due to an accumulation over time of drips, leaks, spills, and hydrocarbon exhaust residues from rail traffic and the transport and storage of hazardous materials. Other typical hazardous materials concerns associated with transportation projects include the presence of lead-based paint or asbestos-containing materials on highway structures or within older buildings (pre-1980) that may be demolished possible demo within existing right-of-way (right-of-way) if no right-of-way acquisition.

Project development efforts include right-of-way acquisitions, including, costs, and property appraisals, options for owner-funded site remediation prior to acquisition, property avoidance, and assessing engineering options to minimize necessary remediation and treatment of residual hazardous materials. The MESA also addresses specific materials management, handling, worker health and safety, and disposal practices for identified hazardous materials. In cases where contamination of soils and/or groundwater is suspected, avoidance or mitigation measures can be implemented when reasonably possible. Encountering soil and groundwater contamination during the construction process without prior knowledge of contamination has the potential to adversely affect the project in terms of mitigation, cost, schedule, and project personnel health and safety issues.

This MESA has been prepared with a level of detail appropriate for the development and screening of design alternatives for the Proposed Action. In certain cases, potential environmental conditions or recognized environmental conditions, which are further defined in Section 1.3, may be present, but could not be confirmed without additional inspection or investigation which is beyond the scope of this MESA. Recommendations pertaining to additional assessment and investigation are provided in Chapter 5.

1.1 Project Description

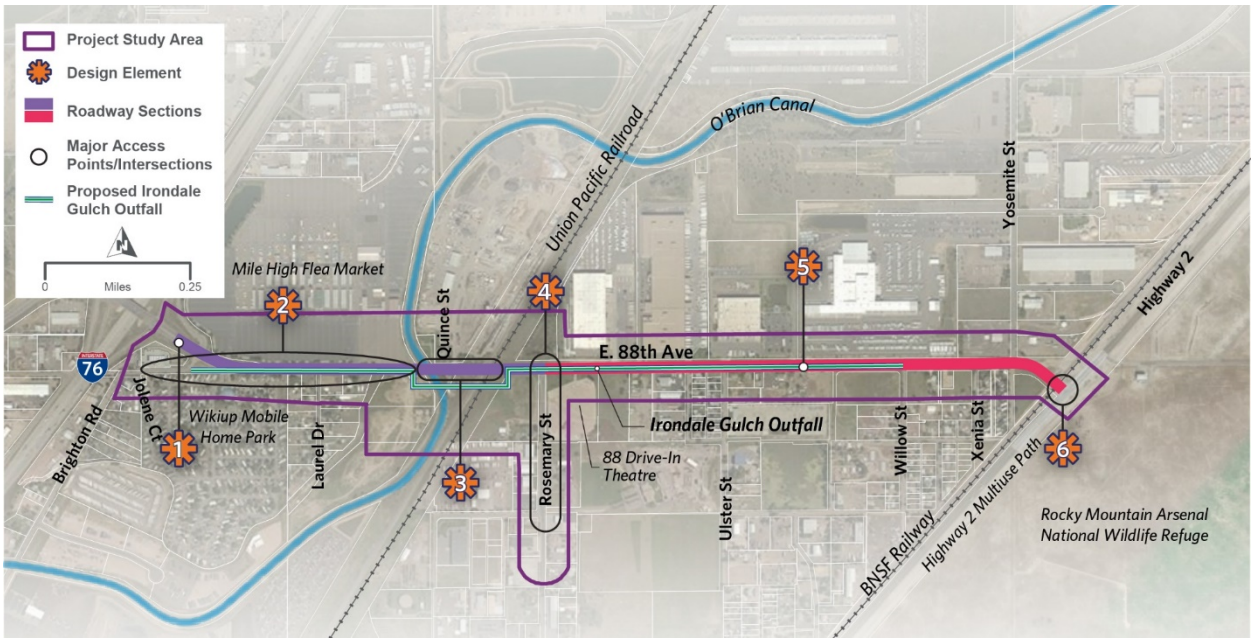
1.1.1 Proposed Action

The Proposed Action would reconstruct E. 88th Avenue just east of the I-76 northbound ramps between Brighton Road and Highway 2 to improve traffic operations and accommodate all users. The design elements that comprise the Proposed Action are numbered from west to east and described in Figure 3.

1.1.2 No-Action Alternative

Under the No-Action Alternative, the project study area would remain largely the same as its existing condition, with the exception of future implementation of the Irondale Gulch Outfall project, which will require reconstructing a portion of E. 88th Avenue from Brighton Road to Willow Street to construct the regional storm sewer underneath the roadway.

Figure 3. Proposed Action Design Elements



1) Two lanes each direction, with raised median and a multiuse path on the north and sidewalk on the south.
2) Access changes between Brighton Road and the O'Brian Canal:
   - Improved Jolene Court approach to Brighton Road.
   - Permitted U-turn at E. 88th Avenue and Brighton Road.
   - Improved access at the Mile High Flea Market with a signalized intersection, dedicated left-turn and U-turn movement, and dynamic lane (left-turn lane during events and travel lane during normal roadway operations).
3) New single-span bridge over the O'Brian Canal and improved at-grade crossing of UPRR to accommodate wider roadway and bicycle and pedestrian facilities.
4) Widened Rosemary Street with sidewalks on both sides and reconfigured intersection with E. 88th Avenue.
5) One lane in each direction, with a two-way left-turn lane and a buffer-separated multiuse path on the north and sidewalk on the south.
6) Multiuse path and sidewalk extended across the BNSF rtracks and Highway 2.

Stormwater Drainage and Water Quality Treatment – Section of Irondale Gulch Outfall would detain stormwater and water would be treated within the proposed right-of-way.

1.2 Guidance Modifications and Limitations

This MESA report was prepared for FHWA, CDOT, and Commerce City for their sole use. Reliance on this report by any other person(s) or entity(ies) is strictly at their own risk, and Goodbee & Associates makes no warranties to any person(s) or entity(ies) other than to FHWA, CDOT, and Commerce City who use the information provided in this report. If any other person(s) or entity(ies) wish to rely on this report, Goodbee & Associates will require such parties to agree to their contract terms in writing.

Goodbee & Associates performed this work for the sole purpose of assisting in the identification of potential and recognized environmental conditions associated with properties with the project study area. The scope of work commissioned for this MESA does not represent an exhaustive study, but rather a reasonable inquiry consistent with CDOT hazardous materials guidance (CDOT Environmental Programs Branch [EPB], 2018), as modified from the American Society for Testing and Materials (ASTM)

Designation E 1527-13, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” (ASTM, 2013) and U.S. Environmental Protection Agency (EPA) Standards and Practices for All Appropriate Inquiries [40 Code of Federal Regulations (CFR) Part 312] (EPA, 2005).

This MESA has been prepared with a level of detail appropriate for the project documentation and identifies sites with potential and recognized environmental conditions associated with the project study area. The terms “sites with potential environmental conditions” and “sites with recognized environmental conditions” are defined in Section 1.3.

Goodbee & Associates’ assessment and findings presented herein are based upon observation of current conditions within the project study area and a review of readily available standard historical sources and environmental agency databases. Modifications to the standard Phase I Environmental Site Assessment process include:

- Goodbee & Associates’ assessment did not include a search for environmental cleanup liens.
- Goodbee & Associates’ visual site assessment was limited to areas visible from public right-of-way and did not include access to fenced-in areas, interiors of buildings, rear lots (alley side portion of adjacent sites), or areas not visible from public right-of-way.
- This assessment did not attempt to detect the presence of potential environmental contamination that may exist in areas that could not be visually inspected. Records were reviewed for areas not accessible for visible inspection.

The agency data screening is only as accurate as the GeoSearch mapping and records obtained September 16, 2019. When possible, the actual location of sites was verified during site reconnaissance activities and agency file review. Based on this information, sites were remapped as necessary (Appendix A and Appendix C). This report will be updated with a recent GeoSearch report when design for the Proposed Action reaches the 30 percent phase.

