



*View of former Little Johnson Reservoir (5EP.8429), looking northwest*

## Security Pipeline, El Paso County, Colorado: Results of an Intensive Cultural Resources Survey

Prepared by Gordon C. Tucker, Jr., PhD, Principal Investigator

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## Abstract

The United States Army Corps of Engineers (USACE) and Security Water and Sanitation District (SWSD) are proposing to design and construct a Perfluorinated Compound and Per- and Polyfluoroalkyl Substances (PFC/PFAS) groundwater Drinking Water Mitigation Facility (DWMF). As part of this Project, the discharge from existing permitted and operational groundwater wells will be piped to a raw water collection pipeline. The raw water pipeline will convey well water to a DWMF where it will pass through processes including pre-filtration, ion exchange, and lastly a disinfection process in a dedicated pipeline and ultimately tie-in to the existing distribution system. The USACE and SWSD engaged URS Group, Inc., an AECOM Technical Services, Inc. company, to help design and construct the PFC/PFAS Drinking Water Mitigation System Project (Project) and help facilitate the USACE's Section 106 obligations by completing a cultural resources assessment of portions of the Project Area of Potential Effects. The USACE identified for survey that portion of the pipeline corridor that will not be placed in unpaved and undisturbed areas. The survey area encompassed a total of 14 acres. The intensive cultural resources survey of the Security pipeline resulted in the discovery and documentation of two new historic resources: the Fountain Mutual Irrigation Company (FMIC) Canal No. 4 (5EP.8428.1) and Little Johnson Reservoir (5EP.8429). The FMIC Canal No. 4 has been in continuous use since 1882, while Little Johnson Reservoir was created in circa (ca.) 1900 and used until ca. 2000. It no longer contains water and a municipal solar array occupies the former reservoir bed. Both sites were evaluated as not eligible for listing in the National Register of Historic Places. A finding of no historic properties affected was recommended and further cultural resources work was considered unnecessary.

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## List of Acronyms and Abbreviations

°F	Fahrenheit
AECOM	AECOM Technical Services, Inc.
amsl	above mean sea level
APE	area of potential effects
AT&SF	Atchison, Topeka & Santa Fe
BNSF	Burlington Northern Santa Fe
B.P.	Before Present
ca.	circa
CFR	Code of Federal Regulations
DWMF	Drinking Water Mitigation Facility
FMIC	Fountain Mutual Irrigation Company
ft	feet, foot
m	meter
NRHP	National Register of Historic Places
PFC/PFAS	Perfluorinated Compound and Per- and Polyfluoroalkyl Substances
P.M.	Principal Meridian
Project	PFC/PFAS Drinking Water Mitigation System Project
SWSD	Security Water and Sanitation District
URS	URS Group, Inc.
U.S.	United States
US #	U.S. Highway #
USACE	United States Army Corps of Engineers
USGS	U.S. Geological Survey

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# Colorado Cultural Resource Survey Management Form

Colorado Historical Society - Office of Archaeology and Historic Preservation

## COLORADO CULTURAL RESOURCE SURVEY

Cultural Resource Survey Management Information Form

### I. PROJECT SIZE

Total federal acres in Project	<u>0</u>	Total federal acres surveyed	<u>0</u>
Total state acres in Project	<u>0</u>	Total state acres surveyed	<u>0</u>
Total private acres in Project	<u>14</u>	Total private acres surveyed	<u>14</u>
Total other acres in Project	<u>0</u>	Total other acres surveyed	<u>0</u>

### II. PROJECT LOCATION

County: El Paso

USGS Quad Maps: Elsmere, Colorado 7.5' (1961); Colorado Springs 7.5' (1961)

Principal Meridian: 6<sup>th</sup>

Township 15S Range 66W Section 2 1/4 1/4 1/4 SE 1/4

Township 15S Range 66W Section 2 1/4 1/4 1/4 SW 1/4

### III. SITES

Smithsonian Number	Resource Type				Eligibility				Management Recommendations						
	Prehistoric	Historic	Paleontological	Unknown	Eligible	Not Eligible	Need Data	Contributes to a District	No Further Work	Preserve / Avoid	Monitor	Test	Excavate	Archival Research	Other
5EP.8428.1		X				X			X						
5EP.8429		X				X			X						

### IV. ISOLATED FINDS

Smithsonian Number	Resource Type			
	Prehistoric	Historic	Paleontological	Unknown
None				

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# 1 Introduction

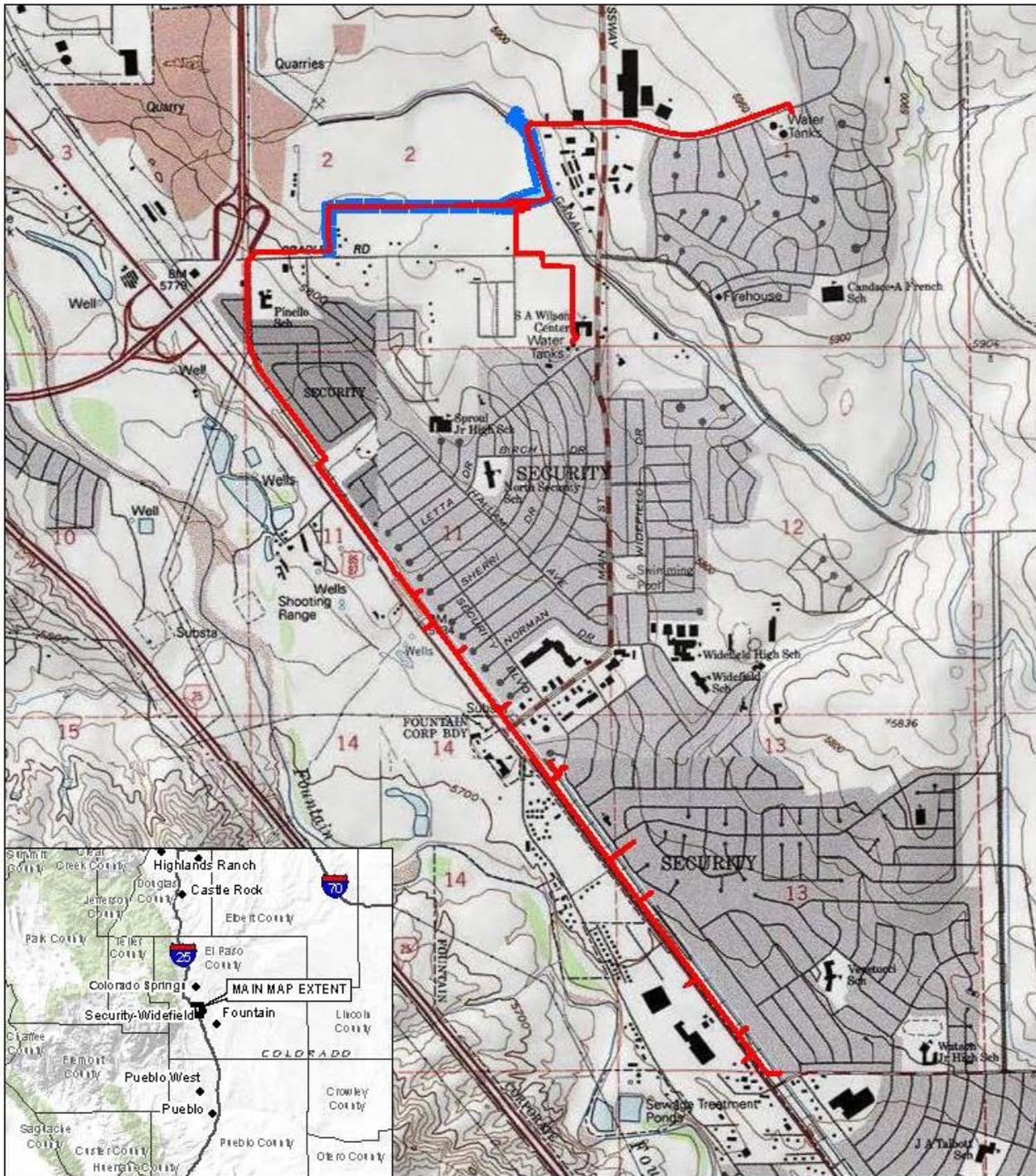
The United States Army Corps of Engineers (USACE) and Security Water and Sanitation District (SWSD) are proposing to design and construct a Perfluorinated Compound and Per- and Polyfluoroalkyl Substances (PFC/PFAS) groundwater Drinking Water Mitigation Facility (DWMF). As part of this Project, the discharge from existing permitted and operational groundwater wells will be piped to a raw water collection pipeline. The raw water pipeline will convey well water to a DWMF where it will pass through processes including pre-filtration, ion exchange, and lastly a disinfection process in a dedicated pipeline and ultimately tie-in to the existing distribution system.

As an agency of the federal government, the USACE is obliged under the conditions of Section 106 of the National Historic Preservation Act of 1966, as amended through 2006, to take into account the effects of this undertaking on any historic properties within the Area of Potential Effects (APE). The APE for direct project effects is defined as a narrow corridor, approximately 5,100 feet (ft) long and 100 ft wide (50 ft on either side of the pipeline centerline). The APE for indirect project effects is coincident with the direct APE, because atmospheric and audible effects are temporary and the pipeline will not be visible. Cumulative effects are negligible. Section 106 requires that the involved parties consider the effects of this undertaking on any historic property; that is, "any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places (NRHP)" (36 Code of Federal Regulations [CFR] 800.16[1]).

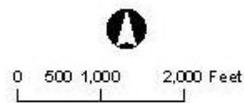
The USACE and SWSD have engaged URS Group, Inc. (URS), an AECOM Technical Services, Inc. (AECOM) company, to help design and construct the PFC/PFAS Drinking Water Mitigation System Project (Project) and help facilitate the USACE's Section 106 obligations by completing a cultural resources assessment of portions of the Project APE. The USACE identified for survey that portion of the pipeline corridor that will not be placed in unpaved and undisturbed areas. The survey area encompasses a total of 14 acres.

The survey area is located just north of Security and east of Colorado Springs, Colorado. It is in Section 2 of Township 15 South, Range 66 West, 6th Principal Meridian (P.M.), as depicted on the Colorado Springs and Elsmere, Colorado 7.5 minute U.S. Geological Survey (USGS) topographic quadrangle maps (Figure 1-1). The fieldwork for this Project was conducted on November 29, 2018. The Project Principal Investigator is Gordon C. Tucker, Jr., PhD, Cultural Resources Team Lead and Senior Archaeologist in the AECOM Greenwood Village office. Dr. Tucker conducted the field investigations and prepared the summary report.

This report describes the background, methods, and results of an intensive cultural resources inventory of the survey area. The report complies in form and content with the guidelines issued by History Colorado, Office of Archaeology and Historic Preservation (2007).



- Legend**
- ▬ Cultural Survey
  - ▬ Proposed Alignment



**Security Drinking Water Mitigation System**

Figure 1-1  
Project Location

**AECOM** 6200 South Quebec Street  
Greenwood Village, Colorado 80111

1 inch = 2,000 feet

12/18/2018

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**Figure 1-1. Project Location**

## 2 Objectives and Methods

### 2.1 Survey Objectives

The purpose of this survey was to identify and document cultural resources in the survey area and to evaluate the eligibility of each documented resource for listing in the NRHP, according to the criteria described at 36 CFR 60.4.

