RECONNAISSANCE LEVEL SURVEY

PREPARED BY
Horrocks Engineers
Nancy Calkins

CONTACT
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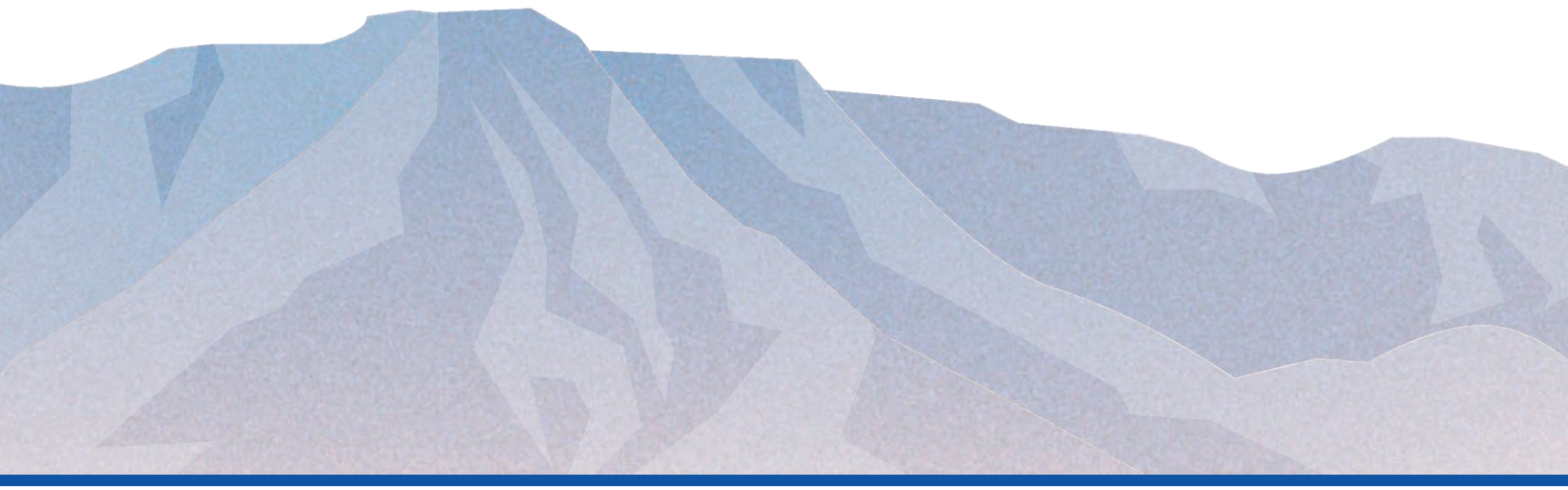


The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by UDOT pursuant to 23 USC 327 and a Memorandum of Understanding dated January 17, 2017, and executed by FHWA and UDOT.

RECONNAISSANCE LEVEL SURVEY

I-15; Milepost 11 Interchange
Washington City, Washington County, Utah
PIN 14560, Project No. F-I15-1(116)11

Washington Ward Chapel Construction
1961 photograph of addition to the original 1877 building
Photo courtesy of Washington Historical Society

Report Prepared by Nancy Calkins, Horrocks Engineers
For Washington City and Utah Department of Transportation October 2018

PROJECT SUMMARY

PROJECT NAME

I-15; Milepost 11 Interchange

PROJECT NUMBER AND PIN

PIN 14560, Project No. F-I15-1(116)11

PROJECT DESCRIPTION

The Utah Department of Transportation (UDOT) is conducting an Environmental Assessment to evaluate transportation needs and develop alternative solutions between Exit 10/Green Spring Drive and Exit 13/Washington Parkway in Washington City, Utah.

LOCATION

The project is located within the city boundaries of Washington and includes land under the jurisdiction of the Utah Department of Transportation (UDOT), School and Institutional Trust Lands Administration (SITLA), and private landowners.

USGS QUADS

Washington (1986-2017), St. George NE (1956)

LEGAL LOCATION OF SURVEY

Township 42S, Range 15W, Section 14

AREA SURVEYED

The survey boundaries include all properties adjacent to I-15, one property deep as well as properties adjacent to 300 East and Main Street, also one property deep on both sides of the street. The survey was conducted in these areas as they are most likely to be affected by roadway improvements. Historic boundaries for each property is the current parcel boundary.

DATE OF FIELDWORK

June 12, 2017

PROJECT DATA

12 Previously Recorded
29 Newly Recorded
17 Total Eligible for NRHP

FEDERAL AGENCY

Utah Department of Transportation for Federal Highway Administration
The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by UDOT pursuant to 23 USC 327 and a Memorandum of Understanding dated January 17, 2017, and executed by FHWA and UDOT.

REPORT PREPARED FOR

Washington City and Utah Department of Transportation

AUTHOR/DATE OF REPORT

Nancy Calkins, Horrocks Engineers. October 10, 2018

SELECTIVE RECONNAISSANCE LEVEL SURVEY OF WASHINGTON CITY

PRE-FIELD RESEARCH

Twelve previously recorded sites within the survey boundaries were found in a search of SHPO's database, Preservation Pro. Nine of those properties were updated during the survey and are noted in the table below. Three of the previously recorded properties located at 10 E 300 North, 20 W. 300 North, and 120 N. Main Street have been demolished, which change has been noted in Preservation Pro.

During the time of the survey, the City of Washington was installing new water lines under city streets on which historic buildings were to be surveyed. In an attempt to avoid encounters with heavy equipment, the survey was conducted in early morning hours. This timing, however, created problems with vehicles parked in front of houses and direct early morning sunlight in the camera. Additionally heavy vegetation in front of several homes made them difficult to photograph.

HISTORIC CONTEXT

Please refer to the following previous survey of Washington City for historic context:

Ellis, Sheri Murray and Charles P. Easton, "Cultural Resource Reconnaissance Survey and Standard Reconnaissance Level Architectural Survey, Telegraph Road, 500 West to 300 East, Washington City, Washington County, Utah." 2004.

SURVEY RESULTS

Summary of Previously Recorded Properties

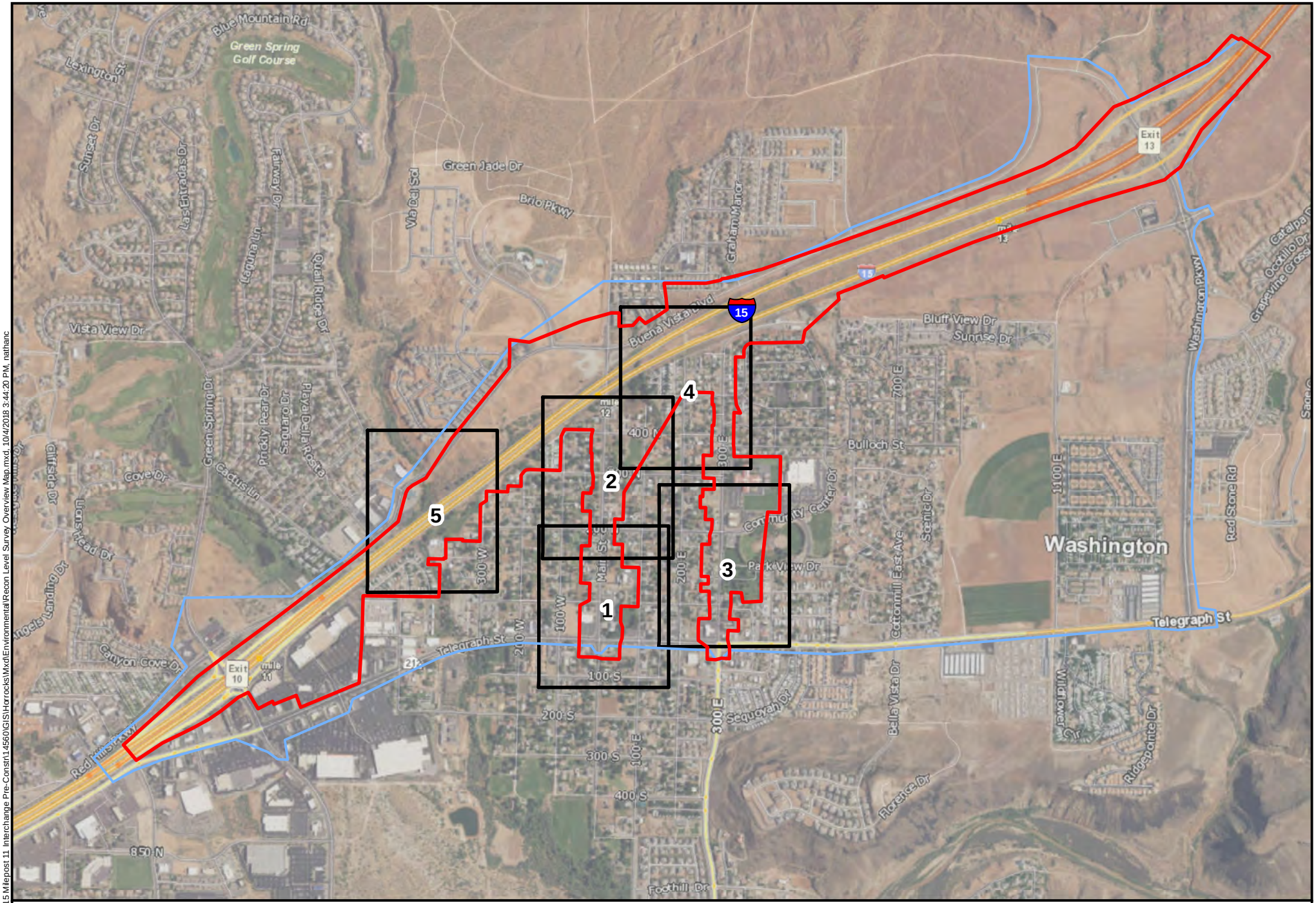
Address	**Previous eligibility**	**Current Eligibility**	**Comments**
25 E Telegraph St.	Eligible/Significant	Eligible/Listed	Prev. recorded as 11 E Telegraph
28 E Telegraph St.	Ineligible/ Non-con.	Eligible/Contributing	Alterations are now historic
107 N Main St.	Eligible/Significant	Eligible/Significant	
120 N Main St.	Eligible/Contributing	Demolished	
151 N Main St.	Ineligible/Non-con.	Ineligible/Non-con.	
175 N Main St.	Ineligible/Non-con.	Ineligible/Non-con.	
219 N Main St.	Eligible/Significant	Demolished	
253 N Main St.	Eligible/Significant	Ineligible/Non-con.	Altered style and materials
291 N Main St.	Eligible/Significant	Ineligible/Non-con.	Altered materials (vinyl)
10 E 300 North	Eligible/Significant	Demolished	
10 W 300 North	Ineligible/Non-con.	Ineligible/Non-con.	
177 N 300 West	Eligible/Contributing	Ineligible/Non-con.	Altered materials and additions

Summary of Newly Recorded Properties

Address	Description	Eligibility
82 N Main St.	1961 addition to 1863 church (demolished 1967)	Eligible/Contributing
90 N Main St.	Sandstone Monument, DUP Marker for Cotton Factory	Eligible/Contributing
133 N Main St.	1936 Other Residential Type with altered style and materials	Ineligible/Non-con.
141 N Main St.	1940 Other Residential Type with altered style and materials	Ineligible/Non-con.
150 N Main St.	1947 Striated Brick World War II-Era cottage	Eligible/Contributing
151 N Main St.	1893 Other Residential Type with altered style and materials	Ineligible/Non-con.
159 N Main St.	1960 Ranch with carport	Eligible/Contributing
160 N Main St.	1957 Other Residential Type with large addition	Ineligible/Non-con.
163 N Main St.	1961 Ranch with Garage with rear addition	Eligible/Contributing
178 N Main St.	1971 Manufactured Home	Eligible/Contributing
180 N Main St.	1930 Brick Bungalow	Eligible/Contributing
183 N Main St.	1960 Ranch/Rambler of Roman Brick	Eligible/Contributing
20 W 200 North	1905 Crosswing with altered style and materials	Ineligible/Non-con.
237 N Main St.	1953 Ranch with Garage with large addition and alterations	Ineligible/Non-con.
252 N Main St.	1970 Ranch with large addition and altered materials	Ineligible/Non-con.
262 N Main St.	1969 Brick Split Level with Carport	Ineligible/Non-con.
282 N Main St.	1972 Ranch with altered materials	Ineligible/Non-con.
337 N Main St.	1969 Manufactured Home with multiple additions	Ineligible/Non-con.
381 N Main St.	1951 Box Ranch with Roman Brick	Eligible/Contributing
14 N 300 East	1950 Concrete Block Ranch with c.1970 addition	Eligible/Contributing
319 E Village Way	1971 Ranch with Garage has altered materials (vinyl)	Ineligible/Non-con.
126 N 300 East	1969 Perpendicular Ranch	Eligible/Contributing
313 E Bulloch St.	1972 Ranch with original materials	Eligible/Contributing
583 N 300 East	1955 Early Ranch with multiple additions	Ineligible/Non-con.
501 N 200 E #1	1970 Manufactured Home with carport addition	Eligible/Contributing
501 N 200 E #30	1970 Manufactured Home w/ additions and altered materials	Ineligible/Non-con.
501 N 200 E #51	1965 Manufactured Home moved to this location	Eligible/Contributing
81 E Buena Vista	1970 Split Entry with additions and altered materials	Ineligible/Non-con.
135 E Buena Vista	1970 Ranch with large addition and altered style/materials	Ineligible/Non-con.

MAPS AND TABLE OF FULL SURVEY RESULTS

The location of the surveyed properties are indicated on the following maps with the specific data for each property found in the Table of Historic Structures Surveyed. For quick reference the map associated with each property is indicated under the address in the table.