This MESA was non-intrusive. Sampling of soils, groundwater, and/or surface waters was beyond the scope of this MESA. Other environmental liabilities to a property owner, such as identifying the presence of asbestos-containing materials, radon, or lead-based paint, were also beyond the scope of this investigation. The presence or absence of such conditions cannot be confirmed without additional investigation.

This MESA report does not guarantee that no contamination exists on sites within the project study area beyond those described at the time of writing this report. Therefore, conclusions presented herein are not necessarily indicative of future conditions or operating practices surrounding the project study area. No warranties, expressed or implied, are made. All conclusions and recommendations represent the professional opinions of the Goodbee & Associates personnel involved with the MESA, and the results should not be considered a legal interpretation of existing environmental conditions.

1.3 Terminology

This section provides a brief explanation of some of the common terminology utilized within the MESA report.

- Hazardous Materials—The term hazardous materials is an all-inclusive term for materials that are regulated as solid waste, hazardous waste, and other wastes contaminated with hazardous substances, radioactive materials, petroleum fuels, toxic substances, and pollutants.

- Sites with Recognized Environmental Conditions—For this MESA report, sites within the project study area were identified as having recognized environmental conditions as defined by ASTM, including sites with "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property" (ASTM, 2013).
- Sites with Potential Environmental Conditions—Sites identified within the project study area as having potential environmental conditions (i.e., evidence of storage, handling, or disposal of hazardous materials) during site reconnaissance and historical review activities that could not be confirmed without additional inspection or investigation are distinguished in this report as sites with potential environmental conditions.

1.4 Methodology

This MESA was prepared using methodology based on CDOT hazardous materials guidance (CDOT EPB, 2018) as modified from the ASTM Designation E 1527-13, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (ASTM, 2013) and EPA Standards and Practices for All Appropriate Inquiries [40 CFR Part 312] (EPA, 2005). Modifications to this guidance are presented in Section 1.2.

The methodology used to identify sites with recognized or potential environmental conditions within the project study area included the following steps:

- Contracting GeoSearch to conduct a regulatory database search of readily available local, state, tribal, and federal environmental agency databases for sites with potential or recognized environmental conditions up to 1.0 mile from the project study area, as dictated by ASTM Standard E1527-00/1527-13. The specific search distances used were equal to or greater than the ASTM E1527-13 approximate minimum search distances and are listed in Table 5 (page 10). These GeoSearch records are included in Appendix A.
- Screening of sites identified in the regulatory databases based on distance from the proposed right-of-way, known environmental site conditions, and, in certain cases, groundwater flow direction. Appendix B and Table 6 (page 13) summarize the results of the screening process.
- Review of previous CDOT, Colorado Department of Public Health and Environment (CDPHE), and Colorado Department of Labor and Employment Division of Oil and Public Safety (OPS) records; and other available records from local, state, and federal agencies regarding properties with recognized environmental conditions within the project study area.
- Review of readily available standard historical sources, including aerial photographs, and United States Geological Survey (USGS) topographic maps to identify historical land uses within the project study area.
- Identification of properties within the project study area requiring additional evaluation or investigation to assist in project design-specific materials management/institutional controls that may be required during construction, or the right-of-way acquisition process, if full acquisition is necessary.
- Performance of a limited site reconnaissance ("windshield survey") of properties within the project study area from public right-of-way to identify current site activities and potential contamination sources adjacent to the project study area.

2.0 PROJECT STUDY AREA AND LAND USE DESCRIPTION

2.1 Regional Geology

The project study area is in the Denver Basin with eolian deposits, which mainly consist of silt, sand, and Peoria Loess. There are unconsolidated surficial deposits and rocks of the Quaternary Age, which dates back to 2.58 million years ago within the area. This type of soil is porous and allows for spills/leaks to spread faster. There are also gravel and alluvial deposits located along the western portion of the project study area.

Another resource that was reviewed is the Adams County, Colorado 2013 Flammable Gas Overlay. The information provided on this map includes known areas of flammable gas and the associated owners. This map is included in Appendix B as reference.

2.2 Regional Hydrology

2.2.1 Surface Water

The project study area is located approximately 0.25-mile east of the South Platte River and associated retention ponds, and west of the Rocky Mountain Arsenal, as shown in Figure 4. The O'Brian Canal crosses the project study area west of the Union Pacific Railroad (UPRR) tracks. There is also a detention pond located to the northwest of the Mile High Flea Market that has an above ground drainage system running along the north side of E. 88th Avenue. Based on the information provided by both Urban Drainage Flood Control District (UDFCD) and Federal Emergency Management Agency (FEMA), the project study area is an "area of minimal flood hazard."

Figure 4. UDFCD Floodplain Map

Source: Urban Drainage Flood Control Data Viewer Application, 2019 (UDFCD, 2019)

2.2.2 Groundwater

Research was completed to determine the depth of groundwater below ground surface. This was completed by referencing a USGS Water Resource map that includes information on active and inactive groundwater monitoring wells throughout the State of Colorado (USGS, 2018a). Figure 5 depicts the locations of seven monitoring wells that are near the project study area. The seven wells have been inactive and abandoned for over 60 years; however, the data last collected had an average depth of 32.4 feet below surface level (Table 1). Based on this information, the data depicted in Table 1 may not reflect current groundwater levels. During site reconnaissance, no wells were observed within the project study area. This reconnaissance was limited to areas with public access and within right-of-way.

Figure 5. Groundwater Monitoring Wells

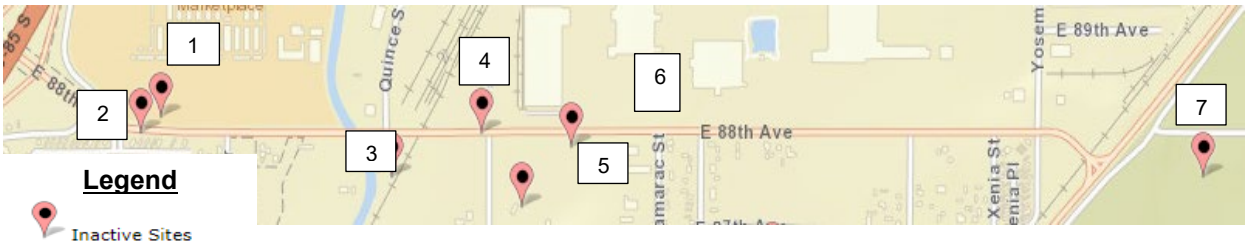


Table 1. Groundwater Level Below Land Surface

Map ID	Site Name	Site Number	Date Recorded	Depth of Well (ft)	Surface Ground Level (ft)	Water Level Below Land Surface (ft)
1	SC00206720CDD1	395125104542901	08/09/1956	38.5	5,100	29.4
2	SC00206720DCD	395124104543101	01/01/1936	40.0	5,108	25.0
3	SC00206728AAA	395121104540601	09/20/1955	N/A	5,119	39.9
4	SC00206720DDD1	395124104535701	08/05/1955	37.9	5,114	28.8
5	SB00206729AAA1	395119104535301	09/07/1955	37.9	5,114	27.7
6	SC00206728BBB1	395123104534801	09/14/1955	44.1	5,114	36.4
7	SC00206728AAA1	395121104524501	11/22/1955	N/A	5,131	39.9

Source: United States Geological Survey, National Water Information System: Map View, USGS Water Resources, Accessed 2018.

Groundwater flow direction varies within the region and generally moves toward drainages. Groundwater flow direction can also be influenced by bedrock topography, recharge and discharge area, soil and bedrock heterogeneity, and proximity to water pumping wells (Colorado Geologic Survey, 2003). Groundwater flow may also be independently influenced by water table elevation and may flow from areas with high water table elevations to areas with lower water tables elevations, which may not be consistent with the direction of flow for surface water. Local groundwater conditions may be significantly influenced by the position of underlying valleys and paleochannels within the bedrock surface (Colorado Geological Survey, 2003). Direction of groundwater flow in the project study area was not confirmed as part of this MESA.