### 2.2 Survey Methods

Before commencement of the survey, URS completed supplementary background research on the regional culture history in order to develop a historic context that would guide an evaluation of the historic significance of any documented properties. URS staff also conducted a search of the files maintained at the Office of Archaeology and Historic Preservation, History Colorado, in order to identify previously recorded sites and resources in the area.

URS personnel conducted an intensive pedestrian survey of the Project area, which encompasses a total of approximately 14 acres. The archaeologist walked two parallel transects, spaced no more than 50 ft apart, within the proposed pipeline corridor. As the archaeologist walked, he closely inspected the ground surface for any evidence of past, patterned human activity, 50 years or older. When such evidence was found, the area was inspected to determine if the find was an isolated find or a site. An isolated find is defined here as a spatially scattered or disassociated manifestation comprising a single feature or relatively few artifacts (usually less than five) that date 50 years or older, which lacks contextual information or association with other more significant remains or features. A site is defined as several (five or more) artifacts or two or more features in proximity (30 ft apart) dating 50 years or older.

Each archaeological site and isolated find, if observed, was described fully, plotted on the Project map, sketched in plan view, and photographed from several directions to illustrate the setting. No artifacts were collected. No shovel testing or other ground-disturbing investigations were undertaken, because the ground surface was sufficiently visible to allow for accurate documentation and evaluation.

In the laboratory/office, all field data were compiled, forms completed, maps finalized, and representative photographs selected. Each cultural resource was described on the appropriate Colorado Cultural Resource Survey forms, plotted on the Project map (Appendix A), and accompanied by a location map, sketch map, and digital photographs. Copies of the recording forms are included in Appendix B.

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## 3 Environment

Human use of an area, today and in the past, is conditioned to some extent by environmental parameters. The environment does not determine how and to what extent human groups will respond; rather, it provides opportunities for, and imposes constraints upon, human behavior, moderated to a greater or lesser extent by culture. It is helpful to understand how human groups in an area adapted to the local environment through time. A description of the modern environment is followed by a discussion on past environmental conditions, in consideration of changes that have occurred in regional and local environmental conditions during the more than 12,000 years that humans have inhabited northwestern Colorado.

### 3.1 Present Environment

The Project area is located in the Colorado Piedmont section of the Great Plains physiographic province, which extends from the Wyoming border south to the Raton Mesas and the Park Plateau in southern Colorado, from the Front Range foothills east to the Kansas border (Fenneman 1931:30-31; Painter et al. 1999: Figure 2-1). The Colorado Piedmont is generally described as a broadly rolling, but locally scarped erosion surface, formed when the Tertiary mantle was stripped away by the Arkansas and South Platte rivers (Painter et al. 1999:5). Elevations in the survey area range from approximately 5,800 ft above mean sea level (amsl) to approximately 5,850 ft amsl.

The Arkansas River, which heads in the Sawatch and Mosquito ranges northwest of Leadville, is the principal drainage in southeastern Colorado. Several permanent and intermittent streams flow into the Arkansas River, including Fountain Creek and Monument Creek, the confluence of which is within the city limits of Colorado Springs. Fountain Creek continues in a southeast direction, approximately one mile west of the Project area.

Colorado has a continental climate that is generally dry year-round, with hot summers and cold winters (Painter et al. 1999:8). Local climatic conditions closely match these general parameters. The average annual daily temperature, as recorded for the period 1931–1960 at downtown Colorado Springs, approximately 5 miles northwest of the survey area, is 48.5 degrees Fahrenheit (°F), with a high of 70.5°F in July and a low of 28.6°F in January (Berry 1968: 604). The average annual precipitation is 13.2 inches, ranging from 0.24 inch in January to 2.37 inches in July. The average annual snowfall is 41.7 inches, and March is the snowiest month with an average snowfall of 9.0 inches (Larsen 1981: Table 1). Slightly more than 80 percent of the total annual precipitation falls during the period from April through September, and summer thunderstorms are common (Larsen 1981:2). The average relative humidity ranges between approximately 30 and 40 percent, and the prevailing wind is from the north-northeast at an average annual speed of 30 miles per hour (Larsen 1981:2). The growing season, the period between the last freezing temperature in the spring and first freezing temperature in the fall at a threshold temperature of 32°F, is 126 days (Larsen 1981: Table 3).

Blakeland loamy sand, a deep and well-drained soil formed in alluvium derived from sedimentary rock and/or eolian deposits derived sedimentary rock, underlies the Project area (NRCS 2018). Trees present in the Project area include Siberian elm, plains cottonwood, and Russian olive (J. Dawson, personal communication, 17 December 2018). Other vegetation includes sand dropseed, blue grama, western wheatgrass, annual sunflower, Russian thistle, western prickly pear, fringed sage, tarragon, plains yucca, and prairie sandreed. The local vegetation provides habitat for a diverse assemblage of fauna, including mule deer, tree squirrels, cottontail rabbits, pheasants, mourning doves, and wild turkeys (Larsen 1981:29).

### 3.2 Paleoenvironment

Climatic conditions in eastern Colorado from the late Pleistocene through Holocene epochs, a span of at least 12,000 years, have varied from hot and dry to wet and cool with correspondingly dramatic effects on the local inhabitants (see Table 3-1). Portions of the eastern plains may have been abandoned for

greater or lesser periods by human groups during the driest episodes, most notably during the Altithermal period, circa (ca.) 7000–4500 before present (B.P.) (Painter et al. 1999:23-24). The Little Ice Age (or Neo-boreal) episode (300-100 B.P.) was substantially cooler and moister. Most recently, after 100 B.P., the climate has been relatively dry (Painter et al. 1999:24), approaching modern conditions.

**Table 3-1. Past Environmental Conditions in Eastern Colorado**

Cultural Episode		Dates (B.P.)	Paleoenvironmental Conditions
Stage	Period		
Paleoindian	Pre-Clovis	>12,000	Full glacial conditions at the outset, with gradually ameliorating climatic conditions
	Clovis	12,000-11,000	Warming trend, with possible drought during the late Clovis period (11,300-10,800 B.P.)
	Folsom	11,000-10,000	Continued warming and drying, shrinking of pine-spruce woodlands in foothills, and expansion of mixed tall grass/ short grass prairie
	Plano	10,000-7500	Continued drying and warming with increasing aridity towards the latter part of the Plano period
Archaic	Early Archaic	7500-5000	Once thought to be a period of universal aridity throughout the West and Southwest (Altithermal), now considered to have included two drought periods separated by a period of increased effective moisture
	Middle Archaic	5000-3000	Increased effective moisture, punctuated by discontinuous periods of aridity
	Late Archaic	3000-1800	Warmer and drier conditions, possibly changing to periods of increased precipitation and cooler temperatures
Late Prehistoric	Early Ceramic	1800-800	Initial period of warmer and drier conditions followed by conditions slightly wetter and cooler than present
	Middle Ceramic	800-400	Xeric conditions initially, followed by slightly cooler and wetter conditions
Protohistoric		400-100	Cooler and wetter conditions with expansion of mountain glaciers
Modern		Anno Domini (A.D.) 1893-1905	Dry—most pronounced over eastern Colorado.
		1905-1931	Wet—longest recorded wet period
		1931-1941	Dry—most widespread and longest lasting drought
		1941-1951	Wet—widespread
		1951-1957	Dry—extremely dry
		1957-1959	Wet—widespread
		1963-1975	Dry/Wet—alternating very wet and fairly dry periods
		1975-1978	Dry—sustained multi-year drought
	1979-1996	Wet—second longest sustained wet period	

Data sources: Tate and Gilmore (1999); McKee et al. (2000).

## 4 Cultural History

### 4.1 Cultural History and Previous Investigations

Humans have inhabited eastern Colorado for at least 12,000 years, and perhaps longer. This lengthy period of occupation includes Pre-contact and Historic eras, the highlights of which are summarized below.

#### 4.1.1 Pre-Contact Era

The Pre-contact era spans the time when indigenous people first emigrated to the North America from Asia, possibly as early as 26,000 years ago according to recent evidence (Llamas et al. 2016), and the arrival of non-indigenous people (Europeans) to this continent. (Note: Many native peoples in North America believe that they have always lived here and did not emigrate from somewhere else.) The Pre-contact era has traditionally been divided into the chronologically ordered cultural stages of Paleoindian, Archaic, Late Prehistoric, and Protohistoric. Each stage encompasses one or more periods, which are distinguished by technological attributes and subsistence strategies (Chenault 1999a:1).

The Paleoindian Stage (ca. 12,000–7500 B.P.) is a specialized adaptation to late Pleistocene/early Holocene environments and characterized by the hunting of now-extinct species of large game, such as mammoth, camels, and bison (Chenault 1999b:51). Paleoindian components are recognized by the presence of large, well-made, flaked stone tools that distinguish three cultural periods: large, fluted lanceolate points for the Clovis period; smaller, finely pressure-flaked and fluted lanceolate dart points for the Folsom period; and lanceolate and stemmed dart points for the Plano period. Most Paleoindian sites are camps, animal kill sites, and animal processing sites, or a combination of those types.

The succeeding Archaic Stage (ca. 7500–1800 B.P.) was a time of changing environmental conditions that required modifications of the Paleoindian lifestyle. Archaic people broadened their resource base by hunting both large and small game animals, and increasing their emphasis on plant resources (Tate 1999:91). Archaic components are recognized by a diversified tool kit, with ground stone artifacts, smaller stemmed and notched projectile points, as well as firepits, storage cists, and architectural features. The Archaic stage includes three periods, distinguished primarily by distinctive artifacts: large, side- and corner-notched dart points during the Early Archaic period; stemmed, indented-base projectile points, as well as several large side-notched, corner-notched, and stemmed points during the Middle Archaic period; and large, corner-notched and side-notched dart points during the Late Archaic period.

The Late Prehistoric Stage (ca. 1800–400 B.P.) represents a continuation of an archaic lifestyle, with several important technological innovations: the bow and arrow, ceramics, and limited horticulture (Gilmore 1999:175). The stage is divided into two periods based on the presence of distinctive artifacts: the Early Ceramic period, characterized by small, corner-notched arrow points and cord-marked pottery; and the Middle Ceramic period, represented by small, side-notched arrow points and shouldered, globular pottery vessels with partially to completely obliterated cord marks (Gilmore 1999:177-180). The Early Ceramic period campsites appear to have been occupied for longer periods of time and/or with greater regularity than the preceding Late Archaic period, and this pattern continues into the Middle Ceramic period.

The concluding Protohistoric Stage (ca. 400–100 B.P.) begins with European contact and ends with the period of permanent settlement by non-aboriginal groups (Clark 1999:309). The introduction of the horse and guns resulted in dramatic cultural and territorial changes throughout the High Plains, resulting in a period of cultural dynamism. Protohistoric components are often identified through diagnostic artifacts, especially those of European and American manufacture, unique features (e.g., peeled trees, wipiups, and tipi rings), or ethnographic analogy (Clark 1999:310).

Except for occasional hunting forays onto the plains by the Ute, the Apache dominated the eastern plains of Colorado from 1500s to the 1700s (Clark 1999:310). Starting in the early 1700s, the Apache began to have conflicts with the Comanche, who had recently acquired the horse. The Comanche, with assistance from the Ute, were able to force the Apache into New Mexico by 1730. In the early 1700s, a splinter group of Apaches began living among the Kiowa. These Kiowa-Apache maintained their linguistic identity, but lived as Kiowa (Clark 1999:313). Ethnohistoric records and oral history (Clark 1999:310) indicate that the Arapaho, who were quickly followed by the Cheyenne, occupied the Platte River Basin after the Comanche. Although they formerly lived near the Black Hills, the Cheyenne began to winter along the South Platte and Arkansas rivers by the early 1800s (Clark 1999:313).