Survey Area
Area of Potential Effect
Pages
1 inch = 1,500 feet
0 750 1,500 3,000 Feet
N
Reconnaisance Level Survey
I-15 MP 11 Interchange
Washington, Washington County
Overview Map
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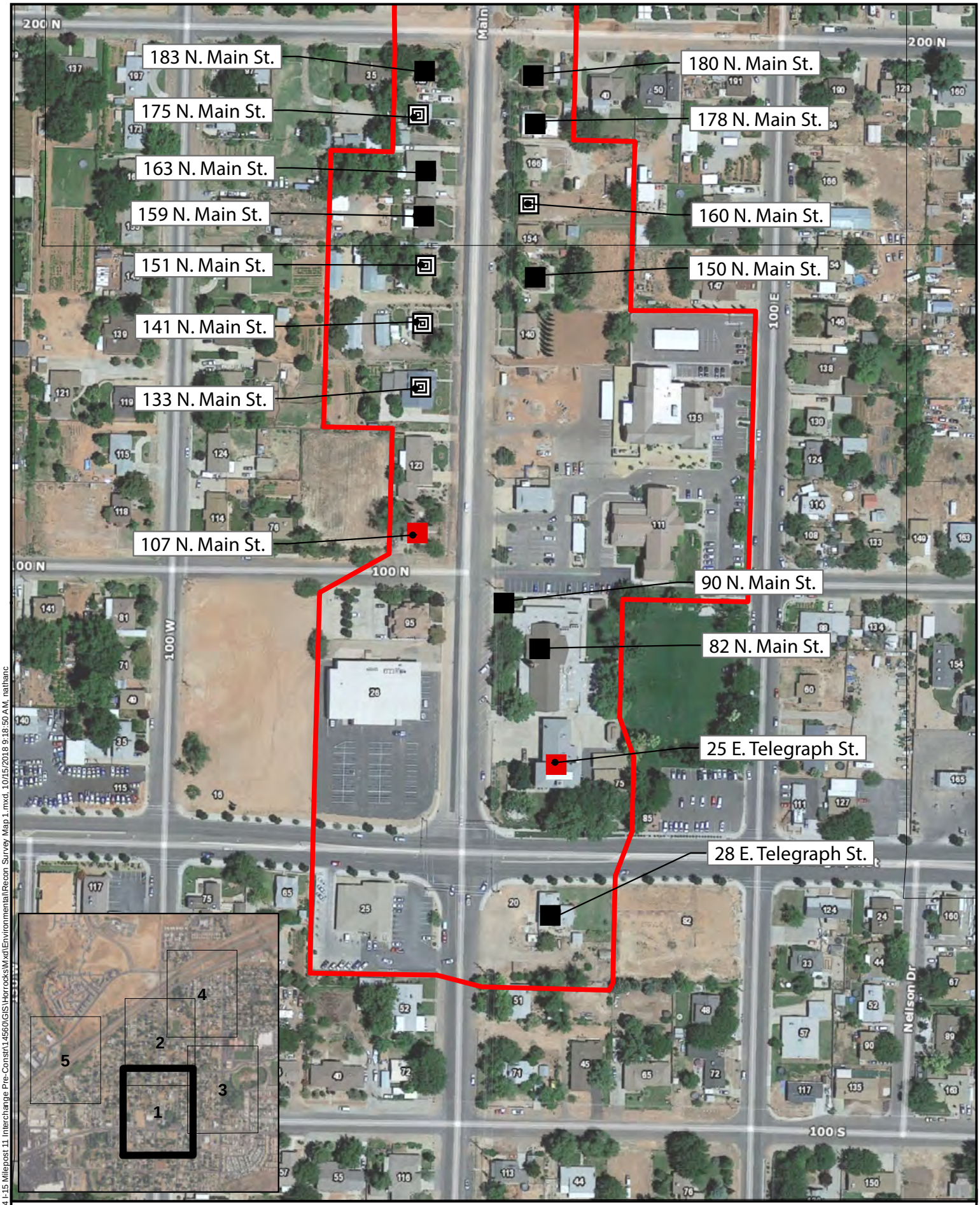

Eligable/Contributing
Eligible/Significant
Ineligable/Non-contributing
Pages
Survey Area
Area of Potential Effect

0 60 120 240 Feet

Reconnaisance Level Survey
I-15 MP 11 Interchange
Washington, Washington County
Map 1 of 5

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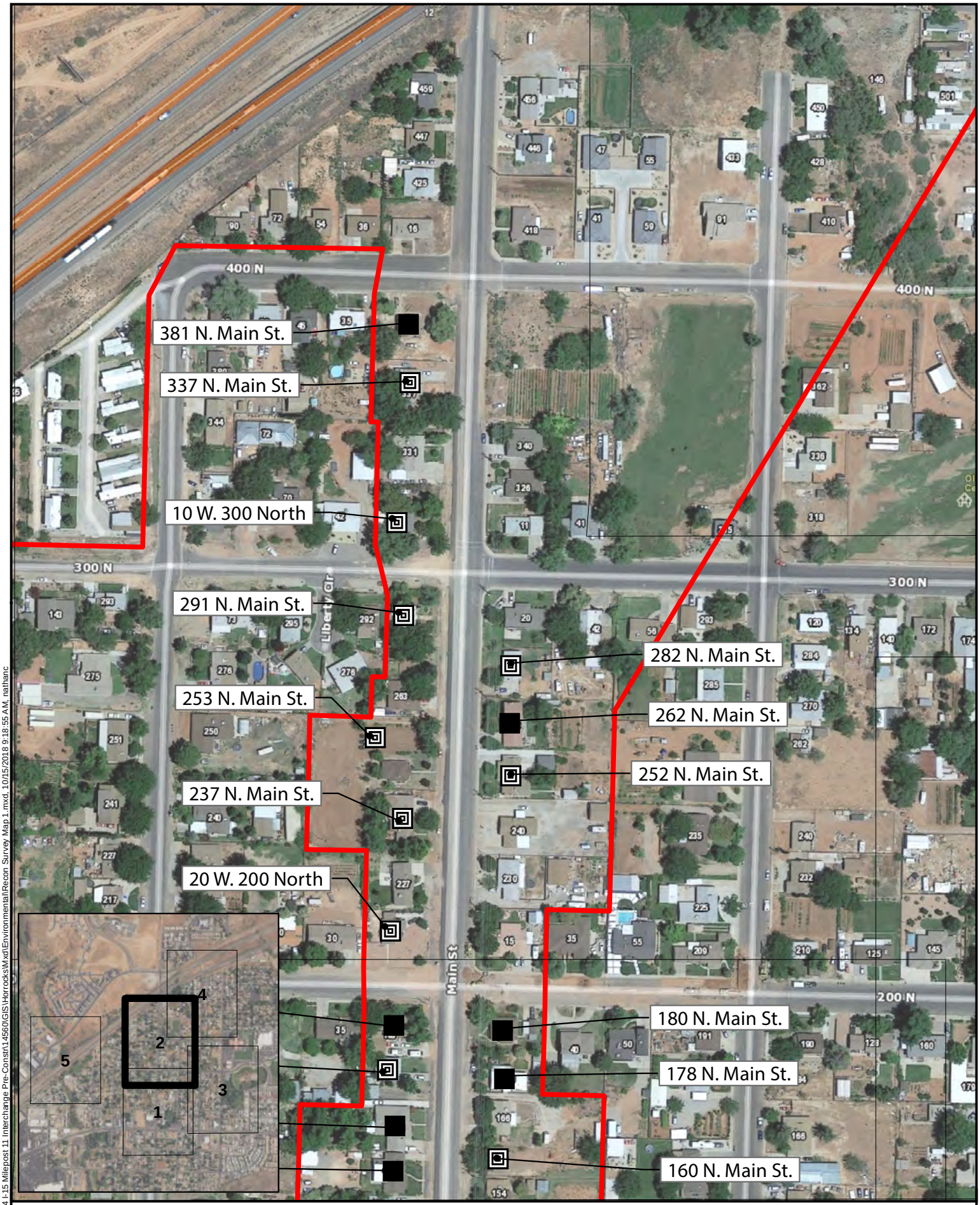

Eligable/Contributing
Eligible/Significant
Ineligable/Non-contributing
Pages
Survey Area
Area of Potential Effect

0 60 120 240 Feet

N

Reconnaisance Level Survey
I-15 MP 11 Interchange
Washington, Washington County
Map 2 of 5

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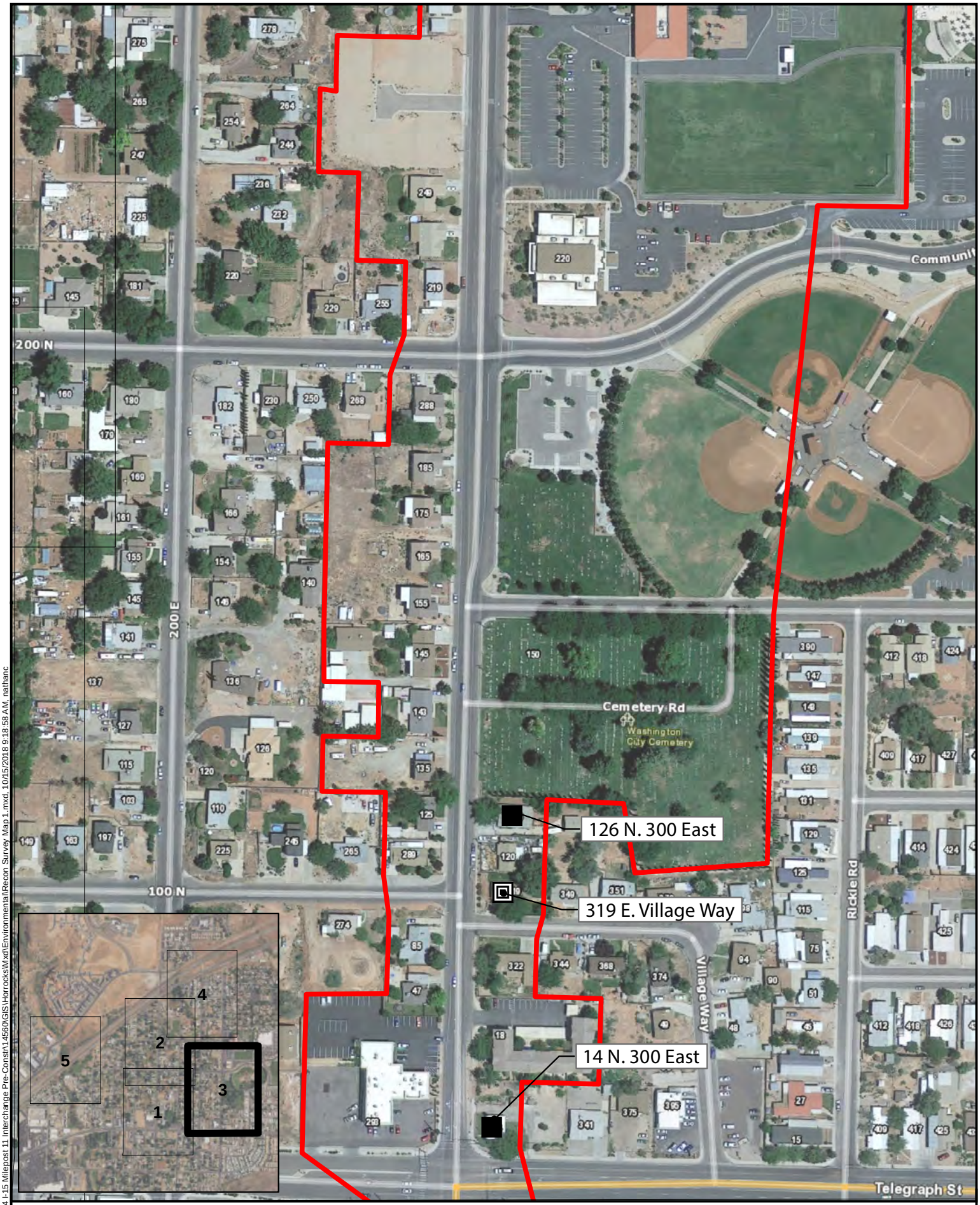

Eligable/Contributing
Eligible/Significant
Ineligable/Non-contributing
Pages
Survey Area
Area of Potential Effect

0 60 120 240 Feet

N

Reconnaisance Level Survey
I-15 MP 11 Interchange
Washington, Washington County
Map 3 of 5