3.0 HISTORICAL USE

Due to the size of the project study area, the historical review research focused on establishing a generalized description of land use over time. To evaluate the past uses of the project study area and identify sites with potential environmental conditions, Goodbee & Associates conducted a review of historic aerial photographs and USGS topographic maps (USGS, 2018b; Table 2). Sanborn fire insurance maps were not reviewed, as Sanborn maps were not developed in this area because of the agricultural land uses. The objective of the historical review is to "establish a history of the previous uses of the property and surrounding area, in order to help identify the likelihood of past uses having led to recognized environmental conditions" (ASTM, 2013). Detailed findings are in Table 2 and Table 3; mapping is provided in Appendix D and Appendix E.

Table 2. Summary of Historical Records Reviewed

Historical Record	Description
USGS Topographic Maps	USGS topographic maps have been prepared since the 1800s as part of the USGS mission to map the United States and survey its resources. The topographic maps show prominent and cultural features. These resources are useful in identifying topographic and cultural features and site development.
Aerial Photographs1	Aerial photographs have been collected for the continental United States since the mid-1930s, with variable coverage and frequency (generally based upon an area's importance to national defense). Aerial photographs offer an opportunity for direct observation of site conditions over time. These observations may include the locations of tanks, drums, pits, ponds, lagoons, stained/stressed vegetation, or other site development features that can indicate potential contaminant sources.

[1] *Aerial photographs were provided by GeoSearch.*

3.1 Aerial Photographs

The objective of the aerial review for this MESA was to identify major land use changes and features in the project study area. Aerial photographs were obtained through GeoSearch (GeoSearch, 2018). The dates of the aerial photographs ranged from 1937 to 2015.

Based on review of the aerial photographs provided in Appendix D, the area surrounding the project study area has been primarily used for agriculture since at least 1937. By 1975, the outline of the I-76 alignment is apparent, and in 1978 the existing interchange is seen. Prior to the construction of I-76, the area where the highway sits appeared to have been primarily agricultural land with regional roads. By 1971, a residential area was being constructed in the southwest of the project study area, and more residential development occurred to the south of the project study area between 1975 and 1984. Around 1984, the first light industrial buildings are seen northeast of the project study area. It wasn't until after I-76 was completely constructed and the introduction of the Mile High Flea Market in 1986 that more light industrial buildings started to show up more frequently in the historical aerial photographs. Review of the aerial photography did not indicate any sites with potential hazardous conditions that were not identified in the GeoSearch Report. Table 3 includes the descriptions of land use changes that can be observed in the aerial photography from 1937 to 2015. Additionally, Google Earth pro imagery from 2019 was reviewed for current land uses.

Table 3. Summary of Aerial Photo Review

Date of Aerial Photo	Land Use Changes
07/16/1937	Primarily agricultural use with isolated farmsteads. Existing UPRR and BNSF tracks, O'Brian Canal, and the Burlington Ditch west of O'Brian Canal crosses the project study area, generally from the southwest to the northeast. The current locations of I-76, E. 88th Avenue, and Highway 2 are in use as roadways.
09/10/1953	Dirt roads have been developed along the perimeter of the Rocky Mountain Arsenal including along the east side of what is now Highway 2. Some residential development has occurred on large agricultural lots.
05/18/1963	Residential infill south of E. 88th Avenue, including 3 small subdivisions. It is undeveloped north of E. 88th Avenue.
08/07/1971	The single-family mobile home park (currently known as Wikiup) has been established east of I-76 and south of E. 88th Avenue west of the Burlington Ditch. The 88 Drive-in Theatre can be seen on the southeast corner of E. 88th Avenue and Rosemary Street. There has also a building appears to be associated with UPRR.
06/11/1975	Construction of I-76 is evident in the western portion of the project study area.
08/16/1978	Continued residential infill south of E. 88th Avenue.
10/13/1984	Industrial development on Highway 2 north of E. 88th Avenue.
06/27/1993	The Mile High Flea Market has been constructed. The headgate for the Burlington Ditch off O'Brian Canal moved north, leaving a single ditch crossing E. 88th Avenue.
10/09/1999	Previously undeveloped parcels north of E. 88th Avenue now fully built on to include over six industrial buildings. These buildings have large parking areas with tractor trailers in their yards. There is an asphalt and concrete plant east of the flea market. The Commerce City Municipal Service Center has also been developed off of Rosemary Street. Detention ponds built in conjunction with property development north of E. 88th Avenue. Evidence of construction of a new gas station west of I-76 (GeoSearch summary identifies this as Map ID #28 Henderson Shell 9001 I-76 Frontage Rd, Henderson).
2004	Minimal changes from the previous photo.
2005	Minimal changes from the previous photo.
2006	Minimal changes from the previous photo.
2009	Construction grading is evident along O'Brian Canal in the southwest quadrant of the project study area. There is also more grading southwest of the ditch crossing.
2011	Minimal changes from the previous photo.
2013	Minimal changes from the previous photo.
2015	Minimal changes from the previous photo.
2019	Evidence of gas station construction southeast of 88th St. (GeoSearch summary identifies this as Map ID #15 Murphy Express 8799 Brighton Rd Commerce City).

3.2 Historical Topographic Maps

Goodbee & Associates reviewed available historical USGS topographic maps for the vicinity of the project study area, all of which can be found in Appendix E (USGS, 2018b). The dates of the topographic maps ranged from 1890 to 1981. After review of the topographic maps, it was determined that there were no significant changes between 1953 and 1965; however, the descriptions of what is contained in the topographic maps are included in Table 4.

Table 4. Summary of Historical Topographic Map Review

Date and Scale	Description
1890—1:125,000	The land profile is relatively flat within the project study area. The surface elevation increases to the east from the South Platte River. The river is the lowest point within proximity to the project study area. There are two railroad lines that bisect the project study area: Denver Pacific Railroad and the Colorado Division of B. &. M. Railroad. US 85 is depicted west of E. 88th Avenue.
1938—1:24,000	No change to the topography. Highway 2 has been developed east of E. 88th Avenue. Railroad ownership has changed from Denver Pacific Railroad to UPRR and Colorado Division of B. &. M. Railroad to Chicago Burlington and Quincy Railroad, which would later become BNSF.
1953—1:250,000	The elevation to the east has flattened and no longer drastically increases in elevation as it previously did. The Rocky Mountain Arsenal, which was constructed in 1942, is represented in a topographic map for the first time.
1965—1:24,000	No change in the topography; however, there is a well located north of E. 88th Avenue and to the west of O'Brian Canal. This well was not shown in any previous topographic maps.
1981—1:100,000	No change in the topography; however, the well that was observed in the 1965 topographic map is no longer seen. It is possible that the well was abandoned/removed between 1965 and 1981, likely as part of the Mile High Flea Market construction. Tri-County Health noted an abandoned well at this site that was likely used for irrigation.

4.0 DATABASE SEARCH AND SITE SCREENING

On September 16, 2019, GeoSearch, Inc. conducted a database search of local, state, tribal, and federal environmental records for information relating to sites extending up to 1.0 mile from the project study area, as dictated by the ASTM Standard E1527-00 and E1527-13. Database records searched prior to the implementation of the EPA All Appropriate Inquiry rule (i.e., data collected prior to 2006) included federal, state, and local records/sources, while data collected beginning in 2006 also included a search of tribal records. The GeoSearch reports are located in Appendix A, and a summary of sites in Appendix B. Table 5 provides a summary of each database searched, the minimum search distances, and a number of records identified. This report will be updated with a recent GeoSearch report when design for the Proposed Action reaches the 30 percent phase. The overall project study area represented in Figure 2 includes the limits for resource analysis for all environmental resources. While slightly more narrow, the GeoSearch study area depicted in Figure 6 incorporates areas of disturbance associated with the Proposed Action design elements, including roadway, intersection, and stormwater improvements noted in Figure 3. This project footprint includes areas of potential disturbance and was used for the hazardous materials study area.