#### 4.1.2 Historic Era

Non-native (mostly Spanish) explorers visited the area of the western United States (U.S.) that was to become the State of Colorado as early as the sixteenth century (Kalasz et al. 1999:250). Until the middle of the nineteenth century, these visits were infrequent and brief. The discovery of gold in the 1850s along the Front Range of the Rocky Mountains resulted in a huge influx of settlers and prospectors to the Pikes Peak Region (Ahlefeldt 1979:17). On February 18, 1859, Congress created the Colorado Territory. In that same year, Colorado City was established as a mining supply center along the banks of Fountain Creek (Sprague 1961:15). Fountain Colony was established downstream from Colorado City in 1871 and renamed Colorado Springs in 1879 (Harrison 2012: viii). El Paso County was one of the original 18 counties formed by the territorial legislature in 1871 (Larsen 1981:1). Colorado became a State in 1876.

At about this same time, government survey parties began to divide the Territory into townships and, by 1866, nearly all of the area had been divided into sections (Ahlefeldt 1979:18). By the mid-1860s, a few roads had been built in the area. These included the Cherokee Trail from Colorado City to Denver; several branch roads off the Smoky Hill Trail to the north; the Squirrel Creek Road, which skirted the southeastern edge of the Black Forest and later in the century became the Bijou Basin and Colorado Springs Wagon Road; and the Jimmy Camp Trail ("Government Road" or "Trappers Trail"), located approximately 8 miles east of Colorado Springs, which was the principal north-south route between the trading posts and forts along the Platte and Arkansas rivers (Ahlefeldt 1979:18-19). The October 28, 1863 General Land Office map of Township 15 South, Range 66 West shows the "Colorado and Pueblo Road" paralleling Fountain Creek, approximately 1 mile west of the Project area. This alignment closely matches that of U.S. Highway 85 (US 85), which is one of the original 1920s U.S. highways in Colorado (Salek 2014). By 1938, the highway had been paved. The Union Pacific Railroad (formerly the Denver & Rio Grande Western Railroad, 1870-1988; Athearn 1977) and the BNSF Railway (formerly the Atchison, Topeka & Santa Fe [AT&SF] Railway, 1859-1996; Drury 1992) parallel US 85 on the west and east sides, respectively.

Widefield is shown only as a station stop along the AT&SF Railway on a 1909 historic map. It was established as a settled community, along with Security, sometime between 1950 and 1961, probably in response to the post-World War II housing boom and expansion of Fort (formerly Camp) Carson to the west.

#### 4.1.3 Files Search

On November 28, 2018, URS personnel conducted a search of Compass, the Colorado Cultural Resource On-line Database, for Section 2 of Township 15 South, Range 66 West, 6<sup>th</sup> P.M. The results show that no cultural resource surveys have been conducted and no cultural resources documented within one-half mile of the survey area. The Colorado Department of Highways (now the Colorado Department of Transportation) completed surveys of US 85 in 1983 and a segment of Security's Main Street in 1986. These surveys documented no cultural resources. The nearest site, the historic Venetucci Farm (5EP.5036), was built from 1905 to 1915. It is located on the west side of US 85, approximately one mile southwest of the survey area. The site has been determined eligible for listing in the NRHP under Criterion A for its contribution to El Paso County's economic and agricultural development.

## 5 Results

The intensive cultural resources survey of the Security pipeline resulted in the discovery and documentation of two new cultural resources (Table 5-1). These cultural resources are described below and their locations are depicted on the map included in Appendix A. More details about each resource are provided on their Colorado Cultural Resource Survey forms, included in Appendix B.

**Table 5-1. Documented Sites in Survey Area**

Site No.	Name	Type	Age	Description	NRHP Eligibility
5EP.8428.1	FMIC Canal No. 4	Historic Canal	1882-present	Segment of historic canal	Field Not Eligible
5EP.8429	Little Johnson Reservoir	Historic Reservoir	ca. 1900-2000	Abandoned irrigation reservoir	Field Not eligible

### **5EP.8428.1 – FMIC Canal No. 4**

**Resource Type:** *Historic Irrigation Canal*

**NRHP Eligibility:** *Recommended Not Eligible*

This site is a segment of the Fountain Mutual Irrigation Company (FMIC) Canal No. 4 (Figure 5-1). The recorded segment begins at the northwestern corner of the former Little Johnson Reservoir and continues south and east for approximately 0.75 mile to Bradley Road, approximately 150 ft west of the intersection of Bradley Road and Hancock Expressway. The canal is unlined, approximately 30 ft wide, from the top of the berm on one side to the top of the berm on the opposite site. The canal has a sandy bottom and a maximum depth of approximately 7 ft.



**Figure 5-1. Overview of segment of historic FMIC Canal No. 4 (5EP.8428.1), looking southeast.**

The point of diversion for the FMIC Canal No. 4 is at Fountain Creek in Colorado Springs, near Evergreen Cemetery. The canal follows a sinuous route south and east for approximately 60 miles, curving around the eastern edges of Security and Widefield and ending approximately one mile east of the southeastern limits of the City of Fountain. The principal recipient of canal water today is Big Johnson Reservoir, located immediately east of Security.

Approximately 900 ft north of the Bradley Road along the ditch rider road, a concrete abutment is visible in the east bank of the canal and a large slab of concrete lies on top of the berm on the west side of the canal (Figure 5-2). The function of this feature is unknown, but the abutments might once have supported a pedestrian or utility crossing of the canal. Towards the northern end of the canal segment, where Clearview Drive ends at the canal, a 10-ft-long slab of concrete lines the eastern bank of the canal. The reason for this discontinuous piece of concrete lining is unknown. The canal follows the former northern and eastern edges of Little Johnson Reservoir (5EP.8429).



**Figure 5-2. Close-up view of concrete abutments in sides of FMIC Canal No. 4 (5EP.8428.1), looking south-southeast.**

**5EP.8429 – Little Johnson Reservoir**

**Resource Type:** *Historic Irrigation Reservoir*

**NRHP Eligibility:** *Determined Not Eligible*

Site is the former, now-dry bed of Little Johnson Reservoir. The embankment dam at the southern end is still present and Siberian elms grow along the former eastern perimeter of the reservoir. A segment of FMIC Canal No. 4 (5EP.8428.1) loops around the northern and eastern perimeters of the reservoir. The reservoir was constructed between 1893 and 1909, as revealed by early topographic maps. It is shown on topographic maps throughout most of the twentieth century; by 2000, it no longer holds water.

The site is distinguished by four features: the bed of the former reservoir, a concrete shaft access, a concrete headwall and conduit, and a headgate. The former bed of the reservoir (Feature 1), which measures approximately 2,200 ft long by 1,800 ft wide and encompasses approximately 14 acres, is relatively flat (Figure 5-3). The earthen embankment dam, the top of which is approximately 20 ft above the reservoir bed, encloses the southern end of the reservoir (Figure 5-3). Inlets from the FMIC Canal No. 4 (5EP.8428.1) are located at the northwestern and northeastern corners of the former reservoir, and the outlet is located at the southwestern corner. A concrete shaft (Feature 2) stands at the top of the embankment on the southwestern corner and provides access to the outlet conduit (Figure 5-4). The

shaft measures 4 ft by 4 ft with walls that are 6 or 8 inches thick. The concrete was formed in place using 6-inch wooden planks, the impressions of which are visible on the exterior and interior sides of the shaft. The top of the shaft is approximately 3-4 ft above the ground and the shaft is approximately 20-25 ft deep. A metal ladder on the interior north side provides access to the bottom of the shaft, which is presently covered with several large rocks. A 30-ft-long, 2-inch-diameter metal handle with 28-inch-long cross bar stands against the south wall of the shaft and presumably was used to open a gate at the bottom of the shaft. Several threaded 1/2-inch bolts, some with square nuts, protrude from the top edge of the concrete shaft and were probably used to attach a lid. Approximately 100 ft west of the shaft access and down the western slope of the embankment dam is a concrete headwall (Figure 5-5), at the base of which is a 2-ft-diameter corrugated metal pipe that is presumably connected to the shaft access. The wall is L-shaped, with the longer arm, 10 ft long and 6 inches wide, on the east side perpendicular to the channel. The shorter side, 6 ft long and 5 inches wide, adjoins the north side of the wall. A 2-ft-wide opening, in which a wooden board still rests, is located in the center of the shorter arm. Approximately 50 ft west of the headwall, at the end of a V-shaped erosional channel, is Feature 4, a concrete headgate. Water flowing down the channel from the headwall is directed through a 2-ft-wide opening on the east side of the L-shaped headgate, which is approximately 6 ft wide and 5 ft long (Figure 5-6). At the west end of the feature is a framed metal gate, through which water can be released by a lifting gear (the handwheel is missing). The name of the manufacturer, "R. HARDESTY, DENVER, COLO. U.S.A.", is embossed on top of the head gate (Figure 5-7). The R. Hardesty Manufacturing Company was established in 1888 and its plant was located at 1833 Market Street in downtown Denver (WorldCat 2018). The company was a well-known manufacturer of industrial equipment, including irrigation supplies (American History Museum Library 2018).



**Figure 5-3. Feature 1, former bed of Little Johnson Reservoir, looking northwest. Embankment dam is visible near top of photo.**



**Figure 5-4. Feature 2, access shaft, looking east.**



**Figure 5-5. Feature 3, concrete head wall, looking east-southeast.**



**Figure 5-6. Feature 4, headgate, looking north.**



**Figure 5-7. Trademark on top of head gate.**

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## 6 Evaluations

Using the information gathered from the site visits, the documented cultural resources were evaluated for their eligibility for listing in the NRHP, according to the NRHP Criteria for Evaluation, shown at 36 CFR 60.4:

*The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and*

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or*
- (b) that are associated with the lives of persons significant in our past; or*
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
- (d) that have yielded, or may be likely to yield, information important in prehistory or history.*

*National Register Bulletin 15* directs that “integrity is the ability of a property to convey its significance” and “to retain historic integrity a property will always possess several, and usually most, of the aspects” (Townsend et al. 1993:17). The NRHP recognizes seven aspects or qualities that, in various combinations, define integrity: location, design, setting, materials, workmanship, feeling, and association (Noble and Spude 1992:19). Eligible sites are those that retain integrity and satisfy one or more of the aforementioned criteria. Non-eligible sites are those that lack integrity and/or do not satisfy any of the evaluation criteria.

The FMIC Canal No. 4 is not associated with any significant local event(s), other than general irrigation and farming on the plains east of the Colorado Springs metropolitan area (Criterion A). The canal is not known to be associated with any locally or regionally significant personage(s) (Criterion B) and it does not exhibit any unusual engineering features or method of construction (Criterion C). It is unlikely to provide additional information important to a greater understanding of the local history (Criterion D). Therefore, the FMIC Canal No. 4 as a whole is recommended **not eligible** for listing in the NRHP. The recorded segment of the canal retains nearly all aspects of integrity (except perhaps setting and feeling), but it also is considered not eligible for listing in the NRHP.

The Little Johnson Reservoir is not associated with any significant local event(s), other than general irrigation and farming on the plains east of the Colorado Springs metropolitan area (Criterion A). The reservoir is not known to be associated with any locally or regionally significant personages(s) (Criterion B) and it does not exhibit any unusual engineering features or unusual method of construction (Criterion C). It is unlikely to provide additional information important to a greater understanding of the local history (Criterion D). Therefore, even though the Little Johnson Reservoir retains integrity of location, design, materials, workmanship, and association, it is recommended **not eligible** for listing in the NRHP.