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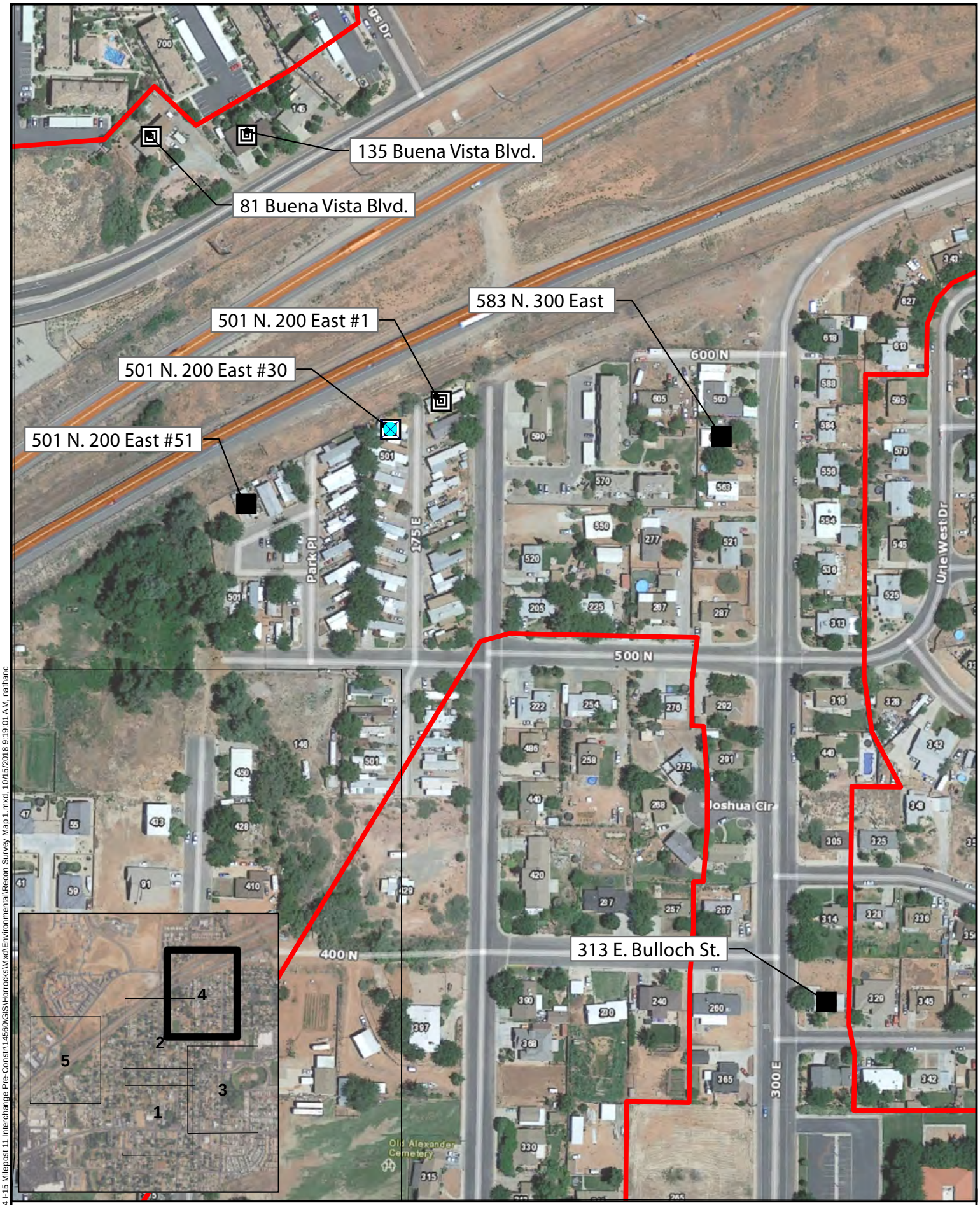
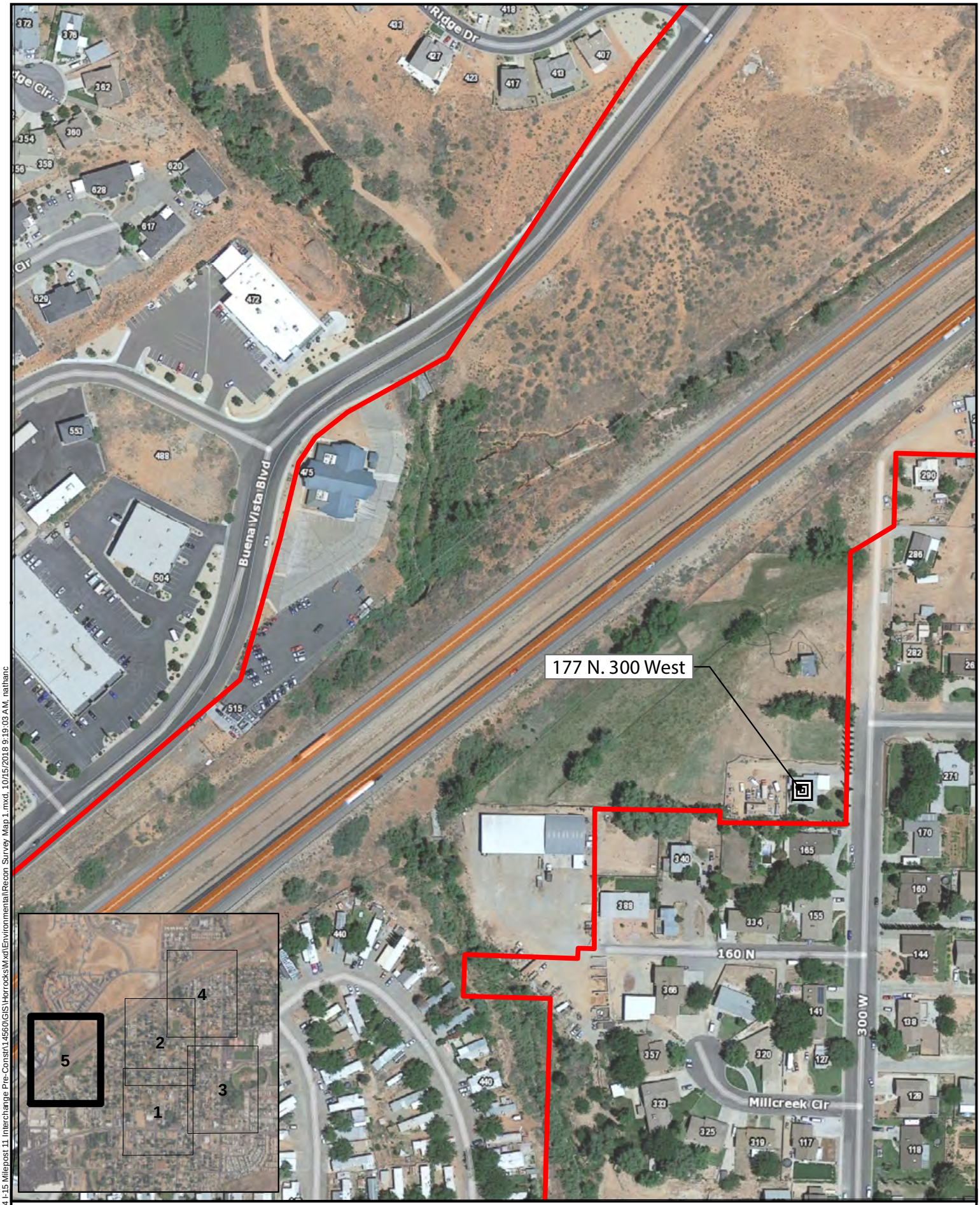


Eligable/Contributing
Eligible/Significant
Ineligable/Non-contributing
Pages
Survey Area
Area of Potential Effect

0 60 120 240 Feet

Reconnaisance Level Survey
I-15 MP 11 Interchange
Washington, Washington County
Map 4 of 5

O:\!2017\SG-488-1704 I-15 Milepost 11 Interchange Pre-Constr\145660\GIS\Horrocks\Mxd\Environmental\Recon Survey Map 1.mxd, 10/15/2018 9:19:01 AM, nathanc



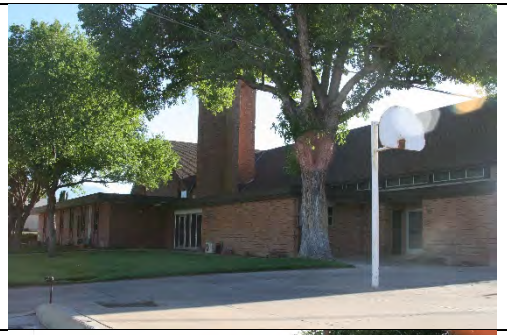
Eligable/Contributing
Eligible/Significant
Ineligable/Non-contributing
Pages
Survey Area
Area of Potential Effect

0 60 120 240 Feet

Reconnaisance Level Survey
I-15 MP 11 Interchange
Washington, Washington County
Map 5 of 5

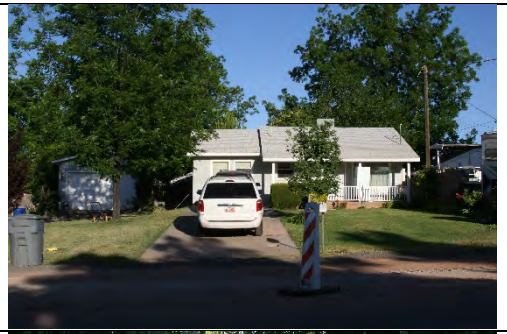
O:\!2017\SG-488-1704 I-15 Milepost 11 Interchange Pre-Constr\14560\GIS\Horrocks\Mxd\Environmental\Recon Survey Map 1.mxd, 10/15/2018 9:19:03 AM, nathanc

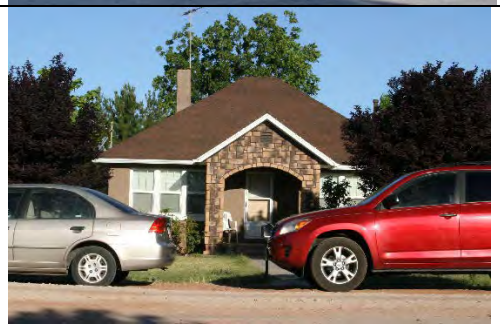
TABLE OF HISTORIC PROPERTIES SURVEYED

Address	Date	Description	NRHP Eligibility	Photograph
25 E Telegraph Street Map1	1909	School School Block 2 Story Richardsonian Romanesque National Register Listed. Windows have been replaced.	Eligible/Listed Previously recorded as Eligible/Significant	
28 E Telegraph Street Map1	1918	Single Dwelling Bungalow 1 Story Bungalow East addition prior to 1960 aerial, aluminum siding likely from that time period	Eligible/Contributing Previously recorded as Inelig./Non-contributing	
82 N Main Street Map1	1961	Religious Facility Church/Meetinghouse 1 Story Contemporary South half of this LDS Meetinghouse was a 1961 addition to the original 1863 building. The original building was demolished after 1967. The north and east additions were constructed before 1973.	Eligible/Contributing	
90 N. Main Street Map1	1955	Monument/Marker Sandstone DUP Monument- Cotton Factory	Eligible/Contributing	

Address	Date	Description	NRHP Eligibility	Photograph
107 N Main Street Map1	1876	Single Dwelling Central Passage 1.5 Story Victorian Eclectic/Period Cottage According to Washington history brick added and windows altered in the 1920s.	Eligible/Significant Previously recorded as Eligible/Significant	
133 N Main Street Map1	1936	Single Dwelling Other Residential Type 1.5 Story Other/Unclear Style Large 1.5 story addition on south half of house, altered materials in synthetic stucco, altered windows.	Inelig./Non-contributing	
141 N Main Street Map1	1940	Single Dwelling Other Residential Type 1 Story Late 20th C.: Other This style of this residence has been altered by a change in materials of over-sized brick during the 1980s. Also has possible addition of forward-projecting bays and vinyl windows.	Inelig./Non-contributing	
150 N Main Street Map1	1947	Single Dwelling WWII-Era Cottage 1.5 Story Minimal Traditional Although most windows have been replaced with vinyl, the house retains original style and character.	Eligible/Contributing	

Address	Date	Description	NRHP Eligibility	Photograph
151 N Main Street Map1	1893	Single Dwelling Other Residential Type 1 Story Early 21st C.: Other The type and style of this residence have been significantly altered with additions on the south, front porch, and north carport as well as altered materials throughout.	Inelig./Non-contributing Previously recorded as Inelig./Non-contributing	
159 N Main Street Map1	1960	Single Dwelling Ranch with Carport 1 Story Ranch/Rambler (Gen.) Except for the replacement of several windows with vinyl, this residence looks much like it did when constructed.	Eligible/Contributing	
160 N Main Street Map1	1957	Single Dwelling 1 Story Other/Unclear Style This residence is difficult to photograph due to heavy vegetation. There is a large porch addition on the primary elevation (south.)	Inelig./Non-contributing	
163 N Main Street Map1	1961	Single Dwelling Ranch with Garage 1 Story Ranch/Rambler (Gen.) There is a large addition on the rear of this residence which is visible in the altered roof line on the primary elevation.	Eligible/contributing	

Address	Date	Description	NRHP Eligibility	Photograph
175 N Main Street Map1	1947	Single Dwelling Other Residential Type 1 Story Late 20th C.: Other Constructed as a WWII-era Cottage. The roof has been altered from hipped to gable, porch added, garage added, then enclosed, as well as altered materials in vinyl and synthetic stucco.	Inelig./Non-contributing Previously recorded as Inelig./Non-contributing	
178 N Main Street Map1	1971	Single Dwelling Manufactured Home 1 Story Manufactured Home (Gen.) The windows on this manufactured home have been replaced with vinyl and the although the carport may be an addition it is visible on the 1981 aerial photograph.	Eligible/Contributing	
180 N Main Street Map1	1930	Single Dwelling Bungalow 1 Story Bungalow Some of the windows have been replaced but the house retains its original character.	Eligible/Contributing	
183 N Main Street Map1	1960	Single Dwelling Ranch 1 Story Ranch/Rambler (Gen.) Vinyl siding and vinyl windows	Eligible/Contributing	

Address	Date	Description	NRHP Eligibility	Photograph
20 W 200 North Map 2	1905	Single Dwelling Crosswing 1.5 Story Late 20th C.: Other Materials altered with vinyl siding and vinyl windows. The style is altered by the enclosure of the porch railing.	Inelig./Non-contributing	
237 N Main Street Map 2	1953	Single Dwelling Ranch with Garage 1 Story Ranch/Rambler (Gen.) The original garage has been enclosed for living space and a new garage has been built on the north elevation. The windows have been replaced with vinyl.	Inelig./Non-contributing	
252 N Main Street Map 2	1970	Single Dwelling Ranch with Carport 1 Story Ranch/Rambler (Gen.) The carport and the bay window section are additions are post-1981 aerial image. The house was likely clad in brick at the time of the additions.	Inelig./Non-contributing	
253 N Main Street Map 2	1931	Single Dwelling Box Bungalow 1 Story Bungalow Although this residence retains the original windows, It has been significantly altered application of synthetic stucco on the house and imitation stone on the front porch.	Inelig./Non-contributing Previously recorded as Eligible/Significant	