Table 5. Database Records and Approximate Minimum Search Distances

Database	ASTM Minimum Search Distance (mile)	Number of GeoSearch Sites Identified	Listing (Federal or State)
Aerometric Information Retrieval System/Air Facility Subsystem (AIRSAFS)	<0.02	16	F
Biennial Reporting System (BRS)	<0.02	1	F
Enforcement and Compliance History Information (ECHOR08)	<0.02	18	F

Table 5. Database Records and Approximate Minimum Search Distances

Database	ASTM Minimum Search Distance (mile)	Number of GeoSearch Sites Identified	Listing (Federal or State)
Emergency Response Notification System (ERNSCO)	<0.02	5	F
Facility Registry System (FRSCO)	<0.02	38	F
Federal Engineering Institutional Control Sites (EC)	<0.02	1	F
Hazardous Materials Incident Reporting System (HMIRSR08)	<0.02	1	F
Integrated Compliance Information System (ICIS)—Formerly DOCKETS	<0.02	4	F
Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)	<0.02	4	F
Material Licensing Tracking System (MLTS)	<0.02	1	F
National Priorities List (NPL)	1	1	F
Resource Conservation & Recovery Act—Corrective Action Facilities (RCRAC)	1	2	F
Resource Conservation & Recovery Act—Generator (RCRAGR08)	0.125	5	F
Resource Conservation & Recovery Act—Non-Generator (RCRANGR08)	0.125	1	F
Record of Decision System (RODS)	1	1	F
Superfund Enterprise Management System (SEMS)	0.5	1	F
Superfund Enterprise Management System Archived Site Inventory (SEMSARCH)	0.5	1	F
Air Pollution Control Division Permitted Facilities (APCDP)	<0.02	11	S
Asbestos Abatement and Demolition Projects (ASBESTOS)	<0.02	6	S
Colorado Discharge Permit System Facilities (CDPS)	<0.02	5	S
State Hazardous Waste Sites—Corrective Action (HWSCA)	1	2	S
State Hazardous Waste Sites—Generator (HWSG)	0.125	2	S
State Hazardous Waste Sites—Treatment, Storage, & Disposal (HWSTSD)	0.5	1	S
State Historical Solid Waste Landfills (HISTSWLF)	0.5	2	S
State Leaking Storage Tank (LST) -	0.5	10	S
State Registered Aboveground Storage Tank (AST)	0.25	12	S
State Registered Underground Storage Tank (UST)	0.25	12	S

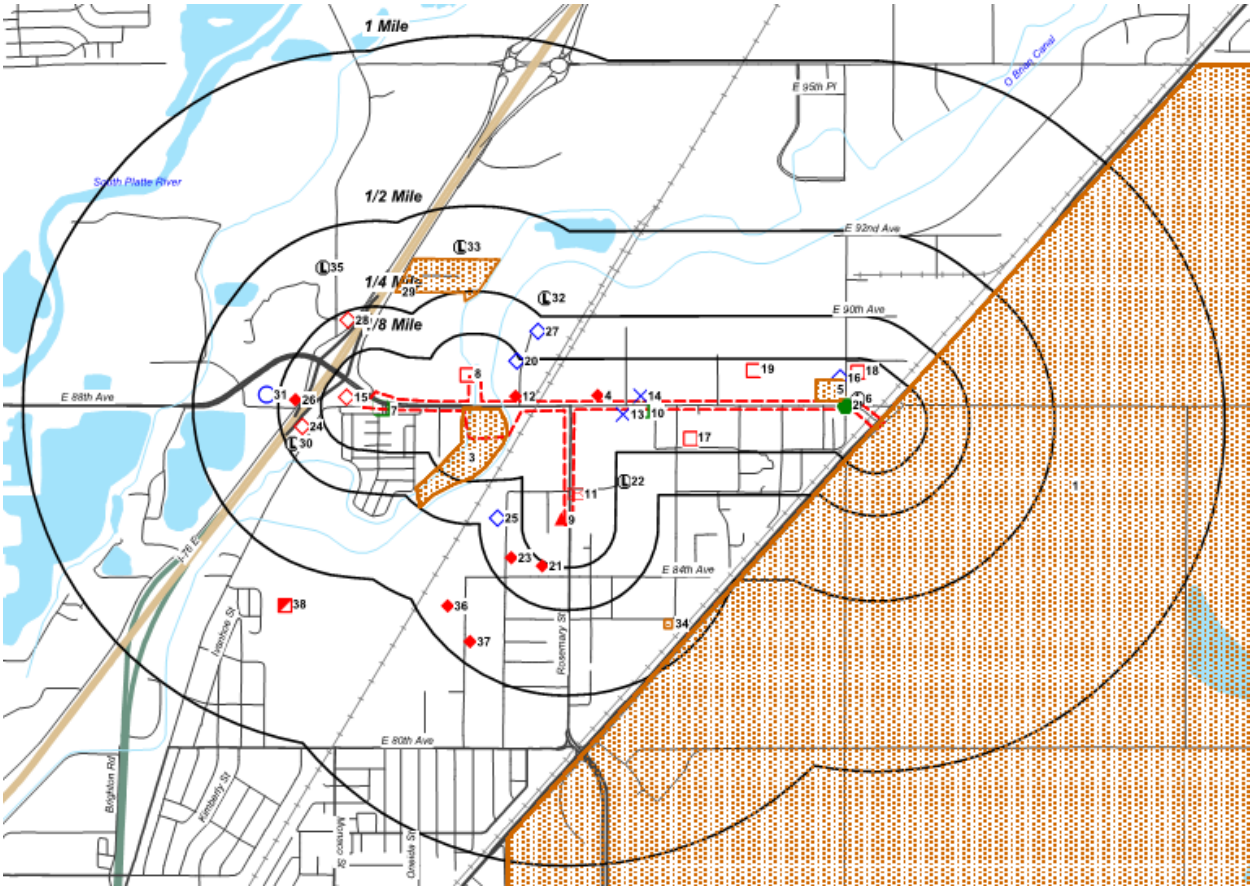
Table 5. Database Records and Approximate Minimum Search Distances

Database	ASTM Minimum Search Distance (mile)	Number of GeoSearch Sites Identified	Listing (Federal or State)
State Solid Waste Facilities (SWF)	0.5	12	S
State Spills Listing (SPILLS)	<0.02	12	S
State Superfund Site (SF)	1	1	S
Voluntary Cleanup and Redevelopment Act (VCRA) Program Sites	0.5	1	S

Source: GeoSearch E RecSearch Report 09/16/2019

In total, the GeoSearch report identified 38 sites with 190 records of potential hazardous concerns, as shown in Figure 6. Of the 190 records, 101 are federal, 89 are state, and 0 are local or tribal.

Figure 6. Sites with Potential Hazardous Concerns Within 1.0 Mile of Project Study Area



Source: GeoSearch E RecSearch Report 09/16/2019 (GeoSearch, 2019).

The 38 sites were then ranked with a high, medium, or low designation based on the type of site and its distance from the project study area. The site ranking categories are defined as:

- **Low:** Sites with minimal indications of an existing release, past release, or material threat of a release of any hazardous substances or petroleum products into the ground (soil), groundwater, or surface water, as well as any sites related to air quality that are being actively monitored through state/federal programs. The site(s) included can be less than or equal to 0.50 mile from the project study area. Additionally, it was assumed that any site(s) greater than 0.50 mile would have minimal impact to the project study area.
- **Medium:** Sites with moderate indications of an existing or past release, or material threat of a release of any hazardous substances or petroleum products into the ground (soil), groundwater, or surface water. The site(s) included are less than or equal to 1/8-mile from the project study area.
- **High:** Sites with indications of a known existing or past release of any hazardous substances or petroleum products into the ground (soil), groundwater, or surface water and the possibility for large—scale migration from the contaminant source. The site(s) included are less than or equal to 1/8-mile from the project study area.

Of the 38 sites identified within 1.0 mile of the project study area, 30 sites were ranked low; 7 sites were ranked medium, and 1 site was ranked high (Table 6).