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## 7 Conclusions

An intensive pedestrian cultural resources inventory of approximately 14 acres for the proposed Security pipeline resulted in the identification of two cultural resources, a historic canal and historic reservoir, within the survey area. Neither one of these sites is considered eligible for listing in the NRHP. The proposed pipeline parallels the FMIC Canal No. 4 (5EP.8428.1) for approximately 800 ft and crosses the canal near the northern end of the recorded segment. A narrow trench will be cut in the canal, the pipeline will be placed in the trench, the trench will be filled, and the grade of the canal will be restored. The pipeline will cut through the southwestern edge of the embankment dam for Little Johnson Reservoir (5EP.8429), but the cut will be filled and the dam restored to original appearance. Therefore, in light of these results, a finding of ***no historic properties affected*** is recommended. Further cultural resources work at this location is considered unnecessary.

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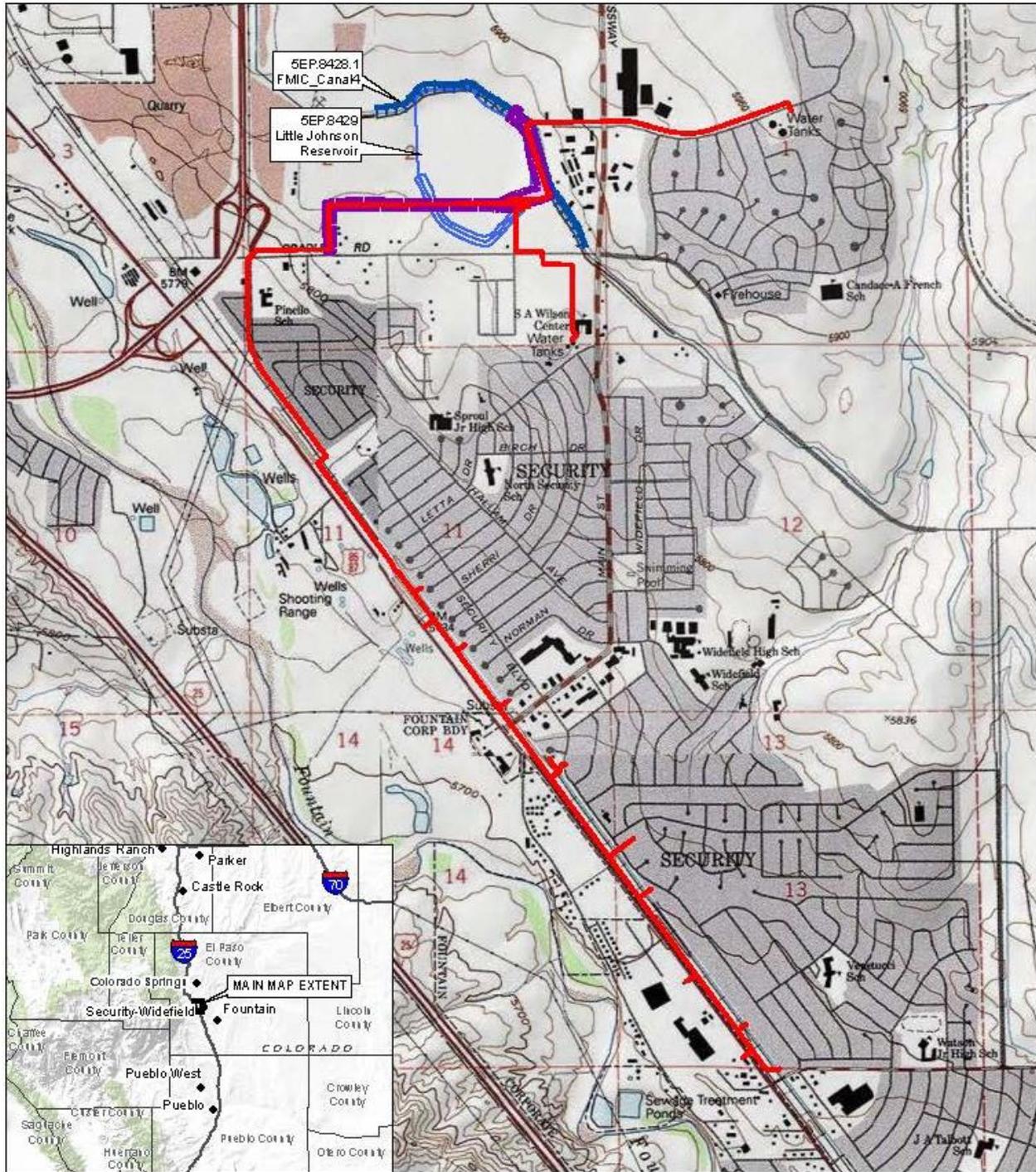
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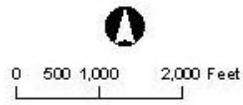
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## **Appendix A Cultural Resources Locations**



**Legend**

-  FMIC Canal No. 4
-  Little Johnson Reservoir
-  Cultural Survey
-  Proposed Alignment



**Security Drinking Water Mitigation System**

Figure A-1  
Cultural Resources Locations

**AECOM** 6200 South Quebec Street  
Greenwood Village, Colorado 80111

1 inch = 2,000 feet

12/21/2018

V:\Denver\Denver\005\Projects\14\TR\201805\1\_PA\F8\_PA\F8001\_CAD\_G\16201\_509\_G\_RS\_Graph\Hic\Handsets\Cultural\Security\_Cul\_1\_App1\_Cultural Resources.mxd

## **Appendix B Cultural Resource Forms**

**Management Data Form**

A *Management Data Form* should be completed for each cultural resource recorded during an archaeological survey. Isolated finds and revisits are the exception and they do not require a *Management Data Form*. Please attach the appropriate component forms and use continuation pages if necessary. Fields can be expanded or compressed as necessary.

- 1. **Resource Number:** 5EP.8428.1
- 2. **Temporary Resource Number:** SP-1
- 3. **Attachments (check as many as apply)**
  - Prehistoric Archaeological Component
  - Historic Archaeological Component
  - Linear Component
  - Sketch/Instrument Map (required)
  - U.S.G.S. Map Photocopy (required)
  - Photograph(s) (required)
  - Other, specify:
- 4. **Official determination (OAHP use only)**
  - Determined Eligible NR\SR \_\_\_\_\_
  - Determined Not Eligible NR\SR \_\_\_\_\_
  - Nominated \_\_\_\_\_
  - Need Data NR\SR \_\_\_\_\_
  - Contributing to NR Dist.\SR Dist. \_\_\_\_\_
  - Not Contributing to NR Dist.\SR Dist. \_\_\_\_\_
  - Supports overall linear eligibility NR\SR \_\_\_\_\_
  - Does not support overall linear eligibility NR\SR \_\_\_\_\_

**I. IDENTIFICATION**

- 5. **Resource Name:** FMIC Canal No. 4
- 6. **Project Name/Number:** 60589841.S-Permits
- 7. **Government Involvement:**  Local  State  Federal  
 Agency: Environmental Protection Agency
- 8. **Site Categories (check as many as apply):**  
 Prehistoric:  archaeological site  paleontological site  In existing National Register District  
 National Register District name:  
 Historic:  archaeology site  building(s)  structure(s)  object(s)  In existing National Register District  
 National Register District name: None
- 9. **Owner(s) Name and Address:** Fountain Mutual Irrigation Company (FMIC), P.O. BOX 75292, Colorado Springs, CO 80970-5292.

10. **Boundary Description and Justification:** The site boundary is defined as the width and length of the recorded segment of the canal. The segment begins at the northwestern corner of the former Little Johnson Reservoir and continues south and east for approximately 0.75 miles to Bradley Road, approximately 150 feet west of the intersection of Bradley Road and Hancock Expressway. The canal is approximately 30 feet wide, from top of the berm on one side to the top of the berm on the opposite site.

- 11. **Site/Property Dimensions** Length: 1200 m Width: 10 m Area: 12000m<sup>2</sup> Acres (m<sup>2</sup>/4047): 3.0  
 Area was calculated as:  Length x Width (rectangle/square)  Length x Width x 0.785 (Ellipse)  GIS

**II. LOCATION**

**12. Legal Location**

PM	<u>6th</u>	Township	<u>15S</u>	Range	<u>66W</u>	Section	<u>2</u>	<u>SW</u> ¼	<u>NE</u> ¼
PM	<u>6<sup>th</sup></u>	Township	<u>15S</u>	Range	<u>66W</u>	Section	<u>2</u>	<u>SE</u> ¼	<u>NE</u> ¼
PM	<u>6<sup>th</sup></u>	Township	<u>15S</u>	Range	<u>66W</u>	Section	<u>2</u>	<u>NE</u> ¼	<u>SE</u> ¼
PM	___	Township	_____	Range	_____	Section	_____	___ ¼	___ ¼

If section is irregular, explain alignment method:

- 13. **USGS Quad:** Elsmere, CO 7.5' (1961; photo-revised 1994)
- 14. **County:** El Paso

Management Data Form

Resource Number: 5EP.8428.1

Temporary Resource Number: SP-1

15. UTM Coordinates: Datum used  NAD 27  NAD 83  WGS 84 Other:

A. Zone 13; 521816 mE 4291944 mN

B. Zone 13; 522590 mE 4291308 mN

C. Zone \_\_\_; \_\_\_\_\_ mE \_\_\_\_\_ mN

D. Zone \_\_\_; \_\_\_\_\_ mE \_\_\_\_\_ mN

16. UTM Source:  Corrected GPS/rectified survey (<5m error)  Uncorrected GPS  Map template

Other (explain):

17. Site elevation (feet): 5860

18. Address: Lot: Block: Addition:

19. Location/Access: End of recorded segment of canal passes under Bradley Road, approximately 150 feet west of Hancock Expressway. From this point, one can follow (drive or walk) ditch rider road north for approximately 0.75 mile, looping north and west around large field containing a large solar array, ending at a point just east of large gravel pit, approximately 2,000 feet north of Bradley Road.

III. NATURAL ENVIRONMENT/SITE CONDITION

20. General Description (should include both on site as well as geographical setting with aspect, landforms, vegetation, soils, depositional environment, water, ground visibility): Terrain is relatively flat or gently undulating plain, with an open aspect. Underlying soils are generally sandy soils that formed in material weathered from arkosic sedimentary rocks. Vegetation consists of natural grasses, such as sand dropseed and blue grama, as well as invasive species, such as Kochia. Cottonwood trees grow along the eastern edge of the canal and several large Siberian elms grow around the former perimeter of the nearby Little Johnson Reservoir (5EP.8429), west of the canal.

21. Soil depth (cm) and description: The soil directly underlying the site is Blakeland loamy sand, a deep, somewhat excessively drained soil formed in alluvial and eolian materials derived from arkosic sedimentary rocks. The surface layer of dark grayish brown loamy sand is approximately 1 foot deep, grading to brown loamy sand at a depth of approximately 27 inches, and continuing below that as pale brown sand to a depth of approximately 60 inches (Larsen 1981).