Address	Date	Description	NRHP Eligibility	Photograph
262 N Main Street Map 2	1969	Single Dwelling Split Level with Carport 1.5 Story Split Level (Gen.) Difficult to photograph due to vegetation and the sun. Although the siding has been replaced with vinyl, the dominant material on the house is brick and the style is not altered.	Eligible/Contributing	
282 N Main Street Map 2	1972	Single Dwelling Ranch 1 Story Ranch/Rambler (Gen.) Materials altered in vinyl siding and windows	Inelig./Non-contributing	
291 N Main Street Map 2	1877	Single Dwelling Central Passage 1.5 Story Gothic Revival Altered materials in vinyl siding, seamed metal roof and vinyl windows.	Inelig./Non-contributing Previously recorded as Eligible/Significant	
10 W 300 North Map 2	1885 1916 1960	Single Dwelling Ranch 1 Story Ranch/Rambler (Gen.) Windows have been altered and there are additions on the west and north. Washington County has 1916 construction date, city history has 1885 and says it used to be two stories.	Inelig./Non-contributing Previously recorded as Inelig./Non-contributing	

Address	Date	Description	NRHP Eligibility	Photograph
337 N Main Street Map 2	1969	Single Dwelling Manufactured Home 1 Story Late 20th C.: Other Center portion of this residence is a double wide manufactured home. Additions include south wing, porch, carport and roof.	Inelig./Non-contributing	
381 N Main Street Map 2	1951	Single Dwelling Box Ranch 1 Story Early Ranch (Gen.) There are storm windows over original, possible rear addition on south elevation and the front steps have been replaced with a ramp.	Eligible/Contributing	
14 N 300 East Map 3	1950 1970	Single Dwelling Ranch 1 Story County records indicate this residence was constructed in 1940, which the style and construction materials do not indicate. Historic aerials indicate the addition on north elevation constructed between 1967 and 1973. Windows replaced at that time with aluminum sliders.	Eligible/Contributing	
319 E Village Way Map 3	1971	Single Dwelling Ranch with Garage 1 Story Ranch/Rambler (Gen.) Altered materials in vinyl siding and vinyl windows. Garage, porch awning and chimney are possibly additions.	Inelig./Non-contributing	

Address	Date	Description	NRHP Eligibility	Photograph
126 N 300 East Map 3	1969	Single Dwelling Perpendicular Ranch 1 Story Ranch/Rambler (Gen.) Windows have been replaced.	Eligible/Contributing	
313 E Bulloch Street Map 4	1972	Single Dwelling Ranch 1 Story Ranch/Rambler (Gen.) This house retains original materials, including aluminum slider windows.	Eligible/Contributing	
583 N 300 East Map 4	1955	Single Dwelling Early Ranch / Rambler 1 Story Ranch/Rambler (Gen.) Difficult to photograph due to privacy fence and vegetation. There is a rear addition which extends on south elevation	Inelig./Non-contributing	
501 N 200 East #1 Map 4	1970	Single Dwelling Manufactured Home 1 Story Manufactured Home (Gen.) Trailer 1. Awning added on the north side of the trailer.	Eligible/contributing	

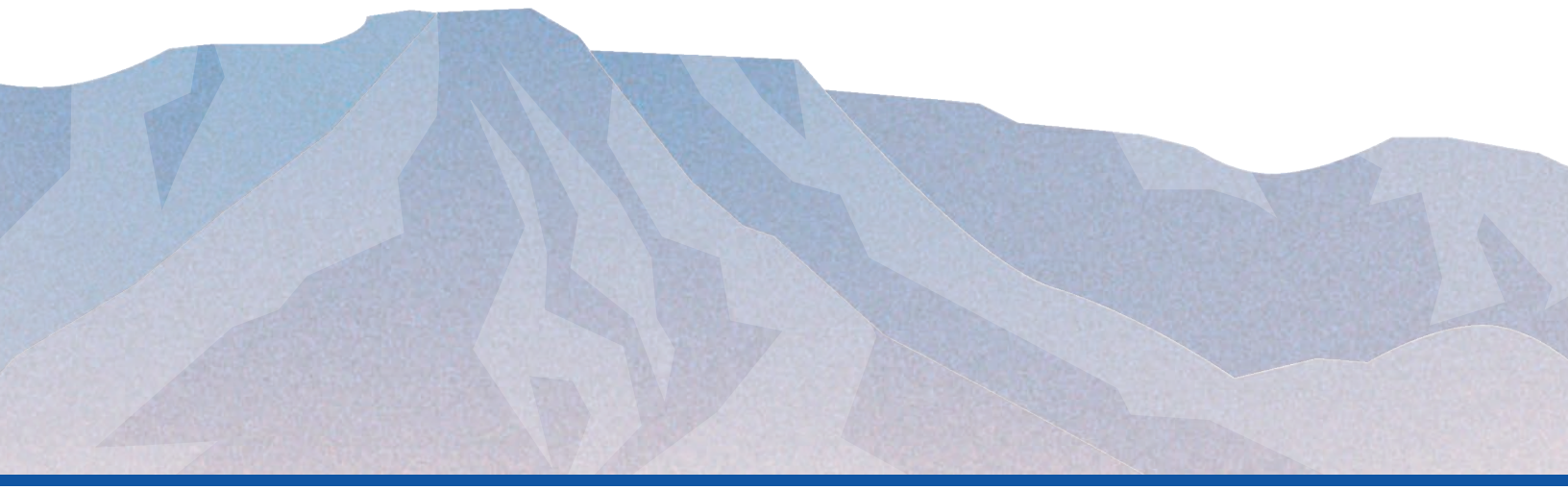
Address	Date	Description	NRHP Eligibility	Photograph
501 N 200 East #30 Map 4	1970	Single Dwelling Manufactured Home 1 Story Manufactured Home (Gen.) Trailer 30. The style of the trailer has been altered with several additions and the application of stucco.	Inelig./Non-contributing	
501 N 200 East #51 Map 4	1965	Single Dwelling Manufactured Home 1 Story Manufactured Home (Gen.) Trailer 51. This trailer was moved here and was not at this location during the historic period.	Eligible/contributing	
81 E Buena Vista Blvd. Map 4	1970	Single Dwelling Split Entry 1.5 Story Split Entry (Gen.) Garage addition on east, altered materials in vinyl siding and vinyl windows. Difficult to photograph due to vegetation.	Inelig./Non-contributing	
135 E Buena Vista Blvd. Map 4	1970	Single Dwelling Ranch 1 Story Other/Unclear Style Large RV garage added on west, materials and style altered with stucco	Inelig./Non-contributing	

Address	Date	Description	NRHP Eligibility	Photograph
177 N 300 West Map 5	1918 1920 1998	Single Dwelling Bungalow 1 Story There is a shed addition on the north elevation as well as a carport constructed on the primary facade. Materials have been altered with synthetic stucco and gables and dormers clad in wood sheet. The window have been replaced and some with altered openings.	Inelig./Non-contributing Previously recorded as Eligible/Contributing	

DETERMINATION OF ELIGIBILITY AND FINDING OF NO ADVERSE EFFECT

PREPARED BY
UDOT
Liz Robinson

CONTACT
Nicole Tolley
Horrocks Engineers
2162 W. Grove Parkway, Suite 400
Pleasant Grove, Utah 84602



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Jill Remington Love
Executive Director
Department of
Heritage & Arts

Utah Division of State History

Don Hartley
Director
State Historic Preservation Officer

December 11, 2018

Liz Robinson
Cultural Resources Program Manager
Utah Dept of Transportation (UDOT)
4501 Constitution Blvd
Salt Lake City, UT 84119

RE: PIN 14560_ I-15 MP11 Interchange_F-I15-1(116)11

For future correspondence, please reference Case No. 18-2672

Dear Ms Robinson,

The Utah State Historic Preservation Office received your submission and request for our comment on the above-referenced project on December 05, 2018. Based on the information provided to our office, we concur with your determination of eligibility and finding of No Adverse Effect for the proposed undertaking.

This information is provided to assist with Section 106 responsibilities as per §36CFR800. If you have questions, please contact me at (801) 245-7242 or by email at coryjensen@utah.gov.

Sincerely,

Cory Jensen
National Register & Survey Coordinator

State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

DEPARTMENT OF TRANSPORTATION

CARLOS M. BRACERAS, P.E.
Executive Director

SHANE M. MARSHALL, P.E.
Deputy Director of Engineering and Operations

TERIANNE S. NEWELL, P.E.
Deputy Director of Planning and Investment

December 3, 2018

Mr. Cory Jensen
Senior Historic Preservation Specialist
Utah Division of State History
300 Rio Grande
Salt Lake City, UT 84101-1182

RE: UDOT Project No. F-I15-1(116)11; I-15 Milepost 11 Interchange, Washington City, Washington County, Utah (PIN 14560).
Determination of Eligibility and Finding of No Adverse Effect.

Dear Mr. Jensen:

The Utah Department of Transportation (UDOT) is preparing to undertake the subject federal-aid project. In accordance with Parts 3.1.1 and 3.2 of the *Memorandum of Understanding Between the Federal Highway Administration and the Utah Department of Transportation Concerning State of Utah's Participation in the Surface Transportation Project Delivery Program Pursuant to 23 USC §327* (executed January 17, 2017), the UDOT assumes responsibility, assigned by the Federal Highway Administration (FHWA), for ensuring compliance with Section 106 of the NHPA and with Section 4(f) of the DOT Act of 1966, as amended. Also in accordance with the *Third Amended Programmatic Agreement among the FHWA, the Utah State Historic Preservation Officer, the Advisory Council on Historic Preservation, the USACE Sacramento District, and the UDOT Regarding Section 106 Implementation for Federal-Aid Transportation Projects in the State of Utah* (executed August 23, 2017), Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 300101 et seq.), and U.C.A.9-8-404, the UDOT has taken into account the effects of this undertaking on historic properties, and is affording the Utah State Historic Preservation Officer (SHPO) an opportunity to comment on the undertaking. Additionally, this submission is in compliance with Section 4(f) of the Department of Transportation Act of 1966, 23 U.S.C. § 138 (as amended) and 49 U.S.C. § 303 (as amended).

PROJECT DESCRIPTION

This project proposes to evaluate community needs and potential environmental, cultural, and socioeconomic impacts of proposed transportation improvements needed to address traffic problems affecting interstate access to and from Washington City and congestion at the Green Springs Drive Interchange. A range of alternatives were explored and may include construction of a new interchange at MP 11, reconfiguration and reconstruction of the Green Springs Drive Interchange, construction of new freeway frontage roads, and roadway design modifications to increase use of the Washington Parkway Interchange at milepost 13. The study will evaluate areas adjacent to both sides of I-15, from the Green Springs Drive Interchange at MP 10 to the Washington Parkway Interchange at MP 13; as well as potentially affected city street corridors. Current traffic congestion is likely to worsen with projected community growth if no improvements are made.

The area of potential affects (APE) has been defined as an area approximately 1250 acres in size that includes all project alternatives. The APE includes mostly private and municipal land and land managed by the Utah SITLA.
The APE has been surveyed for archaeology by Horrocks Engineers, under State Antiquities Project Number U17HX593, and the results are reported in *An Archaeological Inventory for the I-15 Milepost 11 Interchange Project* (see enclosed report). An intensive level pedestrian survey was conducted using 15 meter transects to identify archaeological resources. A selective reconnaissance level survey was conducted to record architectural properties, and the results are reported in *Selective Reconnaissance Level Survey I-15; Milepost 11 Interchange Washington City, Washington County, Utah* (see enclosed report)

The surveys have resulted in the identification of 4 archaeological sites and 37 architectural properties. Of these, 2 archaeological sites and 18 architectural properties are eligible to the National Register of Historic Places (NRHP). The Determinations of Eligibility and Findings of Effects (for both Section 106 and Section 4(f)) are provided in Table 1 for archaeological resources and in Table 2 for architectural properties. Please see attached notification letter regarding Section 4(f) *de minimis* impacts.

ARCHAEOLOGICAL RESOURCES

Table 1. Determinations of Eligibility and Findings of Effect for Archaeological Resources

Site	Name or Description	NRHP Eligibility	Finding of Effect	Section 4(f) Use	Section 4(f) Impact
42WS2362	Prehistoric Lithic Scatter	Not Eligible	No Historic Properties Affected	N/A	N/A
42WS4283	Prehistoric Camp Site with Hearths	Eligible	No Historic Properties Affected	N/A	N/A
42WS5800	Historic Road	Not Eligible	No Historic Properties Affected	N/A	N/A
42WS6196	Washington City Ditch System	Eligible	No Adverse Effect	No	N/A

Description of Effect to Site 42WS6196: This proposed project impacts approximately 2,992 of 15,802 linear feet (19%) of this site. No other historic features are present within the impacted area and additional undocumented segments of this site are likely throughout the historic sections of Washington City. The project will affect a relatively small portion of the site and will not substantially impact or alter any contributing elements of the site or any of the character-defining features for which it was determined eligible for the NRHP. Thus, the proposed project will result in a finding of No Adverse Effect. Since the site does not warrant preservation in place, Section 4(f) does not apply.