Table 6. Detailed Review Site Evaluation Matrix

Distance from Project Study Area	Low	Medium	High
Within 0.0125 mile of the project study area	2, 3, 6, 7, 8, 10, 11,14, 15, 16, 18, 20	4, 5, 9, 12, 13, 17, 19	1
0.0125 to 0.25 mile from the project study area	21, 22, 23, 24, 25, 26, 27, 28, 30		
0.25 to 0.50 mile from the project study area	29, 31, 32, 33, 34, 35, 36, 37		
Greater than 0.50 mile	38		
	Environmental Condition Classification (Low, Medium, High)		
	Detailed Records Review Recommended		
	Detailed Records Review Not Recommended		

Source: Goodbee & Associates based on GeoSearch E RecSearch Report 9/16/19.

4.1 Detailed Records Review

The objective of the records review was to examine available information regarding the extent of any known impacts from hazardous materials to soil, groundwater, and surface water associated with sites within the project study area. The detailed review involved researching available OPS records for information concerning properties with potential or recognized environmental conditions in the project study area.

Sites identified in the GeoSearch database record search were screened to determine which sites would potentially have the presence of contamination (existing or residual) from hazardous materials and could have an adverse impact on the Proposed Action (Table 6). Of the 38 sites, it was determined that 8 sites within 1.0 mile of the project study area need to be considered for further review (Table 7). The decision

to not conduct a detailed review on the remaining 30 sites was based on their proximity to the project study area and the information provided in the GeoSearch report. Sites that were over 0.025-mile (1,320 feet) from the project study area were considered to have minimal potential of hazardous materials contamination. This included any sites that had a recorded LST because there are supporting documents obtained through OPS records (i.e., closure letters and monitoring reports). Closure letters regarding LSTs provided in the GeoSearch report are in Appendix D.

Table 7. Sites Selected for Detailed Review

Site No.	Parcel No.	Site Address	Distance from Project Study Area	Identified Concerns	Potential Environmental Concern Ranking	Selected for Detailed Review
1	0172100000019	Rocky Mountain Arsenal National Wildlife Refuge 6550 Gateway Rd.	<1.0 mile	AST, HISTSWLF, LST, SF, SPILLS, UST, Tier 1 Closure	High	Yes
4	0172121005027	Transportation Management Services, Inc. 7725 E. 88th Ave.	<1.0 mile	AIRSAFS, AST, ECHOR08, FRSCO, ICIS, LST, UST	Medium	Yes
5	0172121005026	Transpec Leasing, Inc 8801 Yosemite St.	<1.0 mile	AST, SPILLS, UST	Medium	Yes
9	0172128209006	Denver Intermodal—Rosemary St Transload 8521 Rosemary St.	<1.0 mile	APCDP, ECHOR08, FRSCO, SPILLS	Medium	Yes
12	0172121011009	LG Everist, Inc. 7321 E.88th Ave.	<1.0 mile	AIRSAFS, APCP, AST, ECHORD08, FRSCO, LST	Medium	Yes
13	0172128200005	Private Residence 7840 E. 88th Ave.	<1.0 mile	ERNSCO, SPILLS	Medium	Yes
17	0172128114001	Interstate Highway Construction Inc.—Shop 8700 Ulster St.	<1.0 mile	RCRAGR08, UST	Medium	Yes
19	0172121005023	FedEx Ground 8951 Yosemite St.	<1.0 mile	AST, HWSG, LST, RCRAGR08, UST	Medium	Yes
NA	NA	Chemical Sales Co. 4460 Monaco St,	>4.0 mile	NPL	Medium	Yes

The results of the detailed reviews of the 9 sites are summarized in the following pages.

Site No. 1: Rocky Mountain Arsenal. This facility was previously used for the manufacturing of chemical warfare agents and incendiary munitions for World War II. Several spills have been documented, including hydraulic oil, phosphorus white, lewisity, sodium hydroxide, hydrazine/water mixture, sludge containing sulfuric acid, and some unknown contents. As a result of these spills and the manufacturing of chemical warfare agents and incendiary munitions for World War II, the soil, surface water, sediment, ground water, and structures became contaminated. Due to this, the site was designated a Superfund Site (SF) on July 22, 1987.

After being designated as a SF site, several cleanups were undertaken. This included the demolition/removal of buildings, the demolition/removal of stored incendiary munitions, and the treatment of contaminated soil and groundwater. As part of the remediation of the site, over 12,000 acres of land were converted into the Rocky Mountain Arsenal National Wildlife Refuge and belongs to the U.S. Fish and Wildlife Service.

The groundwater within and surrounding the Rocky Mountain Arsenal National Wildlife Refuge was found to be contaminated due to the presence of volatile organic compounds, which include, 1,1-dichloroethane, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,2-trans-dichloroethylene, acid compounds, benzene, bicycloheptadiene, trichloroethylene, tetrachloroethylene, pesticides, metals, inorganics, and xylenes. To remove these contaminants, the U.S. Army and Shell Chemical Company constructed activated carbon water treatment systems to mitigate contaminated groundwater (EPA, 1989).

The Rocky Mountain Arsenal has had several RCRACs completed to ensure compliance; however, there have been recent violations and enforcement actions. The facility has a total of 9 USTs and 3 ASTs. Currently, there are only 2 open ASTs; the rest have been permanently closed, some through Tier 1 closures and others as a closure with no further action due to past leaks. It was determined that tetrachloroethylene, trichloroethylene, benzene, toluene, and xylene exceed the standards shown Table 8 in for contaminants found in ground water. Table 9 summarizes reported groundwater samples from GeoSearch and Tri-County Health Department records.

Site No. 4: Transportation Management Services, Inc. This facility had an AIRSAFS associated with potential uncontrolled emissions. This program resulted in a total of 6 enforcement actions between 2000 and 2004. There have not been any enforcement actions since 2004. The GeoSearch report also identified an AST that held 12,000 gallons of diesel that was permanently closed in 2006 because of an LST that resulted in a Tier 1 closure. The sites had 4 USTs, each with a capacity of 2,500 gallons that were permanently closed; there is no information as to what led to their closure.

Site No. 5: Transpec Leasing, Inc. This facility deals with the purchase, maintenance, and management of commercial and industrial machinery/equipment. Due to the nature of the business, fuel, motor oils, hydraulic fluids, degreasers, and/or solvents are expected on site. The facility also has 2 ASTs: one that holds 1,000 gallons of lube oil and one that holds 500 gallons of waste oil. There is also a UST that stores 20,000 gallons of diesel fuel. All three tanks are still active, and no releases have been reported. On June 5, 2001 there was a SPILL reported due to a semi-truck and trailer catching on fire. The report says that the water used to extinguish the fire went into the on-site retention pond and drained into the storm system. It is unknown if any waterways were impacted, and there is possible soil contamination.

Table 8. Summary of Soil and Groundwater Standards

Constituent	Groundwater		Soil		
			RBSLs[2]		
	CGSs[1]	RBSLs[2]	Subsurface Soil	Surficial Soil	
				Residential	Industrial
Benzene	5.0µg/l	5.0 µg/l	0.26 mg/kg	2.8 mg/kg	6.8 mg/kg
Cis-l, 2-Dichloroethene (also called dichloroethylene)	70 µg/l	--	--	--	--
Ethylbenzene	700 µg/l	700 µg/l	190 mg/kg	2,100 mg/kg	16,000 mg/kg
Methyl tertiary-butyl ether (MTBE)	--	20 µg/l	--	--	--
Perchloroethylene (PCE) (also known as tetrachloroethylene)	5 µg/l	--	--	--	--
Toluene	1,000 µg/l	1,000 µg/l	140 mg/kg	4,000 mg/kg	31,000 mg/kg
Trichloroethylene (TCE)	5 µg/l	--	--	--	--
Xylenes (total)	1,400 to 10,000 µg/l	1,400 µg/l	260 mg/kg	--	--
1,2 Dichloroethane	0.38 to 5 µg/l	--	--	--	--
Barium (dissolved)[3]	2.0 mg/l	--	--	--	--
Cadmium (dissolved)[3]	0.005 mg/l	--	--	--	--
Chromium (dissolved)[3]	0.1 mg/l	--	--	--	--
Lead (dissolved)[3]	0.05 mg/l	--	--	--	--
Mercury (dissolved)3	0.002 mg/l	--	--	--	--
Total petroleum hydrocarbons (TPH)	--	--	500 mg/kg	500 mg/kg	

CGS—Colorado Basic Standards for Groundwater
RBSL - Risk-Based Screening Level
µg/l—micrograms per liter
mg/l – milligrams per liter
mg/kg – milligrams per kilogram
MTBE – methyl tertiary-butyl ether
PCE - perchloroethylene
TCE - trichloroethylene
TPH – total petroleum hydrocarbons

References:

Groundwater Organic Chemical Standards from Colorado Department of Public Health and Environment Water Quality Control Commission. 2005. 5 CCR 1002- 41, Regulation No. 41, The Basic Standards for Groundwater. Amended November 8, 2004. Effective March 22, 2005.