22. Condition

a. Architectural/Structural

- Excellent
 Good
 Fair
 Deteriorated
 Ruin

b. Archaeological/Paleontological

- Undisturbed
 Light disturbance
 Moderate disturbance
 Heavy disturbance
 Total disturbance

23. Describe condition: Canal is well maintained and in reasonably good condition.

24. Vandalism:  Yes  No

Describe:

IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

25. Context or Theme: Early High Plains Irrigation and Farming to 1900

26. Applicable National Register Criteria:

- A. Associated with events that have made a significant contribution to the broad pattern of our history
 B. Associated with the lives of persons significant in our past
 C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
 D. Has yielded, or may be likely to yield, information important in history or prehistory
 Does not meet any of the National Register criteria
 Qualifies under exceptions A through G. List exception(s):

Management Data Form

Resource Number: 5EP.8428.1

Temporary Resource Number: SP-1

27. Applicable State Register Criteria:

- A. Property is associated with events that have made a significant contribution to history
- B. Property is connected with persons significant in history
- C. Property has distinctive characteristics of a type, period, method of construction or artisan
- D. Property is of geographic importance
- E. Property contains the possibility of important discoveries related to prehistory or history
- Does not meet any of the State Register criteria

28. Area(s) of significance: N/A

29. Period(s) of significance: N/A

30. Level of significance:  National  State  Local

31. Statement of significance: Site is a segment of the Fountain Mutual Irrigation Company (FMIC) Canal No. 4. The point of diversion for the canal is at Fountain Creek in southern Colorado Springs and the canal continues south and east for approximately 15 miles to its ending point on the eastern edge of the City of Fountain. The principal recipient of water in the canal today is Big Johnson Reservoir, just east of Security. The canal is not associated with any significant local event, other than general irrigation and farming on the plains east of the Colorado Springs metropolitan area. The canal is not known to be associated with any locally or regionally significant personage and it does not exhibit any unusual engineering features or unusual method of construction. It is unlikely to provide additional information important to a greater understanding of the local history.

32. Statement of historic integrity related to significance: Site retains all elements of integrity, except perhaps setting, but it is not considered eligible for listing in the NRHP.

33. National Register Eligibility Field Assessment:  Eligible  Not eligible  Need data  
Linear Segment Evaluation (if applicable):  Supporting  Non Supporting

34. Status in an Existing National Register District:  Contributing  Non-contributing

35. State Register Eligibility Field Assessment:  Eligible  Not eligible  Need data

36. Status in an Existing State Register District:  Contributing  Non-contributing

37. National/State Register District Potential:  Yes  No Describe: The entire length of the FMIC Canal No. 4 has little potential a National or State Register District.

38. Cultural Landscape Potential:  Yes  No Describe: The canal links Fountain Creek with Big Johnson Reservoir and (formerly) Little Johnson Reservoir and transports water rights to FMIC shareholders for irrigation. These interrelationships do not rise to the level of a cultural landscape, however.

39. If Yes to either 37 or 38, is this site:  Contributing  Non-contributing Explain:

V. MANAGEMENT AND ADMINISTRATIVE DATA

40. Threats to Resource:  Water erosion  Wind erosion  Grazing  Neglect  Vandalism  
 Recreation  Construction  Other (explain):

41. Existing protection  None  Marked  Fenced  Patrolled  Access controlled  
Other (specify):

Comments: Ditch rider road parallels canal, but access to road is blocked by chain.

42. Local landmark designation: None

43. Easement: None

**Management Data Form**

**Resource Number:** 5EP.8428.1

**Temporary Resource Number:** SP-1

44. **Recorder's Management Recommendations:** Additional cultural resources work at this locality is considered unnecessary.

**VI. DOCUMENTATION**

45. **Previous actions accomplished at the site:**  Tested  Partial excavation  Complete excavation

Date(s):

a. Excavations:

b. Stabilization:

Date(s):

c. HABS/HAER documentation [date(s) and numbers]:

d. Other:

46. **Known collections/reports/interviews and other references (list):** Larsen, Lynn S., 1981, *Soil Survey of El Paso County Area, Colorado*. USDA Soil Conservation Service, Washington, D.C.

47. **Primary location of additional data:**

48. **State or Federal Permit number:** State of Colorado Archaeological Permit No. 73803

49. **Collection:** Artifact collection authorized:  Yes  No Were artifacts collected:  Yes  No  
Artifact repository: N/A

Collection method:  Diagnostics  Grab Sample  Random Sample

Other (specify):

50. **Photograph Numbers:** PB290020.JPG – PB290026.JPG

Files or negatives stored at: AECOM, 6200 S. Quebec St., Greenwood Village, CO 80111

51. **Report title:** Security-Widefield Pipelines, El Paso County, Colorado: Results of an Intensive Cultural Resources Survey.

52. **Recorder(s):** Gordon C. Tucker Jr.

Date: November 29, 2018

53. **Recorder affiliation:** AECOM Technical Services, Inc. (AECOM)

Phone number/Email: (303) 740-3850 / [gordon.tucker@aecom.com](mailto:gordon.tucker@aecom.com)

**NOTE:** Please attach a site map, a photocopy of the USGS 1:24000 map indicating resource location, and photographs.

History Colorado - Office of Archaeology & Historic Preservation  
1200 Broadway, Denver, CO 80203  
303-866-3395



## Linear Component Form

Resource Number: 5EP.8428.1

Temporary Resource Number: SP-1

### III. Research Information

13. **Architect/Engineer:** Unknown

Source(s) of Information:

14. **Builder:** Fountain Mutual Irrigation Company (FMIC)

Source(s) of Information: FMIC website: <https://fountainmutual.com/index.html>

15. **Date of Construction / Date Range:** Appropriation date of 2/1/1863 and adjudication date of 3/6/1882

Source(s) of Information: Colorado Water Conservation Board, Division of Water Resources, Colorado's Decision Support Systems: <https://dnrweb.state.co.us/cdss/WaterRights/Transactions/Details/290855>

16. **Historical / Archival Data:** The FMIC has owned and operated their irrigation system since the late 1880s, but the company was not incorporated until April 3, 1920. (<https://fountainmutual.com>). The canal does not appear on the 1893 1:125000 Colorado Springs topographic map ([https://ngmdb.usgs.gov/img4/ht\\_icons/Browse/CO/CO\\_Colorado%20Springs\\_232598\\_1893\\_125000.jpg](https://ngmdb.usgs.gov/img4/ht_icons/Browse/CO/CO_Colorado%20Springs_232598_1893_125000.jpg)), but it is visible on the 1909 1:125000 Colorado Springs topographic map, flowing into Little Johnson Reservoir (then known as Fountain Valley Reservoir) and ending at Big Johnson Reservoir ([https://ngmdb.usgs.gov/img4/ht\\_icons/Browse/CO/CO\\_Colorado%20Springs\\_402962\\_1909\\_125000.jpg](https://ngmdb.usgs.gov/img4/ht_icons/Browse/CO/CO_Colorado%20Springs_402962_1909_125000.jpg)). It is still visible on the 1950 editions of the 1:24000 Elsmere and Fountain topographic maps, providing water to Little Johnson Reservoir and Big Johnson Reservoir ([https://ngmdb.usgs.gov/img4/ht\\_icons/Browse/CO/CO\\_Elsmere\\_450050\\_1950\\_24000.jpg](https://ngmdb.usgs.gov/img4/ht_icons/Browse/CO/CO_Elsmere_450050_1950_24000.jpg)) and ([https://ngmdb.usgs.gov/img4/ht\\_icons/Browse/CO/CO\\_Fountain\\_450364\\_1950\\_24000.jpg](https://ngmdb.usgs.gov/img4/ht_icons/Browse/CO/CO_Fountain_450364_1950_24000.jpg)). It is still depicted on modern topographic maps, although the reservoir has been drained and the bed is now occupied by a large solar array.

17. **Cultural Affiliation and Justification:** Euroamerican. Corporate website.

**IV. Management Recommendations:** No further work is considered necessary.

### 18. Eligibility of Entire Resource

Eligible  Not Eligible  Need Data Is this an official determination?  Yes  No

Remarks / Justification: The canal is not associated with any significant local event, other than general irrigation and farming on the plains east of the Colorado Springs metropolitan area. The canal is not known to be associated with any locally or regionally significant personage and it does not exhibit any unusual engineering features or unusual method of construction. It is unlikely to provide additional information important to a greater understanding of the local history.

19. **Evaluation of integrity of the segment of the entire linear resource being recorded** (Complete only if "Segment" under item 4 is checked and the entire resource is marked as Eligible under item 18)

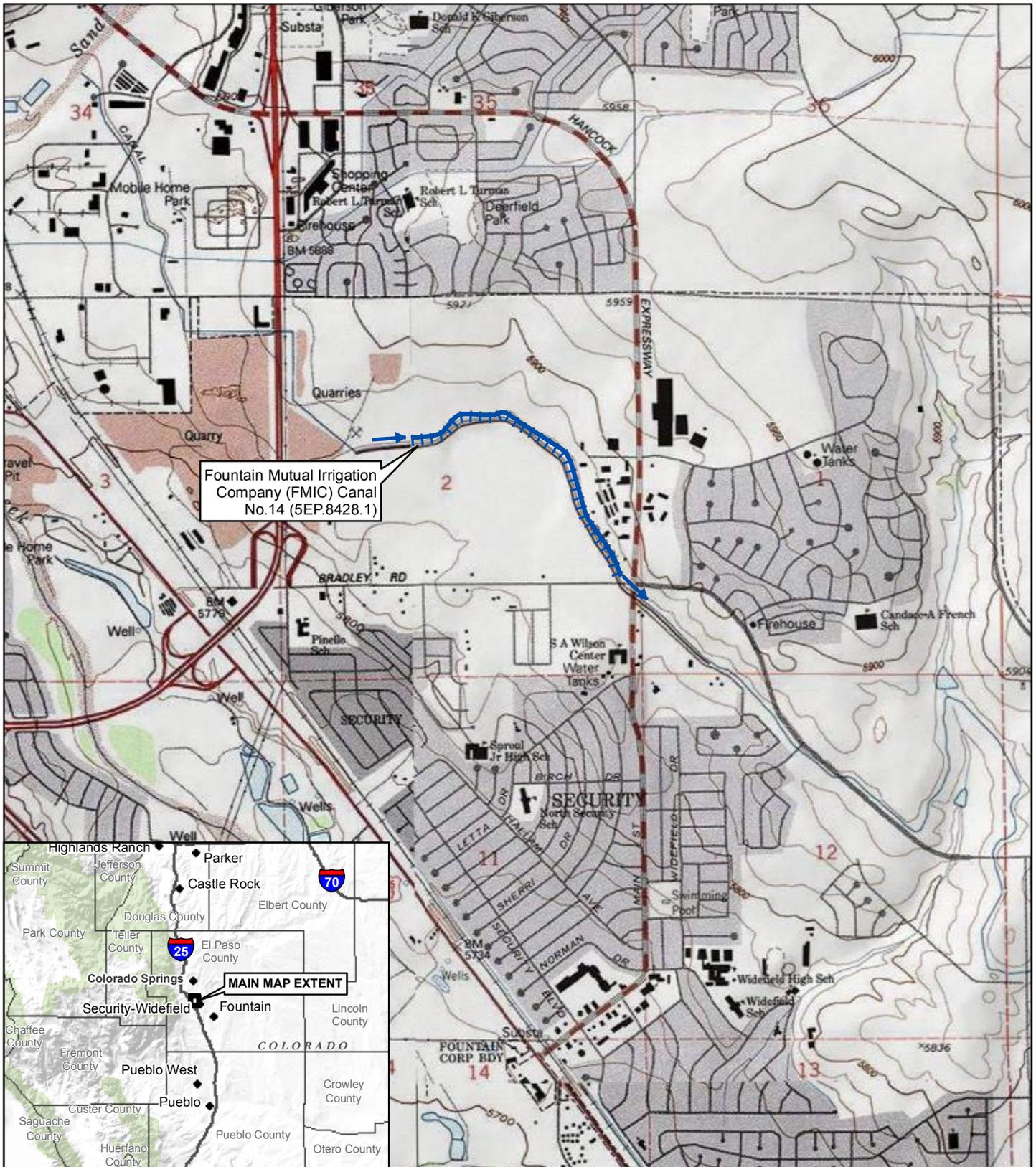
Supporting  Non-supporting  Not applicable

Remarks / Justification:

20. **Recorder(s):** Gordon C. Tucker Jr.