ARCHITECTURAL PROPERTIES

Table 2. Determinations of Eligibility and Findings of Effect for Architectural Properties

Address	Date	Style	NRHP Eligibility/ SHPO Rating	Finding of Effect	Section 4(f) Use	Section 4(f) Impact
25 East Telegraph Street, Washington	1909	Richardsonian Romanesque school block.	Eligible/Listed	No Adverse Effect	Yes	*de minimis*
28 East Telegraph Street, Washington	1918	Bungalow	Eligible/Contributing	No Historic Properties Affected	No	N/A
82 North Main Street, Washington	1961	Contemporary Church/Meetingho use	Eligible/Contributing	No Historic Properties Affected	No	N/A
90 North Main Street, Washington	1955	Sandstone Daughters of the Utah Pioneers monument for the	Eligible/Contributing	No Historic Properties Affected	No	N/A

		Cotton Factory.				
107 North Main Street, Washington	1876	Victorian Eclectic/Period Cottage Central Passage house	Eligible/Significant	No Historic Properties Affected	No	N/A
133 North Main Street, Washington	1936	Other/unclear residence	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
141 North Main Street, Washington	1940	Late 20th Century Other residence	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
150 North Main Street, Washington	1947	Minimal Traditional WWII-Era Cottage	Eligible/Contributing	No Historic Properties Affected	No	N/A
151 North Main Street, Washington	1893	Early 21st Century Other Residence	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
159 North Main Street, Washington	1960	Ranch/Rambler with Carport	Eligible/Contributing	No Historic Properties Affected	No	N/A
160 North Main Street, Washington	1957	Other/Unclear Residence	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
163 North Main Street, Washington	1961	Ranch/Rambler with Garage	Eligible/Contributing	No Historic Properties Affected	No	N/A
175 North Main Street, Washington	1947	Late 20th Century other Residence	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
178 North Main Street, Washington	1971	Manufactured home	Eligible/Contributing	No Historic Properties Affected	No	N/A
180 North Main Street, Washington	1930	Bungalow	Eligible/Contributing	No Historic Properties Affected	No	N/A
183 North Main Street, Washington	1960	Ranch/Rambler	Eligible/Contributing	No Historic Properties Affected	No	N/A
20 West 200 North, Washington	1905	Late 20th Century Other Crosswing	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
237 North Main Street, Washington	1953	Ranch/Rambler with Garage	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
252 North Main Street, Washington	1970	Ranch/Rambler with Carport	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
253 North Main Street, Washington	1931	Box Bungalow	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
262 North Main Street, Washington	1969	Split Level with Carport	Eligible/Contributing	No Historic Properties Affected	No	N/A
282 North Main Street, Washington	1972	Ranch/Rambler	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
291 North Main Street, Washington	1877	Gothic Revival Central Passage residence	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
10 West 300 North, Washington	1885, 1916, c. 1960	Ranch/Rambler	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
337 North Main Street, Washington	1969	Late 20th Century Other Manufactured Home	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
381 North Main Street, Washington	1951	Early Box Ranch	Eligible/Contributing	No Historic Properties Affected	No	N/A
14 North 300 East, Washington	c. 1950, c. 1970	Ranch house	Eligible/Contributing	No Historic Properties Affected	No	N/A
319 East Village Way, Washington	1971	Ranch/Rambler with Garage	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A

126 North 300 East, Washington	1969	Perpendicular Ranch house	Eligible/Contributing	No Historic Properties Affected	No	N/A
313 East Bulloch Street, Washington	1972	Ranch/Rambler	Eligible/Contributing	No Historic Properties Affected	No	N/A
583 North 300 East, Washington	1955	Early Ranch/Rambler	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
501 North 200 East #1, Washington	1970	Manufactured home	Eligible/Contributing	No Historic Properties Affected	No	N/A
501 North 200 East #30, Washington	1970	Manufactured home	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
501 North 200 East #51, Washington	1965	Manufactured home	Eligible/Contributing	No Historic Properties Affected	No	N/A
81 East Buena Vista Boulevard, Washington	1970	Split Entry	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
135 East Buena Vista Boulevard, Washington	1970	Other/Unclear Ranch house	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A
177 North 300 West, Washington	1918 1920 1998	Bungalow	Ineligible/Non-contributing	No Historic Properties Affected	No	N/A

Description of Effects to 25 East Telegraph Street: This proposed project requires right of way acquisitions of approximately 636 square feet from this property eligible to the NRHP. Impacts to this property are limited to the property side. The associated construction affects a relatively small portion of this property and will not substantially impact or alter any contributing elements of the property or any of the character-defining features for which it was determined eligible for the NRHP. Thus, the proposed project will result in a finding of No Adverse Effect and a Section 4(f) use (*de minimis* impact) for this property.

CONSULTATION EFFORTS

Native American consultation was initiated through letters sent to the Uintah and Ouray Ute Tribes, Hopi Tribe, Paiute Indian Tribe of Utah, and the Cedar, Indian Peaks, and Shivwits Bands of Paiute (sent October 17, 2018). The Hopi Tribe responded with a request for consultation if any prehistoric resources were adversely affected by the project. As the project will not result in adverse effects, additional consultation is not necessary. Public meetings were held and the public was notified of the impacts to cultural resources. No responses or comments were received.

SUMMARY

To summarize, the project will result in a finding of No Adverse Effect and Section 4(f) *de minimis* impact for 1 architectural property, and a finding of No Historic Properties Affected for all remaining architectural properties and archaeological sites. Therefore, the Finding of Effect for the proposed UDOT Project No. F-I15-1(116)11; I-15 Milepost 11 Interchange, Washington City, Washington County, Utah is **No Adverse Effect**.

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by UDOT pursuant to 23 *USC §327* and a Memorandum of Understanding dated January 17, 2017, and executed by FHWA and UDOT.

Please review this document and, providing you agree with the findings contained herein, provide written concurrence. Should you have any questions or need additional information, please feel free to contact Liz Robinson at 801-910-2035 or lizrobinson@utah.gov; or Elizabeth Giraud at 801-965-4917 or egiraud@utah.gov.

Sincerely,

Liz Robinson

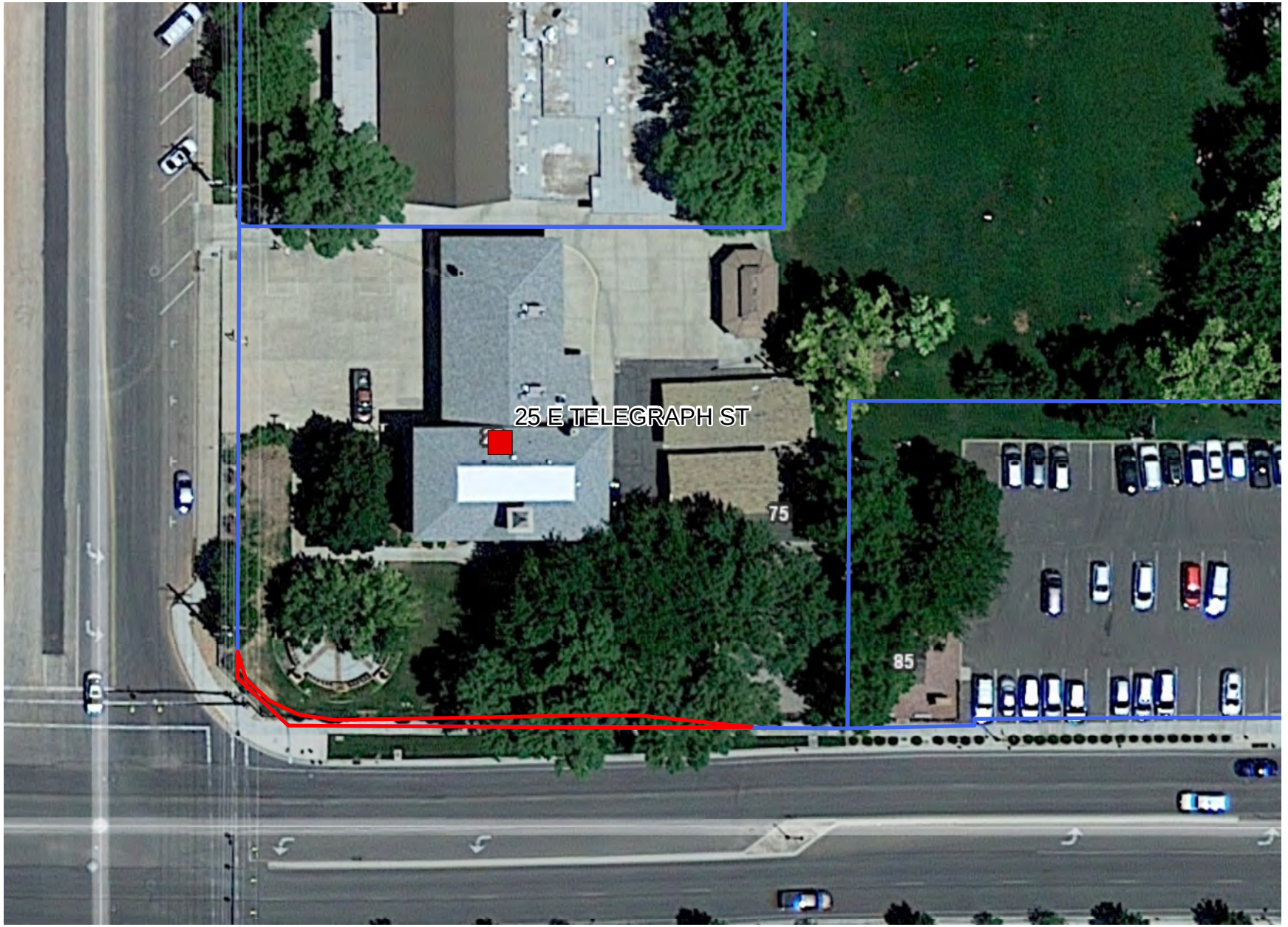
Liz Robinson, M.A., RPA
Cultural Resources Program Manager
UDOT Environmental Services

Elizabeth Giraud

Elizabeth Giraud, AICP
Architectural Historian
UDOT Environmental Services

Enclosures

cc: Kim Manwill, Project Manager
Eric Hansen, Environmental Manager



I-15; Milepost 11 EIS
Alternative 4 Impact to 25 East Telegraph Street

Property Boundary
Impact Area

N

0 50 100 Feet

09-0696

State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

DEPARTMENT OF TRANSPORTATION

CARLOS M. BRACERAS, P.E.
Executive Director

SHANE M. MARSHALL, P.E.
Deputy Director

April 13, 2017

Mr. Brad Westwood
Deputy State Historic Preservation Officer
Utah Division of State History
300 Rio Grande
Salt Lake City, UT 84101-1182

RE: Section 4(f) De Minimis Determination Pursuant to SAFETEA-LU Section 6009

Dear Mr. Westwood:

In accordance with Parts 3.1.1 and 3.2.1 of the *Memorandum of Understanding Between the Federal Highway Administration and the Utah Department of Transportation Concerning State of Utah's Participation in the Surface Transportation Project Delivery Program Pursuant to 23 USC §327* (executed January 17, 2017), the Utah Department of Transportation (UDOT) assumes responsibility, assigned by the Federal Highway Administration (FHWA), for ensuring compliance with Section 4(f) of the DOT Act of 1966, as amended. This letter was prepared in accordance with FHWA Guidance regarding Section 6009(a) of the 2005 Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Section 6009 allows increased flexibility with respect to minor transportation impacts to Section 4(f) properties, including historic properties. It simplifies the processing and approval of federally funded transportation projects that have a *de minimis* impact on lands protected by Section (f). For historic properties, a finding of *de minimis* impact on a historic site may be made by the UDOT when Section 106 consultation results in the written concurrence of the State Historic Preservation Office (SHPO) with the determination of "no adverse effect" or "no historic properties affected".

SAFETEA-LU has no other Section 106 implications other than the requirement for written SHPO concurrence with Section 106 findings of effect for individual Section 4(f) properties. It does require UDOT to notify the SHPO of UDOT's intent to utilize the finding of "no historic properties affected" or "no adverse effect" for individual Section 4(f) properties as a basis for making a Section 4(f) *de minimis* use finding.

On December 13, 2005, FHWA issued guidance to implement the Section 6009 provision of SAFETEA-LU. The guidance (attached) includes *Questions and Answers on the Application of the Section 4(f) de minimis Impact Criteria* and offers several points of relevant direction. We refer you to Question 2 of the guidance titled: *De Minimis Impact Findings for Section 4(f) Uses of Historic Properties.*

Therefore, in accordance with the 2005 Guidance, and by transmittal of this letter, the FHWA is notifying your office of UDOT's intent to make the Section 4(f) *de minimis* use finding for properties where a determination of "no historic properties affected" or "no adverse effect" has been concurred in by your office or when your office has not replied within the appropriate timeframe with written concurrence.

Environmental Services Division • Telephone (801) 965-4173 • Facsimile (801) 965-4796 • www.udot.utah.gov
Calvin Rampton Complex • 4501 South 2700 West • Mailing Address P.O. Box 148450 • Salt Lake City, Utah 84114-8450

Should you have any questions or need additional information, please feel free to contact Liz Robinson at 801-910-2035 or lizrobinson@utah.gov. Please return this signed letter to UDOT Central Environmental Division.

Sincerely,

Brandon Weston
Environmental Services Director
UDOT Central Environmental

Enclosures

By the following signature, the SHPO acknowledges it has been notified of the intent of the UDOT to make a *de minimis* finding based on Section 106 determinations of effect for specific properties.