Tier 1 Risk-Based Screening Levels (RBSLs) from Colorado Department of Labor and Employment Division of Oil and Public Safety (OPS). 2005. Petroleum Storage Tank Owner/Operator Guidance Document. Effective February 1999. Revised October.

Domestic Water Supply—Human Health Standards from Colorado Department of Public Health and 02- 41, Regulation No. 41, The Basic Amended November 8, 2004. Effective March 22, 2005.

Table 9. Groundwater Contamination Levels Near the Project Study Area

Constituent	Rocky Mountain Arsenal Geosearch Groundwater Sample Levels (µg/l)	Wikiup Mobile Home Sample Levels 12/18/1984 (µg/l)	7790 E. 88th Avenue Sample Levels 02/03/1987 (µg/l)	8771 Ulster Street Sample Levels 06/12/1985 (µg/l)
Benzene	2,000,000	<1.3	<1.92	<1.3
Tetrachloroethylene	21	<1.3	<2.8	<1.3
Toluene	40,000	<1.2	<2.1	<1.2
Trichloroethylene	120	<1.1	<1.3	<1.1

Tri-County Health Department, Colorado Open Records—E. 88th Avenue Between I-76 and State Highway 2 (Tri-County Health Department, 2019).

µg/l—micrograms per liter

Site No. 9: Denver Intermodal—Rosemary St. Transload. This facility has an APCDP associated with potential uncontrolled emissions associated with the transfer of grain and field beans. There have been no violations according to the ECHOR08 records based on the Clean Air Act. The site also has a SPILL record associated with it that happened on October 27, 1997 where there were 400 gallons of oil/diesel gas released. There are no records as to the cause of the spill and what actions were taken to clean it.

Site No. 12: L.G. Everist, Inc. This facility deals with sand and gravel and it has multiple AIRSAFS associated with potential uncontrolled emissions with records kept through APCDP. The facility has remained in compliance since October 1, 2016, based on the ECHOR08 reports. Andesite Rock Co. had an AST located on its site that resulted in an LST. The LST was reported 1991 but was not officially closed until 1997 due to site cleanup taking this long to be completed.

Site No. 13: Private Residence. This site has an ERNSCO associated with it due to the improper disposal of asbestos that happened in 2015. There was also a SPILL reported on December 23, 2014, that was the result of 30 gallons of crude oil and water leaking from a tanker. It is unknown as to what actions were taken to clean the spill.

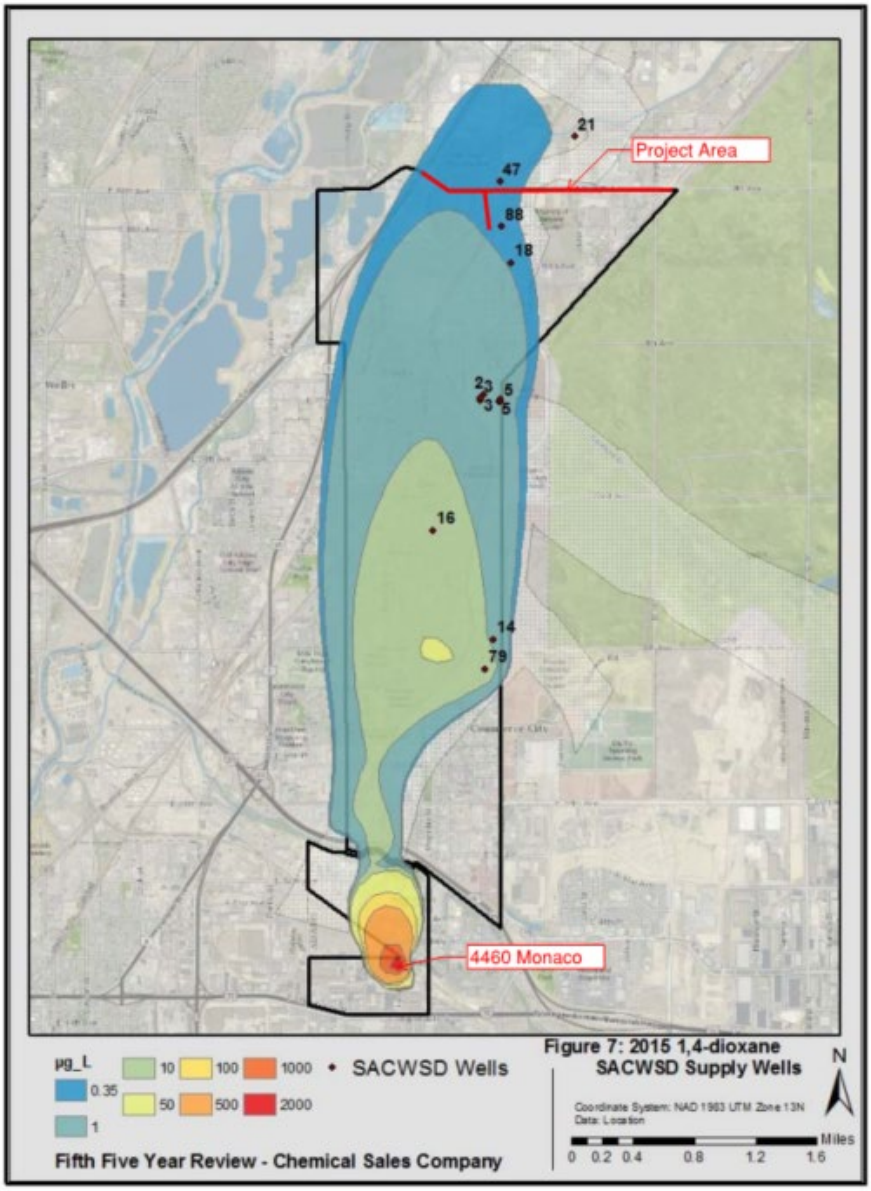
Site No. 17: Interstate Highway Construction, Inc. There are 2 USTs located on this property. Both have been permanently closed; however, no further information is available. The site also is a small quantity generator that has not had any violations.

Site No. 19: FedEx Ground This facility is a FedEx Distribution Center. It previously had two ASTs holding 10,000 gallons of diesel each located on its site. However, both were permanently closed due to a total of four LST events. The site also has four USTs that are currently in use that store diesel fuel, B100 (100% biodiesel), and additive. Finally, the facility is considered a Hazardous Waste Site due to the use/distribution of chemical solvents and a large quantity generator.