21. **Date:** 11/29/2018

Colorado Historical Society - Office of Archaeology & Historic Preservation  
1560 Broadway, Suite 400 Denver, CO 80202  
303-866-3395



Fountain Mutual Irrigation Company (FMIC) Canal No.14 (5EP.8428.1)

**Legend**

 FMIC Canal No. 4



0 500 1,000 2,000 Feet

1 inch = 2,000 feet

**Security Drinking Water Mitigation System**

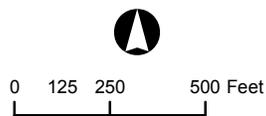
5EP.8428.1

Fountain Mutual Irrigation Company (FMIC) Canal No. 4 Location Map



**Legend**

 FMIC Canal No. 4



1 inch = 500 feet

**Security Drinking Water  
Mitigation System**  
5EP.8428.1  
Fountain Mutual Irrigation  
Company (FMIC) Canal No. 4  
Site Map

**Client Name:**  
USACE**Project:**  
Security Pipeline**Project No.:**  
60589841**Photo No.:**  
PB290020**Date:**  
11/29/18**Site Number:**  
5EP.8428.1**Description:**  
South end of recorded  
segment of canal,  
looking north-northwest.**Client Name:**  
USACE**Project:**  
Security Pipeline**Project No.:**  
60589841**Photo No.:**  
PB290026**Date:**  
11/29/18**Site Number:**  
5EP.8428.1**Description:**  
North end of recorded  
segment of canal,  
looking southeast.

<b>AECOM</b>		<b>PHOTOGRAPHIC LOG</b>	
<b>Client Name:</b> USACE		<b>Project:</b> Security Pipeline	<b>Project No.:</b> 60589841
<b>Photo No.:</b> PB290021	<b>Date:</b> 11/29/18		
<b>Site Number:</b> 5EP.8428.1			
<b>Description:</b> View of concrete abutments on either side of canal, looking southeast.			

<b>AECOM</b>		<b>PHOTOGRAPHIC LOG</b>	
<b>Client Name:</b> USACE		<b>Project:</b> Security Pipeline	<b>Project No.:</b> 60589841
<b>Photo No.:</b> PB290024	<b>Date:</b> 11/29/18		
<b>Site Number:</b> 5EP.8428.1			
<b>Description:</b> View of discontinuous segment of concrete lining on east bank of canal, looking east.			

COLORADO CULTURAL RESOURCE SURVEY  
**Management Data Form**

OAHP1400  
Rev. 11/10

A *Management Data Form* should be completed for each cultural resource recorded during an archaeological survey. Isolated finds and revisits are the exception and they do not require a *Management Data Form*. Please attach the appropriate component forms and use continuation pages if necessary. Fields can be expanded or compressed as necessary.

1. **Resource Number:** 5EP.8429

2. **Temporary Resource Number:** SP-2

3. **Attachments (check as many as apply)**

- Prehistoric Archaeological Component  
 Historic Archaeological Component  
 Linear Component  
 Sketch/Instrument Map (required)  
 U.S.G.S. Map Photocopy (required)  
 Photograph(s) (required)  
 Other, specify:

4. **Official determination (OAHP use only)**

- Determined Eligible NR\SR \_\_\_\_\_  
 Determined Not Eligible NR\SR \_\_\_\_\_  
 Nominated \_\_\_\_\_  
 Need Data NR\SR \_\_\_\_\_  
 Contributing to NR Dist.\SR Dist. \_\_\_\_\_  
 Not Contributing to NR Dist.\SR Dist. \_\_\_\_\_  
 Supports overall linear eligibility NR\SR \_\_\_\_\_  
 Does not support overall linear eligibility NR\SR \_\_\_\_\_

**I. IDENTIFICATION**

5. **Resource Name:** Little Johnson Reservoir

6. **Project Name/Number:** 60589841.S-Permits

7. **Government Involvement:**  Local  State  Federal  
Agency: Environmental Protection Agency

8. **Site Categories (check as many as apply):**

Prehistoric:  archaeological site  paleontological site  In existing National Register District  
National Register District name:  
Historic:  archaeology site  building(s)  structure(s)  object(s)  In existing National Register District  
National Register District name: None

9. **Owner(s) Name and Address:** Security Water District, 231 Security Boulevard, Colorado Springs, CO 80911-1947;  
Continental Materials Corporation, 3710 Bradley Road, P.O. Box 1030 Colorado Springs, CO 80901-1030

10. **Boundary Description and Justification:** The site boundary encompasses the former perimeter of the reservoir, which no longer exists. In general, the western boundary is defined by the Continental Materials Corp. open gravel pit and the northern and eastern boundaries are defined by FMIC Canal No. 4 (5EP.8428.1). Lands owned by the Security Water District bound the site on the south. These boundaries enclose an area of approximately 78 acres.

11. **Site/Property Dimensions** Length: 1000 m Width: 400 m Area: 12000m<sup>2</sup> Acres (m<sup>2</sup>/4047): 77.5

Area was calculated as:  Length x Width (rectangle/square)  Length x Width x 0.785 (Ellipse)  GIS

**II. LOCATION**

12. **Legal Location**

PM 6th Township 15S Range 66W Section 2  $\frac{1}{4}$  NE  $\frac{1}{4}$

PM 6<sup>th</sup> Township 15S Range 66W Section 2  $\frac{1}{4}$  SE  $\frac{1}{4}$

If section is irregular, explain alignment method:

13. **USGS Quad:** Elsmere, CO 7.5' (1961; photo-revised 1994)

14. **County:** El Paso

Management Data Form

Resource Number: 5EP.8429

Temporary Resource Number: SP-2

15. UTM Coordinates: Datum used  NAD 27  NAD 83  WGS 84 Other:

- A. Zone 13; 521830 mE 4291943 mN
B. Zone 13; 522090 mE 4292020 mN
C. Zone 13; 522339 mE 4291849 mN
D. Zone 13; 522418 mE 4291609 mN
E. Zone 13; 522176 mE 4291336 mN
F. Zone 13; 521955 mE 4291451 mN
G. Zone 13; 521837 mE 4291651 mN

16. UTM Source:  Corrected GPS/rectified survey (<5m error)  Uncorrected GPS  Map template

Other (explain):

17. Site elevation (feet): 5850

18. Address: Lot: Block: Addition:

19. Location/Access: From the intersection with Hancock Expressway in Security, drive west on Bradley Road for approximately 3000 feet. At this point, the southern perimeter of the former reservoir is located 200 feet north.

III. NATURAL ENVIRONMENT/SITE CONDITION

20. General Description (should include both on site as well as geographical setting with aspect, landforms, vegetation, soils, depositional environment, water, ground visibility): Terrain is relatively flat or gently undulating plain, with an open aspect. Underlying soils are generally sandy soils that formed in material weathered from arkosic sedimentary rocks. Vegetation consists of natural grasses, such as sand dropseed and blue grama, as well as invasive species, such as Kochia. Several large Siberian elms grow around the former perimeter of Little Johnson Reservoir.

21. Soil depth (cm) and description: The soil directly underlying the site is Blakeland loamy sand, a deep, somewhat excessively drained soil formed in alluvial and eolian materials derived from arkosic sedimentary rocks. The surface layer of dark grayish brown loamy sand is approximately 1 foot deep, grading to brown loamy sand at a depth of approximately 27 inches, and continuing below that as pale brown sand to a depth of approximately 60 inches (Larsen 1981).

22. Condition

a. Architectural/Structural

- Excellent
Good
Fair
Deteriorated
Ruin

b. Archaeological/Paleontological

- Undisturbed
Light disturbance
Moderate disturbance
Heavy disturbance
Total disturbance

23. Describe condition: The reservoir has been drained and most of its former bed is now occupied by a large solar array.

24. Vandalism: Yes No

Describe:

IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

25. Context or Theme: Early High Plains Irrigation and Farming to 1900

26. Applicable National Register Criteria:

- A. Associated with events that have made a significant contribution to the broad pattern of our history
B. Associated with the lives of persons significant in our past
C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
D. Has yielded, or may be likely to yield, information important in history or prehistory
Does not meet any of the National Register criteria
Qualifies under exceptions A through G. List exception(s):

Management Data Form

Resource Number: 5EP.8429

Temporary Resource Number: SP-2

27. Applicable State Register Criteria:

- A. Property is associated with events that have made a significant contribution to history
- B. Property is connected with persons significant in history
- C. Property has distinctive characteristics of a type, period, method of construction or artisan
- D. Property is of geographic importance
- E. Property contains the possibility of important discoveries related to prehistory or history
- Does not meet any of the State Register criteria

28. Area(s) of significance: N/A

29. Period(s) of significance: N/A

30. Level of significance:  National  State  Local

31. Statement of significance: Site is the former, now-dry bed of Little Johnson Reservoir. The embankment dam at the southern end is still present and Siberian elms grow along the former eastern perimeter of the reservoir. A segment of the Fountain Mutual Irrigation Company (FMIC) Canal No. 4 (5EP.8428.1) loops around the northern and eastern perimeters of the reservoir. The reservoir is not associated with any significant local event, other than general irrigation and farming on the plains east of the Colorado Springs metropolitan area. The canal is not known to be associated with any locally or regionally significant personage and it does not exhibit any unusual engineering features or unusual method of construction. It is unlikely to provide additional information important to a greater understanding of the local history.

32. Statement of historic integrity related to significance: The site retains the following elements of integrity: location design, materials, and workmanship. It lacks integrity of setting, feeling, and association because the area around the former reservoir is now dominated by residential and commercial development.

33. National Register Eligibility Field Assessment:  Eligible  Not eligible  Need data  
Linear Segment Evaluation (if applicable):  Supporting  Non-Supporting

34. Status in an Existing National Register District:  Contributing  Non-contributing

35. State Register Eligibility Field Assessment:  Eligible  Not eligible  Need data

36. Status in an Existing State Register District:  Contributing  Non-contributing

37. National/State Register District Potential:  Yes  No Describe: The entire length of the FMIC Canal No. 4 has little potential a National or State Register District.

38. Cultural Landscape Potential:  Yes  No Describe: The reservoir is linked by the FMIC Canal No. 4 (5EP.8428.1) to the Big Johnson Reservoir, which is still in use. The Little Johnson Reservoir once transported water rights for irrigation. These interrelationships do not rise to the level of a cultural landscape, however.

39. If Yes to either 37 or 38, is this site:  Contributing  Non-contributing Explain:

V. MANAGEMENT AND ADMINISTRATIVE DATA

40. Threats to Resource:  Water erosion  Wind erosion  Grazing  Neglect  Vandalism  
 Recreation  Construction  Other (explain): Former reservoir now occupied by large solar array.