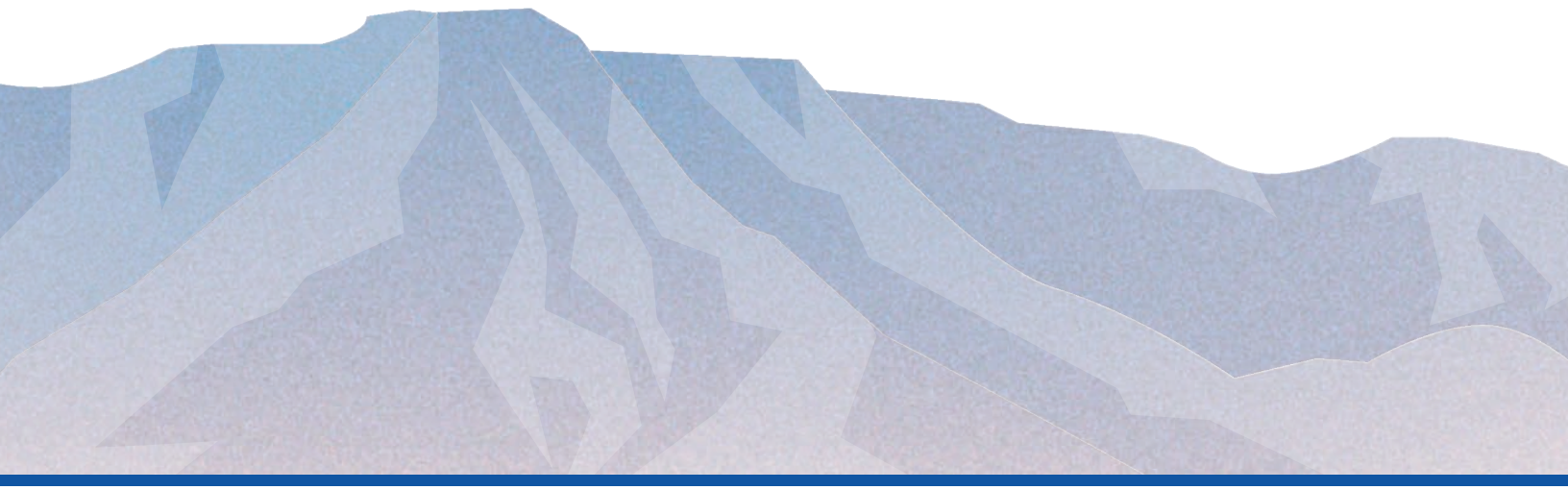
P. Bradford Westwood
State Historic Preservation Officer

Date

UTAH GEOLOGICAL SURVEY CORRESPONDENCE

PREPARED BY
Department of Natural Resources
Utah Geological Survey
Martha Hayden

CONTACT
Nicole Tolley
Horrocks Engineers
2162 W. Grove Parkway, Suite 400
Pleasant Grove, Utah 84602



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Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Utah Geological Survey
RICHARD G. ALLIS
State Geologist/Division Director

October 10, 2018

Peter Steele
Horrocks Engineers
2162 West Grove Parkway, Suite 400
Pleasant Grove UT 84062

RE: Paleontological File Search and Recommendations for the UDOT I-15 MP 11 Interchange Study Area Project, Washington County, Utah
U.C.A. 79-3-508 (Paleontological) Compliance; Request for Confirmation of Literature Search according to the UDOT/UGS Memorandum of Understanding.

Dear Peter:

I have conducted a paleontological file search for the I-15 MP 11 Interchange Project study area in response to your email of October 5, 2018. This project qualifies for treatment under the UDOT/UGS executed Memorandum of Understanding.

There are several paleontological localities recorded in our files in or near this project area near MP 13. Quaternary and Recent alluvial and eolian deposits that are exposed over much of this project area have a low potential for yielding significant fossil localities (PFYC 2). However, north of about MP 12.2, there are exposures of the Jurassic Kayenta Formation that have a moderate to high potential for yielding significant fossil localities (PFYC 3-4). If these deposits will be impacted by road improvements, we recommend an evaluation by a permitted paleontologist in order to determine and mitigate any potential impacts to paleontological resources. Otherwise, unless fossils are discovered as a result of construction activities, this project should have no impact on paleontological resources.

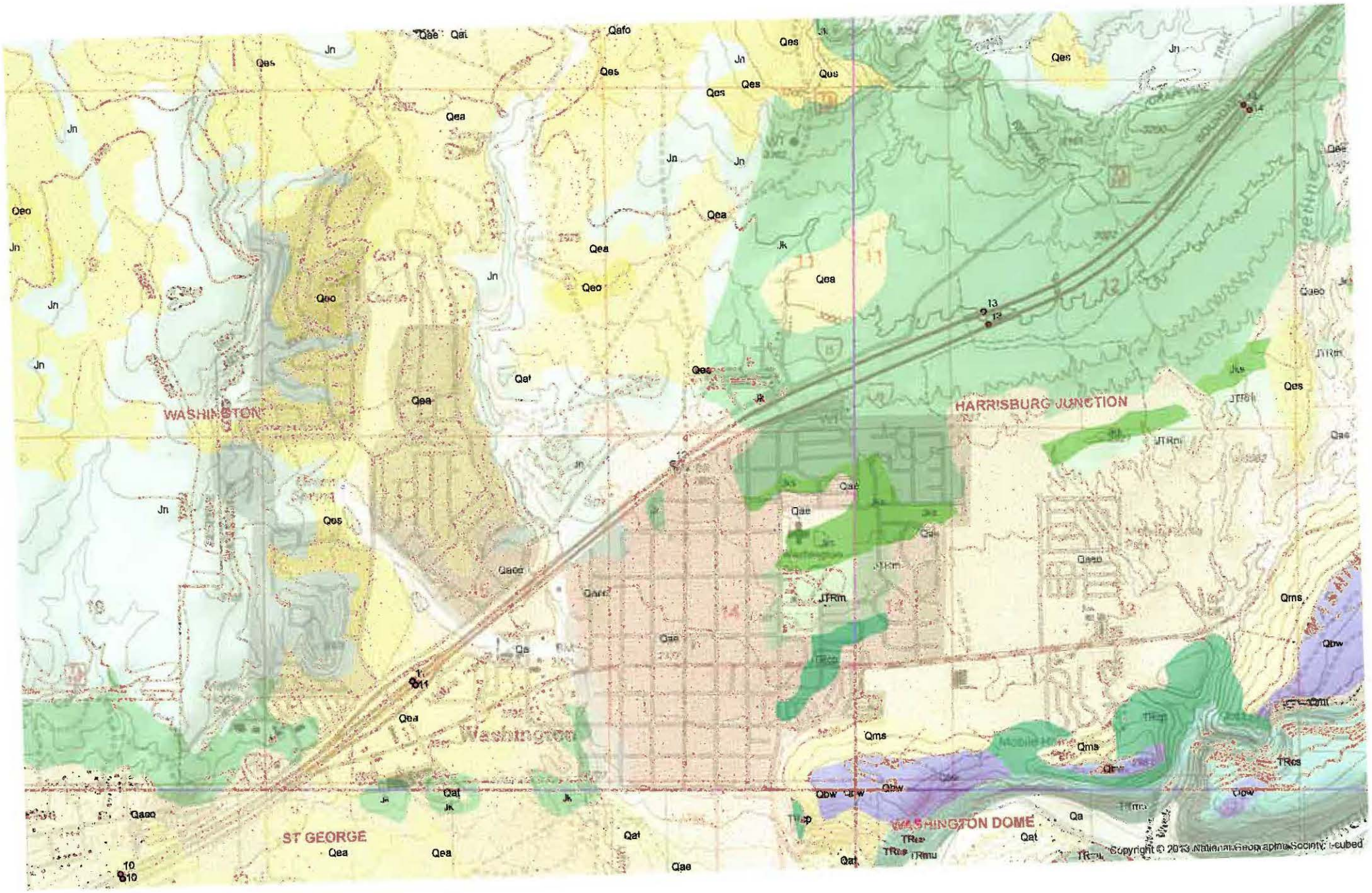
If you have any questions, please call me at (801) 537-3311.

Sincerely,

Martha Hayden

Martha Hayden
Paleontological Assistant

1594 West North Temple, Suite 3110, PO Box 146100, Salt Lake City, UT 84114-6100
telephone (801) 537-3300 • facsimile (801) 537-3400 • TTY (801) 538-7458 • *geology.utah.gov*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WARM SPRINGS PARK
DE MINIMIS SECTION 4(F) FINDING

PREPARED BY
UDOT
Liz Robinson

CONTACT
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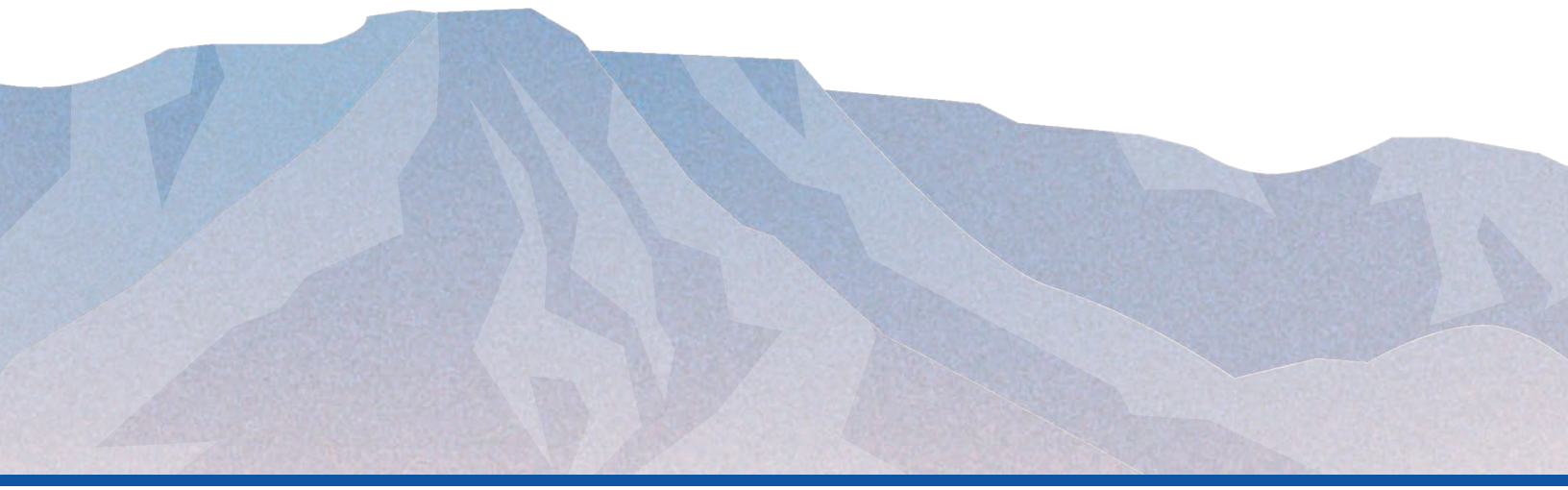
Horrocks Engineers
2162 W. Grove Parkway, Suite 400
Pleasant Grove, Utah 84602



State of Utah

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DEPARTMENT OF TRANSPORTATION

CARLOS M. BRACERAS, P.E.
Executive Director

SHANE M. MARSHALL, P.E.
Deputy Director of Engineering and Operations

TERIANNE S. NEWELL, P.E.
Deputy Director of Planning and Investment

December 4, 2018

Mike Shaw
Director – Public Works Department
Washington City
111 North 100 East
Washington, UT 84780

RE: I-15 Milepost 11 Environmental Impact Statement, UDOT Project No. F-I15-1(166)11, PIN: 14560
Notification of Section 4(f) *De Minimis* Impacts Finding

Dear Mr. Shaw,

The Utah Department of Transportation (UDOT) is preparing to undertake the subject project. The purpose of this letter is to notify you that UDOT intends to make a *de minimis* impact finding regarding the proposed Warm Springs Park. This finding is made pursuant to Section 4(f) of the Department of Transportation Act of 1966, 23 CFR 774, and Section 6009 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The review, consultation and other actions required by these laws and rules are being carried out by UDOT pursuant to 23 USC 327 and a Memorandum of Understanding dated January 17, 2017, and executed by the Federal Highway Administration (FHWA) and UDOT.

UDOT has initiated an Environmental Impact Statement (EIS) on a proposal to address current and future transportation and safety needs at the Interstate 15 (I-15)/Green Spring Drive Interchange (Exit 10) and the surrounding roadway system in Washington City, Utah.

The EIS is studying the No-action Alternative and four build alternatives. One of the build alternatives, Alternative 4 (Main Street Interchange), has the potential to affect the proposed Warm Springs Park. Alternative 4 would construct a new interchange at the intersection of I-15 and Main Street in Washington, and widen Main Street to five lanes between I-15 and Telegraph Street. It would also include improvements to the Telegraph Street/Green Spring Drive intersection and surrounding roadway network.

The Section 4(f) resource affected by this project is the proposed Warm Springs Park, which is planned to be located north of I-15 at approximately 200 West. The land for this park, identified on the March 2015 Washington City Recreation Master Plan, is owned by Washington City and is thus publicly owned.

Construction of Alternative 4 (Main Street Interchange) would require an acquisition at the eastern corner of the proposed park totaling 0.03 acres (1,310 square feet). This acquisition qualifies as a use and *de minimis* impact under Section 4(f).

The transportation use of the resource does not adversely affect any of the activities, features, and attributes that qualify the future park for protection under Section 4(f). Please see the attached figure for an illustration of the impact.

UDOT is affording Washington City an opportunity to review and comment on the Section 4(f) evaluation for this project. UDOT is required to consult with the official with jurisdiction over Section 4(f) resources potentially affected by the undertaking.

Please review this document and, providing you agree with the findings contained herein, sign and date the signature line at the end of this letter. Should you have any questions concerning this matter, please contact me at (801) 910-2035 or lizrobinson@utah.gov.

Sincerely,

Liz Robinson
Cultural Resources Program Manager
Utah Department of Transportation

Regarding the proposed Warm Springs Park, located in Washington City, I concur with the Section 4(f) evaluation described above and understand UDOT's intent to make a Section 4(f) *de minimis* impact finding based on this written concurrence.