Site 4460 Monaco: Chemical Sales Co. The Chemical Sales Company site provided storage and packaging of bulk chemicals from rail cars and drums. Historic disposal practices contaminated groundwater with volatile organic compounds. EPA placed this site on the Superfund Program's National Priorities List (NPL) August 1990. The site is located approximately 4.1 miles south of the project study area. Groundwater plumes consisting of Trichloroethylene (TCE), Tetrachloroethylene (PEC), 1,4-

dioxane, and other contaminants and extend north from the site. Groundwater plumes with TCE and PEC extend north roughly to E. 56th Avenue. Groundwater plumes with 1,4-dioxane have been remediated and tested within operable unit 2, which extends to E 88th Avenue. Figure 7 illustrates the 1, 4 dioxane plume extending through the western half of the project study area and adjacent South Adams County Water and Sanitation District potable water supply wells. Wells 88 and 47 are closest to the project study area and have been tested over five years (2012 to 2017). Data collected from the water sources closest to the study area reflect an average of 0.35 µg/L 1,4 dioxane levels, USI PA RSI states the levels should not exceed 0.46 µg/L and calculated risks for 1, 4 dioxane fall within acceptable risk range within the study area (Appendix B). Due to its location, this site was not identified in the GeoSearch Report. CDOT provided the Fifth Five Year Review Report for the Chemical Sales Co. Superfund Site (CDPHE, 2017) for consideration.

Figure 7. Site 4460 Monaco Chemical Sales Wells



5.0 SITE RECONNAISSANCE

To obtain information indicating the presence of potential or recognized environmental conditions, a limited site reconnaissance within the project study area was conducted, which involved a "windshield survey" of sites.

Site reconnaissance activities were performed for this MESA on March 7, 2019, by Tyler Elliott and Elissa Roselyn, environmental scientists with Goodbee & Associates. Additional reconnaissance along Rosemary Street was completed on October 8, 2019, by Tyler Elliott. The visual inspection included the identification of current land use and observable site activities with potential contamination sources for properties located within and adjacent to the project study area, such as:

- Presence of ASTs and secondary containment for spill prevention.
- Evidence of USTs, including fill ports, vent pipes, and fueling facilities.
- Disposal of solid waste, waste management practices, and general good housekeeping of waste storage/disposal areas.
- Evidence of on-site dumping and landfills.
- Handling and storage of hazardous materials, such as the presence of 55-gallon drums, tote containers, etc.
- Presence of drains, sumps, septic systems, wastewater discharges, pits, ponds, or lagoons.

Appendix B lists sites with potential environmental conditions and recognized environmental conditions based on the GeoSearch report. Appendix C contains photos and figures identifying sites with potential and recognized environmental conditions observed during the site reconnaissance.

During the site reconnaissance, the following potential contamination sources were not observed: ASTs; USTs; spill prevention; disposal and management of solid waste; stored hazardous materials. It is still possible that these potential sources of contamination were/are present and out of sight. Hazards that were encountered near the project study area include 2 active railroads, 12 pole-mounted electrical transformers, and painted traffic signal poles.

UPRR and BNSF railroads cross through the project study area running northeast to southwest. The UPRR rail line is located east of O'Brian Canal and the Proposed Action would require the construction of bridge foundations within the railroad right-of-way. Minimal impacts are anticipated to the BNSF Railway as the Proposed Action in this area would add in a sidewalk crossing the tracks.

Site reconnaissance identified pole-mounted electrical transformers that have been historically associated with the use of polychlorinated biphenyls (PCB) as a dielectric fluid coolant and stabilizer. EPA defines PCB equipment as containing greater than 500 parts per million (ppm) PCBs; "PCB contaminated equipment" as containing 50 to 500 ppm PCBs; and "non-PCB equipment" as containing less than 50 ppm PCBs. However, any electrical equipment with no label or unknown concentration is assumed to be "PCB contaminated equipment" per EPA regulation (Xcel Energy).

Painted traffic signal poles are located at the intersection of 88th Avenue and Rosemary Street on the northeast, southeast, northwest, and southwest corners of the intersection. Paint samples were gathered from the signal on the southwest corner and sent to EMSL Analytical, Inc., to test for lead. Results are provided in Section 6.1 and Appendix B.

During site reconnaissance, storm inlets, sanitary/storm manholes, and water valves were observed. In order to ensure that these facilities do not have any asbestos, Goodbee & Associates reviewed the utility records and pipe materials. There is no evidence of asbestos pipes in the project study area. Groundwater wells were not encountered during the field investigations; however, USGS data and topographic maps indicate that active or abandoned wells may be encountered on private right-of-way during construction (Figure 5 and Table 3).

Due to the predominance of industrial and light industrial facilities in the Proposed Action vicinity, primarily on the north side of E. 88th Avenue, it is expected at least a portion of these properties store chemicals for various operational activities.

6.0 FINDINGS AND RECOMMEDATIONS

Goodbee & Associates performed this MESA based on CDOT hazardous materials guidance (CDOT EPB, 2018; CDOT, 2006) as modified from the ASTM Designation E 1527-13, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” (ASTM, 2013) and EPA Standards and Practices for All Appropriate Inquiries [40 CFR Part 312] (EPA, 2005). Modifications to this guidance are presented in Section 1.2. Any findings and recommendations presented in this report are geared specifically to address the issues regarding hazardous material that would affect the planning, design, and construction of a transportation project. This MESA has been prepared with a level of detail appropriate for the E. 88th Avenue EA and identifies sites with Potential Environmental Concern (PEC) and Recognized Environmental Concerns (REC) associated with the project study area.

The findings and recommendations of this MESA must be viewed in recognition of certain limiting conditions. Results of this MESA are based upon a limited visual site inspection, observation of current conditions within the project study area, and review of readily available standard historical sources and environmental agency databases.

Due to limitations, the complete environmental history of sites within the project study area may not be fully identified solely by the performance of site reconnaissance activities and historical and agency document reviews. In the course of this assessment, Goodbee & Associates has relied on information provided by outside parties, such as regulatory agencies and GeoSearch. Goodbee & Associates has made no independent investigations as to the validity, completeness, or accuracy of such information provided by third-party sources. For the purposes of this MESA, such third-party information is assumed to be accurate unless contradictory evidence is noted. Goodbee & Associates does not express or imply any warranty regarding information provided by third-party sources.

6.1 Summary of Findings

The following steps were completed to identify sites with recognized or potential environmental conditions within the project study area:

- Review and screening of GeoSearch regulatory database search completed September 16, 2019.
- Review of previous CDOT, CDPHE, OPS records, and other available records from local, state, and federal agencies regarding properties with recognized environmental conditions within the project study area.
- Review of readily available standard historical sources which included USGS topographic maps

- Limited site reconnaissance ("windshield survey") of properties within the project study area from public right-of-way to identify current site activities and potential contamination sources adjacent to the project corridors. Collecting paint samples to determine if lead is present within the project study area.

The GeoSearch report identified 38 sites with 190 records of potential hazardous concerns within the project study area. These sites, their location relative to the project study area, and potential for risk are summarized in Appendix B, Table 1. Of the 38 sites, it was determined that 8 sites within 1.0 mile of the project study area should be considered for further review based on the proximity and/or potential risk for hazardous materials contamination. An additional site (4460 Monaco), four miles south of the project study area, was added for further consideration based on a plume of 1,4 dioxane that extends into the project study area. Twenty-nine of these sites were categorized as a PECs and 10 as RECs.

The 32 sites that were not selected for detailed review were considered to have minimal potential of hazardous materials contamination within the project study area. These sites had a recorded LST associated with both ASTs and USTs. Although LSTs are a high concern, it was determined all of the LSTs have been formally closed.

The 9 sites selected for detailed review (Table 7) have low potential of impacting the Proposed Action based on the location of the USTs, ASTs, and spills relative to the proposed excavation and right-of-way acquisition. Of the nine sites, four are classified as PECs—Transpec Leasing, Inc. (5), L.G. Everist, Inc.(12), Private Residence (13), and Interstate Highway Construction, Inc. (17). Of these sites, a portion of L.G. Everist would be acquired for right-of-way and a portion of Transpect Leasing and Private Residence are anticipated to require temporary easements. Four additional PECs (not selected for detailed review) would have partial easements, including WikiUp Mobile Home Park (7), Mile High Flea Market (8), BDR Pallet (10), and Lineage Logistics (14).