41. Existing protection  None  Marked  Fenced  Patrolled  Access controlled  
Other (specify):

Comments: Access to the ditchrider road, which services the FMIC Canal No. 4 (5EP.8428.1) is blocked by a chain. Former reservoir is surrounded on all sides by private land.

42. Local landmark designation: None

43. Easement: None

**Management Data Form**

**Resource Number:** 5EP.8429

**Temporary Resource Number:** SP-2

44. **Recorder's Management Recommendations:** Additional cultural resources work at this locality is considered unnecessary.

**VI. DOCUMENTATION**

45. **Previous actions accomplished at the site:**  Tested  Partial excavation  Complete excavation

Date(s):

a. Excavations:

b. Stabilization:

Date(s):

c. HABS/HAER documentation [date(s) and numbers]:

d. Other:

46. **Known collections/reports/interviews and other references (list):** Larsen, Lynn S., 1981, *Soil Survey of El Paso County Area, Colorado*. USDA Soil Conservation Service, Washington, D.C.

47. **Primary location of additional data:**

48. **State or Federal Permit number:** State of Colorado Archaeological Permit No. 73803

49. **Collection:** Artifact collection authorized:  Yes  No Were artifacts collected:  Yes  No  
Artifact repository: N/A

Collection method:  Diagnostics  Grab Sample  Random Sample

Other (specify):

50. **Photograph Numbers:** PB290028.JPG – PB290035.JPG

Files or negatives stored at: AECOM, 6200 S. Quebec St., Greenwood Village, CO 80111

51. **Report title:** Security-Widefield Pipelines, El Paso County, Colorado: Results of an Intensive Cultural Resources Survey.

52. **Recorder(s):** Gordon C. Tucker Jr.

Date: November 29, 2018

53. **Recorder affiliation:** AECOM Technical Service, Inc. (AECOM)

Phone number/Email: (303) 740-3850 / (303) 694-3946

**NOTE:** Please attach a site map, a photocopy of the USGS 1:24000 map indicating resource location, and photographs.

History Colorado - Office of Archaeology & Historic Preservation  
1200 Broadway, Denver, CO 80203  
303-866-3395

COLORADO CULTURAL RESOURCE SURVEY  
**Historic Archaeology Component Form**

OAHF 1402  
Rev. 11/10

1. **Resource Number:** 5EP.8429      2. **Temporary Resource Number:** SP-2

3. **Site Name:** Little Johnson Reservoir

4. **Does this form pertain to the site in general?**     Yes       No

If no, please supply a feature/structure number or name:

5. **Site, Component or Feature Type:**

6. **Narrative History (based on archival research, expand as necessary):** Little Johnson Reservoir does not appear on the 1893 1:125000 Colorado Springs topographic map ([https://ngmdb.usgs.gov/img4/ht\\_icons/Browse/CO/CO\\_Colorado%20Springs\\_402963\\_1893\\_125000.jpg](https://ngmdb.usgs.gov/img4/ht_icons/Browse/CO/CO_Colorado%20Springs_402963_1893_125000.jpg)), but it shows up on the 1909 1:125000 Colorado Springs topographic map ([https://ngmdb.usgs.gov/img4/ht\\_icons/Browse/CO/CO\\_Colorado%20Springs\\_402962\\_1909\\_125000.jpg](https://ngmdb.usgs.gov/img4/ht_icons/Browse/CO/CO_Colorado%20Springs_402962_1909_125000.jpg)), labeled as the Fountain Valley Reservoir. Therefore, it appears that the reservoir was constructed sometime between 1893 and 1909. The reservoir (unnamed) is shown on a 1937 aerial photograph (<https://cudl.colorado.edu/luna/servlet/detail/UCBOULDERCB1~17~17~40160~147078:EI-Paso-County-Index---Forest->

[Servi?sort=sortorder%2Cdate&qvq=w4s:/where%2FColorado%2BSprings;q:LIMIT%3A%20UCBOULDERCB1~17~17;sort:sortorder%2Cdate;lc:UCBOULDERCB1~17~17&mi=0&trs=19](https://cudl.colorado.edu/luna/servlet/detail/UCBOULDERCB1~17~17~40160~147078:EI-Paso-County-Index---Forest-Servi?sort=sortorder%2Cdate&qvq=w4s:/where%2FColorado%2BSprings;q:LIMIT%3A%20UCBOULDERCB1~17~17;sort:sortorder%2Cdate;lc:UCBOULDERCB1~17~17&mi=0&trs=19)). The 1950 edition of the 1:24000 Elsmere topographic map labels the resource as Little Johnson Reservoir. The reservoir appears on topographic maps through the 1990s, but by at least 1999 (as revealed by Google Earth), it no longer holds water.

7. **Is this site located in a NRHP historic landscape?**     Yes     No; **If yes, please describe:**

8. **Component or Feature Description (expand as necessary):**The site is distinguished by four features: Feature 1, the bed of the former reservoir; Feature 2, a concrete shaft access; Feature 3, a concrete headwall and conduit; and Feature 4, a headgate. The former bed of the reservoir (Feature 1), which measures approximately 2,200 feet by 1,800 feet and encompasses approximately 78 acres, is relatively flat. The earthen embankment dam, which stands approximately 20 feet high, encloses the southern end of the reservoir. Inlets from the FMIC Canal No. 4 (5EP.8428.1) are located at the northwestern and northeastern corners of the former reservoir, and the outlet is located at the southwestern corner. A concrete shaft (Feature 2) providing access to the outlet conduit stands at the top of the embankment. It measures 4 feet by 4 feet with walls that are 6-8 inches thick. The concrete was formed in place using 6-inch wooden planks, the impressions of which are visible on both sides of the shaft. The top of the shaft is 3-4 feet above the ground and it is approximately 20-25 feet deep. A metal ladder on the interior north side provides access to the bottom of the shaft, which is presently covered with several large rocks. A 30-foot long, 2-inch diameter metal handle with 28-inch-long cross bar stands against the south wall of the shaft and presumably was used to open a gate at the bottom of the shaft. Several threaded 1/2-inch bolts, some with square nuts, protrude from the top edge of the concrete shaft and were used to attach a lid. Approximately 100 feet west of the shaft access and down the western slope of the embankment dam is a concrete headwall, at the base of which is a 2-foot-diameter corrugated metal pipe that is presumably connected to the shaft access. A V-shaped erosional channel continues west from the headwall. The wall is L-shaped, with the longer arm, 10 feet long and 6 inches wide, on the east side perpendicular to the channel. The shorter side, 6 feet long and 5 inches wide, adjoins the north side of the wall. A 2-foot-wide opening, in which a wooden board still rests, is located in the center of the shorter arm. Approximately 50 feet west of the headwall is a concrete headgate. Water flowing down the channel from the headwall is directed through a 2-foot-wide opening on the east side of the headgate, which is L-shaped, approximately 6 feet wide and 5 feet long. At the west end of the feature is a framed metal gate, through which water can be released by a lifting gear (the handwheel is missing). On top of the gate is the embossed logo of the manufacturer, which reads "R. HARDESTY, DENVER, COLO. U.S.A."

9. **Historic Component Date(s):** ca. 1900-2000

Justification and Sources Consulted: The reservoir was constructed between 1893 and 1909, as revealed by early topographic maps. It is shown on topographic maps through most of the twentieth century, but by 2000, it no longer holds water.

10. **Component Function(s):**

Original Use: Irrigation

Present Use: Abandoned

**Historic Archaeology Component Form**

Resource Number: 5EP.8429

Temporary Resource Number: SP-2

11. **Ethnic affiliation of occupants:** Unknown

Justification and Sources Consulted:

12. **Historic Boundary Description:** Roughly oval, measuring approximately 2,200 feet long and 1,800 feet wide. Long axis of reservoir oriented a few degrees west of north.

Justification and Sources Consulted: Historic topographic maps.

13. **NRHP Area of Significance:** N/A

Justification and Sources Consulted:

14. **NRHP Period of Significance:** N/A

Justification and Sources Consulted:

15. **Site, Component, or Feature Theme (use the Historic Archaeology Lexicon):** Water control and distribution

16. **Does this component or feature support the NRHP eligibility of the entire resource?**

Yes                       No                       Undetermined                       N/A

Justification: The reservoir is not associated with any significant local event, other than general irrigation and farming on the plains east of the Colorado Springs metropolitan area. The reservoir is not known to be associated with any locally or regionally significant personage and it does not exhibit any unusual engineering features or unusual method of construction. It is unlikely to provide additional information important to a greater understanding of the local history.

17. **Recorder(s):** Gordon C. Tucker Jr.

18. **Date:** 11/29/2018

**19. Presence and Quantity of Artifacts (add types as necessary)**

a. Vessel Glass	Quantity	e. Cans	Quantity
Amber (1860s-present)		Beverage: all aluminum (post-1970)	
Amethyst (pre-1920)		Beverage: aluminum ends (post-1953)	
Aqua (ca. 1870-1920s)		Beverage: cone-top (1935-1960)	
Cobalt		Beverage: flat top, all-steel (1935-1970s)	
Colorless (ca. 1920s-present)		Beverage: pull tab (1962-1983)	
Light green (1860s-present)		Beverage: UPC code (post-1980)	
Milk/White (1890s-present)		Hole-in-cap: double-locked side seam (1890-1915)	
Olive green (early 1860s)		Hole-in-cap: lapped side seam (ca. 1880s-1900)	
Yellowish (1918-1950s)		Round quart motor oil: all metal (1933-1970s)	
		Round quart motor oil: paper-sided (late 1940s-late 1980s)	
		Sanitary can (1904 +)	
		Sanitary ends, lapped side seam (1904+; very rare)	
		Sardine tin: lapped and soldered (pre-1910)	
		Sardine tin: one piece bottom (early 1900s +)	
b. Ceramics	Quantity		
Earthenware		Tobacco tin: complex friction lid (post 1948)	
Porcelain		Tobacco tin: simple friction lid (1907-1948)	
Refined Earthenware		Tobacco tin: upright pocket (late 1890s-1988)	
Stoneware		Tobacco tin: hinged lid (ca. 1910-present)	
		Vent hole (hole-in-top) (1900-1980s)	
		Vent hole with two solder dots (hole-in-top) (1890s-early 1900s)	
c. Nails	Quantity	f. Structural Artifacts	Quantity
Hand-made cut (wrought)		Adobe	
Machine-made cut		Brick, common	
Railroad Spike		Brick, fire	
Wire		Concrete: natural lime (pre-1915)	
		Concrete: Portland (post-1910)	
d. Industrial Artifacts	Quantity		
55-gallon drum		Corrugated sheet iron (post-1890)	
Animal shoe		Dimensional lumber	
Automobile/Truck Part		Fieldstone	
Bailing wire		Hinge	



**Historic Archaeology Component Form**

**Resource Number:** 5EP.8429

**Temporary Resource Number:** SP-2

<b>e. Cans:</b> material type, side-seam, opening, vessel style/contents, embossing/markings, dimensions.
None
<b>f. Structural:</b> type, function, manufacturing method, marking, dimensions.
None
<b>g. Domestic:</b> type, function, manufacturing method, marking, dimensions.
None
<b>h. Other/miscellaneous:</b> type, function, manufacturing method, marking, dimensions.
None

23. **Are standing structures present on the site?** Yes  No

If yes, please complete Architectural Inventory Form(s)(1403)

24. **Feature Descriptions** Include a site map, to scale, with each feature listed below depicted on it. Please use the Historic Archaeology Lexicon for feature types. Insert rows and feature types into table as necessary. If desired, sort table by feature number.