Mike Shaw
Director – Public Works Department
Washington City

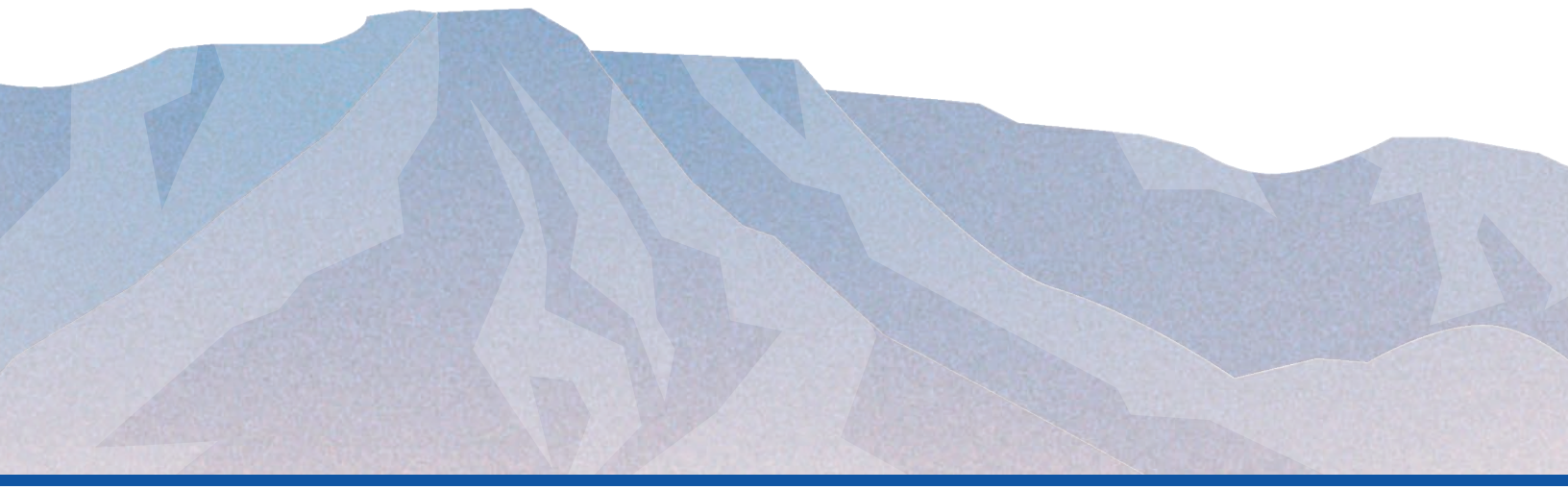
12/18/18
Date

I-15; Milepost 11 EIS
Alternative 4 Impact to Warm Springs Park

AQUATIC RESOURCES DELINEATION REPORT

PREPARED BY
Horrocks Engineers
Nathan Clarke

CONTACT
Ryan Pitts
Horrocks Engineers
2162 W. Grove Parkway, Suite 400
Pleasant Grove, Utah 84602

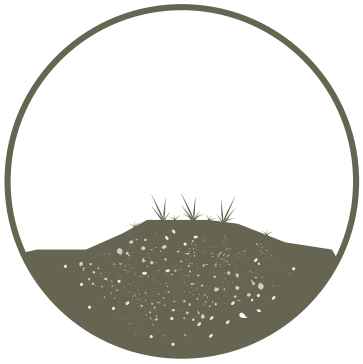


The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by UDOT pursuant to 23 USC 327 and a Memorandum of Understanding dated January 17, 2017, and executed by FHWA and UDOT.

Aquatic Resources Delineation Report

In support of

I-15; Milepost 11 Interchange



Prepared for

Utah Department of Transportation
Region 4

Project No.F-I15-1(166)11
PIN 14560

Prepared by

HORROCKS ENGINEERS

Horrocks Engineers
2162 West Grove Parkway, Suite 400
Pleasant Grove, UT 84062

May 2018

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by UDOT pursuant to 23 USC 327 and a Memorandum of Understanding dated January 17, 2017, and executed by FHWA and UDOT.

Table of Contents

Project Introduction

Horrocks Engineers has prepared this Aquatic Resources Delineation Report in support of the Utah Department of Transportation (UDOT), with Washington City, in initiating the scoping process for the I-15 Milepost 11 Interchange Environmental Study in Washington County, Utah. The I-15/Green Spring Drive (Exit 10) Interchange and the surrounding roadway system (see enclosed Study Area Map) currently experiences, and is projected to experience increased, traffic congestion in the future. The purpose of the assessment is to identify the best solution to improve existing and future traffic congestion within the study area (I-15 between Green Spring Drive (Exit 10) and Washington Parkway (Exit 13) taking into account any potential impacts to the natural and built environment.

The project is located in Washington County, Utah in Sections 11, 12, 14, and 15 of Township 42 South, Range 15 West of the Salt Lake Meridian. The coordinates for the beginning and end of the project are Lat. 37.1255338301958 and Lng. -113.530275874004 and Lat. 37.1504705855364 and Lng. -113.483234743318 respectively.

The purpose of this report is to identify and map potential wetlands and other waters of the U.S. (WoUS) in the delineation study area. Impacts to these features from the proposed improvements, as well as strategies for avoidance and minimization, will need to be considered. See Appendix A for a project location map. Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into navigable waters, which has been defined to include tributaries and adjacent wetlands. It is likely that the proposed new interchange project will have some impacts to wetlands and/or WoUS, thus a Section 404 permit will need to be obtained. The Corps will make final determinations of wetland boundaries and jurisdictions as waters of the U.S. All wetlands are considered protected by the Federal Highway Administration (FHWA) under Executive Order (EO) 11990. The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by UDOT pursuant to 23 USC 327 and a Memorandum of Understanding dated January 17, 2017, and executed by FHWA and UDOT.

Directions to Delineation Area

The proposed project site is along I-15, Main Street, and 300 East in Washington, Utah. To arrive at the project site from I-15 in St. George, Utah, travel a short distance north on I-15 to the Green Springs Drive Exit (Exit 10). This interchange is the beginning of the delineation study area. To arrive at the northern end of the project, continue north on I-15 to the Washington Parkway Exit (Exit 13). The project limits and delineation study area are located in UDOT right-of-way and extend into Washington City. The delineation results within UDOT right-of-way can be verified by Corps' personnel without permission. Portions of the study area occur on private property and Corp's personnel will need to be escorted by a project team member to verify the delineation on these properties.

Site Description

The delineation study area covers approximately 574 acres in the northern-most portion of the Mojave Desert. The proposed project is located on I-15 and dissects Washington City, which is a rapidly growing suburb of St. George and the second largest city in Washington County. The southwestern portion of the study area consists of commercial and residential developments, whereas the northeastern portion is more open. The elevation of the study area varies from 2760' (southwest) to 3060' (northeast).

Vegetation

The study areas' native vegetation community is warm desert shrub and plants typical to this community include; creosote bush, black-brush, cholla, desert willow, burro-brush, sand sagebrush, and galleta. Much of the existing upland vegetation occurring within the study area has been disturbed or has been developed. The undeveloped disturbed areas mainly support weedy grasses, forbs and woody species. The wetter areas associated with the Mill Creek and various seeps are dominated by willow, cottonwood, tamarisk, cattail, three-square, Baltic rush, and alkali muhly. Table 1 lists common plants found within the delineation study area and their associated wetland indicator status.

Table 1: Common Plants in the Delineation Study Area

Common Name	Scientific Name	Wetland Indicator Status*
Hydrophytic Plants		
Yerba Mansa	*Anemopsis californica*	OBL
Watercress	*Nasturtium officinale*	OBL
Narrowleaf Cattail	*Typha angustifolia*	OBL
Broadleaf Cattail	*Typha latifolia*	OBL
Three-square	*Schoenoplectus pungens*	OBL
Baltic Rush	*Juncus balticus*	FACW
Alkali Muhly	*Muhlenbergia asperifolia*	FACW
Fremont Cottonwood	*Populus fremontii*	FACW
Pacific Willow	*Salix lasiandra*	FACW
Dock-Leaf Smartweed	*Persicaria lapathifolia*	FACW
Annual Rabbit's foot Grass	*Polypogon monspeliensis*	FACW
Coyote Willow	*Salix exigua*	FACW
Showy Milkweed	*Asclepias speciosa*	FAC
Mule's Fat	*Baccharis salicifolia*	FAC
Tall Scouring Rush	*Equisetum hyemale*	FAC
Crack Willow	*Salix fragilis*	FAC
Five stem Tamarisk	*Tamarix chinensis*	FAC
Rough Cockleburr	*Xanthium strumarium*	FAC
Non-hydrophytic Plants		
Tree of Heaven	*Ailanthus altissima*	FACU
Bermuda Grass	*Cynodon dactylon*	FACU
Prickly Lettuce	*Lactuca serriola*	FACU
Common Panic Grass	*Panicum capillare*	FACU
Himalayan Blackberry	*Rubus armeniacus*	FACU
Madwort	*Asperugo procumbens*	UPL
Cheat Grass	*Bromus tectorum*	UPL
Single-leaf Ash	*Fraxinus anomala*	UPL
White Sweet-Clover	*Melilotus albus*	UPL
Dyer's Madder	*Rubia tinctorum*	UPL
Prickly Russian Thistle	*Salsola iberica*	UPL

**USACE 2016, National Wetland Plant List – Arid West*

OBL: Obligate Wetland – Almost always occur in wetlands
FACW: Facultative Wetland – Usually occur in wetlands, but may occur in non-wetlands
FAC: Facultative – Occur in wetlands and non-wetlands
FACU: Facultative Upland – Usually occur in non-wetland, but may occur in wetlands
UPL: Obligate Upland – Almost never occur in wetlands

Soils

The dominant soil orders in this area are Aridisols and Entisols. These soils dominantly have a thermic soil temperature regime, an aridic soil moisture regime, and mixed or carbonatic mineralogy. They generally are well drained to excessively drained, loamy-skeletal or sandy-skeletal, and shallow to very deep. The soil survey information compiled by NRCS identifies 16 soil mapping units within the delineation study area. Two of these soils are included on the Utah Hydric Soils list (USDA 2010). See Table 2 for general soils information obtained from the NRCS Web Soil Survey. For attached soils map and legend, see Appendix C.

Table 2: Soils in the Delineation Study Area

Soil Series Name	Percent Coverage of Study Area	Acres in Delineation Study Area	Hydric Soil?
Badland	0.2%	1.2-acres	No
Borrow pits	1.5%	10.1-acres	No
Eroded land-Shalet complex, warm	36%	246.5-acres	No
Fluvaquents and torrifluvents, sandy	1.5%	10.4-acres	Yes
Gullied land	1.9%	13.2-acres	No
Harrisburg fine sandy loam, 1 to 5 percent slopes	8.2%	56.4-acres	No
Hobog-Rock land association	3.6%	24.8-acres	No
Junction fine sandy loam, 2 to 5 percent slopes	12.6%	86.7-acres	No
Laverkin fine sandy loam, 2 to 5 percent slopes	4.7%	32.1-acres	No
Leeds silty clay loam, 1 to 2 percent slopes	1.8%	12.1-acres	No
Pintura loamy fine sand, 1 to 5 percent slopes	2.8%	18.9-acres	No
Rock outcrop	0.2%	1.3-acres	No
St. George silty clay loam	19%	130.1-acres	No
St. George silty clay loam, shallow water table	1.2%	8.2-acres	Yes
Tobler fine sandy loam	3.9%	26.8-acres	No
Water	1%	6.6-acres	No
Totals	100%	685.4-acres	

NRCS Web Soil Survey (2017) websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Hydrology

The study area is located in the Upper Virgin watershed (HUC 15010008). Existing sources of hydrology include Mill Creek along with some small seeps and springs. Mill Creek, which flows north to south through the study area, has perennial flow, with widths that vary from 2 to 15 feet. Mill Creek joins with the Virgin River 1.5 miles south of I-15. Most of the rainfall for this area occurs in the winter months as low-intensity precipitation from Pacific storms that are frontal in nature. High-intensity, convective thunderstorms can occur during the summer and produce ephemeral flows in desert washes.

Existing Field Conditions

The delineation field work was conducted by Terry Johnson and Nathan Clarke on September 26 and 27, 2017. Weather data shows that 0.02 inches of precipitation fell between July 31 and August 30 in this area. The temperatures during the field visit was 82 degrees, which is average for this time of the year. The nearby weather station in Washington, Utah indicates that the area on average receives 9.7 inches of annual precipitation (U.S. climate data). Precipitation recorded for the area was 2.17 inches during the month of July, 0.40 inches in August, and 0.59 inches in September, totaling 3.16 inches, which is slightly above normal for the three-month period.

Aquatic Resources Delineation Methodology

Delineation Methodology for Wetlands

The wetland delineation was completed in accordance with the U.S. Army Corps of Engineers' (USACE) *1987 Wetland Delineation Manual* (USACE 1987) and the *Regional Supplement: Arid West Region Version 2.0* (USACE 2008). All potential wetland areas were verified for wetland indicators as established in the above delineation manuals. The following procedures were implemented at each sample point to determine presence of wetland indicators, and the collected information was recorded on Arid West Supplement V2 Data Forms. Photographs were also taken to document the sample point (See Appendix B for data forms and photos).

Hydrophytic Vegetation: All plant species within a five-foot radius area of the sample point were recorded. The percent of relative cover for each species was determined by estimating aerial cover. The indicator status of each species was determined by using the 2016 National Wetland Plant List - Arid West (USACE 2016). Vegetation species comprising of at least twenty (20) percent of the total aerial cover in its stratum were considered dominant, following the guidelines of the USACE 50/20 rule. If more than fifty (50) percent of the dominant plant species had an indicator status of obligate wetland species (OBL), facultative wetland species (FACW), or facultative species (FAC), the sample point met the hydrophytic vegetation parameter.