The remaining 5 sites selected for detailed review are classified as RECs due to identified release. These sites include Rocky Mountain Arsenal (1), Transportation Management Services, Inc. (4), Denver Intermodal—Rosemary St. Transload (9), FedEx Ground (19), and 4460 Monaco Street plume. The sites have a history of spills, USTs, or ASTs, and the contractor may encounter visual or olfactory signs of contamination in soil and groundwater during construction adjacent to these properties. A temporary easement is anticipated for a portion of Transportation Management Services.

Field reconnaissance was completed on March 7, 2019, and October 16, 2019. Based on these site visits, the primary concerns are the UPRR and BNSF railroads, potential of lead paint on the traffic signal poles, electric transformers, and the presence of industrial and light industrial facilities where chemicals might be stored for operational activities.

The potential hazards associated with the UPRR and BNSF rail lines include coal dust, coal fines, heavy metals, arsenic, diesel fuel, creosote from railroad ties, pesticides/herbicides used for pest and weed control, and PCBs in oil used for dust suppression in the past. Appropriate measures should be taken to ensure safety during exposure to soil near the rail lines.

Field reconnaissance also identified painted traffic signal poles that would be relocated as part of the Proposed Action. Paint samples from the signal poles were analyzed for the presence of lead paint. The data provided by EMSL states that <0.010% of the overall sample weight contains lead. This value is below the EPA definition of lead-based paint which is described as ≥0.50% of the overall sample weight. Based on this classification, the paint sample is non-lead containing.

While completing the field reconnaissance, electrical equipment and several pole-mounted transformers were observed on the utility pole power lines in the project study area. Overhead electrical lines containing transformers were observed along E. 88th Avenue. Any electrical equipment or transformers that will be impacted by Proposed Action activities must be managed appropriately because they may contain PCBs. Transformers that are labeled as “non-PCB” contain mineral oil that has been certified by the manufacturer. If the PCB status is unknown, it is Xcel Energy’s policy to test the transformers for PCB content and repair or replace the equipment in accordance with federal and/or state requirements (Xcel Energy).

Due to the predominance of industrial and light industrial facilities in the project study area, it is expected that some of these properties store chemicals for various operational activities. No significant releases of chemicals have been reported in the GeoSearch report that would impact the project study area.

Potential impacts and mitigation are summarized in Table 10.

Table 10. Hazardous Materials Summary Mitigation

Impact	Mitigation	Responsible Branch	Timing
Potential to encounter hazardous materials during construction.	The Modified Environmental Site Assessment document will be updated with a recent Geosearch report when design for the Proposed Action reaches the 30 percent phase. The following environmental notes shall be added to the project plans: “Contractors and workers shall comply with the CDOT’s latest Revision of Section 250 – Environmental, Health and Safety Management of the Standard Specifications for Road and Bridge Construction. Workers shall be alert during excavations for any visual or olfactory signs of contamination. If gas, soil and/or groundwater contamination is encountered, work will stop immediately, and the procedures outlined in the CDOT Specification 250 and subsection 107.25.8 shall be followed. Structural excavation, such as caisson and retaining wall construction, may require the dewatering of contaminated groundwater. If dewatering is necessary, groundwater brought to the surface will be managed according to Section 107.25 of the CDOT Standard Specifications for Road and Bridge Construction (CDOT, 2019) and permitted by the CDPHE Water Quality Control Division, in accordance with Section 402 of the Clean Water Act. If any drinking water and groundwater monitoring wells are located within the proposed construction area, the wells will be abandoned and plugged according to CDOT Section 202.02 in Standard Specifications for Road and Bridge Construction (CDOT, 2019) and in conformance with the Colorado Department of Natural Resources Division of Water Resources State Engineer Water Well Construction	City of Commerce City, Contractor	During Construction

Table 10. Hazardous Materials Summary Mitigation

Impact	Mitigation	Responsible Branch	Timing
	Rules, specifically Rule 16, 'Standards for Plugging, Sealing, and Abandoning Wells and Boreholes' (Colorado Department of Natural Resources, 2006)." Any costs associated with cleanup or remediation of acquired properties will be the responsibility of the City of Commerce City. Paint from traffic signal poles at 88th Avenue and Rosemary Street was sampled and classified as non-lead containing. Should lead-containing paint be encountered in other locations within the project study area, such as guard rails or other traffic signals, metal components painted with lead-containing paint should be removed components painted with lead-containing paint should be removed and recycled in accordance with CDOT Specification 250.04 and Occupational Safety and Health Administration Regulation 1926.62. The selected contractor and recycling center should be notified of the presence of lead-containing paint on these metal structures. Further, the contractor should avoid sanding, cutting, burning, or otherwise causing the release of lead from paint on structures or bridge components. These should be removed carefully and properly recycled. Occupational Safety and Health Administration Regulation 1926.62 should be consulted for worker protection before removing painted components. In addition, in the unlikely event that suspected asbestos-containing materials is encountered, including with buried utilities, workers must follow CDOT Specification 250.07—Asbestos-Containing Material Management and CDOT Asbestos-Contaminated Soil Management Standard Operating Procedure. Additionally, depending on the type of asbestos-containing materials, this material must also be abated in accordance with either Section 5.5 of the Solid		

Table 10. Hazardous Materials Summary Mitigation

Impact	Mitigation	Responsible Branch	Timing
	Waste Regulations, or Regulation No. 8 of the Air Quality Control Commission Regulations. If structures are disturbed, they must be tested for asbestos-containing materials for worker protection and disposal purposes. If the structures are to be demolished, they must be properly abated and the materials properly disposed of.		

1

7.0 REFERENCES

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8.0 SIGNATURES AND QUALIFICATIONS

The preceding report has been prepared in accordance with standard industry practice for performance of a MESA and includes the applicable portions of the procedures codified in ASTM 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, U.S. EPA Standards and Practices for All Appropriate Inquiries, and CDOT hazardous materials guidance. The end user of this report may rely on the contents, findings, and conclusions to be accurate within the limitations stated herein. The report also complies with specific requirements supplied by the Client. Goodbee & Associates performed this work for the sole purpose of assisting in the evaluation of potential and recognized environmental conditions associated with the properties within the project study area.

The following paragraphs provide the qualifications of the environmental professionals who conducted this MESA.

Prepared By: Elissa T. Roselyn, PG, Project Manager and Tyler C. Elliott, EI

Signature: Elissa T Roselyn _____ _____

Date: 9/25/2019 Revised (if necessary): 1/26/2021

Environmental Professional: Elissa T. Roselyn, Professional Geologist #9619. Master of Science in Environmental Science, University of Colorado, 1991 and Bachelor of Science in Geology, California State University, 1982

Elissa has over 36 years of experience as an environmental scientist and utility coordinator with a focus on corridor and site assessments, regulatory compliance, and jurisdictional and utility company coordination. Elissa has developed and reviewed hazardous materials reports (ISA and MESA) for CDOT and has completed Phase 1 and Phase 2 hazardous materials investigations for EPA and local agencies. Hazardous materials experience include First Avenue at Emery Street ISA, SH 52 at I-25 ISA, I-70 and Picadilly MESA, Wadsworth/Morrison ISA, Gaming Area Access MESA, US 285 Corridor (Jefferson and Park Counties) MESA, I-25/Rockrimmon/Nevada Interchange MESA, and US 36 MESA.

Qualified Assessor / Report Preparer - Tyler C. Elliott, EI. Bachelor of Civil Engineering, Colorado State University, 2016

Tyler has over two years of experience providing environmental and engineering support on transportation and water/wastewater infrastructure projects. Tyler's design experience includes implementing CCD, RTD, and CDOT CAD and design standards to develop utility relocation plans and reports. Working under the professional oversight of environmental professionals, Tyler has completed hazardous materials field investigations, records research, and developed portions ISAs and MESAs for CDOT review. Hazardous

materials experience include First Avenue at Emery Street ISA, I-70 and Picadilly MESA and Wadsworth/Morrison ISA.

Appendices available upon request.