Feature Type (add others as necessary)	Feature Number/Name	Dimensions (feet / inches)	Description
Adit			
Aspen art			
Cabin			
Cairn			
Corral			
Ditch/canal			
Depression			
Dugout			
Foundation			
House			
Log cabin			
Mine shaft			
Outbuilding			
Platform			
Privy			
Railroad grade/bed			
Road/Trail			
Shaft			
Trash scatter			
Waste Rock pile			
Reservoir	1	2200 x 1800 feet	Now-dry reservoir
Access Shaft	2	4 feet x 4 feet	Square concrete shaft providing access to outlet conduit
Headwall	3	10 feet x 6 feet	L-shaped concrete headwall and conduit
Headgate	4	5 feet x 6 feet	Concrete enclosure with metal-framed headgate

**Historic Archaeology Component Form**

**Resource Number:** 5EP.8429

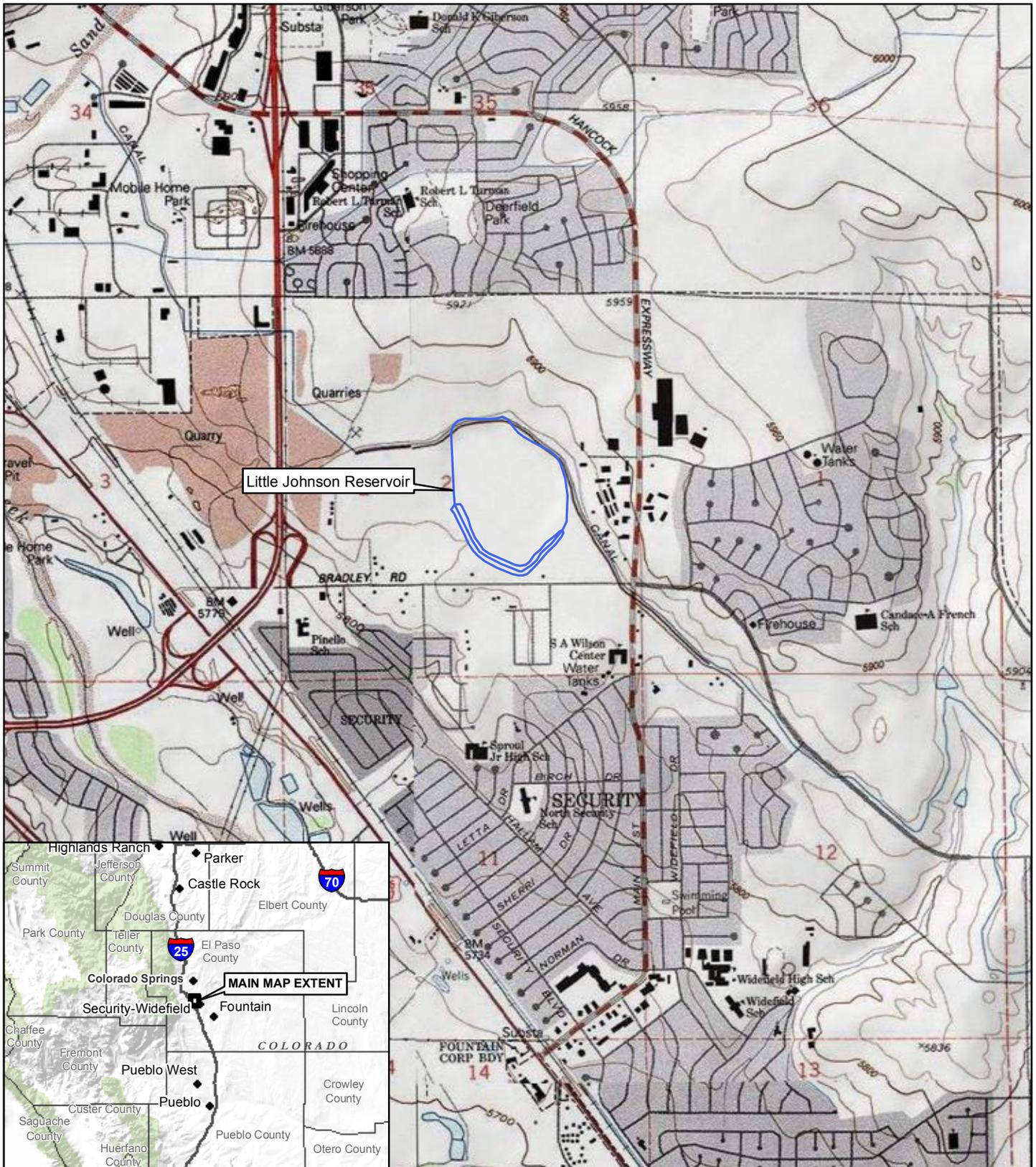
**Temporary Resource Number:** SP-2

**25. Potential for Additional Archaeological Information**

Is there potential for additional information?     Yes     No     Unknown    If yes or unknown describe below.

<b>Potential Within:</b>	<b>Describe</b>
a. Subsurface deposits within a structural feature	
b. Subsurface deposits outside a structural feature	
c. Trash area	
d. Privy pits	
e. Other	

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1200 Broadway, Suite 400, Denver, CO 80203  
303-866-3395



**Legend**

 Little Johnson Reservoir

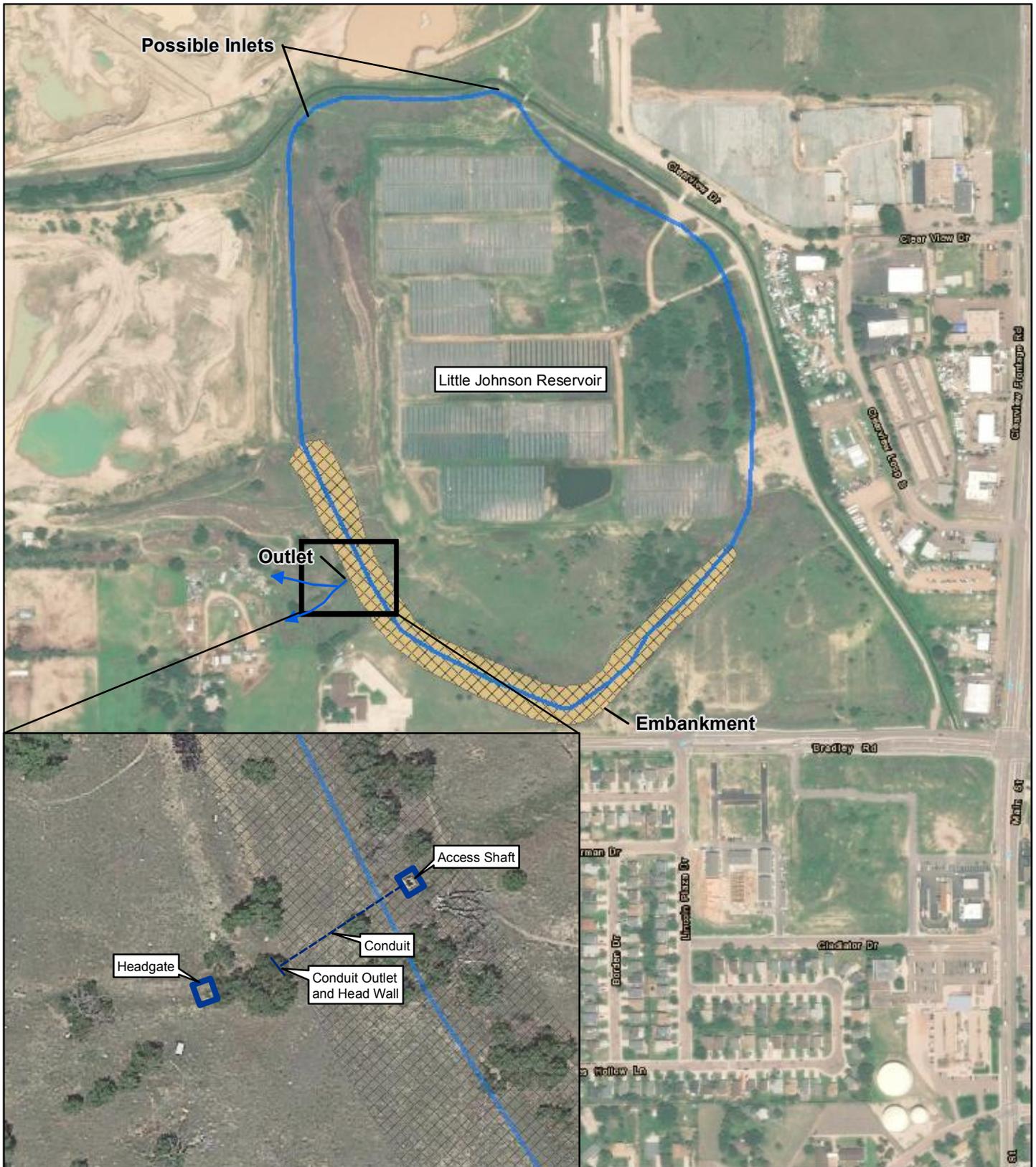


0 500 1,000 2,000 Feet

1 inch = 2,000 feet

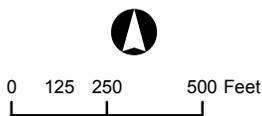
**Security Drinking Water Mitigation System**

5EP.8429  
Little Johnson Reservoir  
Location Map



**Legend**

- Little Johnson Reservoir
- Embankment



1 inch = 500 feet

**Security Drinking Water Mitigation System**

5EP.8429  
 Little Johnson Reservoir  
 Site Map

<b>AECOM</b>		<b>PHOTOGRAPHIC LOG</b>	
<b>Client Name:</b> USACE		<b>Project:</b> Security Pipeline	
<b>Photo No.:</b> PB290028		<b>Project No.:</b> 60589841	
<b>Date:</b> 11/29/18			
<b>Site Number:</b> 5EP.8429			
<b>Description:</b> Overview of Little Johnson Reservoir, now occupied by solar array, looking northwest. Earthen embankment is visible in middle distance.			

<b>AECOM</b>		<b>PHOTOGRAPHIC LOG</b>	
<b>Client Name:</b> USACE		<b>Project:</b> Security Pipeline	
<b>Photo No.:</b> PB290031		<b>Project No.:</b> 60589841	
<b>Date:</b> 11/29/18			
<b>Site Number:</b> 5EP.8429			
<b>Description:</b> Feature 1, concrete access shaft, looking east. Note metal ladder and handle.			

<b>AECOM</b>		<b>PHOTOGRAPHIC LOG</b>	
<b>Client Name:</b> USACE		<b>Project:</b> Security Pipeline	<b>Project No.:</b> 60589841
<b>Photo No.:</b> PB290034	<b>Date:</b> 11/29/18		
<b>Site Number:</b> 5EP.8429			
<b>Description:</b> View of concrete headwall with outlet conduit, looking east-southeast.			

<b>AECOM</b>		<b>PHOTOGRAPHIC LOG</b>	
<b>Client Name:</b> USACE		<b>Project:</b> Security Pipeline	<b>Project No.:</b> 60589841
<b>Photo No.:</b> PB290035	<b>Date:</b> 11/29/18		
<b>Site Number:</b> 5EP.8429			
<b>Description:</b> View of headgate, looking north.			