Hydric Soils: At the sample point, a soil pit was dug to a minimum depth of 18 inches to assess soil characteristics and water conditions. A profile of the soil pit was used to determine soil color, texture and moisture at different depths within the soil profile. Colors of the soil profile and any redox features were identified by comparing a moistened soil sample to the Munsell® Soil Color Charts (Munsell® 2000). Soil texture and moisture were determined by feeling the soil samples. If the soil characteristics met one of the primary hydric soil indicators or two or more secondary hydric soil indicators, identified in the Arid West Regional Supplement (USACE 2008) and the Field Indicators of Hydric Soils in the U.S. Version 8.1 (USDA 2010), the sample point met the hydric soils parameter.

Wetland Hydrology: The soil pits were also examined for the presence or absence of hydrologic indicators. These hydrologic indicators are described in the Arid West Regional Supplement. If it was determined that at least one primary hydrologic indicator or two or more secondary hydrologic indicators were present, the sample point met the hydrologic parameter.

Wetland Boundary Determination Procedure: Sample points that met all three parameters, hydrophytic vegetation, hydric soils, and wetland hydrology were classified as occurring in a wetland. A second sample point, located in the adjacent upland, was then documented for the presence of the three indicators. If the

point did not meet all three parameters, the point was classified as occurring in upland. The next step was to define the wetland boundary occurring between the wetland sample point and the upland sample point. Boundaries were based on information gathered from the two sample points and observable changes in elevation and plant communities. Using a hand-held Trimble GeoExplorer XT global positioning system receiver, the wetland boundary and sample points were surveyed and data was downloaded into ArcMAP. The data was then used to produce a map that shows delineated wetland boundaries and sample point locations. Acreages for each wetland polygon were included on the map, and the Cowardin Classification System (Cowardin et al. 1979) was used to designate the wetland type.

Delineation Methodology for Stream Channels

Stream channels were delineated by using the USACE delineation manual, *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley 2008). These stream channels within the project area were identified, and the OHWM for these waters was surveyed using a hand-held Trimble GeoExplorer XT global positioning system receiver. The survey data was downloaded into ArcMAP to produce a map that depicts the delineated WOUS. The acreage for each WOUS within the project area was included on the map and the Cowardin Classification System was used to designate the WOUS type.

Delineation Results

Six wetlands and eight other waters of the U.S. totaling 1.11 acres were identified within the delineation study area. Table 3 summarizes the delineated features (see Appendix A for maps and Appendix B for data forms and photos). All wetlands and waters of the U.S. within the study area were identified, documented, and mapped. Wetland 1, 2, 3, 4a, 4b, and 4c and WoUS 1, 2 and 4 would likely be non-jurisdictional because they are neither a tributary to a navigable WoUS nor a wetland abutting a tributary to a navigable WoUS, however the Corps is ultimately responsible for making jurisdictional determinations. Greater information about delineated features is provided in the paragraphs below the table.

Table 3: Summary of Waters of the U.S

Feature Name	Cowardin Classification*	Acres	Linear Feet
Wetlands			
Wetland 1	PEM	0.04	NA
Wetland 2	PEM	0.02	NA
Wetland 3	PEM	0.05	NA
Wetland 4a	PEM	0.02	NA
Wetland 4b	PEM	0.03	NA
Wetland 4c	PSS	0.11	NA
Wetland 5a	PEM	0.02	NA
Wetland 5b	PEM	0.01	NA
Wetland 5c	PEM	0.01	NA
Wetland 5d	PEM	0.03	NA
Wetland 5e	PEM	0.19	NA
Wetland 6	PEM	0.01	NA
Wetland Total		*0.54*	
Other Waters of The U.S.			

Feature Name	Cowardin Classification*	Acres	Linear Feet
Mill Creek	R2UBH	0.20	1,751
WoUS 1 (Dev. Spring)	NA	0.003	20
WoUS 2 Warm Springs	PUBH	0.12	81
WoUS 3 Parallel to I-15	R2UBH	0.02	390
WoUS 4	NA	0.02	242
Wash 1	R4SBC	0.08	574
Wash 2	R4SBC	0.04	275
Wash 3	R4SBC	0.09	384
Other WoUS Total		0.57	
WOUS TOTAL		**1.11**	**3,717**

**PEM (Palustrine Emergent), PSS (Palustrine Scrub/Shrub), PUBH (Palustrine Unconsolidated Bottom, Permanently Flooded), R2UBH (Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded), R4SBC (Riverine Intermittent, Streambed, Seasonally Flooded)*

Wetland Features

During the wetland delineation fieldwork, sample points were established in wetland and bordering upland vegetation communities for sampling of vegetation, soils, and hydrology characteristics. 13 sample points were taken within the delineation study area to determine the boundaries between wetlands and uplands (See Appendix A). Six of the 13 sample points met the three parameters indicative of wetlands. Table 4 summarizes the sample point data. Appendix A contains data point locations and mapping information. See Appendix B for sample point data forms and photographs.

Table 4: Wetland Indicators for Each Sample Point

Sample Point	Hydrophytic Vegetation Present	Hydric Soil Indicators Present	Hydrology Indicators Present	Is the Sample Point in a Wetland	Figure # (Appendix A)
1	Y	N	Y	N	Map 15 of 18
2	Y	Y	Y	Y	Map 15 of 18
3	N	N	N	N	Map 2 of 18
4	Y	Y	Y	Y	Map 4 of 18
5	Y	Y	Y	Y	Map 4 of 18
6	N	N	N	N	Map 4 of 18
7	Y	N	Y	N	Map 6 of 18
8	Y	Y	Y	Y	Map 4 of 18
9	N	N	N	N	Map 4 of 18
10	Y	Y	Y	Y	Map 3 of 18
11	N	N	N	N	Map 3 of 18
12	Y	Y	Y	Y	Map 3 of 18
13	N	N	N	N	Map 3 of 18

Wetland 1
Wetland 1 occurs on the corner of 200 East and 100 North in Washington City and is 0.04 acre in size. Vegetation cover in this wetland is mainly broadleaf cattail, crack willow, and Bermuda grass, which meets the hydrophytic vegetation indicator. Soil has been disturbed and is mixed with debris (wood, bricks, trash). Even in its disturbed condition, there is sufficient indication of depletion to call it wetland soil. Primary hydrology indicators of *Saturation (A2)* and *High Water Table (A3)* were present. The paired upland pit did not meet any indicators for the three parameters. This small wetland is likely isolated because there is no connection to a WoUS beyond the seep. Wetland 1 is classified as a palustrine emergent (PEM) wetland.

Wetlands 2
Wetlands 2, measured at 0.02 acre, occurs at the base of a hillside seep near 400 North. The vegetation cover in this wetland consists mainly of broadleaf cattail and mule's fat which met the hydrophytic vegetation indicator. The soil met the hydric soil indicator of *Depleted Matrix (F3)*. Primary hydrology indicators of *Saturation (A2)* and *High Water Table (A3)* were present. An old stone wall was built to contain the water coming from the seep, which has created the wetland. The wetland appears to be isolated as there is no surface water connection to a downstream WoUS. Wetland 2 is classified as a palustrine emergent (PEM) wetland.

Wetlands 3
Wetland 3, 0.08 acre in size, is located down-gradient from WoUS 4. The dominant presence of cattail in this area fulfills the hydrophytic vegetation indicator. The soil did not meet a hydric soil indicator, which is likely due to disturbance in and adjacent to the wetland. Secondary hydrology indicators of *Drainage Patterns (B10)* and *FAC-Neutral Test (D5)* were also present. Wetland 3 was likely connected to the Warm Spring on the north side of the freeway in the past, but historic connection has been severed by the I-15 freeway. Water from the springs currently flows under the freeway and is diverted into irrigation ditches and one leg, which flows near Wetland 3, appears to occasionally overflow and provide some water to this wetland depression. The paired upland pit was located on a steep bank adjacent to the wetland and did not meet any of the three indicators. No hydrologic connection to a WoUS was observed. Wetland 3 is classified as a palustrine emergent (PEM) wetland.

Wetlands 4a, 4b, 4c
Wetlands 4a, 4b, and 4c, measured at 0.363 acre, are wetlands occurring around the edge of Warm Springs. The vegetation cover in this wetland consists mainly of Baltic rush and three-square, which met the hydrophytic vegetation indicator. The soil did meet the hydric soil indicator of *Depleted Matrix (F3)*. Primary hydrology indicators of *High Water Table (A2)* and *Saturation (A3)* and were present. The paired upland pit was higher on the bank approximately adjacent to the wetland and did not meet any of the three parameters. The Corps has issued a non-jurisdictional call for these wetlands for being an intra-state isolated water with no apparent interstate or foreign commerce connection (see SPK-2015-00018-SG dated August 14, 2015). Wetland 4a and 4b are classified as palustrine emergent (PEM) wetlands. Wetland 4c is classified as a palustrine scrub-shrub (PSS) wetland.

Wetlands 5a, 5b, 5c, 5d, and 5e
Wetland 5 complex (5a, 5b, 5c, 5d and 5e) occurs adjacent to Mill Creek and along the drainage feeding Mill Creek between I-15 and Buena Vista Boulevard and combined is 0.26 acre in size. This area mainly supports a mix of cattail, Baltic rush, three-square, and tall scouring rush, with some coyote willow, which meets the hydrophytic vegetation indicator. The soil did meet the hydric soil indicator of *Hydrogen Sulfide (F6)* and came close to meeting *Stripped Matrix (S6*). The soils on this vegetated sandbar are subject to annual deposition of new soil material. Primary hydrology indicators of *High Water Table (A2), Saturation (A3),* and *Hydrogen Sulfide Odor (C1)* were present. The paired upland pit was a few feet higher on a sloping terrace adjacent to the stream and did not meet any of the three indicators. These wetlands are mainly confined to the channel and were mapped separately from the open water where warranted. The Wetland 5 complex has a continuous connection to Mill Creek and the Virgin River and is classified as a palustrine emergent (PEM) wetland.

Wetlands 6
Wetland 6 occurs adjacent to Mill Creek on the south side of I-15 and is 0.01 acre in size. The vegetation cover was mainly narrowleaf cattail and dock-leaf smartweed; these varieties meet the hydrophytic vegetation indicator. The soil did not meet any hydric soil indicators, which is likely due to flood events occurring over the vegetated sandbar that have deposited layers of sediments that lack hydric soil indicators. Following USACE guidance, these problematic soils should still be considered hydric (See Arid West Delineation Manual pg. 97, par. 3). The paired upland pit was located on the stream terrace and did not meet any of the three indicators. Wetland 6 is classified as a palustrine emergent (PEM) wetland.

Other Waters of the U.S.

Mill Creek
Mill Creek is a perennial stream crossing under I-15 and was flowing at the time of the delineation. The OHWM was surveyed and the length of the stream channel within the study area is 1,751 feet, totaling 0.20 acre. The OHWM was determined by a break in the bank slope, change in vegetation and streambed substrate, and water marks (see OHWM data form in Appendix B). Mill Creek has a direct connection to the Virgin River. The Cowardin classification for Mill Creek is R2UBH (riverine, lower perennial, unconsolidated bottom, permanently flooded).

WoUS 1
WoUS 1 is a very small area in the median of I-15 near a Washington City developed spring and is 0.003 acre in size and 20 feet in length. There was a small amount of surface flow near the wellhead at the time of the delineation that percolated into the ground about 10 feet from where it surfaced. Some coyote willows were present, but the area had been disturbed, due to well maintenance, to where the soils did not meet hydric soil indicators. WoUS 1 does not have a surface connection to a navigable water.

WoUS 2- Warm Springs
WoUS 2 is a pond associated with Warm Springs, sometimes referred to as Boiler Springs, and is 0.12 acre and 81 linear feet in size. Regarding the spring, the Corps has issued a non-jurisdictional determination for being an intra-state isolated water with no apparent interstate or foreign commerce connection (see SPK-2015-00018-SG dated August 14, 2015, located in Appendix E). The Cowardin classification for WoUS 2 is PUBH (palustrine unconsolidated bottom, permanently flooded).

WoUS 3
Within the study area, WoUS 3 begins at a large culvert outlet near Warm Springs and then runs parallel to I-15, eventually flowing into Mill Creek. WoUS 3 is 0.02 acre and 390 linear feet in size. WoUS 3 was flowing at the time of the field visit and does have a surface connection to the Virgin River, which has been identified as a navigable water. The Cowardin classification for WoUS 3 is R2UBH (riverine, lower perennial, unconsolidated bottom, and permanently flooded).

WoUS 4
WoUS 4 flows from Warm Springs to the east side of I-15 via a concrete-line channel where the flow is divided into an irrigation ditch and a diversion box. Since the Corps has issued a non-jurisdictional determination on Warm Springs (see above), it is assumed that these ditches would likewise be non-jurisdictional.

Wash 1
Wash1 crosses under I-15 at approximately MP 13.46. The width of the channel ranges from 3-15 feet throughout the study area and totals 0.08 acre and 574 linear feet. The surveyed OHWM was identified by a break in the bank slope, drift deposits, and water marks (see OHWM data form in Appendix B). The Cowardin classification for Wash 1 is R4SBC (riverine, intermittent, streambed, seasonally flooded).

Wash 2
Wash 2 is 0.04 acre and 275 linear feet in size and is located at MP 13.2. The surveyed OHWM was identified by a break in the bank slope, drift deposits, and water marks (see OHWM data form in Appendix B). The Cowardin classification for Wash 2 is R4SBC (riverine, intermittent, streambed, seasonally flooded).

Wash 3
At 0.09 acre and 384 linear feet, Wash 3 crosses under I-15 at MP 12.92. The surveyed OHWM was identified by a break in the bank slope, drift deposits, and water marks (see OHWM data form in Appendix B). The Cowardin classification for Wash 3 is R4SBC (riverine, intermittent, streambed, seasonally flooded).

Interstate or Foreign Commerce Connection

The waters of the U.S., including wetlands, within the project area are not likely to have a connection to interstate or foreign commerce.

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